KANT AND KRIPKE:
RETHINKING NECESSITY AND THE A PRIORI

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1. Introduction

This essay reassesses the relation between Kant and Kripke on the relation between necessity and the a priori. Kripke famously argues against what he takes to be the traditional view that a statement is necessary only if it is a priori, where, very roughly, what it means for a statement to be necessary is that it is true and could not have been false and what it means for a statement to be a priori is that it is knowable independently of experience.[1] Call such a view the *Entailment Thesis*. Along with many Kant scholars, Kripke thinks that Kant endorses the Entailment Thesis. Thus Kripke and many others take his arguments against the Entailment Thesis to tell against Kant and to mark an important point of disagreement with him. I will argue that this is a mistake. Kant does not endorse

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[1] Kripke (1980), *Naming and Necessity*, henceforth NN, and Kripke (1971), 'Identity and Necessity', henceforth IN. Kripke also argues against the view that a statement is a priori only if it is necessary. Much of what follows will be relevant to this issue but I cannot address it directly here.

the Entailment Thesis that Kripke and many others attribute to him. He does endorse two quite different theses concerning the relation between necessity and the a priori, as he conceives them. One is a matter of definition and the other is a very substantial philosophical thesis indeed—to establish it is the aim of the entire *Critique of Pure Reason*. But Kripke's arguments against the Entailment Thesis tell against neither of Kant's theses, as they involve crucially different conceptions of necessity and the a priori. This superficial lack of disagreement masks deep disagreements, but these result from divergent views regarding matters such as realism, modal epistemology, and philosophical methodology; views which Kant does a lot, and Kripke very little, to argue for.

2. The Entailment Thesis

At issue is the Entailment Thesis that Kripke argues against and that he and many others attribute to Kant. Schematically: if p is necessary then p is a priori. Let us clear some ground. What is the Entailment Thesis a thesis about? Over what does p range, what shall we mean when we say, for some value of p, that p is or is not necessary, and what shall we mean when we say, for some value of p, that p is or is not a priori? I will take these in reverse.

Kripke insists on a sharp distinction between the metaphysical and the epistemic. His operative conception of the a priori is to be purely epistemic: 'the notion of a prioricity is a concept in epistemology. I guess the traditional characterization from Kant goes something like: *a priori* truths are those which can be known independently of any experience' (NN34; cf. IN150). So understood, the a priori marks off a class of 'truths'. It is not first and foremost a kind of knowledge or an attribute of particular acts of knowing. We can move between the two idioms: p is a priori when it can be known independently of experience; knowledge of p is a priori when it is had independently of experience. But the matter is not entirely trivial. As Kripke notes, classifying truths as a priori, rather than particular acts of knowing, requires an extra modal—in talking of how p *can* be known—and there may be a host of metaphysics-epistemology blurring problems lurking here. He suggests that we may be better off talking about particular acts of knowing and later concedes that he cannot find the modal characterization in Kant

(NN160).[2] We will see that this is not incidental. But Kripke employs both idioms and I will follow suit. Call Kripke's purely epistemic conception of the a priori the *epistemic* a priori. Though I will be arguing that things are more complicated than is often supposed, there is clearly such a notion in Kant and it is clearly of central concern (B2).[3] Two standard clarifications: our concern is with what 'people with minds like ours' (NN35) can or do know independently of experience, where the independence is evidential; that is, we are not interested in divine or utterly alien minds and experience can be allowed to play an enabling, non-evidential role in the epistemic a priori, for instance when required to acquire concepts or learn the meanings of terms.

Kripke's operative conception of necessity is to be purely metaphysical: it is 'not a notion of epistemology' and 'in and of itself has nothing to do with anyone's knowledge of anything' (NN35–36; cf. IN150). If p is necessary then 'the world' is how p says it is and 'things' could not have been otherwise. Kripke says little else by way of explication. Much has been done since to try to get clearer on this notion of metaphysical necessity as the most general objectual kind of necessity. But Kripke takes himself to be 'dealing with an intuitive notion' and 'will keep on the level of an intuitive notion' (NN39n.11). He does of course say that p is necessary when it is true in all possible worlds and often talks in these terms. But he is careful to insist that we not take such talk too seriously (NN38–53; cf. IN147). For Kripke, in philosophy as in formal semantics, talk of possible worlds can be a useful heuristic, so long as we recognise it as such.

The objectual aspect of Kripke's metaphysical conception of necessity has clear affinities to Kant's conception of 'real' modality, which he similarly characterizes as a modality for 'things' (A244/B302, A596/B624). It is less clear whether the generality of Kripke's conception has any parallel in Kant. For one thing, Kant distinguishes between two kinds of thing, appearances and things in themselves. He also denies that we can have knowledge of things in themselves.[4] So any

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[2] The modal characterization is in Frege (1884, §3), which may explain why Kripke thinks of it as the traditional characterization.

[3] References to the *Critique of Pure Reason* take the standard A/B format, referring to the original pagination and the first and second editions respectively. References to Kant's other works are by volume and page number of the Academy Edition, along with a short English title. Translations are from the Cambridge Edition, listed at the end.

[4] Here and throughout my talk of knowledge and related notions in the Kantian context is restricted to knowledge (etc.) in its theoretical form. There may be some exceptions to Kant's

entailment thesis that we attribute to Kant cannot invoke Kripke's metaphysical conception of necessity in its full generality. For the sake of comparison we can patch over this issue for now and simply say that, in the Kantian context, Kripkean metaphysical necessity is restricted to appearances. Thus, adapting Kripke's characterizations for the Kantian context, if p is necessary then the world *of appearances* is how p says it is and *appearances* could not have been otherwise; p is necessary when it is true in all possible *appearance* worlds. I return to the issue in §4 and especially in §5. In fact all we have here is a necessary but insufficient condition on the relevant Kantian conception of necessity. For now we can make do with Kripke's intuitive notion, the characterizations we have of it thus far, and this simple Kantian restriction. Call this conception of necessity *metaphysical* necessity.

What about p? It is common to distinguish between linguistic items like statements or sentences, on the one hand, and the propositions they express, or their content, on the other. Typically, both can be said to be metaphysically necessary (or not) and epistemically a priori (or not). But Kripke's interest lies squarely with the linguistic items. He does not commit to any particular theory of propositions or how they relate to statements. Nor, then, does he have any 'official doctrine' (NN21) regarding whether or not propositions are metaphysically necessary only if they are epistemically a priori.[5] The two doctrines—an entailment thesis for statements and one for propositions—do not obviously stand or fall together. The statement 'Hesperus is Phosphorus' may not be epistemically a priori while the proposition it expresses is epistemically a priori, for instance if 'Hesperus is Hesperus' expresses the very same proposition. Thus Kripke's primary thesis concerns *names* and related linguistic items in natural or ordinary language and one of his concerns is to argue that, if he is right about such items, then there are *statements* that are metaphysically necessary but not epistemically a priori.

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restriction of theoretical knowledge to appearances but these will not concern us here. I talk of appearances and things in themselves as two kinds of thing but everything I say could be adapted to one's preferred interpretation of transcendental idealism.

[5] This is not least because he suspects that the apparatus of propositions might break down in just the kind of contexts involved in determining whether something is epistemically a priori (NN20–21; cf. Kripke 1979).

Kant's primary interest is not with linguistic items. But let us suppose for the sake of comparison that what Kant calls 'judgments' (*Urteile*) are suitably correlated to statements so that what is at issue is whether Kant commits to the Entailment Thesis for judgments. Does this correlation hold because statements are linguistic *manifestations* of Kantian judgments, or does it rather hold because Kantian judgments play the role of propositions that statements *express*, and Kant's theory of judgment is such that, Kripke's own neutrality aside, he would think that an entailment thesis for statements and one for propositions or judgments *do* stand or fall together? I will ignore this question for now. That both options seem attractive and yet neither seems quite right already points to strains in our comparison that will become more apparent later. I should note that Kant does very often talk in terms of propositions (*Sätze*), including in texts that will concern us here. He rejects what was the 'customary' usage of 'the logicians' of his time—effectively the reverse of today—according to which propositions are linguistic expressions of judgments. Instead, on Kant's own official view, a proposition is a specific kind (mode) of judgement, namely an assertoric judgment (*Discovery* 8:193–4; *Jäsche Logic* 9:109). And of course Kant designates a wide variety of things 'a priori' in addition to judgments, including but by no means limited to cognition (*Erkenntnis*) and knowledge (*Wissen*). As before, questions will arise in moving between the judgment-first characterization of the epistemic a priori and characterizations in terms of kinds or acts of cognition and knowledge. What matters for now is just that we can take p to range over Kripkean statements (etc.) and Kantian judgments (etc.). I will tend to talk about statements when talking about Kripke and judgments when talking about Kant, and I will make free use of 'that'-clauses without assuming that they denote propositions (in either the contemporary or the Kantian sense).

One final preliminary. There is a sense in which Kant thinks that necessary judgements about appearances must in principle be knowable to beings like us.[6] Kripke has no such qualms about metaphysical necessity in general (NN37; IN151). In fact I think this difference goes to the heart of what is really at issue between Kant and Kripke regarding the connection between necessity and the a priori, namely idealism—for Kant, a priori knowledge, properly conceived, cannot be independent of that of which it is knowledge—but I want to put this

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[6] See Stephenson (2015b; 2021; 2022) for discussion of Kant's views on knowability.

aside for now. Let us stipulate that p ranges only over statements or judgments that are knowable to beings like us.

We have done something to specify the Entailment Thesis that Kripke argues against and that he and many others attribute to Kant. It is the thesis that a statement or judgment knowable to beings like us says something true of the world (of appearances) that could not have been otherwise only if it is knowable by a being like us in a way that is evidentially independent of experience. That is:

(Entailment Thesis)   If p is metaphysically necessary then p is epistemically a priori

For reasons that will become clear it will also be useful to introduce the following modification of the Entailment Thesis:

(ETK) If we *know* that p is metaphysically necessary then it is epistemically a priori *that p is metaphysically necessary

I take it that anyone who endorses the Entailment Thesis will also be committed to ETK. If we know that p is metaphysically necessary, then, by the factivity of knowledge, p is metaphysically necessary, and so, by the Entailment Thesis, knowable a priori. But, those who endorse the Entailment Thesis would continue, if we know that p is metaphysically necessary, and p is knowable a priori, then surely we could also know a priori that p is metaphysically necessary; if experience is not required for our knowledge of p, how could it be required for our knowledge that p is metaphysically necessary? Conversely, anyone who endorses ETK will also be committed to the Entailment Thesis, at least for the cases in which we know that p is metaphysically necessary. For the left-hand side of ETK entails the left-hand side of the Entailment Thesis, by the factivity of knowledge; and the right-hand side of ETK entails the right-hand side of the Entailment Thesis, by the closure of a priori knowability under simple a priori entailment and the factivity of metaphysical necessity. Thus, for the cases in which we know that p is metaphysically necessary, ETK and the Entailment Thesis stand or fall together. And of course the same goes for any mixed thesis, for instance: if we know that p is metaphysically necessary, then p is epistemically a priori.

3. Kripke's Deduction Model of A Posteriori Necessities

In this section I will be talking exclusively about metaphysical necessity and the epistemically a priori, so I will drop the qualifiers. We are only concerned with knowable statements, so we can say that a statement is a posteriori if and only if it is not a priori, i.e. knowable but only in a way that is evidentially dependent on experience. Kripke offers a deduction model of statements that are necessary but a posteriori (IN153; NN159). Schematically:

(1)   *p*   a posteriori premise
(2)   If *p*, then *p* is necessary   a priori premise
(3)   *p* is necessary   a posteriori conclusion

Kripke argues that a range of statements instantiate this schema and thus show the Entailment Thesis to be false. There are statements that are necessary but a posteriori.

Kripke's key claim is that certain linguistic items are rigid designators, where a linguistic item is a rigid designator if, necessarily, i.e. in any possible world, it designates the same object.[7] Paradigmatic examples of such items, according to Kripke, are names in ordinary language, such as 'Hesperus' and 'Phosphorus'. Moreover, certain identification statements involving names in ordinary language are a posteriori. For example, experience in the form of astronomical observation was required for us to come to know that the object that appears shining in the evening sky and which we designate by 'Hesperus' is the very same object that appears shining in the morning sky and which we designate by 'Phosphorus', namely the planet Venus. Thus 'Hesperus is Phosphorus' is true and a posteriori (1). But if 'Hesperus' and 'Phosphorus' are rigid designators and so each designate the same object in all possible worlds, then they will designate the same object as one another in all possible worlds if they designate the same object as one another in the actual world, which is to say that 'Hesperus is Phosphorus' will be necessary if true (2). Thus from (1) and (2) by modus

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[7] See NN7–12, 48–49 for some important clarifications and distinctions (cf. IN145–46). Kripke distinguishes between strong and weak rigidity, and thus strong and weak a posteriori necessities, according to whether or not the designated objects exist in all possible worlds. This is different to the weak/strong distinction I draw below.

ponens, 'Hesperus is Phosphorus' is necessary but a posteriori. Moreover, aposteriority is closed under modus ponens, so it is also a posteriori *that* 'Hesperus is Phosphorus' is necessary (3). Kripke runs closely related but importantly different arguments for several other kinds of case, involving for instance natural kinds and origin. Our concern here is their common structure—Kripke's deduction model.

Three related points. First, it will be useful to distinguish two kinds of a posteriori necessity in Kripke's model. Call instances of (3) *strong* a posteriori necessities. These are true a posteriori statements of the form '*p* is necessary', where the modal status of *p* as necessary is part of what can be known only by appeal to experience. Call instances of (1) *weak* a posteriori necessities. These are true a posteriori statements that are necessary but where their status as necessary is not, as such, part of what can be known only by appeal to experience. The distinction is perhaps clearer if we switch idioms. In having, and only being able to have, a posteriori knowledge of instances of (3), what we know is that *p* is necessary. As it were, the necessity operator is inside the scope of the knowledge operator. In having, and only being able to have, a posteriori knowledge of instances of (1), what we know is merely that *p*. By construction, *p* will turn out to be necessary, but this is not what is known in knowing instances of (1). As it were, the necessity operator is outside the scope of the knowledge operator.[8]

Second, Kripke's deduction model would refute not only the Entailment Thesis: if *p* is necessary then *p* is a priori. For this it suffices to show that there is a *p* that is necessary but a posteriori—the a posteriority of our knowledge of *p*'s necessity is not strictly relevant. But because Kripke's deduction model also has the consequence that our knowledge of *p*'s necessity is a posteriori, it would also refute ETK: if we know that *p* is necessary then it is a priori that *p* is necessary. And of course it would also refute any mixed thesis, for instance: if we know that *p* is necessary then *p* is a priori.

Third, the a priori status of the crucial premise (2) is not altogether clear. Kripke certainly seems to think of it this way. He says, for instance: 'One does know *a*

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[8] I assume here and throughout that the values of *p* do not themselves involve modal operators. In particular, *p* is never a statement of the form '*q* is necessary'; otherwise there could be instances of (1) that were strong a posteriori necessities. See Anderson (1993) and Casullo (2003, ch.7; 2019) for related distinctions and discussion.

priori, by philosophical analysis, that *if* such an identity statement is true it is necessarily true' (NN109; cf. NN138, 159); and 'one knows by a priori philosophical analysis, some conditional of the form "if *P*, then necessarily *P*"' (IN153). Plausibly, however, a priori philosophical analysis alone is not sufficient for us to know such conditionals. For to know such conditionals, by Kripke's own lights, we must know that certain terms in the relevant statements are rigid designators, and this looks a posteriori—it is after all a claim about how names (etc.) function in ordinary language.[9] If this is right, then all we can know by a priori philosophical analysis alone is some nested conditional of the form 'if the right terms in *p* are rigid designators, then if *p* then necessarily *p*'. We can put such complications to one side. All that matters here—and it will matter here—is that our knowledge of (2) *involves* a priori philosophical analysis. I will not attempt a precise characterization of this notion of involvement but let me try to clarify a little what I mean.

In the Preface to *Naming and Necessity* (NN4; cf. IN136–43), Kripke distinguishes 'three distinct theses: (i) that identical objects are necessarily identical; (ii) that true identity statements between rigid designators are necessary; (iii) that identity statements between what we call "names" in actual language are necessary'. (i) and (ii), he says, 'are (self-evident) theses of philosophical logic independent of natural language'. Delicate issues concerning rigidity and substitution aside, (ii) follows from (i). All that strictly follows from (ii) about names in natural language, however, is that either they are not rigid or true identities between them are necessary. To complete his argument for premise (2), and thus generate his cases of the necessary a posteriori, then, Kripke must also argue that names (etc.) in natural language are rigid designators. This final step in the argument looks a posteriori. But the first two steps are a priori if anything is. In this sense, Kripke's case for (2) and thus against the Entailment Thesis (and ETK etc.) involves the a priori.

4. The Canonical Text

In this section I give a close reading of the canonical text in which Kant connects necessity to the a priori:

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[9] See e.g. Burgess (2014).

'[1] Experience teaches us, to be sure, that something is constituted thus and so, but not that it could not be otherwise. [2] **First**, then, if a proposition is thought along with its **necessity**, it is an *a priori* judgment; [3] if it is, moreover, also not derived from any proposition except one that in turn is valid as a necessary proposition, then it is absolutely *a priori*.' (B3)

‚[1] Erfahrung lehrt uns zwar, dass etwas so oder so beschaffen sei, aber nicht, dass es nicht anders sein könne. [2] Findet sich also erstlich ein Satz, der zugleich mit seiner Nothwendigkeit gedacht wird, so ist er ein Urteil a priori; [3] ist er überdem auch von keinem abgeleitet, als der selbst wiederum als ein nothwendiger Satz gültig ist, so ist er schlechterdings a priori.‘ (B3)

It is extremely common to read the first two parts of this passage as endorsing either the Entailment Thesis (if *p* is metaphysically necessary, then *p* is epistemically a priori) or ETK (if we know that *p* is metaphysically necessary, then it is epistemically a priori that *p* is metaphysically necessary) or a mixed thesis (if we know that *p* is metaphysically necessary, then *p* is epistemically a priori).[10] Of course the metaphysical necessity here may have to be restricted to appearances, but in itself this would seem to make little difference to Kripke's arguments—his counterexamples would still stand if Venus (or anything else to which rigid designators refer) were a mere appearance. Whence the standard view that Kant's connection between necessity and the a priori is one that Kripke argues against.

I will articulate and defend an alternative reading of this passage according to which Kant does not here say anything that Kripke argues against. My core claim will be that Kant's conception of the a priori in this passage is not the purely epistemic conception invoked in the Entailment Thesis, which bifurcates truths into those which are and those which are not knowable independently of experience. Instead, the conception of the a priori that is operative in this passage is a partly epistemic, partly metaphysical conception. On this conception, the a priori itself bifurcates into that which is knowable independently of experience— the *absolutely* a priori—and that which is *not* knowable *solely* on the basis of

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[10] See e.g. Vaihinger (1892, 1:198), Kemp Smith (2003, 56), Bennett (1966, 9), Broad (1978, 3), Kitcher (1975, 25; 1980, 89), Guyer (1987, 94; 2006, 46), Anderson (1993, 17), Van Cleve (1999, 15–18), Casullo (2003, ch.7; 2019), Allison (2004, 94).

experience—the a priori as such or in general. To be sure, Kant's primary concern in the *Critique of Pure Reason* is the absolutely a priori in particular, but when he connects necessity to the a priori in the canonical text above, he is connecting it not only to the notion of being knowable independently of experience but also to the notion of not being knowable solely on the basis of experience. The shift is small but it makes all the difference. For it follows that Kant does not here say anything that Kripke argues against.

My argument will not be based on any claim about what Kant means by necessity in this passage. It will, however, have as a consequence that the operative conception of necessity is also not Kripke's purely metaphysical conception. In a way, it too is a partly metaphysical, partly epistemic conception of necessity.

I will focus on articulating and defending my reading on its own terms, though some worries about the more standard readings will come out as we proceed.

4.1

What does Kant mean when he says '[1] Experience [*Erfahrung*] teaches us, to be sure, that something is constituted thus and so, but not that it could not be otherwise'? First of all note that what Kant denies experience teaches us is *that* something could not be otherwise; the necessity of the thing is part of what experience does not teach us. Second, in talking of what 'experience teaches us', it sounds as though Kant's concern is with what experience *alone* is *sufficient* to teach us. Consider the positive case: experience alone is sufficient to teach us that something is constituted thus and so. If this is right, then the contrast case concerns what experience alone is not sufficient to teach us. And this is crucial because it introduces a distinction that does not align with the epistemic a priori/a posteriori distinction sketched in §2, which hinges on what experience is or is not *necessary* for.

Assume for simplicity that what experience teaches us we know.[11] Then all Kant is saying here is that (a) experience *alone* is not *sufficient* for (b) knowledge *of*

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[11] In fact nothing in what follows hangs on this. If experience can be non-veridical or misleading, then what it teaches us we might not know but merely believe. See Stephenson (2015a; 2017). To allow this is not to deny that the good case is the fundamental case, in terms of which we must understand any deviation from it.

something *that* it is necessary. And my initial point is that nothing in Kripke's deduction model says otherwise. Given (b), this claim is fully compatible with weak a posteriori necessities of kind (1) from above—Kant is only talking about cases where the modal status of something as necessary is part of what is known. Given (a), this claim is fully compatible with strong a posteriori necessities of kind (3) from above—Kant is only talking about what experience alone is or is not sufficient for, not what it is or is not necessary for. Kripke's deduction model is simply silent on this. Indeed, that model proceeds to the strong necessities of kind (3) by way of an a priori premise (or at least a premise that involves the a priori, in the sense articulated in §3); Kripke does not proceed on the basis of experience alone. For all we have seen so far, then, Kant and Kripke do not disagree. Otherwise put, merely denying that experience alone is sufficient for knowledge of something that it is necessary—even if we grant that the necessity here is metaphysical—is fully compatible with rejecting the Entailment Thesis, ETK, or any mixed thesis.

Before moving on I should acknowledge that there might be other plausible ways of reading Kant's talk of what 'experience teaches us'. Perhaps he means 'experience' in a very thin sense, referring not to empirical cognition that, in the relevant sense, can alone be sufficient for knowledge, but rather to mere sense impressions that cannot alone be sufficient for knowledge. He might then be saying that, while sense impressions play some evidential role in our knowing that something is constituted thus and so, they play no evidential role in our knowing that something is necessary. Or perhaps he is referring to empirical cognition but does not intend the positive and the negative cases to be symmetric. He might then be saying that, while experience alone is sufficient for our knowing that something is constituted thus and so, it plays no evidential role in our knowing that something is necessary. It seems to me that any such interpretation has costs that my proposed reading does not, but I will not press the point at this stage.[12]

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[12] It is fairly common to claim that Kant equivocates over thick and thin senses of 'experience', especially in the opening pages of the B-edition of the first *Critique*. See especially Kemp Smith (2003, 52), Beck (1978, 40), Kitcher (1981, 220), Guyer (1987, 79–81), and Van Cleve (1999, 73–76). I argue against such views in Stephenson (2013). In particular, I think Kant rarely if ever means sense impressions when he says 'experience' in the first *Critique*.

Let us turn to the first clause of the second sentence. What does Kant mean when he goes on to say '[2] **First**, then, if a proposition is thought along with its **necessity**, it is an *a priori* judgment…'? Assume for simplicity that there is no significance in Kant's shift from talk of a proposition to talk of a judgment and that his talk of a proposition's being 'thought along with its necessity' refers to its being known to be necessary.[13] Kant begins 'First, *then*', which suggests that what he says here is supposed to follow immediately from what he has just said about experience. My proposed reading of the previous sentence would then yield the following: [1] Experience alone is not sufficient for knowledge of something that it is necessary. [2] Therefore, if we know of something that it is necessary, then we know this a priori, *in the sense that* we do not know this on the basis of experience alone. On this reading, [2] is just a conditionalized reformulation of [1], so [2] follows immediately from [1], as expected, and what was true of [1] is also true of [2]—it commits Kant neither to the Entailment Thesis, nor to ETK, nor to any mixed thesis. Kant and Kripke still do not disagree.

To reinforce this reading I want to introduce a traditional, partly metaphysical and partly epistemic conception of the a priori that will be central to what follows. Others have done more than I can possibly do here to both explore this conception of the a priori and show that it is central to Kant's Critical project.[14] I will say more about the latter in §5. My only aim for now is to show that it makes very good sense of the text in question and that, crucially, it yields a category of the a priori that denotes knowledge for which experience alone is not sufficient.

On what I will call the *metaphysical* conception of the a priori, to have a priori knowledge of something is to have knowledge of that thing from its ground, where: (a) this ground is a sufficient (i.e. complete or full) metaphysical ground; and (b) it is recognized as such. This contrasts with a metaphysical conception of a posteriori knowledge as knowledge of a thing merely from its consequences

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[13] I will be able to modify these assumptions shortly—see fn.18.

[14] See especially Smit (2008; 2009) and Hogan (2009; 2013; 2021), to whom the following owes a great deal. Novel to my account, I believe, is the distinction I draw within the metaphysically a priori, its application to the canonical text and Kant's relation to Kripke, and what I do with it in §5. For some explicit uses of the notion in Kant, see *Reflection* 4338, 17:511; *Metaphysics Mrongovius* 29:748; *Metaphysics L2* 28:531; *Metaphysics Vigilantus* 29:945.

or effects. Of course these notions are still epistemic—they characterize kinds or ways of knowing. I call them 'metaphysical' in contrast to the previous, purely epistemic notions because they rely on the metaphysical distinction between ground and effect, rather than on the epistemic issue of evidential dependence on experience.

We do still get a connection to experience and evidential dependence thereon by assuming that the only evidential role of experience is to inform us of things from their effects, typically their causal effects on our senses (A19–20/B33–34).[15] Thus experience cannot on its own provide us with metaphysically a priori knowledge of things from their grounds, but merely with metaphysically a posteriori knowledge of things from their effects. *However*, there is nothing yet to say that experience cannot play *some* evidential role in metaphysically a priori knowledge of things from their grounds. Indeed it can play such a role.

Metaphysically a priori knowledge as such refers to knowledge of a thing from its ground—its sufficient metaphysical ground recognized as such. Let us say that *absolutely* metaphysically a priori knowledge is knowledge of a thing from its ground, had with no appeal to effects, while *conditionally* metaphysically a priori knowledge is knowledge of a thing from its ground, had with some appeal to effects. If experience can only inform us of effects, and absolutely metaphysically a priori knowledge makes no appeal to effects, then experience can play no evidential role in absolutely metaphysically a priori knowledge. However, if the effects to which conditionally metaphysically a priori knowledge appeals are effects that can be known through experience, then experience can play an evidential role in conditionally metaphysically a priori knowledge.

These distinctions are made in the knowledge-idiom rather than the judgment-idiom—they characterize particular acts or kinds of knowledge, not classes of truth. And recall that in the knowledge-idiom, the previous, purely epistemic characterization of the a priori/a posteriori distinction was that between

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[15] Note that we do not assume the converse. Experience can only teach us of effects, but there may be effects of which experience cannot teach. See §5.2. Note also that knowledge through testimony alone will qualify as metaphysically a posteriori knowledge through experience of effects. My teacher might know a priori from grounds that 2+2=4. Their telling me is an effect of this knowledge and thereby of the fact that 2+2=4. I return to testimony at the end of this subsection and to related, chain-of-reasoning issues in the next.

knowledge that is (evidentially) independent of experience and knowledge that is not (evidentially) independent of experience. I will provide a full mapping between the metaphysical and epistemic conceptions in §5—doing so is not trivial. What matters here is that metaphysically a priori knowledge as such, and conditionally metaphysically a priori knowledge in particular, can be epistemically a posteriori.

A toy example will be useful. Assume for the sake of argument that the fact that Socrates is human and the fact that all humans are mortal together constitute a sufficient metaphysical ground of the fact that Socrates is mortal. Now suppose that I know through experience alone that Socrates is human, perhaps because I see him looking human and doing characteristically human things, which are effects of his being human. This would be metaphysically and epistemically a posteriori knowledge. Suppose further that I know that all humans are mortal, and that I know this in a way that is independent of experience. This would be epistemically a priori knowledge.[16] And finally suppose that I deductively infer from these two pieces of knowledge that Socrates is mortal, recognizing that those pieces of knowledge together constitute knowledge of a sufficient metaphysical ground of the fact that Socrates is mortal. If *this* is how I know that Socrates is mortal, then my knowledge that Socrates is mortal is both epistemically a posteriori and conditionally metaphysically a priori.

It is metaphysically a priori because the fact that Socrates is human together with the fact that all humans are mortal ground the fact that Socrates is mortal, and I recognize this in making my deductively valid inference. It is thus not had solely on the basis of experience, not only because I know one of the premises independently of experience but also because, once I know the premises, I must still make a deductively valid inference, and this is an act of reason that in itself is independent of experience—my recognition that what I know constitutes knowledge of a sufficient metaphysical ground is not based in experience. Yet it is merely conditionally metaphysically a priori knowledge—it is not absolutely metaphysically a priori knowledge—because it still makes some appeal to effects. Specifically, part of the ground from which I know that Socrates is mortal is not itself known from grounds but only from effects—I only know that Socrates is

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[16] We need not here determine whether it also qualifies as absolutely metaphysically a priori knowledge and nothing I have said so far requires that it does. I return to this in §5.2.

human from the effects of Socrates being human. And I only know these effects through experience, so my knowledge that Socrates is mortal is both conditionally metaphysically a priori and epistemically a posteriori.

Let us return to the text: '**First**, then, if a proposition is thought along with its **necessity**, it is an *a priori* judgment…'. Above we saw some reason to think that, by 'a priori' here, Kant means to denote knowledge that is not based solely on experience—this was suggested by the most natural reading of the previous sentence together with the fact that the present claim is supposed to follow from it. What we have now is a conception of the a priori—the metaphysical conception—that naturally yields such a category. Metaphysically a priori knowledge as such cannot be based solely in experience; conditionally metaphysically a priori knowledge can still be based in part in experience. What, then, does the metaphysically a priori have to do with necessity?

The metaphysically a priori as such is connected to the necessity with which sufficient metaphysical grounds necessitate what they ground. This is a kind of *hypothetical* necessity: *given* that Socrates is human and all humans are mortal, it *must* be the case that Socrates is mortal. For the sake of comparison, we can think of this in Kripkean terms. Sufficient metaphysical grounds metaphysically necessitate what they ground, so what we have here is a connection to (doubly) *restricted* metaphysical necessity: every possible (appearance) world *in which Socrates is human and all humans are mortal* is also a world in which Socrates is mortal. This is part of what I know, as it were, *in the act* of knowing that Socrates is mortal in the way described above. By inferring it from premises that together ground it, the proposition that Socrates is mortal is 'thought along with its [hypothetical] necessity'.[17, 18]

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[17] This also accounts for Kant's other criterion of the a priori: universal validity (B3). I cannot give a similarly close reading of this text here, but in a nutshell: 'Experience [on its own, and thus epistemically a posteriori knowledge that is also metaphysically a posteriori] never gives its judgments true or strict but only assumed and comparative universality (through induction)'. Metaphysically a priori knowledge as such, however, which is 'not derived [solely] from experience', involves the strict universality on which 'no exception at all is allowed to be possible', for it involves the necessitation of sufficient metaphysical grounds, recognition of which forms the basis not of induction but *deduction* (see also the next footnote and §4.3).

[18] I can now modify the two assumptions I made above. First, I assumed that there is no significance in Kant's shift from talking of a proposition to talking of a judgment. The connection we have seen to deductively valid inference, on my reading of the passage, might suggest otherwise. For recall that, officially, for Kant, a proposition is an assertoric judgment, i.e. one in

It should be clear that nothing here implies the Entailment Thesis, ETK, or any mixed thesis, for the simple reason that these theses say nothing about hypothetical necessities, and hypothetical necessities can be metaphysically contingent.[19]

Consider another toy example. Suppose that I know through experience both that Socrates is pug-nosed and that Socrates is married, and I then infer that Socrates is pug-nosed and married, recognizing that conjuncts jointly ground conjunctions.[20] My resulting knowledge that Socrates is pug-nosed and married would be conditionally metaphysically a priori, as above; and as above, I would think of the proposition that Socrates is pug-nosed and married with its necessity, in the sense that, in the act of so knowing that Socrates is pug-nosed and married, I know that this is grounded in his being pug-nosed together with his being married. This is all compatible with it being metaphysically contingent that Socrates is pug-nosed and married. The metaphysically a priori—at least the conditionally metaphysically a priori—can be metaphysically contingent.

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which 'the content of the judgment… is considered as **actual** (true)'. The conclusion of a deductively valid inference recognized as such, however, is an apodictic judgment, i.e. one in which 'the content of the judgment is… seen as **necessary**', which Kant goes on to connect to being 'determined through these laws of the understanding', 'asserting *a priori*', and expressing 'logical necessity' (A74–6/B100–101). On my reading of the passage, it is plausible to suppose that Kant has this distinction in mind in shifting from proposition to judgment. See Hebbeler (2015, §3) and Leech (2012; 2017a) for related discussion. Second, I assumed that Kant's talk of a proposition's being 'thought along with its necessity' refers to its being *known* to be necessary. In fact nothing hangs on whether knowledge is required here. The issue this time is not that experience might be non-veridical or misleading (see fn.11). Even if my experience of Socrates can be non-veridical or misleading so that my belief that he is human on this basis might be false, I could still know that he must be mortal *if* he is human etc. Rather what I want to allow for this time is that my *reason* might be fallible. If I merely believe that my inference is deductively valid when in fact it is not—if I falsely believe that something is a sufficient metaphysical ground— then I could fail to know that something is (hypothetically) necessary while still merely believing it to be so. As before, to allow this is not to deny that the good case is the fundamental case in terms of which we must understand any deviation from it.

[19] For simplicity I assume here and throughout that our *p*'s are categorical. One way to think of restricted metaphysical necessities is as metaphysically necessary conditionals. Thus if *p* could be conditional rather than categorical, then strictly speaking the Entailment Thesis (etc.) would say something about hypothetical necessities—as metaphysically necessary conditionals. Nothing of substance hangs on this; the point would then just be that, in metaphysically necessary conditionals, the consequent can be metaphysically contingent if the antecedent is.

[20] We can ignore the fact that this is not a valid inference form on Kant's syllogistic logic (see also fn.25)—the example could be adapted.

Before moving on I want briefly to discuss two additional issues that Kripke raises in passing and that are related to but distinct from his main objections to the Entailment Thesis (etc.). Early on in *Naming and Necessity*, in articulating his sharp distinction between metaphysics and epistemology, Kripke complains that many seem to treat necessity and the a priori not only as co-extensive but as 'meaning the same thing'; 'In contemporary discussion very few people, if any, distinguish between the concepts of statements being a priori and their being necessary' (NN34–39; cf. IN149–50).[21] He later says that he does not think Kant himself is guilty of this (NN160). In fact, however, it can seem as though Kant *does* do exactly this. Kant says in the *Discovery* essay of 1790, for instance: 'they are cognizable as truths a priori, which is completely identical with the proposition: they are cognizable as necessary truths' (8:235). 'Completely identical' sounds like it refers to semantic equivalence. On the purely epistemic reading of Kant's conception of the a priori, this would indeed seem to be a mistake. On the metaphysical reading of Kant's conception of the a priori, it makes perfect sense. Metaphysically a priori knowledge *just is* knowledge of something from its sufficient metaphysical ground recognized as such, which is to say, it *just is* knowledge in which a thing is recognized as being necessitated by its ground. To get to Kant's full semantic equivalence claim, then, we need only assume that this kind of recognition is part what he has mind when he talks about propositions being thought along with their necessity and truths being cognizable as necessary. That is, we need only assume that the operative conception of knowledge (or thought or cognition) in Kant is somewhat richer than Kripke assumes. It is a conception of knowledge on which knowledge of necessity involves some understanding of, as it were, where the necessity comes from. Kant's claim to semantic equivalence does not involve a simple mistake. Rather it involves the metaphysical conception of the a priori and a demanding conception of what it takes to have knowledge of necessity in the relevant sense.[22]

This also solves a problem Kripke raises in returning to the exegetical question a little more carefully in an appendix to *Naming and Necessity* (NN159–60; cf. 35).

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[21] Kripke may have had his earlier self in mind here—see Kripke (2017, 231, 234n.20), a paper originally written in 1961/2.

[22] On Kant on insight (*Einsehen*) and comprehension (*Begreifen*) as grades or kinds of cognition or knowledge, see Smit (2008; 2009) and Schafer (2021; forthcomingb); and see Smit (2008; 2009) and Stang (2019) on the connection of the metaphysically a priori and grounding, respectively, to knowledge-*why*, as opposed to merely knowledge-that.

Kripke now notes that Kant often says things that suggest he thinks not only that necessities *can* be known a priori but that they *must* be known a priori. The texts we have seen attest to this, as do many others, and my reading agrees on *this* feature of them. To Kripke, with his purely epistemic reading of Kant's conception of the a priori and his generic conception of knowledge, it again just looks like a mistake, and this time it is one he attributes to Kant. For surely we *can* know *anything* through experience, for instance through testimony. On my reading, however, the texts do not disagree with *this* point. As the examples above make clear, Kant could well allow that judgments known conditionally metaphysically a priori can also be known metaphysically a posteriori and so purely through experience: above I knew that Socrates is mortal via inference from its sufficient metaphysical ground, but I might instead have been present at, or have read about, the drinking of the hemlock. And for all we have seen Kant could well allow that anything can be known in this way—directly or through testimony—so long as we are working with Kripke's generic conception of knowledge according to which knowledge need not involve understanding, recognition, and the like. For Kant is simply working with a more demanding conception of knowledge in the texts at hand, one on which knowledge of a necessity as a necessity involves understanding something of where that necessity comes from—it involves a recognition of sufficient metaphysical grounds as such—which is just what is involved in the metaphysical conception of the a priori.

4.3

Let us turn to the final part of our passage. It is often omitted by proponents of the standard view (e.g. by Kripke, NN159), and we will see towards the end of the section that this is not incidental. But it is crucial for my own reading—it concerns Kant's primary interest in the first *Critique*.

Having said that a proposition thought with its necessity is an a priori judgment, Kant continues: '[3] if it is, moreover, also not derived from any proposition except one that in turn is valid as a necessary proposition, then it is absolutely a priori'. What we have seen so far allows us to make sense of what must otherwise be regarded as rather tortuous phrasing on Kant's part. To have metaphysically a priori knowledge of something is to know it as necessitated by its sufficient metaphysical ground. The paradigmatic manifestation of this way of knowing

lies in the making of a deductively valid inference, so on this reading, Kant's talk of propositions being 'derived' and 'valid as' necessary does not come out of the blue or sound strange. Indeed, the additional condition Kant here places on being not only a priori but absolutely a priori suggests exactly the distinction within the metaphysical a priori that I sketched above.

A proposition that is not only a priori but also absolutely a priori must not *only* be thought with necessity, in the sense sketched above—that is, it must not *only* be recognized as necessitated by its sufficient metaphysical ground. It must be, 'moreover, also not derived from any proposition except one that in turn is valid as a necessary proposition'. Consider our examples again. In those cases, my knowledge that Socrates is mortal and my knowledge that Socrates is pug-nosed and married were both conditionally metaphysically a priori. They were metaphysically a priori by virtue of being known from sufficient metaphysical grounds recognized as such and were thus thought as hypothetically necessary. Yet they were not absolutely metaphysically a priori because, in each case, at least one of the premises from which I inferred my conclusion was itself not known from grounds or thought as necessary; in each case, at least one of the premises was known merely from effects through experience, which, recall, on its own is only sufficient for us to know that something is constituted thus and so. That is, my conclusions were not 'derived' solely from premises that were themselves 'valid as' necessary; my premises were not all themselves known metaphysically a priori. Such chains of reasoning may of course extend further. Would it help, for instance, if I had instead derived my knowledge that Socrates is human from premises, rather than coming to know it directly through experience? Only if these premises in turn were not themselves only known metaphysically a posteriori. And so on. Absolutely metaphysically a priori knowledge is knowledge of something from its grounds, had without appeal to effects. If such knowledge results from a chain of reasoning, the premises must all be valid as necessary and themselves known from grounds, not from effects, all the way down. And since experience can only inform us of effects, it follows that this kind of knowledge can make no appeal to experience. Unlike knowledge that is merely conditionally metaphysically a priori, knowledge that is absolutely metaphysically a priori must also be epistemically a priori.

We can now see that, on the reading I am proposing, the distinction Kant makes within the a priori in the canonical text (B3) is *the very same distinction* he has

just made in the three paragraphs immediately preceding it, when he first introduces the notion of the a priori (B2).[23] In those paragraphs, Kant first introduces the notion of independence from all experience and connects it to the a priori, but he then says the expression 'a priori' is 'not yet sufficiently determinate to designate the whole sense of the question before us'. He outlines a comparative notion of the a priori as that which is 'derived from experiential sources' although 'we do not derive it immediately from experience'. This he contrasts with the notion of a priori that is his concern in what follows—in the 'question before us'—which is the notion of that which occurs '*absolutely independently of all experience*'. This distinction matches exactly the distinction I have sketched between the conditionally metaphysically a priori and the absolutely metaphysically a priori, as it pertains to experience. What Kant adds in the canonical text is the connection, of *both* notions—of the metaphysically a priori as such—to necessity. He will occasionally return to the notion of the conditionally metaphysically a priori, as compatible with the epistemically a posteriori, and when he does his concern will be with its attendant notion of hypothetical necessity.[24] But of course Kant's primary concern in the *Critique of Pure Reason* is with knowledge that is absolutely metaphysically a priori and (therefore) epistemically a priori.

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[23] It is also the same distinction that Kant makes in lectures between the a priori '*simpliciter*' and the a priori '*secundum quid*' (*Metaphysics Mrongovius* 29:750). The former, like the absolutely metaphysically a priori, is independent of effects (and therefore experience) without condition; the latter, like the conditionally metaphysically a priori, is independent of effects (and therefore experience) only in some respect, or with qualification. In fact this connection is already suggested by Kant's use, in both distinctions in the *Critique*, of the Germanic translation of 'simpliciter', 'schlechterdings', which is here translated as 'absolutely', though 'simply' would do just as well. On my reading, Kant consistently and with consistent terminology makes a single distinction within the a priori.

[24] For instance in a discussion of our comparatively (i.e. conditionally metaphysically) a priori knowledge of the existence of effects and their material or causal necessity, which for Kant is a species of the necessity with which sufficient metaphysical grounds—in this case causes— necessitate what they ground (A226–28/B279–281). I think this connection is also present in the *Prolegomena* (4:297–99), in Kant's talk of apriority and necessity (and universal validity) with regard to his notoriously difficult discussion of the difference between 'judgments of perception' (epistemically and metaphysically a posteriori) and 'judgments of experience' (metaphysically a priori but epistemically a posteriori). A harder case is what to make of the synthetic a priori laws of the *Metaphysical Foundations*, which involve the empirical concept of matter. Are these epistemically and absolutely metaphysically a priori, like the synthetic a priori principles of the *Critique*, or is the role of experience here in some way evidential, so that they can only qualify as conditionally metaphysically a priori? In light of the well-known difficulties in understanding Kant's combination of empirical and a priori in this text, the latter option may be worth exploring.

In the next section I will explore how Kant connects this kind of a priori knowledge with a very special kind of hypothetical necessity. But first I want to conclude my close reading of the canonical text by raising two final concerns about the standard view of this text. For simplicity take the version of the standard view according to which, in [1] and [2], the first two parts of the canonical text, Kant is endorsing the Entailment Thesis: if p is metaphysically necessary, then p is epistemically a priori. What is such a reading to make of [3], where Kant distinguishes the absolutely a priori?

First of all note that, by contrast with my own proposed reading and despite the fact that Kant uses the same terminology, the standard view cannot take Kant's distinction within the a priori in the canonical text to match the distinction he has made immediately prior (and that he makes elsewhere, again with related terminology—see fn.23). On the standard view, the distinction Kant draws within the canonical text must be a distinction within that which is absolutely independent of experience, so that, as it were, what he there calls the absolutely a priori must somehow be *absolutely* absolutely independent of experience. My proposed reading has an exegetical simplicity not shared by the standard view.

Second, and relatedly, what Kant says about the absolutely a priori in the canonical text causes trouble for the standard view. On this reading, Kant here identifies a distinguished subset of epistemically a priori judgments—the 'absolutely' epistemically a priori—that are 'moreover, also not derived from any proposition except one that in turn is valid as a [metaphysically] necessary proposition'. This additional condition then suggests that judgments that are *merely* epistemically a priori *can* be derived from propositions that are *not* metaphysically necessary—it is only a judgement's *absolute* epistemic apriority that rules this out. This in turn suggests that judgments that are merely epistemically a priori can be derived from propositions that are metaphysically contingent. And the problem is that Kant's syllogistic conception of derivation is such that metaphysical contingency would be closed under derivation: any judgment that is derived from premises that include metaphysical contingencies would itself be metaphysically contingent.[25] On this reading, then, Kant's

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[25] This holds of most traditional theories of syllogism, and Kant's account is more restrictive than most—see e.g. Boyle (2020, §5). Of course our modern conception of derivation is *not* one on which metaphysical contingency is closed under derivation—there are many ways to derive

additional condition on absolute epistemic apriority suggests that judgments that are merely epistemically a priori can be metaphysically contingent. There are two ways to take this result, both of which are highly problematic for proponents of the standard view. Either Kant is endorsing the Entailment Thesis but rejecting its converse. So not only does he believe there are judgments that are metaphysically contingent but epistemically a priori; he sees fit to tell us this immediately after endorsing the Entailment Thesis. Or else what he says is incoherent: while [1] and [2] say that a proposition that is metaphysically necessary is also epistemically a priori, [3] implies that *that very proposition* is only metaphysically contingent when its epistemic apriority is not 'absolute'.

As ever, this objection to the standard view is not conclusive. For there is an alternative reading of the original German of the final part of the canonical text, obscured by the standard English translations,[26] according to which Kant is making a distinction akin to our modern distinction between axioms and theorems. On this reading, Kant means to say that the absolutely a priori judgments are those that are not derived from anything at all, *even* from the necessary a priori judgments he has just mentioned, rather than, as on my reading, those that are not derived from anything *except* the necessary a priori judgments he has just mentioned. The German just about allows of both readings: ‚[2] Findet sich also erstlich ein Satz, der zugleich mit seiner Nothwendigkeit gedacht wird, so ist er ein Urteil a priori; [3] ist er überdem auch von keinem abgeleitet, als der selbst wiederum als ein nothwendiger Satz gültig ist, so ist er schlechterdings a priori'. To my ear, the reading required by the standard view of the canonical text is less natural and has Kant expressing himself quite badly (it also has him foregrounding a distinction that will play no significant role in what follows). But then my ear is not native.[27]

Overall I think the case for my proposed reading over the more standard readings is compelling, but I will be content to have made it a serious contender. I assume it in what follows.

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necessities from contingences, for instance by disjunction-introduction on a contingency with its negation, or by conditional-introduction on a contingency with itself. This may explain why the present objection to the standard view has gone unnoticed.

[26] The above is by Guyer and Wood (Kant 1998), but Pluhar (Kant 1996), Kemp Smith (Kant 1929), and Meiklejohn (Kant 1855) all share the relevant feature.

[27] Thanks to Tobias Rosefeldt and Hannes Leitgeb for pressing me to say something about this alternative reading.

5. Kant's Thesis

I do not think that Kant commits to the Entailment Thesis (or ETK etc.). The first part of the canonical text at B3 does articulate one direction of a semantic equivalence thesis, more fully expressed in the *Discovery* essay, concerning the definitional link between metaphysically a priori knowledge and knowledge of hypothetical necessity recognized as such. But nothing in Kripke's arguments tell against this thesis in either direction because metaphysically a priori knowledge can be epistemically a posteriori and hypothetical necessities can be metaphysically contingent. And while we have seen that absolutely metaphysically a priori knowledge must also be epistemically a priori, we have not yet seen any connection to a kind of necessity that is incompatible with metaphysical contingency. This is the concern of the present section.

I will argue that Kant does endorse a thesis that connects the absolutely metaphysically and epistemically a priori to a kind of necessity that, although still hypothetical, is nevertheless incompatible with metaphysical contingency (for appearances). This is also an equivalence thesis, but it is by no means definitional and it is no part of what Kant articulates in the canonical text of the B-edition Introduction. It is rather the upshot of the entire *Critique of Pure Reason*. Call it *Kant's Thesis*:

(Kant's Thesis) p is formally necessary if and only if
p is epistemically a priori if and only if
p is absolutely metaphysically a priori

Broadly speaking, the Transcendental Analytic argues for the left-to-right direction of Kant's Thesis, while the Transcendental Dialectic argues for the right-to-left direction of Kant's Thesis (specifically its contrapositive, if p is not formally necessary, then p is not a priori knowable, epistemically or metaphysically). Again, we will see that nothing in Kripke's arguments against the Entailment Thesis (etc.) tell against Kant's Thesis. I begin by explaining the conception of formal necessity and why Kripke's examples of the necessary a posteriori do not, as such, constitute counterexamples to the first, left-hand side conditional: p is formally necessary only if p is epistemically a priori (§5.1). I then sketch an easy route to Kant's Thesis as a whole. The approach here is to

divide and conquer, arguing first that Kant thinks that p is formally necessary if and only if it is epistemically a priori, and second that he thinks that p is epistemically a priori if and only if it is absolutely metaphysically a priori (§5.2). But this easy route does not provide much insight into the direct connection Kant sees between formal necessity and the absolutely metaphysically a priori, which is where things get really interesting (§5.3).

<div align="center">5.1</div>

In the first of the Postulates of Empirical Thought, Kant defines a kind of modality that is absolutely central to his Critical philosophy: 'Whatever agrees with the formal conditions of experience (in accordance with intuition and concepts) is **possible**' (A218/B265). Call this *formal* possibility. The formal conditions of experience are the forms of sensibility and intuition—space and time—and the forms of the understanding and thought—the unity of apperception and everything that comes with it, such as the categories, the logical functions of judgment, and the laws of logic. Kant talks in terms of grounds as often as he talks in terms of conditions and I take them to be interchangeable.[28] I follow Nicholas Stang (2016) in understanding Kant's definition of formal possibility as follows:

> p is formally possible $=_{\text{def.}} \neg p$ is not grounded in the forms of experience.

From this we can define a dual notion of formal necessity:[29]

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[28] Compare e.g. A107 and B136. Condition-talk is marginally preferred to ground-talk in the first *Critique*; ground-talk is the much more common idiom in the metaphysics lectures. For discussion see Stang (2016; 2019) and Watkins (2021).

[29] Contra Stang (2016) and Stephenson (forthcoming), I do not think Kantian duals can work in quite the way that duals work in contemporary modal logic, where we flank a modal operator with sentential negation ($\Box\phi =_{\text{df.}} \neg\Diamond\neg\phi$, $\Diamond\phi =_{\text{df.}} \neg\Box\neg\phi$). This is because, for Kant, modality 'contributes nothing to the content of a judgment' (A74/B99–100), yet to place a modal operator inside the scope of a regular sentential operator like negation would be to treat it as contributing to the content of a judgment. (The same reasoning prohibits the nesting of modal operators— see Bader (forthcoming), to whom I owe the point.) Instead, then, Kantian duals must invoke two kinds of negation: regular sentential negation ($\neg$) and intra-categorial negation (not). This also explains why Kant's modal categories are pairs ($O\phi$ and not-$O\phi$)—in lieu of standard duality, both are required to cover modal space. And it makes formal necessity the fundamental notion, as the other modalities are defined in terms of it together with one or both kinds of negation, thus:

p is formally necessary $=_{\text{def.}} p$ is grounded in the forms of experience ($\Box\phi$)

p is formally necessary $=_{def.}$ p is grounded in the forms of experience.

Grounds are again to be understood as sufficient metaphysical grounds. If we like we can again think in terms of metaphysical necessity, so that whatever is grounded in our forms of experience, i.e. whatever is formally necessary, is metaphysically necessitated by our forms of experience. Thus formal necessity will entail truth in all possible appearance worlds, or worlds of experience. However, if we want to think in these terms, we need to keep clearly in mind that grounding is hyperintensional.[30]

The hyperintensionality of grounding, and thus of Kant's conception of formal necessity, is crucial. For it follows immediately that metaphysical necessity does *not* entail formal necessity, and thus that Kripke's counterexamples to the Entailment Thesis are not, as such, counterexamples to Kant's Thesis. This holds whether we think of metaphysical necessity in Kripke's own general sense, as truth in all possible worlds whatever, or rather in the restricted, purportedly more Kantian sense, as truth in all possible appearance worlds. As it were, the former is neither necessary nor sufficient for formal necessity, while the latter is necessary but still not sufficient for formal necessity.[31] So in neither sense of metaphysical

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p is formally impossible $=_{def.}$ $\neg p$ is grounded in the forms of experience ($\Box\neg\phi$)

p is formally possible $=_{def.}$ $\neg p$ is not grounded in the forms of experience (not-$\Box\neg\phi$)

p is formally contingent $=_{def.}$ p, but p is not grounded in the forms of experience (not-$\Box\phi$).

[30] See Stang (2016; 2019) and Watkins (2021). Note, then, that while sufficient metaphysical grounds metaphysically necessitate what they ground, it is not the case that whatever metaphysically necessitates something is thereby a ground of that thing. Grounding does not *consist* in metaphysical necessitation; metaphysical necessitation is a *consequence* of grounding. In general, I take it that the notions of grounding and of our forms of experience (or more generally of cognitive forms) are the primitive notions in Kant; notions of necessity such as formal necessity are derivative on these. So we have a generic sense of hypothetical necessity, enjoyed by whatever is grounded in sufficient metaphysical grounds, and we can then distinguish different species of this kind of necessity by distinguishing different kinds of ground. Formal necessities are grounded in the forms of experience. Empirical or material necessities are grounded in the actual laws of the empirical world together with some state of that world. Noumenal necessities are grounded in the powers of things in themselves. Logical or conceptual necessities are grounded in the laws of logic. And so on. See Stang (2016) for extensive discussion; see also Stephenson (forthcoming).

[31] To give some concrete examples: even if it were generally metaphysically necessary that God exists, the existence of God would still not be grounded in our forms of experience, or formally necessary; and even if there were only one possible world of appearance, so that everything in the actual world of appearance obtained in every possible world of appearance, there would still be a distinction between aspects of the actual world of appearance grounded in our forms of

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necessity does metaphysical necessity entail formal necessity; only the converse holds, and only with respect to metaphysical necessity for appearances. Kripke's arguments against the Entailment Thesis are not, as such, arguments against Kant's Thesis.

This negative point is enough for my purposes here. It is by no means the end of the matter. Metaphysical necessity understood in terms of possible worlds does not *entail* formal necessity understood in terms of grounding, but there will be *some* metaphysical necessities that are also formal necessities. So while Kripke's counterexamples to the Entailment Thesis are not, as such, counterexamples to Kant's Thesis, perhaps further argument can show that they are counterexamples to Kant's Thesis nonetheless. The issue is far from straightforward. One central question is whether, by Kant's lights, any of Kripke's cases would qualify as cases of formal necessity. I suspect that those involving natural kinds and origins would not present a problem, in the sense that Kant would simply deny that they are formally necessary—he would think our forms of experience (alone) do not (wholly) ground statements, propositions, or judgments about tigers being mammals, the chemical composition of water, the atomic structure of gold, certain people having certain parents, or certain tables or lecterns being made of wood rather than ice, and so on. But what of the cases involving identity? Perhaps Kant would think it formally necessary, because a law of logic, that individuals are self-identical.[32] We saw in §3 that this does not on its own imply anything about the modal status of statements like 'Hesperus is Phosphorus'. Can *statements* be formally necessary, for Kant? To go any further we would need to look at the details of Kripke's arguments and what Kant would make of them, which would in turn require considering more carefully how Kantian judgments relate to Kripkean statements, how Kant thinks of reference to individuals, and so on and so on.[33] This is a task for another occasion and I suspect there will

experience—the formally necessary—and aspects of the actual world of appearance not grounded in our forms of experience—the formally contingent. Kant would endorse both of these conditionals, though he thinks we cannot know whether or their antecedents hold. See Stang (2011) for relevant discussion; see also fn.33 on non-actual or mere formal possibility.

[32] See §5.2 and Stephenson (forthcoming, §3 and §6).

[33] One complication worth picking out is that Kant, like Leibniz, would think of transworld identity in counterpart-theoretic terms, at least for appearances—the identity of individual appearances, for Kant, is determined by their place in the world as a whole. For Kant, contra Kripke, possible worlds cannot simply be 'stipulated' (NN44; cf. IN148). Relatedly, Kant is much more sceptical than Kripke about our ability to know of non-actual metaphysical (or real) possibilities, including, I now think (contra Stephenson forthcoming, §6), non-actual formal

come a point where the comparison breaks down. Again, the negative point suffices for now, that further argument is required to show that Kripke's arguments against the Entailment Thesis also cause trouble for Kant's Thesis. My primary aim here is to address Kant's Thesis on Kant's own terms.

5.2

One relatively straightforward way to argue that Kant endorses Kant's Thesis is to divide it up:

(KT-1) p is formally necessary if and only if p is epistemically a priori

(KT-2) p is epistemically a priori if and only if p is knowable absolutely metaphysically a priori

Kant's Thesis is equivalent to the conjunction of KT-1 and KT-2. I will take them in reverse and I will be very brief.

Recall from §4 that our threefold metaphysical distinction, together with the assumption that the only evidential role of experience is to inform us of things from their effects, gave us the following conditionals: if knowledge is absolutely metaphysically a priori, then it is epistemically a priori (because it cannot involve appeal to effects, nor therefore to experience); if knowledge is epistemically a posteriori, then either it is conditionally metaphysically a priori (if it is based in part but not solely in experience) or it is metaphysically a posteriori (if it is based solely in experience).[34]

We cannot get the converse of either of these conditionals because the operative conception of effects is broad enough to include effects that can be known independently of experience; experience can only inform us of effects but there

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possibilities. That is, Kant seems to think that nor can (merely) possible worlds be 'discovered' (NN44; cf. IN148). In fact this is already suggested by Kant's Thesis together with the definitions laid out in fn.29. Kant's Thesis leaves no room for epistemically a priori knowledge of (mere) formal possibilities, and it is unclear how experience could help with this. See e.g. A222–23/B270, A230–31/B283–84, and for relevant discussion, Stang (2011, 456), Nunez (2014, 653n.10), McLear (2016, 191), and Leech (2017b).

[34] These conditionals are equivalent only on the assumption that the metaphysical distinction is exhaustive—see fn.35.

may be effects of which experience cannot inform us. For instance, it might qualify as an effect of a mathematical truth that its negation entails a contradiction, in which case we might classify mathematical proof by reductio as a route to knowledge that is both metaphysically a posteriori and epistemically a priori.[35] However, it seems reasonable to suppose that Kant might think we can always turn indirect proofs into direct proofs.[36] In general, we might assume that, for Kant, epistemically a priori knowledge of something from its effects can always be converted into knowledge of that thing from its grounds. If this is right, then we can switch idioms to get KT-2: p is epistemically a priori if and only if p is absolutely metaphysically a priori.

I suppose there is a very familiar line of reasoning in favour of the left-to-right direction of KT-1: if p is formally necessary then p is epistemically a priori. Kant thinks we can have epistemically a priori knowledge of our forms of experience. But if our forms of experience are epistemically a priori, and the formally necessary is what is grounded in our forms of experience, then surely we can have epistemically a priori knowledge of the formal necessities. Of course there are many, many details that need to be filled out here, but I take it that the general approach is familiar.[37]

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[35] See Adams (1994, 109–10) on Leibniz, cited in Smit (2008; 2009). A secondary issue with the two-way mapping is that, while it is clear that the epistemic a priori / a posteriori distinction partitions the space of knowable truths—the distinction is exhaustive of this domain—it is not so clear that the same is true of the metaphysical distinction. For instance, suppose I come to know something by inferring it from its sufficient metaphysical ground, but in doing so I only recognize this ground as necessitating what I infer. Such knowledge does not meet the criteria of metaphysically a priori knowledge, which requires that I know something from its sufficient metaphysical ground recognized as such: to recognize one thing as necessitating another is necessary but not sufficient for recognizing the one thing as a sufficient metaphysical ground of the other, for not every necessitation relation is a grounding relation (fn.30). Nor, on the other hand, is such knowledge knowledge of a thing from *its* effects—while the fact that grounds necessitate what they ground may qualify as an effect of these grounds, it is not an effect of what they ground. We could perhaps solve this problem by paying closer attention to the operative conception of knowledge, but I take it that the solution to the main problem given in the text would suffice as well: if we know of sufficient metaphysical grounds that they necessitate something, we *could* know that they are sufficient metaphysical grounds; the metaphysical distinction is exhaustive in its modalized form.

[36] I'm thinking here of the role in mathematics Kant famously accords to intuition (e.g. at A713–17/B741–45) and its connection to constructive mathematics, such as intuitionism, though admittedly this is a hugely complex and controversial issue. For especially relevant discussion see Goodwin (2018) and the essays in Posy (1992).

[37] See Stang (2011; 2016) for a much fuller account.

The right-to-left direction of KT-1 is less straightforward than it may at first appear: if *p* is epistemically a priori then *p* is formally necessary. Kant thinks that analytic judgments are epistemically a priori and yet logically or conceptually necessary—their supreme principle is the principle of contradiction, a law of logic which Kant tends to formulate in terms of conceptual content (A150–53/B189–93). Unless he thinks that analytic judgments are also formally necessary, and more generally that any such logical or conceptual necessities are also formal necessities, then these would constitute a very significant class of counterexamples to the right-to-left direction of KT-1. And the problem, on our grounding conception of formal necessity, is that it can seem wrongheaded to say that logical or conceptual necessities are always also formal necessities, for this is to say that logical or conceptual necessities are grounded in our forms of experience.[38]

We could solve this problem by restricting Kant's Thesis to synthetic judgments. After all, his primary concern is the question of how it is possible to know synthetic judgments a priori (B19). I do not think we need to take this route. That logical or conceptual necessities are grounded in our forms of experience does *not* imply that they are grounded in *the fact that we have the particular forms of experience that we do*, or anything else that sounds suspiciously logically or conceptually contingent. For grounding is nonmonotonic: if A is grounded in B it does not follow that A is grounded in any fact that includes B. Moreover, grounding can be multiple, even when sufficient (i.e. full), as when existential generalizations are multiply (and fully) grounded in their true instances. Thus while logical and conceptual necessities are grounded in our forms of experience, on the picture I am proposing, they will also be grounded in *every other form of cognition*, insofar as such forms also include those of thought and hence the laws of logic and the principle of contradiction, and thus regardless of whether or not they are specifically spatiotemporal or even sensible.[39] Thinking of logical and conceptual necessities as grounded in our forms of experience does not preclude thinking of them, and with them the laws of logic and thought, as more

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[38] There is no problem on model-theoretic ways of thinking about modality. Our forms of experience add constraints to those of mere thought and conceptual consistency, so the set of formally possible worlds is a proper subset of the set of logically or conceptually possible worlds. But we have seen that we cannot think of formal necessity in this way.

[39] See Gomes, Moore, & Stephenson (2022), Nunez (2019), Boyle (2020), and especially Conant (1992; 2020) for discussion.

fundamental and more general than our particular forms of experience. Kant's Thesis holds generally.

<p style="text-align:center">**5.3**</p>

The above route to Kant's Thesis was relatively straightforward but it did not tell us much about the direct connection Kant draws between formal necessities and absolutely metaphysically a priori knowability. I will now attempt to explain this connection. It not only leads to Kant's Thesis but shows how central that thesis is to the project of the first *Critique*.

Metaphysically a priori knowledge is knowledge of a thing from its ground. Absolutely metaphysically a priori knowledge is knowledge of a thing from its ground that makes no appeal to effects. Schematically, it is knowledge of x from the ground of x, that makes no appeal to effects. For what values of x can we have such knowledge?

Kant thinks we can only have absolutely metaphysically a priori knowledge of the *possibility* of things.[40] Here's a little argument to that effect. Kant thinks we cannot know that something exists or is actual without appeal to effects. For we can only know that something exists or is actual through experience (A178/B211, A226/B279),[41] and experience only informs us of effects. $x \neq$ the actuality of a thing. Nor, then, can we know without appeal to effects that something is necessary, in any sense of necessity that implies actuality. For then we would be able to know that something is actual without appeal to effects, which, as we have just seen, Kant thinks we cannot do. $x \neq$ the necessity of a thing. Therefore all we can know without appeal to effects is that something is possible. $x =$ the possibility of a thing. Absolutely metaphysically a priori knowledge, for us, must be knowledge of the possibility of a thing from the ground of the possibility of that thing, had without appeal to effects.

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[40] See the *Metaphysical Foundations* (4:470), cited in Smit (2009): 'to cognize something *a priori* means to cognize it from its mere possibility'.

[41] An exception might be ourselves but I ignore this complication. For discussion see Longuenesse (2017).

We already know that formal necessities are grounded in the forms of experience. Our question, then, is what do formal necessities have to do with the possibility of things?

To have knowledge of the possibility of a thing from the ground of the possibility of that thing, we must be able to recognize that ground as such, which means at least that we must be able to have knowledge of that ground—we must be able to have knowledge of the grounds of the possibility of the things of which we can have absolutely metaphysically a priori knowledge. In lieu of a successful ontological argument for an *ens realisimum*, Kant becomes sceptical about whether we can have knowledge of the grounds of the possibility of things in themselves. And without this, we cannot have absolutely metaphysically a priori knowledge of the possibility of things in themselves. So of what kind of thing might we be able to have knowledge of the ground of the possibility of which, such that we might be able to have absolutely metaphysically a priori knowledge of the possibility of that thing?

Kant defines a capacity (*Vermögen*) as 'the ground of the possibility of an act' (*Metaphysics Mrongovius* 29:823–24; cf. 28:565). Thus our capacity for experience is the ground of the possibility of experience. The Copernican hypothesis is the hypothesis that there is nothing more to the possibility of objects of experience—appearances—than their being possible objects of experience. As Kant puts it: 'The conditions of the **possibility of experience** in general are at the same time conditions of the **possibility of the objects of experience**' (A158/B197; cf. Bxvi–xxiii). Thus if the Copernican hypothesis is right, then knowledge of our capacity for experience would be knowledge of the ground of the possibility of appearances. Perhaps, then, if we can have knowledge of our capacity for experience, without appeal to effects, this can provide for absolutely metaphysically a priori knowledge of the possibility of appearances. The Critical method seeks such knowledge—metaphysically (and therefore epistemically) a priori knowledge via knowledge of our own capacities, in this case our capacity for experience.

Capacities, for Kant, have form and matter:[42] the form of our capacity for experience consists in the forms of sensibility and understanding; the matter of our capacity for experience consists in the particular material constitution of our senses. This distinction within the capacity yields a corresponding distinction within the possibility of which the capacity is the ground. The form of our capacity for experience, of sensibility and the understanding, grounds the formal aspect of the possibility of experience, or the possibility of appearances with respect to their form—it grounds the possibility of intuitions and concepts (or more precisely, as it were on its own, without the matter of our capacity, it only grounds the possibility of *pure* intuitions and *pure* concepts). The matter of our capacity for knowledge grounds the material aspect of the possibility of experience, or the possibility of appearances with respect to their matter—it grounds the possibility of sensations. Form and matter together then ground the possibility of experience, which consists of sensations, intuitions (pure and now also empirical), and concepts (pure and now also empirical). By the Copernican hypothesis, form and matter together thereby ground the possibility of appearances, whose matter corresponds to sensations and whose form is spatiotemporal and categorial. However, our capacity for experience is receptive. Thus to make any of this not merely possible but actual requires affection from 'outside' the capacity, by things in themselves. This affection activates our capacity for experience, which as it were transforms it from a mere capacity into a power, which is to say a ground of the *actuality* of experience.[43]

Now, Kant thinks that we cannot have knowledge, without appeal to effects, either of the matter of our capacity, i.e. the material constitution of our senses, or of the affection of our capacity from 'outside'. Rather what the Critical method yields is knowledge, without appeal to effects, of the *forms* of our capacity for experience. This brings us back to formal necessity, for of course the

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[42] Kantian capacities also have an end, which in general will be the actualization of the act for which it is a capacity (*Critique of Practical Reason*, 5:120). Thus the end of our capacity for experience, as such, is experience. The forms of sensibility and understanding are also the forms of our capacity for knowledge, whose end is knowledge, and we could put all of what follows in these terms—for Kant, our absolutely metaphysically a priori knowledge involves not only self-knowledge as knowledge of ourselves but self-knowledge as our capacity for knowledge knowing itself. See Schafer (forthcoming; forthcominga; ms.) for a general account of Kant's capacity-first methodology.

[43] See again *Metaphysics Mrongovious* (29:823–24; cf. 28:565), and see Boyle (2020, fn.21) for discussion. The power is not itself the actualization of the act for which it is a power. The power is the ground of the actualization of the act; the actualization is the act.

forms of our capacity for experience are the very forms in terms of which we defined formal necessity. The formal necessities are grounded in the forms of our capacity for experience. Thus by the Copernican hypothesis, knowledge of formal necessities constitutes knowledge of the formal aspect of the possibility of appearances. We have our connection between formal necessity and the possibility of things *as they appear*.

To recap: appearances are possible objects of experience; the Copernican hypothesis says there is nothing more to the possibility of such objects than their being possible objects of experience, so whatever is the ground of the possibility of experience is also the ground of the possibility of appearances; our capacity for experience is the ground of the possibility of experience and therefore, by the Copernican hypothesis, the ground of the possibility of appearances; its forms are the grounds of formal necessities, so formal necessities partly constitute the possibility of appearances, that is, they constitute the formal aspect of this possibility; so knowledge of formal necessities constitutes knowledge of the formal aspect of the possibility of appearances. It is our knowledge of what is formally necessary, had without appeal to effects but rather from our knowledge of the forms of our capacity for experience, that is absolutely metaphysically a priori knowledge of the (formal aspect of the) possibility of appearances.

Kant's aim in the *Critique of Pure Reason* is to argue that we can have such absolutely metaphysically (and therefore epistemically) a priori knowledge of all and only formal necessities: knowledge of what is formally necessary purely from the grounds of what is formally necessary, which is to say from knowledge of the forms of our capacity for experience. This is Kant's Thesis.

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