

The Blurred Line between Epistemic and Metaphysical Modalities in the Modal Epistemology of Imagination

ABSTRACT

Modal epistemologies that rely on a fallibilism about modal claims have been gaining traction over the years. This paper critically discusses the accounts of Kung (2009; 2010; 2016) and Dohrn (2018; 2019; 2020) and argues that they are invariably susceptible to being read as entailing claims of epistemic possibility. Both Kung and Dohrn seek to ground modal intuitions on non-modal ones, and primarily appeal to the modalizing capacity of imagination to aid in the discovery of modal truths. However, insofar as inference from non-modal imagination to modal truths remains fallible, then no non-*ad hoc* distinction can be made between substantiation of fallible metaphysically modal claims and infallible epistemically modal ones. This is because, barring an agent's infallible knowledge of modal truths, how these truths are asserted must attend the agent's imperfect epistemic access thereof, therefore entailing claims of modality consistent with her epistemic state – i.e., claims of epistemic possibility. If modal epistemologies in general non-modally ground their modal assertions in this fallible fashion, then they seem inevitably interpretable in terms of epistemic possibility as opposed to some non-epistemic reading of metaphysical possibility.

Keywords: Imagination; Modal Epistemology; Epistemic Possibility; Metaphysical Possibility

This paper looks at the imagination-based modal epistemologies of Kung (2010; 2016) and Dohrn (2019; 2020) and argues that these, and other modal epistemologies like them that appeal to fallible claims about metaphysical possibility, are invariably susceptible to being read as entailing claims of epistemic possibility. Sections 1 and 2 introduce pertinent concepts about modality, imagination, and modal epistemology before applying them in Sections 3 to 5 for the sake of this paper's abovementioned argument.

1. Epistemic and Logical Possibility

Dohrn (2018) provides a general definition of epistemic possibility, in that P “is epistemically possible relative to some subject *S* just in case [P] is compatible with *S*'s knowledge.” (373) Epistemic possibility is therefore agent-indexed, but it can also have multiple interpretations depending on how we interpret certain epistemic features. Whether, for instance, we appeal to what we know *for certain* or what we know *fallibly* will dissimilarly

impact the meaning of our epistemically modal claims: construing epistemic possibility in terms of what we know for certain (call it $\diamond_{E(C)}$) implies stronger modal restrictions than a construal in terms of what we fallibly know (call it $\diamond_{E(NC)}$). Yablo (1993) characterizes $\diamond_{E(C)}P$ as, P is epistemically possible for me just in case P is not contradicted “by my immediate evidential situation [e.g. experience or logical knowledge]” (25n52), wherein what is immediately evidential for me constitutes my infallible modal knowledge. Yablo’s other characterization is of $\diamond_{E(NC)}P$, whereby P is epistemically possible even in the presence of a contradiction just in case P is expressed in some closest possible world wherein a contradiction is not immediately present (25n52). Here, the evidential situation presenting a contradiction to me constitutes my fallible modal knowledge. According to $\diamond_{E(NC)}$, apparent contradictions and claims of possibility are not at odds with one another since these contradictions are always potentially dissolvable given further investigation.¹ Lastly, $\diamond_{E(C)}P$ makes a stronger claim than $\diamond_{E(NC)}P$ because the presence of a contradiction necessarily rules out the former, but not necessarily the latter.

This relationship between $\diamond_{E(C)}$ and $\diamond_{E(NC)}$, regarding their interpretations in terms of awareness of apparent contradictions, clarifies a useful distinction between epistemic possibility in general and logical possibility. First, to set things up, it is helpful to think of logical possibilities as characteristic attributions to the truth values of formulas and concepts with interpretable non-logical constants. Strohminger and Yli-Vakkuri’s (2019) definition of logical necessity, that P is logically necessary “just in case the sentence ‘ $[P]$ ’ is true under all interpretations of its non-logical constants” (1158), gives us an initial way forward concerning logical possibility:

$(\diamond_{LP}) P$ is logically possible just in case the sentence ‘ P ’ is true under *at least one* interpretation of its non-logical constants.

The link between interpreting non-logical constants and the appearance of contradictions is thus: if a contradiction presents itself in interpreting a sentence ‘ P ’, thereby rendering P false

¹ Note how the ‘dissolution given further interpretation’ condition is ostensibly not identical to Yablo’s ‘dissolution in a closest possible world’. However, we will use these conditions interchangeably throughout the paper, given that the potential for further interpretation *is*, in this case, an interpretation in a possible world, and *vice versa*. Why we can use these interchangeably is because whatever interpretation is present in a possible world obtains in a world that *could* be our own.

under *that* interpretation, then \diamond_{LP} is false unless further interpretations dissolve the contradiction, in which case \diamond_{LP} becomes true. For example, according to Strohminger and Yli-Vakkuri (2019), “it is logically possible that something is Greek and not Hellenic but not logically possible that something is Greek and not Greek, because ‘Greek’ and ‘Hellenic’ are [not necessarily identical] non-logical constants.” (1158)

There is potential issue, however, with \diamond_{LP} 's insensitivity to fallibility or infallibility in logically modal claims, since whether something *may* be logically possible or *is* logically possible is an important distinction. For example, the claim, ‘something is Greek and not Hellenic’, *may* be logically possible just in case there is yet to be an interpretation that renders ‘Greek’ and ‘Hellenic’ non-identical, whereas the claim *is* logically possible if there is such an interpretation. The relevant definitions are:

$(\diamond_{L(C)}P)$ P is logically possible iff there is an interpretation of the non-logical constants of the sentence ‘P’ that renders it true.

$(\diamond_{L(NC)}P)$ P may be logically possible iff there is *yet to be* an interpretation of the non-logical constants of the sentence ‘P’ that renders it true.

Notice that $\diamond_{L(C)}P$ is different from \diamond_{LP} by the replacement of ‘just in case’ with ‘iff’. This replacement is significant because it would seem that ‘iff’ is more restrictive than ‘just in case’: for $\diamond_{L(C)}P$ to be true there must already be a consistent interpretation at hand, while \diamond_{LP} attains no such restriction. Moreover, ‘iff there is yet to be’ is also more restrictive than ‘just in case there is’ since $\diamond_{L(NC)}P$'s truth requires there to currently be no consistent interpretation while that of \diamond_{LP} simply requires one that may or may not exist. Understand therefore that $\diamond_{L(C)}P$ and $\diamond_{L(NC)}P$ correspond respectively to an infallible and fallible interpretation of \diamond_{LP} , since if P is claimed to be logically possible, then under $\diamond_{L(C)}P$ it cannot be false, but under $\diamond_{L(NC)}P$ it can be false – under \diamond_{LP} , it is vague whether the claim is an infallible or fallible one.

All this precisification may seem overly pedantic, but it is important for analyzing statements like that of Priest (2016), wherein “[s]ome things that are epistemically possible would seem to be logically impossible.” (2652) Here, that P is epistemically possible and *would* seem to be logically impossible is a P that is epistemically possible and *possibly* logically impossible. In other words, the interpretation of the non-logical constants in P has only led to apparent contradictions, but that it is not impossible for these to dissolve via further

interpretation entails that $\diamond_{E(NC)}P$, not $\diamond_{E(C)}P$, applies in this case. Furthermore, the fact that P *may* turn out to be logically impossible implies that further interpretations may render false the claim of impossibility. In short, statements like those of Priest make use of *fallible* modal claims, signaling a motivation for a fallible/infallible interpretation of \diamond_{LP} .²

This sentiment even applies if P is a complex tautology, whose falsity would normally be considered logically impossible, since “[f]or all we knew before carrying out the computation” of “its long truth table, ... [P’s] being false was a way things could be.” (Berto and Schoonen, 2018, 2704n8) Here, $\diamond_{E(C)}(\neg P)$ is true for anyone who had not finished computing the truth table, given that no contradiction would be apparent at that time.³ Additionally, it could be true that $\diamond_{L(NC)}(\neg P)$, but not $\diamond_{L(C)}(\neg P)$, for someone, since, before the computation of the truth table, there may yet be in their view an interpretation of $\neg P$ ’s non-logical constants that renders $\neg P$ true – the fact that there is presently at that time no such interpretation renders $\diamond_{L(C)}(\neg P)$ ’s truth value undecided. This would be a case wherein it is questionable whether $\neg P$ is contradictory. Obviously then, for someone who does complete the truth table of the tautologous P , for *all* interpretations of its non-logical constants, $\diamond_{L(NC)}(\neg P)$ would be false.

What is consequently noteworthy from the above discussion is that $\diamond_{L(NC)}P$ seems blatantly agent-indexed, for ‘may’ in its definition is *epistemic* in character. The fact that S can claim $\diamond_{L(NC)}P$ expresses the epistemic possibility of there yet being for S an interpretation of the non-logical constants of the sentence ‘ P ’ that renders it true, whether there were only contradictory interpretations thus far or if no interpretations are currently present at all. However, an agent-indexed interpretation of $\diamond_{L(C)}P$ is not necessary, simply because its truth

² Angere (2017) further motivates this interpretation by considering that “mathematical concepts, like all informal concepts, are in general not crystallised, definite, or exact. Even when explicitly defined they tend to rest on other concepts in which vagueness or indeterminacy remains.” (93) Due to potential vagueness and indeterminacy in the interpretation of these concepts, there should thus be an effort to distinguish the attribution of modal claims to concepts that have been precisely clarified from a similar attribution to those that have not. (Angere applies this idea to a discussion of the differences between “pre-formal” and formal definitions of concepts like circle and square (90).) This is precisely what is accomplished in differentiating $\diamond_{L(C)}P$ from $\diamond_{L(NC)}P$.

³ Even obvious contradictions, such as $A = \neg A$, may be epistemically possible for someone in the sense of $\diamond_{E(NC)}(A = \neg A)$, since it may not be necessarily impossible for that contradiction to be dissolvable in some closest possible world that falsifies the law of noncontradiction.

value can be undecided when making this infallible modal claim, given a lack of awareness of an extant interpretation. The same cannot be said for $\diamond_{L(NC)}P$, for it necessarily cannot be undecided in its truth value: if there is an interpretation that renders P true *and* is not known by S , then that situation already validates $\diamond_{L(NC)}P$ for S , because for all that S knows, for certain or otherwise, there may yet be an interpretation that renders P true. From this it should be obvious that $\diamond_{L(NC)}P$ merely expresses the *epistemic possibility*, in terms of $\diamond_{E(C)}$ or $\diamond_{E(NC)}$, of $\diamond_{L(C)}P$ being true: $\diamond_{L(NC)}P = (\diamond_{E(C)} \vee \diamond_{E(NC)})\diamond_{L(C)}P$.

With this adumbration of and motivation for the use of terms such as $\diamond_{L(NC)}P$, $\diamond_{L(C)}P$, $\diamond_{E(NC)}P$, and $\diamond_{E(C)}P$ in place, the rest of this paper argues that any claim employing a *metaphysical* modality inevitably falls under the same scheme of characterization: fallible claims of metaphysical modality – $\diamond_{M(NC)}$ for possibility and $\Box_{M(NC)}$ for necessity – can always be described in terms of epistemic possibility, such that $\diamond_{M(NC)}P = (\diamond_{E(C)} \vee \diamond_{E(NC)})\diamond_{M(C)}P$ and $\Box_{M(NC)}P = (\diamond_{E(C)} \vee \diamond_{E(NC)})\Box_{M(C)}P$.⁴ (To save space, we will be writing $(\diamond_{E(C)} \vee \diamond_{E(NC)})$ as (\diamond_E) unless we make explicit what type of epistemic possibility we are using.) Considering that a fallible metaphysical modality is a central feature in many contemporary modal epistemologies,⁵ the argument of this paper should have significant ramifications for the contemporary academic view of modal epistemology in general.

⁴ This interpretation can be motivated somewhat from examples in the literature. For instance, in Berto's (2017) possible-worlds approach to the modal epistemology of imagination, he distinguishes between the agent-indexed quantificational feature of the imagination operator and the non-agent-indexed truth conditions for that operator (1279-81). Agent-indexed quantification is quantification over the possible worlds that satisfy some *subjectively* determined similarity metric between possible worlds and the real world (*Cf.*, Note 39), while non-agent-indexed truth conditions are objective features of these possible worlds' truth-determining relation to the imagination operator's modalizing inference (Berto, 2017, §4; 2018a, §3). The inference from imagination to metaphysical possibility is therefore fallible, as what counts as a validating set of possible worlds for a modal claim is not set in stone, meaning that such claims can fail to obtain for whomever is making the claim. Additionally, how one determines what counts as a validating world-set for a claim is contingent in part on one's *access* of such a world-set (Berto, 2017, 1279; 2018a, 1878). This access can be couched in terms of 'epistemic' access – Berto (2017) does consider possible worlds as "epistemic alternative[s] for [the actual one]" (1279) – implying that Berto's account of modality is similarly structured to that of $\diamond_{M(NC)}$: whatever metaphysical possibility is true ($\diamond_{M(C)}$) can only be fallibly ascertained by one's epistemic capacities ($\diamond_{E(C)} \vee \diamond_{E(NC)}$).

⁵ *Cf.*, Willaimson, 2007; Kung, 2010; Jago, 2018; Berto, 2018a; Dohrn, 2020.

We will explore these ramifications about how we understand where we derive our modal knowledge by looking at two popular accounts of the modal epistemology of imagination, found in Kung (2010; 2016) and Dohrn (2018; 2019; 2020). This analysis is meant to implicate other modal epistemologies that rely on a fallibilism about modal claims, but for the sake of space, that extended analysis must be pursued elsewhere. Kung's account is taken up and criticized in Section 3. We then discuss Kung's faulty use of Kripke's modal epistemology to further clarify where Kung goes wrong (Section 4) before viewing and critiquing Dohrn's account (Section 5.2). We then conclude in Section 6. First, we introduce imagination and its relevance to modal epistemology in the following Section.

2. Imagination and Modal Epistemology

2.1. Introducing Imagination

Imagination is a multifaceted phenomenon,⁶ attaining both imagistic and semantic qualities. Kung (2010) for example describes that imagined images brought to the mind “come already categorized; they have conceptual contents already assigned.” (624) Hence, imagination should not be identified solely with visual imagery. For instance, Priest (2016) considers that one may “conceive of and imagine *anything* that can be described in terms that [they] understand” and that they can bring “before the mind.” (2659) This may involve situations ranging from the understanding of “abstract objects” (Berto, 2017, 1278n2) to even the mere stipulation of terms and labels ascribed to an imagined scenario (Kung, 2016).

There is also interplay between what is imagined and the content of what an imager understands about her imagined scenario. This has led Stuart (2019) to distinguish between two imaginative processes, one that is somewhat constrained by our prior experiences of the world, call it ‘ I_C ’, “whereby we effortlessly conjure [up a] mental image” in response to apprehended meaning (9), and another, more unconstrained process that arbitrarily manipulates this image through a relatively free association with our understanding (12), call it ‘ I_{UC} ’. This distinction flexibly ascribes different instances to each process, in that through experience, conditioning, and conscious effort, what is produced from I_C and I_{UC} could differ between different imaginers (13). As an initial approximation, we may view I_C as more constrained than I_{UC} by their intelligible conceptual content, whereby what is imagined through I_C is not as *psychologically*

⁶ I use ‘imagine’ and ‘conceive’ interchangeably throughout the paper. Nothing much turns on the word choice, except in cases wherein specific accounts of imagination/conception-based modal epistemology are given. When specific accounts are dealt with, their own particular wording will be applied for the sake of authenticity.

free, as with I_{UC} , to mean just about anything by an imaginer. This distinction between I_{UC} and I_C is also somewhat mirrored and explicated further in Kung's (2010) account of, respectively, stipulative and non-stipulative imagination. In any case, a link between an imagined scenario and an imaginer's understanding thereof is discussed more fully in Section 3, where we start to detail out imagination's modalizing function and how a distinction between stipulative and non-stipulative imagination helps make sense of it. However, first, we can at least introduce imagination's relation with modal knowledge.

2.2. Hanson's Account of Modal Epistemology

A possible early attempt to diversify imagination's modalizing function into metaphysical and logical possibility is given by Hanson (1959). There, Hanson considers it "the essence of imagining, thinking, and picturing, that we cannot imagine, think, or picture what is logically impossible." (87) If logical impossibility is identified with what is contradictory, then the idea that, 'if it is contradictory then it cannot be imagined', is espoused prevalently in the literature.⁷ However, "not all impossibilities are plain contradictions", since some may be metaphysical impossibilities (Lam, 2018, 2158). Hanson (1959) points in this direction, while discussing the logical impossibility of "X, e.g., a quadrilateral triangle", by questioning whether "the connection between X being impossible and X being unthinkable may only be an empirical one", that the reason for an impossibility's inconceivability may be because "[t]here simply never has been a case of anyone thinking, imagining, picturing the logically impossible." (88) In other words, a quadrilateral triangle being contradictory does not entail that whenever one denies its inconceivability, they are also making a contradiction or being logically inconsistent (91). Here, X may be contradictory, and therefore *logically* impossible, but that X is conceivable may just be a *metaphysically* impossible claim. Is Hanson's account sensitive to an infallibilism/fallibilism about modal claims?

Note first how this move from logical to metaphysical impossibility is concomitant with an agent-centeredness. First, Hanson's (1959) account of logical impossibility is an objectively structural one and "has nothing to do with [the] individual" imaginer (87). Second, the move to the non-contradictory denial of impossibilities' inconceivability relies more on agent-centered language – e.g., "it is again questionable whether the denial of this [i.e., logical impossibility] is logically inconsistent, or simply such that *we* can form no conception of

⁷ Cf., Chalmers (2002); Williamson (2007, 163); Ichikawa and Jarvis (2012); Lam (2018, 2158); Jago (2018, 4); and, Morato (2019, 826).

evidence in support of it.” (91. Italics mine.) If we characterize this as a move from logical to metaphysical modality then, in line with our discussion in Section 1, we thus characterize this as a move from $\neg\Diamond_{L(C)}X$ to $\neg\Diamond_{M(NC)}I(X)$: a move from the infallible logical impossibility of some contradiction (X) to the fallible metaphysical impossibility of imagining (I) that X.⁸ To motivate this interpretation further, remember that $\Diamond_{L(C)}$ does not require an agent-indexed reading, so it should be in line with Hanson’s own conception of objective, structural logical impossibility. Moreover, with an inevitable agent-indexing of $\Diamond_{M(NC)}$ (Cf., Note 12), there ought not be significant reason to dissuade applying it to Hanson’s agent-centered approach.⁹ Lastly, given Hanson’s evidentialism, it would not make much sense to parse his approach as a fallibilism about logically modal claims, i.e., $\neg\Diamond_{L(NC)}I(X)$, since empirical claims do not factor into the justification of even fallible *a priori* logical reasoning.¹⁰

We can also motivate transitioning the impossibility claim of $\neg\Diamond_{M(NC)}I(X)$ to the possibility claim of $\Diamond_{M(NC)}I(X)$ as $\Diamond_E\Diamond_{M(C)}I(X)$: if fallible claims about metaphysical impossibility can, as Hanson seems to think, be adjudicated by empirical concerns – e.g., an impossibility of conceiving of a contradiction can be revoked by evidence of someone conceiving a contradiction – then it is epistemically possible whether a hitherto considered impossibility is in fact possible. In short, fallibility goes both ways regarding negation or positive assertion. As such, if we accept that

$$\Diamond_{M(NC)}I(X) = \Diamond_E\Diamond_{M(C)}I(X) \tag{1}$$

then we can reasonably interpret Hanson’s notion of potentially non-logically inconsistent claims about the empirically adjudicable imagining of logical impossibilities *as* signaling the

⁸ $\neg\Diamond_{M(NC)}I(X)$ should be read as the fallible negation of the possibility of $I(X)$, not as the negation of this possibility’s fallibility itself.

⁹ There may be, though, divergent versions of Hanson’s notion of a lack of evidential support. One would be non-agent-centered, where the lack stems from the evidence just being inextant. Another version would be agent-centered, where the lack stems from an agent’s inability to produce such evidence. Nevertheless, evidential inexistence may just entail an agent’s inability to produce the evidence, so the non-agent-centered version naturally leads to an agent-centered reading anyways.

¹⁰ The distance at which conceivability/imagination-based modal epistemology generally stands from *a priori* readings of modal knowledge is why it often ventures *a posteriori* for the corroboration of modal claims. Cf., Dohrn (2020, 3638); Martínez (2015, 659).

mere epistemic possibility of the infallible claim of metaphysical possibility regarding imagining infallible logical impossibilities.

As an approximation, we can accept (1) if we accept a link between empirical evidence and epistemic possibility, or, said another way, if we accept a compatibility between such evidence and our evidential state. This does not look controversial, for generally evidence counts towards our knowledge. This means that, in terms of (1), what we view as infallible metaphysical possibility ($\diamond_{M(C)}$) is inextricably connected to the evidence we have that is compatible with our epistemic state, with all that we know for certain or otherwise ($\diamond_{E(C)}$ or $\diamond_{E(NC)}$), about said possibility. However, $\diamond_{M(NC)}I(X)$ does not denote $\diamond_{M(C)}I(X)$ plus some empirical substantiation thereof, only that this empirically substantiating factor counts in favor merely towards the *epistemic* possibility of $\diamond_{M(C)}$ – any substantiation of $\diamond_{M(C)}$ claims are therefore fallible and must be *because* of infallible substantiation of $\diamond_{E(C)}$ or $\diamond_{E(NC)}$. Hence, fallible claims of metaphysical possibility follow closer to claims of epistemic possibility than those of infallible metaphysical possibility.

Additionally, the above discussion is not meant to imply that imagining an impossibility counts as evidence towards that impossibility being possible. The evidence of one's imagining an impossibility counts towards the modal status of the imagination itself, towards the epistemic possibility of that imagination's infallible metaphysical possibility, *not* what the imagination is about; something more must be required as evidence towards the metaphysical possibility of what an imagining is about. This could also explain why Hanson only makes the inference from impossibility to inconceivability, not from inconceivability to impossibility, and also why Saint-Germier (2018) characterizes inconceivability-to-impossibility and conceivability-to-possibility inferences as qualified by correspondence with “a previously identified model of modal error.” (4812-3) In talking about imagination's modalizing function, what we claim as possible/impossible from our imaginings is always fallible, defeasible via alternative considerations of what is possible/impossible.¹¹

¹¹ Importantly, what revisions our existing modal claims incur must themselves be fallible as well, since without *a priori* certainty that no other model will conflict with the one appealed to for the revision, we cannot infallibly determine that the revised claim will never be defeated – i.e., infallibly know that its outcome will never be contradicted.

Let us take stock. We initially offered justification for reading Hanson’s modal epistemology about imagination of logical impossibilities in terms of epistemic possibility of the infallible metaphysical possibility of such imagination. We then argued that evidence for $\diamond_{M(NC)}I(X)$ only counts towards the epistemic possibility of $\diamond_{M(C)}I(X)$, not to $\diamond_{M(C)}I(X)$ itself, wherein what would be evidence is someone who can imagine logical impossibilities.¹² However, since Hanson only deals primarily with an impossibility-to-inconceivability inference, to extend our analysis to conceivability/inconceivability-to-possibility/impossibility inferences to see if we can interpret them in terms of epistemic possibility, we must look elsewhere to other modal epistemologies.¹³

¹² Of course, once someone does imagine an impossibility, then obviously $\diamond_{M(C)}I(X)$ would be true, not just $\diamond_E \diamond_{M(C)}I(X)$. Nonetheless, note the subtlety here: in the inevitably agent-indexed reading of $\diamond_{M(NC)}I(X)$ – i.e., a non-agent-indexed interpretation, wherein there is evidence that the agent does not apprehend, already entails her epistemic state as ignorant of said evidence – any evidence of someone imagining an impossibility can always be read in light of epistemic possibility. Without such evidence, we have $\diamond_E \diamond_{M(C)}I(X)$, but with such evidence, we still have $\diamond_E \diamond_{M(C)}I(X)$, but only given non-entailing evidence. With entailing evidence, we now have $\Box_{E(C)} \diamond_{M(C)}I(X)$, which, from the factivity of infallible knowledge, entails $\diamond_{M(C)}I(X)$. In other words, evidence for $\diamond_{M(NC)}I(X)$ solely counts towards the epistemic modality of $\diamond_{M(C)}I(X)$, not to $\diamond_{M(C)}I(X)$ itself, when the evidence is non-entailing, because any evidence that entails $\diamond_{M(C)}I(X)$ entails the latter’s *non-epistemic* truth, while non-entailing evidence, given the existence of epistemic agents, can only entail a truth *of an agent’s epistemic state*.

¹³ Some consider Chalmers’ (2002) notion of ideal conceivability, whereby whether P is conceivable depends on P being logically consistent, as providing the least torturous path to infallible claims of metaphysical possibility. Jago (2018) agrees as much but brings up a worry: “[o]ften, we can’t tell whether some set of suppositions are [logically] consistent or not. So we can’t tell, on the basis of the experience, whether an act of conceiving that [P] is an ideal or a non-ideal act of conceiving.” (4) Here, there is a distinction between what is possible and what we know is possible that is captured essentially by fallible modal claims, since infallible ones can forego this distinction altogether via a factivity principle. However, in our discussion of Hanson, the fact that imagining a logical impossibility *may* (epistemic) be metaphysically possible was minimally guaranteed even without any evidence of the existence of such an imagining – a fallible claim without any evidence is still fallible after all. Jago considers this as too problematically straightforward a wholesale analysis of metaphysically modal claims, for inferences from non-ideal conceivability to metaphysical possibility that eschew any evidence whatsoever are “unreliable.” (Jago, 2018, 4) Still, it is argued in Section 5.1 that any fallible modal epistemology looking towards reliable evidential substantiation of its claims will entail either an infallibilism about modal claims or a fallibilism that can always be interpreted in terms of epistemic possibility.

3. Kung's Thesis (Outline & Critique)

3.1. Fallibilism about Modal Claims

One prominent approach to an imagination-to-possibility thesis is that of Kung (2010; 2016), who considers there to be a distinction between the “qualitative” and “stipulative” components of “sensory imagination”. (2010, 621) This distinction is commensurate with the abovementioned one of an imagined scenario and an imaginer's understanding thereof, in that “[s]ome things we imagine by picturing in our mind's eye; others we simply stipulate are so in the imagined situation (often the stipulations are *about* the mental picture).” (621) Moreover, it is imagination's qualitative component that grounds its metaphysical modalizing function, not its mere stipulative one (622). We will call imagination's qualitative power, I_Q , and its stipulative power, I_S , and this closely matches the above distinction between, respectively, I_C and I_{UC} made in Section 2.1.

However Kung, unlike Hanson, takes it that we can imagine impossible scenarios through I_S .¹⁴ This is not to say that if P is only imaginable through I_S – i.e., only through $I_S(P)$, which equals $[I_S(P) \wedge \neg I_Q(P)]$ – then P is impossible, just that since $I_Q(P)$ provides *fallible* evidence for P 's metaphysical possibility, then it should not necessitate that $[I_S(P) \wedge \neg I_Q(P)]$ *entails* the impossibility of P (*Cf.*, Kung, 2010, 658; 2016, 117-8n31, 118-9n49).¹⁵ Since Kung is working with fallible claims of metaphysical possibility here, we have,

$$I_Q(P) \rightarrow \diamond_{M(NC)}P \quad (2)$$

$$[I_S(P) \wedge \neg I_Q(P)] \not\rightarrow \neg \diamond_{M(C)}P \quad (3)$$

¹⁴ For Kung (2010), “I imagine myself receiving the Fields medal for proving Goldbach's conjecture. . . . It is clear that I imagine (and I suggest that you also have imagined)—via stipulation—that I *really have proved it*.” (627) Kung's insistence that we can imagine the impossible goes against error theorists about imagination, who deny this. *Cf.*, Gregory (2004) and Geirsson (2005). Kung is appealing to a sentiment present in Priest (2016), whereby seemingly anything, even the impossible, can be imagined if in terms that are understood. I am not committing myself to Kung's thesis here, for my focus is that, regardless if the impossible can or cannot be imagined, Kung's fallibilism opens up the way for an epistemically modal reading.

¹⁵ I am using $\neg I_Q(P) \wedge I_S(P)$ to describe an instance *solely* of $I_S(P)$, because an instance of $I_S(P)$ can allow for $[I_S(P) \wedge I_Q(P)]$ when there is not a sole instance of $I_S(P)$.

For Kung, (2) should not be read in terms of $\diamond_{M(C)}P$, since “when you imagine P [i.e., $I_Q(P)$], *you might be wrong*; for all you know P is impossible.”¹⁶ Additionally, Kung’s fallibilism also implies that “[t]he lack of evidence for impossibility does not amount to evidence for possibility.” (2010, 636) This can be interpreted as (3) $\nrightarrow \diamond_{M(NC)}P$, but Kung seems to also want,

$$[I_S(P) \wedge \neg I_Q(P)] \nrightarrow \neg \diamond_{M(NC)}P \quad (4)$$

where (4) $\nrightarrow \diamond_{M(NC)}P$. This is because, for Kung, merely stipulatively imagining that P does not provide evidence, *infallible or not*, for P’s metaphysical modal status in general. Kung (2010) asks, “[h]ow can imagining be a guide to possibility if it so easily leads us to false possibility judgments?” (632) For Kung, if $[I_S(P) \wedge \neg I_Q(P)]$ obtains, then this “merely reflect[s] our less-than-ideal epistemic position”, and “how can failing to be in [an ideal] epistemic position be evidence for $[\diamond_{M(NC)}P]$, particularly when we note that total ignorance is one way to fail to be in the best epistemic position?” (634) As such, we need “positive” and “independent evidence for $[\diamond_{M(NC)}P]$ ”, which can take the form of either $I_Q(P)$ and/or non-imaginative evidence (e.g. perception) for P.¹⁷

Note that from $[I_S(P) \wedge \neg I_Q(P)]$, reflecting our ‘less-than-ideal epistemic position’ regarding P, we can only reasonably claim at most the mere epistemic possibility that P. In other words,

$$[I_S(P) \wedge \neg I_Q(P)] \rightarrow \diamond_E P \quad (5)$$

We can justify this interpretation of Kung by looking at his view regarding the *modus tollens* of (5). For Kung (2010),

the principal way to account for our inability to imagine some propositions [i.e., $\neg I_S(P) \wedge \neg I_Q(P)$] is in terms of *certainty*. We are unable to imagine proposition P if we are absolutely certain that P is false; conversely, so long as we find P *believable*, epistemically possible in the strongest sense that it is true for all we know *for certain*, or possibly true for all we know *for certain*, we will be able to imagine P via stipulation or label. I mean “certainty” in the strongest

¹⁶ Kung (2010, 658). Similar to Note 8, read $\neg \diamond_{M(C)}P$ and $\neg \diamond_{M(NC)}P$ as the infallible and fallible metaphysical impossibility of P, not the negation of P’s infallible or fallible possibility, since this would, respectively, allow for $\diamond_{M(NC)}P$ and $\diamond_{M(C)}P$, which are not direct claims of impossibility.

¹⁷ Kung, 2010, 634-5. Gregory (2010) espouses a similar position.

psychological sense: to be certain of a proposition is to have absolutely no doubts at all, for there to be nothing one is more certain of (629).

Note that $[\neg I_S(P) \wedge \neg I_Q(P)]$ is one way to satisfy the consequent of the *modus tollens* of (5), $\neg[I_S(P) \wedge \neg I_Q(P)] = [\neg I_S(P) \vee I_Q(P)]$.¹⁸

Consequently, if we accept (5), then we face an intriguing relation given (4) and (1), since then $\diamond_E P \nrightarrow \neg \diamond_{M(NC)} P = \diamond_{M(NC)} P = \diamond_E \diamond_{M(C)} P$,¹⁹ or,

$$\diamond_E P \nrightarrow \diamond_E \diamond_{M(C)} P \tag{6}$$

However, if we make the somewhat easy assumption that something (proposition, object, etc.) can minimally entail its own possibility ($P \rightarrow \diamond_{M(C)} P$), then (6) is contradictory and entails $\diamond_{M(NC)} P \nrightarrow \diamond_{M(NC)} P$.²⁰ In effect, (6) appears because, for Kung, fallible claims of metaphysical possibility are distinct from those of epistemic possibility, because one way to satisfy the latter is by complete ignorance, while Kung wants metaphysical possibility to require stronger epistemic justification, such as through I_Q . (6) can be falsified in two ways: one, as I argue, is that the constraint of ‘stronger justification’ still allows for interpretation in terms of epistemic possibility, wherein (1) is favored at the expense of (4); two, as Kung argues, is that (4) is favored at the expense of (1). Let us see how Kung tries to argue against my position.

¹⁸ From the above quote, it may be argued that Kung’s preferred sense of epistemic possibility is $\diamond_{E(C)}$, however, a reading in terms of $\diamond_{E(NC)}$ can be motivated. For instance, Kung (2010) claims that “[i]t is not true for all you know that water is not H_2O , since, presumably, you do know that water is H_2O .” (629n14) Perhaps, but this may be the case only in $\diamond_{E(NC)}$ since, for $\diamond_{E(C)}$, it seems reasonable that it is *at least possibly* true for all you know *for certain* that water is not H_2O , as, presumably, you do *not* infallibly know that water is H_2O . (Invoking $\diamond_{E(C)}$ may be one way to respond to Weatherson (2004) and Yablo (2002) when they claim that it is difficult to imagine the negation of certain conceptual relations – e.g., that water is H_2O]. If this is taken to therefore mean that $\neg \diamond(\text{not-}H_2O\text{-water})$, then we can remark that, instead, $\diamond_{E(C)}(\text{not-}H_2O\text{-water})$ since we do not infallibly know that water is H_2O .)

¹⁹ Recall in Section 1, from the discussion of Hanson’s work, that $\neg \diamond_{M(NC)} I(X)$ entails $\diamond_{M(NC)} I(X)$. Moreover, throughout the rest of this paper, we recast (1) by replacing $I(X)$ with the more general P .

²⁰ This may not work for $(\diamond_{L(C)} P \wedge \neg \diamond_{M(C)} P)$ – e.g., Greek \neq Hellenic, or water \neq H_2O . Now, the literature on what counts as metaphysical necessities, as opposed to mere logical necessities, is complex, but see Larrauri Pertierra (2021) for an argument on closing the gap between logical and metaphysical modality vis-à-vis *a posteriori* necessities. In any case, it should suffice for our purposes here that, at least for metaphysically charged propositions, the derivation of $\diamond_{M(NC)} P \nrightarrow \diamond_{M(NC)} P$ from (6) attains some legitimacy.

3.2. The Problem of Modality's Fallible Non-Modal Grounds

Kung (2010) holds the “claim that it is plausible that basic qualitative content provides evidence for possibility, and that evidence doesn’t depend on our justification for believing anything else.” (637n23) This portrays an anti-skeptical modal epistemology since, for Kung, “we know *a priori* that the actual world is consistent,” (637n22) and is commensurate with his eclecticism in substantiating modal claims (634-5). These desired epistemic ties to the external world may therefore explain that, according to Kung, mere stipulation ($I_S \wedge \neg I_Q$) cannot be evidence for metaphysical possibility lest we permit the world to be radically different or inconsistent from how it is by stipulating it as such, which is absurd if we have the abovementioned *a priori* knowledge. Nonetheless, how do we *know* that the world is consistent? If infallibly so, then if Kung also argues that modal claims can be fallibly known, we are thus faced with the issue of justifying in a non-*ad hoc* way this distinction between what counts as infallible and fallible knowledge. Instead, if Kung’s *a priori* knowledge of actual world consistency is fallible, then less and less should we be confident that one’s imagination can in a non-*ad hoc* way distinguish between metaphysical and mere epistemic possibility.

Kung does not give a clear answer to the above dilemma, but he does clarify somewhat what he means by *a priori* knowledge. For instance, an *a priori* knowledge of actual-world consistency affords imagination’s evidential substantiation of modal claims – i.e., a justification for (2) – insofar as the relation between imagination and such claims is a consistent one. What does it mean for this relation to be consistent? Kung (2010) answers via his “modal evidence from imagination [MEI]” proposal (639), which links *a priori* knowledge of consistency with what one finds intuitive:

[MEI] Imagining situation S provides new evidence that P is possible just in case:

- i. The qualitative content Q and the assigned content V (if any) make it intuitive that, in S, P is the case.
- ii. Without qualitative content Q, it would not be intuitive that, in S, P (639).

Additionally, “a proposition P is intuitive on the basis of content A if one feels rationally compelled, in virtue of grasping the proposition and its ingredient concepts, to judge that P must be true given A.” (639-40) Q and V respectively function through the I_Q - and I_S -imagining, of S, that P. To avoid circularity, $A \neq Q$, but if so, then A must be some independent evidence for $\diamond_{M(NC)}P$. Now, Kung assumes “that intuitions are evidence” for $\diamond_{M(NC)}$ in and of

themselves (640n24), but given what we now know of A, it seems as if our intuitions' evidential status is grounded in A. Therefore, A ostensibly does most if not all the work in providing justification for $\diamond_{M(NC)}P$, since without A, Q would not make it intuitive that, in S, P is the case.

Kung (2010) gives a further condition for MEI, in that

iii. . . . [t]he imaginer must be in a position to either

a) provide evidence that [V] is possible via some other source; or

b) provide evidence that [V] is possible in accordance with MEI—that is, imagine a [V] verifying situation without merely assigning [V] (this is the recursive step) (642).

iii(a) can be fulfilled if A acts as independent evidence for $\diamond_{M(NC)}V$ through V seeming intuitively the case given A, much in the same way that P becomes intuitive on the basis of A.

iii(b) is meant to address the situation where A cannot act as independent non-imaginative evidence. In this case, A's relation to V is the same as A's relation to P: A acts, through $I_Q(A)$, to make intuitive V and P – and since V and P are different, the qualitative contents connected to both are not identical – but if A cannot be qualitative content or independent evidence for $\diamond_{M(NC)}P$ or $\diamond_{M(NC)}V$, then A must still stand in some relation to this content justifying the modal status of P or V.

Following Kung (2010), we can analyze this relation as one wherein A constitutes our *non-modal* intuitions about P or V, interpreted generally through instances of $I_Q(P)$ or $I_Q(V)$, which give rise to our metaphysically *modal* intuitions about them (§6.4). This looks to be a correct interpretation as, according to Kung, P and V become *intuitive* on the basis of A. Nonetheless, how can non-modal intuitions be constituted, especially about scenarios radically different from what we usually experience? “Frequently, [says Kung,] this will involve imagining the origin of” what we have our non-modal intuitions about to manifest a story justifying our modal intuitions thereof (2010, 652). Still, non-modal intuitions differ between people – I for example cannot intuit for certain that water is or is not H₂O – so how one's imagining P's origin can make P intuitive varies wildly depending on who is imagining what. This is not to say that imagination cannot act as evidence for metaphysical possibility, just that the evidential relation between imagination and such possibility must be *ad hoc*. Said another way, the critique is as follows: if the relation between our non-modal and metaphysically modal intuitions is *ad hoc*, then how can there be any non-*ad hoc* way of distinguishing between our non-modal, evidential substantiation of metaphysically modal claims and that of epistemically

modal claims? If there is no such principled distinction, then formula (1) may indeed be the case to the detriment of Kung. How does Kung respond?

3.3. Appeals to Actuality versus Appeals to Possibility

Certainly, the opposite approach, that of “reading our prior modal convictions into imagination,” is problematic for Kung, who instead wants to use “imagination to help us *discover* modal conclusions.” (Kung, 2016, 97) Nevertheless, a Kungian imagination may be susceptible to Tahko’s (2012) and Dohrn’s (2020) criticisms of the counterfactual account of modal epistemology, in that its use of imagination to discover modal facts is not itself modally innocent and is therefore circular. This criticism obviously does not apply to I_S , though, since that is modally unrestricted, but it does apply to Kung’s I_Q insofar as he believes that certain situations are I_Q -unimaginable *because* they are metaphysically impossible. Is this the case? According to Kung (2016),

though we realize (let us suppose) that [unicorns and a counterexample to Goldbach’s conjecture (GC)] are impossible, imagining them continues to make them *seem* possible, just like it still *appears* that the lines in Müller-Lyer illusion are different lengths even when we know them to be the same. [This is because] we have been given no independent reason to think that the appearance of possibility is sculpted to fit our beliefs about the modal facts—i.e., we have been given no reason to think the GC case isn’t an illusion of possibility (106).

Here, Kung uses the non-modality of measuring Müller-Lyer lines as independent evidence for their modal status.

Still, Kung’s comparison of the modal status of unicorns and a counterexample to GC to that of the Müller-Lyer lines being of different lengths is suspect. First, his use of the unicorn case as an example of a metaphysical impossibility is contentious,²¹ but let us assume for now that someone could I_Q -imagine a unicorn, which ought to dispel the unicorn case’s mere ‘illusion of possibility’. If Kung continues to deny this, then he would be imposing his own

²¹ Kung supposedly does not want to regard unicorns as metaphysically possible because there is yet to be evidence for someone’s imagining a convincing origin story for unicorns. However, if we assume a non-modal basing of our modal intuitions, then it is still unclear how this basing relation ought to be understood. As will be clarified in Section 5.2, one possibility, that of basing our modal intuitions on their *relevant similarity* to our other non-modal intuitions, affords evidence for a unicorn’s origin story through considering similar enough origin stories of actual animals. If relevant similarity is couched in terms of degree (*Cf.*, Rasmussen, 2014), then I_Q -imagining a unicorn should be relatively unproblematic.

modal convictions into what is imaginable. However, the GC case is different, for since a counterexample to GC “would necessarily be a counterexample” (Kung, 2016, 105), then its illusion of possibility is maintained insofar as its *identity* has yet to be adjudicated. On the other hand, for the unicorn case, whatever apparent illusion of possibility is not about logical identity; unicorns are not logically impossible, while a counterexample to GC is either logically necessary or impossible, yet we do not know which one is the case. Inasmuch as Kung appears to be importing the unicorn and GC cases under the broad umbrella of impossibility, then it appears that his account of imagination is not modally innocent – it is circular – of his modal intuition that these cases’ impossibility is a metaphysical *necessity*.²²

Kung may respond that a circularity critique can be downplayed because whatever non-modal intuition he uses to inform his sense of imagination is fallible and thus not *completely* replaceable by an appeal to modal intuitions that inform imagination’s modal inferences – Kung’s more general fallibilism, after all, amounts to that, “with belief and knowledge that falls short of absolute certainty, we can always imagine *being wrong*” (2016, 117n29). However, despite this, we have yet to discuss a principled way of distinguishing, from our non-modal imaginings/knowledge of/that P, between evidential substantiation of $\diamond_E P$ and that of $\diamond_E \diamond_{M(C)} P$ in order to justify (6). If so, then (6) may be false, thereby allowing for (1) at the expense of (4) and therefore of Kung’s account, regardless of how he grounds his modal intuitions.

Now, Kung still has a potential response. Given MEI, Kung requires, for (2) to obtain, that $I_Q(P)$ elicit P as intuitively the case. However, a supposedly weaker version would require that $I_Q(P)$ elicit P as solely intuitively *possible*. Maybe this weaker version grants evidence for P’s epistemic possibility only, since I can find P’s possibility intuitively the case on much weaker non-modal grounds than on what I can find P’s actuality intuitively the case. Indeed, MEI’s appeal to the lack of an actual real-world scenario for authentication of modal claims should easily allow this. Therefore, we can have a difference between evidential substantiation of $\diamond_E P$ and that of $\diamond_E \diamond_{M(C)} P$ based on a non-modal distinction between, respectively, $I_Q(\diamond_E P)$

²² One may be disabused of this appearance, though. Kung elsewhere (2009) does claim that imagining a convincing origin story for what is I_S -imagined – e.g., a skeptical scenario – can act as authentication of that stipulation without appealing to actuality – i.e., an appeal to *possibility* – and this can occur for a strong-enough I_Q -imagination about said stipulation (405n31). Consequently, Kung’s use of unicorns and GC cases may just be provisional.

$\rightarrow \diamond_E P$ and $I_Q(P) \rightarrow \diamond_{M(NC)} P$, which, *a fortiori*, entails a distinction between $I_Q(\diamond_E P) \rightarrow \diamond_E P$ and $I_Q(P) \rightarrow \diamond_{M(C)} P$. If we then reasonably assume that a proposition entails its own epistemic possibility, then $\diamond_{M(C)} P \rightarrow \diamond_E \diamond_{M(C)} P$, and we now have a distinction between $\diamond_E P$ and $\diamond_E \diamond_{M(C)} P$ based on a corresponding distinction between their evidential substantiations. As such, in favor of Kung, while $\diamond_E P$ and $\diamond_E \diamond_{M(C)} P$ may be evidentially distinct on non-modal grounds, (6) would still be false, because while $\diamond_E P \rightarrow \diamond_E \diamond_{M(C)} P$ is true, its converse is not. Still, do the abovementioned distinctions speak positively about a distinction between $\diamond_E \diamond_{M(C)} P$ and $\diamond_{M(NC)} P$ that saves (4) and thus Kung's account? If there is one, then presumably it would be grounded in a distinction between the non-modal substantiations of these different modalities.

Nevertheless, given Kung's fallibilism, it seems as if this non-modal distinction is one of degree, meaning that there is nothing principledly distinguishing the non-modal grounds that elicit our *fallible* metaphysical modal intuitions from those that elicit our *infallible* epistemic modal intuitions; after all, the non-modal grounds for metaphysical possibility are themselves fallibly construed. This occurs when, for example, our non-modal knowledge that water is H_2O elicits our modal knowledge that it is impossible for 'water to be XYZ' (XYZ_{Water}).²³ However, since this non-modal knowledge is fallible, then it entails a non-modal space in which a putative partial origin story for XYZ_{Water} can make it intuitively *possible*, which thus elicits modal knowledge that $\diamond_E(XYZ_{Water})$. (This extra non-modal space characterizes the blurred distinction between the two types of non-modal grounds in terms of the fallible non-modal knowledge and its entailed space.) The issue is, the same non-modal grounds that elicit $\diamond_E(XYZ_{Water})$ for someone (S_1) might, for someone else (S_2), make it intuitively *the case* that XYZ_{Water} even with some minimal $I_Q(XYZ_{Water})$, thereby eliciting $\diamond_{M(NC)}(XYZ_{Water})$ for S_2 . This latter concern would be at the expense of a principled distinction now between epistemic and metaphysical possibility in modal, not non-modal, terms due to differences in S_1 's and S_2 's non-modal intuitions. (This extra non-modal space characterizes the blurred distinction between the two types of modality in terms of their grounding on the same non-modal space; the extent of the blurriness depends on the size of this space – i.e. how convincing fallible non-modal intuitions generally are, in that, the more unconvincing they are, the less the *modal*

²³ Cf., Kung (2010, 652). For Cameron (2009) this non-modal knowledge is constituted by empirical and analytic considerations regarding water as H_2O .

distinction is blurred and the less this non-modal space is shared between both types of modal intuition.)

Let us take stock. Kung desires for his modal fallibilism a favorable grounding of fallible modal intuitions on fallible non-modal ones to justify something like (4) at the expense of (1), which would dissolve the contradiction inherent in (6). This is accomplished supposedly through MEI, wherein attainment of, say, $I_Q(P)$, and therefore $\diamond_{M(NC)}P$, comes through the authentication of $I_S(P)$ via two potential means, an appeal to possibility (e.g., further I_Q -imagination) or to actuality (e.g., experience and observation) in non-modal space. This dual appeal to possibility or actuality can respectively differentiate between $\diamond_E P$ and that of $\diamond_E \diamond_{M(C)}P$, but to save Kung's account, it needs to also distinguish between $\diamond_E \diamond_{M(C)}P$ and $\diamond_{M(NC)}P$. However, the importation of a fallibilism into non-modal grounds, for avoiding a circularity charge wherein Kung's non-modal convictions betray an underlying modal intuition vis-à-vis necessity, is problematic. One, a non-modal fallibility affords the sharing of some extra non-modal space between the infallible epistemic modalities ($\diamond_E \diamond_{M(C)}P$) and fallible metaphysical modalities ($\diamond_{M(NC)}P$) that are based on it. Two, this sharing of non-modal space therefore speaks against a principled distinction between $\diamond_E \diamond_{M(C)}P$ and $\diamond_{M(NC)}P$, consequently corroborating (1) at the expense of Kung's account.²⁴

Our discussion of Hanson (1959) was meant to show how impossibility-to-inconceivability inferences are fraught with concerns about how 'impossibility' ought to be construed, since whether 'impossibility' is open to interpretation in terms of mere epistemic possibility depends on impossibility claims being seen as fallible. If impossibility-to-inconceivability inferences are instances of more general modal-to-non-modal inferences (M-NM inferences), then Kung's account (2010; 2016) can be seen as a discussion on the feasibility of non-modal-to-modal inferences (NM-M inferences). Although NM-M inferences may be more desirable than M-NM ones, at least for Kung, fallibilism about non-modal grounds does not preclude interpretability in terms of mere epistemic possibility. Are fallible M-NM and NM-M inferences just doomed to this inevitable epistemic construal thereof? To appreciate this notion more, let us diverge for a moment and consider how *infallible* accounts of M-NM/NM-M inferences are constructed. We will not be running the gamut on such accounts,

²⁴ This analysis should also apply to accounts of metaphysical necessity, such that $\Box_{M(NC)}P = \diamond_E \Box_{M(C)}P$, given that what justifies the importation of the term, \diamond_E , is a general fallibilism about modality, not just possibility.

but instead will focus on Kripke's notion of imagination's modalizing properties as a way forward.

4. A Kripkean Detour

The Error Theory of imagination's modal character is a way to interpret Kripke as espousing an account of infallible M-NM inferences. This theory has four main ramifications: either A) what *is* impossible we cannot imagine, B) what we *believe* to be impossible we cannot imagine, C) what is impossible we can imagine, or D) what we believe to be impossible we can imagine (Cf. Kung, 2016, 91-93). Kung takes Kripke's Error Theory to be leaning towards A (94). A passage from Kripke's work ostensibly supports this:

We can imagine having discovered that [this table] wasn't composed of molecules. But once we know that this is a thing composed of molecules—that this is the very nature of the substance of which it is made—we can't then, at least if the way I see it is correct, imagine that this thing might have failed to have been composed of molecules (Kripke 1980, 127).

How do we come to know of metaphysical necessities then? Kripke gives us a hint in the following quotes:

This table itself could not have had an origin different from the one it in fact had, but in a situation qualitatively identical to this one with respect to all the evidence I had in advance, the room could have contained *a table made of ice* in place of this one (Kripke 1980, 142).

Any necessary truth, whether *a priori* or *a posteriori*, could not have turned out otherwise. In the case of some necessary *a posteriori* truths, however, we can say that under appropriate qualitatively identical evidential situations, an appropriate corresponding qualitative statement might have been false. The loose and inaccurate statement that gold might have turned out to be a compound should be replaced (roughly) by the statement that it is logically possible that there should have been a compound with all the properties originally known to hold of gold (Kripke 1980, 142-3).

If I say, "Gold *might* turn out not to be an element," I speak correctly; "might" here is *epistemic* and expresses the fact that the evidence does not justify *a priori* (Cartesian) certainty that gold is an element. I am also strictly correct when I say that the elementhood of gold was discovered *a posteriori*. If I say, "Gold *might have* turned out not to be an element," I seem to mean this metaphysically and my statement is subject to the correction noted in the text (Kripke 1980, 143n).

As such, for Kripke, our knowledge of metaphysical necessities is based on our apprehension of identity principles, wherein “identity is not a relation which can hold contingently between objects.” (Kripke 1980, 154) This also means that Kripke’s Error Theory can be interpreted in an NM-M inferential fashion, since identity is presumably a non-modal feature. What is important here is not whether Kripke espouses either NM-M or M-NM inferences, but what his infallibilism allows us to conclude.

Interestingly enough, the above passages may also be interpreted in favor of either B, C, or D. How so? For one, there is an interplay between different modalities – epistemic, logical, and metaphysical. For Kripke (1980), if identity is real, then it is logically necessary, yet certain identifications may be logically contingent but necessary in other modalities (150-5). Metaphysically necessary identities, such as gold being an element ($G_{as}E$), are not epistemically necessary, so it is epistemically possible for gold to be a molecule ($G_{as}C$) since there is no *a priori* certainty that the opposite is true. This is the case when Kripke claims that ‘Gold *might* turn out not to be an element’. Call it, $\diamond_{E(C)}(G_{as}C)$. Furthermore, it is also logically possible for there to have been some phenomena-equivalent replica of elemental gold (Ph-G) that is instead a compound. This is the case when Kripke claims that ‘Gold *might have* turned out not to be an element’. Call it, $\diamond_{L(C)}[(Ph-G)_{as}C]$. Thus, it is possible for gold epistemically to be *and* logically to have turned out to be a compound.

This latter logically possible scenario admits of an epistemically modal interpretation, in that $\diamond_{E(C)}[(Ph-G)_{as}C]$. However, the former epistemically possible scenario does not seem to admit of a logically modal reading. This is because, *given* $G_{as}E$, and this identity is automatically logically necessary, $\diamond_{L(C)}[(Ph-G)_{as}C]$ is true but $\diamond_{L(C)}[G_{as}C]$ is not: $G_{as}C$ is logically impossible, for elements are not compounds. This follows what was said above, that some epistemic possibilities can be logical impossibilities. Moreover, Kripke considers both modal scenarios epistemically possible, even the one where elemental gold is a compound (1980, 124-5), presumably because I need to stipulate first that $G_{as}E$ before showing that $\neg\diamond_{L(C)}[G_{as}C]$; even if $G_{as}E$ is true, if I am ignorant of this, it would be true that $\diamond_{E(C)}(G_{as}C)$ for me, because it is not *a priori* certain that $G_{as}E$.²⁵ From this we can claim that what is meant by

²⁵ Kung (2016) seems to discount this when he claims that, for Kripke, we do not imagine, even in terms of epistemic possibility, *a posteriori* impossibilities, as Kung appears to conflate the above epistemically modal reading with the logically modal reading (93-4), forgetting that we can reasonably interpret Kripke as espousing

‘gold’ in both the epistemically and logically possible scenarios are *distinct*: gold, as an element, might (epistemically) turn out not to be an element, while gold, as some phenomenal equivalent to elemental gold, might (logically) have turned out not to be an element. The fact that both phenomenally equivalent types of gold are epistemically possible means that we cannot know for certain which type obtains in the actual world, which metaphysical necessity is in fact the case.²⁶

So, what does the above discussion allow us to conclude concerning the ramifications of Kripke’s infallibilism? Principledly, the fact that I need to stipulate $G_{as}E$ before showing what contradicts it clarifies a relation between logical and metaphysical modality and imagination: while I have to stipulate metaphysical necessities $[I_S(P) \rightarrow \Box_{M(C)}P]$ for me to conclude that imagining their negation entails imagining an impossibility $[I_S(\neg P) \rightarrow \neg\Diamond_{M(C)}(\neg P)]$, I do not have to stipulate logical necessities for me to conclude similarly, because logical necessities, so to speak, ‘come with the territory’ – e.g. I do not have to stipulate that gold is gold for me to conclude that imagining that gold being not gold is an impossibility.²⁷ In other words, for logical necessities, I can go straight to $I_S(\neg P) \rightarrow \neg\Diamond_{L(C)}(\neg P)$ without passing first through $I_S(P) \rightarrow \Box_{L(C)}P$. The relations may look as such: for metaphysical modality, $[I_S(P) \rightarrow \Box_{M(C)}P] \rightarrow [I_S(\neg P) \rightarrow \neg\Diamond_{M(C)}(\neg P)]$; for logical modality, $\Box_{L(C)}P \rightarrow [I_S(\neg P) \rightarrow \neg\Diamond_{L(C)}(\neg P)]$.²⁸

an epistemic modality that admits of no logically modal reading. Berto and Schoonen (2018, §5) are similarly guilty as well. However, see Kung (2016, 117n24).

²⁶ This is not the same as saying that we do not know that a metaphysical necessity is not metaphysically necessary, for we cannot know this because it is logically impossible; in fact, we know *a priori* that what is metaphysically necessary is metaphysically necessary, just not which of the different possibilities of gold’s metaphysically necessary identity obtains in the actual world.

²⁷ Kung seems to agree, although he does not go so far as to say that imagining the negation of an identity relation is impossible, just that it may be extremely difficult, even under I_S -imagination. *Cf.*, Kung (2016, 104). Other logical rules in various modal logics may not possess the same status – i.e., they may have to be stipulated – but it should be *a priori* impossible, in whatever modal logics, for me to I_Q -imagine something as not itself insofar as I do imagine that something. The situation however may be different if only I_S -imagination takes place, for then presumably I would not be I_Q -imagining that something.

²⁸ Interestingly, we can see how Kripke is espousing an account both of NM-M and M-NM inferences: for metaphysical modality, $([I_S(P) \rightarrow \Box_{M(C)}P] \rightarrow [I_S(\neg P) \rightarrow \neg\Diamond_{M(C)}(\neg P)])$ expresses an NM-M inference since it starts with infallibly, non-modally intuiting, via stipulation, an identity; for logical modality, $(\Box_{L(C)}P \rightarrow [I_S(\neg P) \rightarrow \neg\Diamond_{L(C)}(\neg P)])$ expresses an M-NM inference since it starts with an infallible modal intuition about logical identity.

Note how epistemic possibility plays no part in these constructions, primarily because we have avoided modal fallibilism by relying on our stipulations.

However, does Kripke avoid Kung's appeal to (2), $I_Q(P) \rightarrow \diamond_{M(NC)}P$? I may I_S -imagine logical and metaphysical impossibilities, but can I I_Q -imagine metaphysical impossibilities without inferring fallible modal claims? According to Kripke, yes, but there is a nuance here: we cannot I_Q -imagine metaphysical impossibilities, but only in imagining that something that is is not what it is;²⁹ but this just amounts to me I_Q -imagining a stipulated identity as not itself, to an instance of $I_Q(\neg P) \wedge [I_S(P) \rightarrow \Box_{M(C)}P]$, the latter conjunct entailing $\neg \diamond_{M(C)}(\neg P)$, not $\neg \diamond_{M(NC)}(\neg P)$, given the stipulation. If I instead want to I_Q -imagine a metaphysical impossibility, then I can stipulate P as something else, not besides itself – i.e., not in terms of $I_Q(\neg P) \wedge [I_S(P) \rightarrow \Box_{M(C)}P]$ – but besides what I had identified it with besides itself – i.e., in terms of $I_Q(P \rightarrow \neg R) \wedge [I_S(P \rightarrow R) \rightarrow \Box_{M(C)}(P \rightarrow R)]$, the latter conjunct entailing $\neg \diamond_{M(C)}(P \rightarrow \neg R)$. In this case there would not be $I_Q(\neg P) \wedge [I_S(P) \rightarrow \Box_{M(C)}P]$ because I would not have claimed $\neg P$ in the first place; I would still be I_Q -imagining P as P . Since we have $[I_S(P \rightarrow R) \rightarrow \Box_{M(C)}(P \rightarrow R)]$, we can then avoid $\neg \diamond_{M(NC)}(P \rightarrow \neg R)$. In either case we can avoid interpretation in terms of epistemic possibility through, again, a reliance on stipulation.³⁰

Anyways, we have just seen how an account of infallible NM-M/M-NM inferences avoids an interpretation in terms of epistemic possibility through non-modal stipulation of the identities involved. On the other hand, accounts of fallible NM-M inferences, such as Kung's, require more than mere stipulation of what a non-modal construction (e.g., an imagining) is about, this being the *authentication* of the stipulation via an appeal to non-modal considerations of actuality or possibility. These considerations function as the fallible, non-entailing evidence for modal claims, but this move from non-modality to modality still needs a method of specification of the NM-M inference so as to avoid charges of vagueness and incompleteness. We have already seen how Kung's way, found in MEI, fails to speak against an interpretation

²⁹ Cf., Kripke, 1971. Gregory (2004) and Soames (2009) elaborate upon and espouse this interpretation of Kripke as well.

³⁰ Moreover, the fact that we need these stipulations for our I_Q -imaginings to make sense metaphysically modally corroborates Kripke as espousing all of A to D above, given that we can I_Q -imagine metaphysical impossibilities, contrasted to Kung (2016, §2), and that we do this given all sorts of stipulations, even those we believe not to be the case, such as gold not being an element. What we cannot I_Q -imagine though are logical impossibilities.

in terms of mere epistemic possibility. One other method, however, may be able to avoid this, that of a possible worlds approach.

5. The Modal Relevance of Possible Worlds and Dohrn's Thesis

5.1 The Issue with Modal Relations to the Truth of Possible Worlds as Non-Modal Constructions

Many conceivability views of modal epistemology see imagining that P as the imagination of a world that verifies P in some sense. Yablo (1993) and Chalmers (2002) are famous examples of this.³¹ This verification requirement can be taken in terms of sufficient imaginative detail of a constructed world, but what counts as sufficient detail has been contentious (*Cf.*, van Inwagen, 1998; Geirsson, 2005). The issue is, if fallible inference to P's metaphysical possibility, from imagination of a P-verifying world [$I_Q(\text{P-world}) \rightarrow \diamond_{M(NC)}(P)$], is to obtain, then what counts as sufficient imaginative detail of a P-verifying world ostensibly can only be made in an *ad hoc* fashion *about the truth of P in that world*, the truth of (P-world).

We can appropriate, for our purposes, Lam's notion of "Truth Relating", wherein "[i]f X is the source of epistemic justification for our belief on a subject matter [e.g., what P is about], X *must be* related to the truth on that subject matter in a way that does not have to be

³¹ For Yablo (1993), "I find *p* conceivable if I can imagine, not a situation *in* which I truly believe that *p*, but one *of* which I truly believe that *p*." (26) Chalmers' account is more complex, but still relevant in terms of a possible-worlds approach to conceivability. The following is based on an interpretation of Chalmers in Strohminger and Yli-Vakkuri (2017, 827-8): P is conceivable iff it is not the case that, for each world *w* considered as an epistemic possibility, $\neg P$ is true in *w*, now considered as a metaphysical possibility. That is, for inferring P's metaphysical possibility from a conceivable P, we must get from worlds that are merely possible *for all we know*, where P or $\neg P$ could obtain, to worlds that are *actually* possible, where it is not the case that $\neg P$ is true in every such world. *Cf.*, Chalmers, 2006; 2012, chaps. 1-4. To get to such metaphysically possible worlds, we would need an ideal imagination (Chalmers, 2002, 149-50), while getting merely to epistemically possible worlds would be through non-ideal imagination via the use of centered worlds (Chalmers, 2011). I am on board with Chalmers' method, but note that his appeal to ideal imagination to justify claims of metaphysical possibility seems more in line with infallibilism than fallibilism, as ideally imagining a world that the agent takes to verify P is tantamount to that agent invariably constructing a possible world in which P is true. Insofar as the ideal agent also *knows* that P is true in the imagined world, which is reasonable if what the *ideal* agent takes as P's verification entails P's verification, then her claim that P is metaphysically possible cannot fail. Consequently, Chalmers' NM-M inferential account is not open to construal in terms of epistemic possibility due to its ideal agent-dependent infallibilism, which is precisely part of the argument being made in this paper since both it and Chalmers' account make use of epistemic *necessity*.

characterized in terms of epistemic justification.”³² In relation to imagination’s modalizing function, X would express $I_Q(\text{P-world})$ as the epistemic justification of our beliefs about the truth value of P-world, which then affords inference to $\diamond_{M(\text{NC})}(\text{P})$. Furthermore, not having this truth relation be characterized in terms of epistemic justification may avoid an epistemic reading of metaphysical modality, since a P-verifying world would ground P’s modal truth in non-epistemic terms of the world itself – i.e., it would not be necessary to read $\diamond_{M(\text{NC})}(\text{P})$ as $\diamond_E \diamond_{M(\text{C})} \text{P}$ if \diamond_E can be replaced by better precisification of a world.

However, for Lam, this feature of Truth Relating, of having a non-(epistemic possibility) reading of metaphysical modality, would only be the case for *infallible* modal claims, not fallible ones. If Truth Relating is true, then, according to Lam (2018), “to have bad [epistemic] justification is to have no justification at all”, and if we understand that bad justification can be due to beliefs that are false, then “false beliefs aren’t justified at all. Surprisingly, this is infallibilism about epistemic justification” (2171), which is entailed by the acceptance of Truth Relating as a necessary condition for epistemic justification (2167). In other words, ‘infallibilism about epistemic justification’ of modal claims is entailed when such justification is made to relate in any non-circular fashion to the truth of what such claims are about. This is because, if these claims are in any way false, then they obviously do not have a relation to the truth outside of a circular recasting in terms of our *fallible* knowledge of this truth when its falsity is not certain to us – i.e., for fallible modal claims, it is open whether these claims even relate to the truth at all, and any relation we can conjure up must circularly consist in an epistemic fallibilism, which Lam wants to avoid. Similarly, since a claim’s falsity is possible barring infallible epistemic justification of its truth, any modal system that employs less than infallible knowledge of its claims will always be interpretable in terms of epistemic possibility. How this is so is because the factivity of knowledge in, say, $\square_{E(\text{C})} \diamond_{M(\text{C})} \text{P} \rightarrow \diamond_{M(\text{C})} \text{P}$, where $\square_{E(\text{C})}$ expresses infallible epistemic justification (infallible knowledge), only works for infallible modal claims where $\diamond_{M(\text{C})} \text{P}$ does not require a reading in terms of epistemic possibility. Therefore, anything less than a $\square_{E(\text{C})}$ -constraint cannot avoid such a reading.

In connection to possible worlds, the reason why what counts as sufficient detail for instantiating $I_Q(\text{P-world}) \rightarrow \diamond_{M(\text{NC})}(\text{P})$ can only be made in an *ad hoc* fashion about the truth

³² Lam, 2018, 2167. The condition of not characterizing X’s relation to the truth of what some P is about in terms of epistemic justification is to avoid circularity.

of P-world is because any non-*ad hoc* method would invoke Truth Relating, and thus be characterizable as dealing with infallible claims about P-world. To have an *ad hoc* way of viewing a truth-relevant relation from $I_Q(\text{P-world})$ to P-world is to have a way for P-world's truth *to fail*. This is what can be meant by having fallible claims as to what counts as sufficient detail for $I_Q(\text{P-world})$: because of this *ad hoc* truth relation, what we may regard as sufficient detail may not actually be sufficient. If we then construct our fallible modal claims in this fashion, then the reason why NM-M inferences about P are fallible is because what we can veridically infer about P-world from details of $I_Q(\text{P-world})$ is fallible as well. Truth Relating is thus avoided in a fallibilism about $I_Q(\text{P-world})$, but this just permits the truth-relevant relation between $I_Q(\text{P-world})$ and P-world being couched in terms of a fallible knowledge of P-world's truth, which does not really do much to avoid construing $\diamond_{M(NC)}P$ as $\diamond_E \diamond_{M(C)}P$. Can a possible worlds approach to imagination's modalizing functionality still avoid this while rescuing a useful relation to modal truth that is not infallibly constituted nor wholly inaccurate? To assess a potential response, we now turn to the modal epistemology of Dohrn (2018; 2019; 2020).

5.2. Dohrn's Thesis (Outline and Critique)

Dohrn (2019) describes a "properly constrained role of imagining or conceiving" that P, wherein sufficiency in $I_Q(\text{P-world})$ is neither infallibly regarded nor so modally unrestricted as to be inaccurate (2465).³³ Dohrn's account begins by employing Yablo's (1993, 28) distinction between imagining a world as determinate (specifying *that* it possesses some determinate thing/feature) from imagining it determinately (specifying *what* it possesses that is determinate).³⁴ Then, Dohrn (2019) considers the following:

Let our reasoning from *a* being *F* and *G* to *b* being *F* and possibly *G* proceed via imagining *b* being *F* and *G*. Uncertainties about the details of *b* being *G* are overcome by imagining the circumstances of *b* as determinate in largely the same way as in the case of *a* (2468).

³³ Dohrn, like Kung, wants imagination to afford us accurate inferences to metaphysical modality, so he avoids claiming, as imagination's sole modalizing function, "that imagination that *p* provides justification that *p* is possible unless there is a salient defeater." (Dohrn, 2019, 2465) Relying only on salient defeaters as a tool for evaluating modal claims means that even the most impoverished imaginings of P can act as justification for P's metaphysical possibility, as long as salient defeaters are not being apprehended.

³⁴ Dohrn (2019) argues that Yablo's application of this distinction in his way of formulating modally relevant conceivability is *ad hoc* since it allows for one to "simply disregard any neuralgic detail as determinate" without relevantly specifying it (2466). Nonetheless, Dohrn follows Yablo in spirit here, albeit not in detail.

Here, I_Q -imagining b as G , $I_Q(b_{as}G)$, guides us to $\diamond_{M(NC)}(b_{as}G)$. Following Kung, this implies that basing claims of possibility does not have to be restricted to claims of actuality;³⁵ this is motivated for Dohrn in the following way: claiming that $\diamond_{M(NC)}(b_{as}G)$ can be based on imagination if a detail, imagined *as determinate* in whatever b is claimed as possible, has a relevantly similar counterpart, imagined *determinately* in some imagined a , wherein $I_Q(a_{as}G) \rightarrow \diamond_{M(C)}(a_{as}G)$ is an uncontroversial inference. For Dohrn, “one imagines a series of scenarios connected by overall similarity, starting with modally perfectly uncontroversial ones, until one reaches the intended one. From some point onwards, one will have to imagine merely possible scenarios.”³⁶ These modally uncontroversial scenarios are ones wherein details are imagined determinately, and by some similarity measure we then derive modal claims for relevantly similar scenarios that can be imagined as determinate *for* those details relevantly similar to ones in modally uncontroversial scenario.³⁷

Dohrn (2019) clarifies further, in that,

a representation of a world is suitably concrete and consistent precisely if firstly, the [I_Q -imagination] of details is consistent; secondly, any detail that is [I_S -imagined] can be regarded as determinate, ... [which occurs] precisely if some [world] as imagined seems sufficiently similar to the actual world. The background assumption is that impossible worlds do not seem sufficiently similar to the actual one (2471).

What we regard as the metaphysically impossible worlds is thus dependent on our sense of those worlds’ relevant similarity to our own: “[w]e have to specify our [I_Q -imagination] of a [world] until we feel that the rest can be regarded as determinate [via I_S -imagination] as it seems sufficiently similar to the actual world.” (2472) In this way, we do not have to commence our modal reasoning from the actual world insofar as our I_Q -imagination of a possible world allows us to confidently “assess relevant similarities and dissimilarities” to the actual world in a detail-sufficient, yet defeasible manner (2474).³⁸ Dohrn espouses a modal fallibilism similar

³⁵ Roca-Royes (2017), for example, employs such a restriction.

³⁶ Dohrn, 2019, 2469. It may be easier to see [$I_Q(a \text{ is } G) \rightarrow \diamond_{M(C)}(a \text{ is } G)$] as being about an initial uncontroversial scenario if $I_Q(a \text{ is } G)$ is conducted by an ideal agent. See Note 31.

³⁷ I take it that what minimally counts as relevantly similar details is when these details are situated in possible worlds that differ only in degree. *Cf.*, Rasmussen, 2014.

³⁸ Dohrn’s fallibilism about a similarity metric for a possible-worlds framework vis-à-vis modal claims extends to the claims themselves, such that metaphysically modal claims that rely on near-enough possible worlds not

to Kung's because the line that separates worlds that are relevantly similar, to factor into reliable modal reasoning, from worlds that are not is ultimately a subjective enterprise (2473).³⁹ Therefore, we can consider a scenario as metaphysically possible at least if our I_Q -imagination of a world verifying that scenario does not posit any feature of that world as categorically distinct from the actual world – i.e., if it is not inconsistent with our world.

However, this is just to say that any relevantly similar world to the actual one ought to not contradict our actual one; but at what point in our development of $I_Q(P\text{-world})$ do we say that sufficient non-contradictory detail has been so imagined about a P -world for it to count as relevantly similar to ours? After all, there does not seem to be anything principledly preventing one from coming up against a contradiction at some point *past* where they had already consistently imagined thus far.⁴⁰ Dohrn's fallibilism may explain why he offers no convincing answer for how a future contradiction in one's $I_Q(P\text{-world})$ can be avoided, but it is not ruled out that any further iteration of a currently non-contradicting $I_Q(P\text{-world})$ will never come across some contradiction; after all, just because claims are fallible does not necessitate their falsity. However, the issue is that if there is no non-*ad hoc* way of determining whether one's claim of $\diamond_{M(NC)}P$ will or will not be defeated given some subsequent $I_Q(P\text{-world})$, then, apart from espousing a modal epistemological infallibilism that would require a fully comprehensive $I_Q(P\text{-world})$, there would be no non-*ad hoc* way of distinguishing $\diamond_E \diamond_{M(C)}P$ from $\diamond_{M(NC)}P$. This is because, given no apparent contradiction, any true $\diamond_{M(C)}P$ would invariably be interpretable as $\diamond_E \diamond_{M(C)}P$ from the perspective of one claiming $\diamond_{M(NC)}P$, and any apparent contradiction would just invoke the infallible inference, $[I_Q(P\text{-world}) \rightarrow \perp] \rightarrow \diamond_{E(NC)} \diamond_{M(C)}P$, which is still an epistemic reading.⁴¹

Dohrn elsewhere seeks to make our awareness of any relevant coherence/incoherence for validating $[I_Q(P\text{-world}) \rightarrow \diamond_{M(NC)}P]$ more robust and less *ad hoc*. In analyzing imagination's utility in counterfactual reasoning, Dohrn (2020) remarks that

invalidating said claim can fail given divergent considerations on what counts as a near-enough possible world. Dohrn elsewhere applies a similar analysis to the modal status of Gettier cases. *Cf.*, Dohrn, 2018, 367.

³⁹ Berto (2018b, 5) also opts, in his logic of imagination, for a similarly subjective metric determining accessibility relations between our world and possible worlds.

⁴⁰ *Cf.*, Notes 2 and 3.

⁴¹ The details of how an apparent contradiction is recognized is discussed in our analysis of Kripke in Section 4.

addressing a modal issue whether [$\diamond_{M(NC)}P$ is true] triggers an exercise of imaginatively developing a counterfactual supposition that [P]; that supposition does not have to be explicit. The development draws on any relevant knowledge. The relevant knowledge must largely inform our immediate dispositions to import certain facts into the imagined scenario. When they are imported into an impossible [P]-scenario, the scenario becomes incoherent. Becoming aware of this incoherence, we answer the possibility question in the negative. In contrast, if sufficient development does not lead to incoherence, we give a positive answer (3645).

The robustness of this incoherence for the impossibility case persists when it “cannot be remedied by weakening the conflicting constraints” between our counterfactual supposition that P and a recognized contradiction (3646). If we interpret the imaginative development of a counterfactual supposition that P as [$I_S(P) \rightarrow I_Q(P\text{-world})$], where P-world mirrors Dohrn’s P-scenario, then the ramifications for Dohrn’s counterfactual use of imagination attain significance for our purposes here in discussing imagination’s modalizing functionality.⁴² The question is, can Dohrn’s counterfactual operation for imagination convincingly distinguish $\diamond_E \diamond_{M(C)}P$ from $\diamond_{M(NC)}P$ by, say, an associated robustness of the coherence in the possibility case? If not, then we are left with this idea of drawing upon our relevant knowledge about P being characterized in an *ad hoc* way, since the lack of a recognized contradiction can fall apart given novel relevant knowledge.

Dohrn (2020) grounds the robustness of coherence in the possibility case in two ways, via an appeal to actuality and to possibility. For instance, in the actuality case,

[w]hen the issue is whether a unicorn is possible, a diligent imaginer is aware of additional metaphysical requirements coming with unicorns as a purported natural kind. The constraint on an imagined unicorn becomes that it belongs to a natural kind. The facts that make for its kindhood must be available for being imported into the scenario. This requirement clashes with

⁴² The imagination described in conceivability views of modality, such as in Kung (2010; 2016), and the imagination described in counterfactual views of modality, such as in Dohrn (2020), presumably attain some differences. The ‘drawing on relevant knowledge’ condition for $I_S(P) \rightarrow I_Q(P\text{-world})$, based on Williamson’s (2007) notion of holding fixed “constitutive facts” about P (164), is meant to highlight one such difference. However, insofar as our relevant knowledge about P is based on non-modal sources – e.g., appeals to actuality in observation or possibility in folk theories (Cf., Morato (2019, 826) for a related account) – then we have a conceptual link with Kung’s MEI. In other words, notwithstanding the significant differences between conceivability-applied imagination and counterfactual-applied imagination, there are potential ways in conceiving of imagination’s counterfactual use that render it applicable to our purposes here. In any case, a more substantial treatment of counterfactual-applied imagination’s modalizing functionality must be pursued elsewhere.

one's knowledge that there are no unicorns, hence no facts to be imported. The imaginer becomes enmeshed in a dissonance of the right kind (unicorns have their actual deep structure vs. there is no actual deep structure) (3648).

Here, knowledge of actual organisms informs modal claims about those organisms via relevant background knowledge of natural kinds. However, when we are dealing with a seemingly non-existent entity, then there are no actual facts to be imported since we have no knowledge of these actual organisms. Notwithstanding, depending on one's view of natural kinds and species, it is not certain that there are no sufficiently similar animals to unicorns for the latter's metaphysical possibility to be validly claimed.⁴³ Thus, not only is the claimed dissonance here not given, but any claimed coherence sourced from the importation of actual facts cannot be non-*ad hoc*, since the importation is amenable to one's changeable views on what constitutes actuality. Admittedly, Dohrn ultimately espouses a weakening of this imaginative basing on actuality, opting to situate imagination's modal role around its experimental capacity to engage with specific test scenarios.

For Dohrn (2020),

[e]specially in the case of rather abstract and theoretical constraints like atom number or kindhood, general theoretical knowledge and understanding may not yet be sufficient for developing a proper sensitivity for constitutive matters that would lead to cognitive dissonance. Rather such a sensitivity will often have to be *honed* by breaking down the general issue into more detailed *test scenarios*, which enmesh one in more localized and specific experiences of dissonance. We may call this the experimental role of imagination (3648).

In the case of atom number, according to Dohrn, “[t]o ascertain that atom number is essential, we might have to play through relevant alternatives like slightly changing the theoretical roles of subatomic particles. Imagination is instrumental in creatively developing such relevant alternatives.” (3650) These alternatives must furthermore

be suitable in two respects. They have to be psychologically suitable for tightening our grip on the pertinent constraints and triggering relevant dissonance, and they have to be objectively suitable in attuning those psychological features to the logical and metaphysical structure of modal space. If the right conditions are in place, i.e. we properly understand the question, have comprehensive worldly knowledge, have done sufficient imaginative experimenting etc., cognitive dissonance should arise precisely if A violates some metaphysical constraint. Often

⁴³ Cf., Note 21.

we will need to explore a variety of [alternative] ways for A to be made true, but there is *no principled reason why these ways have to minimally depart from actuality* (3651).

The significant point here is in these alternatives being ‘objectively suitable in attuning’ our awareness of background information about what we are I_Q -imagining ‘to the logical and metaphysical structure of modal space’. If these objectively suitable alternatives lead to contradiction in one’s $I_Q(P\text{-world})$, then we cannot validly assert $\diamond_{M(NC)}P$, but if they do not, then we can validly assert $\diamond_{M(NC)}P$.

How do we come to know about this modal space that differentiates $\diamond_E \diamond_{M(C)}P$ from $\diamond_{M(NC)}P$ in a way that does not just trivialize said knowledge? In the case of atomic number, how do we know that us being constrained by certain roles of subatomic particles that do not allow for, say, a not-79-numbered gold ($\neg 79\text{-gold}$) necessarily precludes future discoverable roles that do allow this? If we cannot know this space in an infallible way, then how we determine the objective logical and metaphysical structure of modal space must itself be fallible, in that the structure can be reconstituted in varying ways. This is because otherwise, if the space is constituted by the constraints to which our imaginative development should be sensitive, then even the constraints of our imagining $\neg 79\text{-gold}$ should not change our verdict of $\diamond_{M(C)}(\neg 79\text{-gold})$ if we can access them infallibly – our imagination after all would be concordant with those infallibly accessed constraints. In other words, the fact that it is not certain that further imaginings of alternatives associated with $\neg 79\text{-gold}$ will not be reconciled with the constraints that we have now of 79-gold, a fact that Dohrn (2020) himself seems to espouse, (*Cf.* 3655n) implies that the constraints’ status within *modal* space is far from given. For instance, it is not *a priori* impossible for there to be an 80-gold with identical phenomenological properties as 79-gold. We can then generalize this to any metaphysical constraint whatsoever.

If, however, we can know this modal space infallibly, then it seems that the only feature of modal space associated with constraints that we can know for certain, which places specific modal verdicts on scenarios, is that of logical identity.⁴⁴ For any other type of identity relation, if we do not want to trivialize our knowledge thereof via stipulation, then we can only know them fallibly. All this implies an inevitable reading of Dohrn’s fallible metaphysically modal epistemology of imagination in terms of epistemic possibility, for there does not seem to be

⁴⁴ See the discussion in Section 4.

any principled reason why the way in which modal claims are explained *as fallible* cannot be through our lack of infallible epistemic access of constraints that relevantly affect the modal status of our imaginings.⁴⁵

Now, this is not to say that mere epistemic possibility and epistemic possibility of metaphysical possibility are identical notions, just that whatever differentiation there may be between $\diamond_E \diamond_{M(C)} P$ and $\diamond_E P$ – e.g., based on their non-modal evidential substantiations – has yet to divulge a non-*ad hoc* corresponding one between $\diamond_E \diamond_{M(C)} P$ and $\diamond_{M(NC)} P$. Dohrn’s attempt does not allow for it, because if the fallibilism in his modal claims about P are grounded on our fallible non-modal intuitions – e.g., relevant background knowledge – about what constitutes a P-world, then his modal claims about P are based on what we *know* as some non-modal feature of P-world. This is just a reading of modality in terms of what is possible for all we know, certainly or not. Dohrn may try to invoke a further condition of imagining relevant alternatives as test scenarios, which supposedly are ‘objectively suitable in attuning’ our awareness of background information about what we are I_Q -imagining ‘to the logical and metaphysical structure of modal space’ of our imaginings. Nevertheless, this modally relevant objective suitability of imagined alternatives seems best suited for the infallible determination of modal claims vis-à-vis apparent contradictions, for only then can our background

⁴⁵ The closest that Dohrn comes to a non-epistemically informed fallibilism about imagination’s modalizing functionality is in his attribution of a logical commitment to a possible-worlds approach to said functionality. For Dohrn (2018), “a commitment to the disjunction of p and q is usually weaker than a commitment to p .” (364) In terms of a possible-worlds approach to P-worlds and R-worlds, read as P and R respectively, $\diamond_{M(NC)}(P \vee R)$ may be an objectively easier claim to make than either $\diamond_{M(NC)} P$ or $\diamond_{M(NC)} R$ alone, since $(P \vee R)$ could be true in more possible worlds than either P or R taken individually. This may also be the case regardless of our epistemic access of such worlds. Nonetheless, there is an issue here, for $\diamond_{M(C)} P$ can also be true regardless of what anyone’s epistemic state looks like, and it was this consideration that motivated our construction of $\diamond_{M(NC)} P = \diamond_E \diamond_{M(C)} P$ in Section 1. Consequently, a non-epistemic feature in a possible-worlds approach to the truth relation between $(P \vee R)$ and either P or R taken individually can be read as $\diamond_{M(C)}\{[(P \vee R) \supseteq P] \wedge [(P \vee R) \supseteq R]\}$, which we have already seen does not require an agent-indexed reading. However, insofar as any claim of said relation is read in terms of $\diamond_{M(NC)}$, then how we derive $\diamond_E \diamond_{M(C)}\{[(P \vee R) \supseteq P] \wedge [(P \vee R) \supseteq R]\}$ follows what has been discussed previously: given the existence of agents, any actual or possible truth will speak to an agent’s epistemic state concerning that truth, for what is not infallibly known can be to some degree fallibly known, and what one is completely ignorant of still implies a feature of one’s epistemic state. Thus, any fallible claim about $\diamond_{M(C)}\{[(P \vee R) \supseteq P] \wedge [(P \vee R) \supseteq R]\}$ cannot escape an agent-indexed reading in terms of \diamond_E .

information truthfully speak to the modal status of our claims; and even then we are faced with readings in terms of $\diamond_{E(NC)}$. Otherwise, without apparent contradictions, there really is nothing left for our awareness/knowledge of background information to cling on to that guarantees the truth of modal claims. All we are thus left with is a fallible grounding of modal claims of P on our non-modal *knowledge* about P, and no amount of imagining of alternatives that does not come up against contradiction will certify such grounding. In short, we still have an interpretation of modality in terms of what is possible for all we know, certainly or not.

6. Conclusion

Let us take stock. Dohrn wants to ground modal claims on imagination's capacity to construct test scenarios, thereby affording the useful importation of relevant background information to inform such claims and constrain their non-modal imaginative development. However, without *a priori* assurance that no newly apprehended information will modify what we consider significant to this development – e.g., new roles for subatomic particles – then the claims themselves are fallible. A fallible non-modal grounding also features in Kung's account of MEI, which lends credence to the argument that such a grounding partly constitutes non-circular, fallible modal epistemology in general.

This non-modal fallibility is inevitably expressed as our less than perfect epistemic access of the non-modal constraints of imagination's modalizing function, because without the factivity of infallible knowledge, what we find is a fallible inference from one's epistemic state to the veracity of modal claims, even one grounded on complete ignorance. Despite a critique of undesirability, without a non-*ad hoc* distinction between $\diamond_E \diamond_{M(C)}$ and $\diamond_{M(NC)}$, any evidential substantiation of one's modal claims cannot in principle decide between infallible substantiation of epistemic possibility or fallible substantiation of metaphysical possibility, for any truth fallibly claimed also infallibly entails some feature of the epistemic state regarding said claim, even one of ignorance.

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