Imagining as a Guide to Possibility

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A great many arguments in philosophy turn on claims about what is possible, and in fact it's difficult to overstate how central modal claims are in all areas of philosophy. Making claims about what could be and what must be is the bread-and-butter of philosophy. In philosophy of mind, for example, it is contended that some of the best arguments for dualism hinge on a modal premise. In recent years there has been a resurgence of debate about the merits of modal arguments for dualism, and this has in turn sparked interest in modal arguments generally. What makes for a good modal argument? How do we know that the crucial modal premises of such arguments are true? Hume offers the traditional answer in the *Treatise*: " 'Tis an established maxim in metaphysics, That whatever the mind clearly conceives includes the idea of possible existence, or, in other words, that nothing we imagine is absolutely impossible" (I.ii.2, emphasis removed).

Hume is certainly right about this much: many in philosophy presume this established maxim. We take ourselves to have some knowledge of what could be, or what could have been, and by this we mean knowledge of metaphysical possibility. Hume does not tell us, however, how this "established maxim" has been established. The more we consider the maxim, the more it cries out for explanation. *What* is it to conceive something? *Why* is it that conceiving, so understood, provides evidence for possibility?

I think it is fair to say that we lack clear and satisfying positive answers to these questions; what we have instead is a general unease about the central philosophical practice of making claims about the possible and a particular dissatisfaction with "controversial" modal premises in arguments whose conclusions we don't like.[1]

Part of the problem is that many candidate answers to the "what" question quite obviously lead nowhere. 'Conceive' is a word with many senses, and many of these senses are clearly unsuitable to play the role of evidence for possibility.[2] Merely *understanding*, *thinking*, or *entertaining* a proposition is not sufficient, for it is easy enough to understand, think, or entertain thoughts about what is necessarily false. The same goes for *assuming*, *supposing*, and *taking for granted*. If the kind of conceiving that philosophers have in mind isn't any of these, it is less obvious what the right kind is. ("Clear and distinct conception" anyone?)

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[1] I make this claim despite the many good attempts to resolve evidence for possibility, such as Bealer (2002), Chalmers (2002), Geirsson (2005), Gendler (2000b), Gregory (2004), Hart (1988), Hilll (1997, 2006), Soames (2007, forthcoming), and Yablo (1993). Skeptics about *conceivability* include Bealer (2002), Byrne (2007), Fiocco (2007), Tidman (1994), and van Inwagen (1998). I'll be discussing a number of these views over the course of the paper. There is a vast literature on particular modal arguments; the modal argument for dualism is a fertile example. See Levine (2000), Nagel (2002), Papineau (2002), Perry (2001), Taliaferro (1994), Van Cleve (1983), Yablo (1990, 2000), among many others.

[2] Hart (1988, ch. 2), Tidman (1994) and Yablo (1993) all have helpful discussions of various inadequate senses.

Some philosophers, notably Hume in the latter half of his quotation, suggest that the right kind of conceiving is *imagining*. 'Imagine', like 'conceive', is ambiguous (there is a good deal of overlap in their senses) and insofar as 'imagine' means something like *form an idea*, *entertain* a thought, *assume*, *suppose*, or *take for granted*, imagining also cannot serve as evidence for possibility. But there is a worthy alternative sense; unlike conceiving's maddening inscrutability, with imagination we can at least gesture at our familiar creative faculty to answer the "what" question. While this is a better place to start, the gesture is still only a starting point. We would need to hear a lot more about what imagination is and how it can serve as evidence for possibility to feel we have made progress, and to diminish that general unease about modal premises.

That is what I hope to provide in this paper. I will begin with a theory of sensory imagination, one that I think is plausible even independent of modal-epistemological concerns. My view, to a first approximation, is that sensory imagination has a qualitative and a stipulative component. Some 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). I'll then go on to explain how a very reasonable epistemology of possibility flows from a theory of imagination with these two components. Let me illustrate with one puzzle case now. Whatever our familiar creative faculty is, it certainly seems that we can use it to imagine a teenager traveling back to 1955 in a DeLorean and, through a series of mistaken-identity-fueled madcap adventures, *changing* his father from ineffectual loser into confident leader. There is consensus that this is impossible; you cannot change the past. What we imagined is impossible. My theory explains why: we imagine time travel by stipulating in some scenes that it is 1955…*again*. I hold that anything we imagine via stipulation alone provides no evidence for possibility, and hence our imagining the time-traveling time-changing teenager in the DeLorean gives us no reason to believe someone could change the past. As I lay out my theory I'll argue its success in explaining this and a whole range of other puzzling cases is excellent reason to accept it.[3]

My primary concern in this paper is to explain and defend my theory of imagining and modal epistemology in detail. While I won't try to systematically enumerate and refute other theories, some criticisms — for example, of accounts that appeal to nonsensory imagining — will come up as I develop my own theory. I'll close by briefly considering my theory's prospects for answering a hardened skeptical challenge.

1. Imagination: sensory and stipulative

In this section and the next I'll be exclusively concerned with laying out a theory of imagination. It's important not to let modal epistemology drive our theorizing about imagination; we want our theory of imagination to do justice to the commonsense phenomena in its own right. Once the theory is on the table only then will we look, in sections 4 and 5, at its epistemological potential.

My focus is on *sensory* imagination, imagination that involves *mental imagery*. When you imagine a pile of twenty-dollar bills burning, Marlon Brando singing the Brady Bunch theme, or the epic battle at Helm's Deep fought over a ring of power, you entertain some

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[3] I see my account furnishing important detail and independent grounding not present in otherwise excellent discussions by Geirsson (2005), Hart (1988), and Yablo (1993) of their own imagination-based views.

mental imagery — a sight or "picture" in your mind's eye, a sound in your mind's ear — with a certain content. The task in this section is to analyze that content. (Henceforth the qualification "sensory" should be understood in all references to imagination, and despite its visual connotations, "image" should be understood broadly, as encompassing all sensory modalities.)

What we imagine are situations over time. When I am aware that P is true in the situation I have imagined, I have imagined that P. Imagining a situation is a particular kind of mental activity, a mental episode lasting for some period of time. Imagining is thus unlike propositional attitudes such as believing, desiring, wishing, and hoping, for there is a very clear sense in which imagining can only be occurrent.[4]

There is a reason why imaginings must be occurrent: they have a qualitative phenomenological component. This component is frequently referred to as the sensory *image*.[5] We might pretheoretically describe the image or qualitative component as the mental picture, or the sounds in the head, that are part of imaginings; when I imagine the twenties burning the "picture" of a pile of twenties burning is what I am calling the qualitative component, as is the distinctive twang I hear in my head when I imagine Jimmy Carter confessing of "adultery in my heart." This naturally raises the question of whether there are imaginings that lack imagery altogether, "nonsensory" imagining. I'll address nonsensory imaginings in the next section, after I've laid out more theoretical machinery.[6]

My account of what I will call imagination's *basic qualitative content* borrows heavily from the philosophy of perception.[7] I assume that perceptual experiences have representational content. These experiences present in a direct and immediate way certain aspects of the world around us, those aspects that we might ordinarily say we are conscious of: they specify the distribution of objects and "basic observational" properties in three-dimensional (egocentric) space. Basic observational properties include at least the traditional primary and secondary properties. In vision, for example, we are consciously presented with three-dimensional space filled with objects of varying colors and shapes. Sensory imagination, with its distinctive occurrent imagery, also has basic qualitative content. When you visually imagine a pile of twenty-dollar bills burning, your imaginative experience presents greenish whitish flat objects, laid out in space, some above others, some to the left, others to the right. Imaginative experience isn't presenting aspects of the actual world around us, but it is presenting "basic observational" properties in imagined space.

Basic observational properties are not *all* that imaginative experience represents, as the following examples illustrate.

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[4] My focus on occurrent mental states means I am going to explore imagining, not imagin*ability*. In section 0 I explain why imaginability provides no evidence for possibility.

[5] I use the word "image" reluctantly; it is troublesome for three reasons. It has the aforementioned unwanted visual connotation; the word has also been used to refer to the whole of what's imagined, and not just the qualitative phenomenal component. Finally, understanding imagining as "entertaining of an image" contributes to an unfortunate tendency to hypostatize images. See Kind (2001) and McGinn (2002) for discussion of the third point.

[6] Kind (2001) argues persuasively against those, like Ryle (1949), who claim that imagining is *purely* non-imagistic.

[7] Much of the material on qualitative content is taken from Peacocke (1992, ch. 3) and adapted for imagination. Though my take on qualitative content owes much to Peacocke, I remain neutral on whether qualitative content is "conceptual" or "nonconceptual."

Above I asked you to imagine Marlon Brando singing the Brady Bunch theme. You probably heard in your mind's ear a familiar airy, cotton-mouthed whisper softly intoning, "Here's a story…," and the metaphor "in the mind's ear" (if it is a metaphor; not everyone thinks so[8]). In addition to basic qualitative content, you were also imagining *Marlon* doing the singing; your imagining was *about* Marlon, or directed *at* Marlon.

A slightly more complicated imagining will help elucidate what I call *assignments* or *assigned contents*. Imagine Marlon singing a duet of the same song with his doppelgänger Stanley; one of them is seated, the other is standing. Who did you imagine seated, and who was standing? Suppose you imagined Marlon standing and Stanley seated. What makes it the case that the standing guy is Marlon is simply that it is assigned. You can imagine the reverse — Stanley standing, Marlon sitting — merely by changing the assignments. The phenomenal character of what you see in your mind's eye might remain the same, as might the basic qualitative content, but nonetheless you are imagining something different. It is obvious how an assignment contributes to your imagining having the content it does. Assigning the label <Marlon> to that figure is what makes your imagining about Marlon, rather than about someone who merely look like Marlon.

Let's be a little more precise. Sensory imagination involves mental imagery that has the basic qualitative content described above. Additionally, the various objects, regions, surfaces, and so on presented by the mental image come already categorized; they have conceptual contents already assigned. In imagining Dick Cheney, I conjure up a certain mental image. The image depicts a figure who appears a certain way, and this figure is simply imagined *as* Dick Cheney. This requires no extra activity on my part — I don't have to examine my mental imagery and recognize the figure depicted — the figure in the image comes pre-labeled <Dick Cheney>. Let us call this first additional kind of content *labels*. The imagining of Cheney will have a great many other labels: the large round object ("object" should be understood quite loosely, to include regions, stuffs, events, etc. as well as proper objects) is labeled <head>; the protuberance on the end of the head is labeled <nose>; and so on. These labels encapsulate quite a bit of information.

Label content allows us to capture a sense in which an experience, either perceptual or imaginative, can have a richer content than just primary and secondary properties, as Siegel (2006) and Siewert (1998) argue.[9] If you, like Siegel and Siewert, think that you perceive a nose and a head, rather than just nose-like and head-like shapes, then this means you think that label content can be part of the qualitative content of an experience. Call this the non-basic qualitative content of an experience.

A second additional kind of content is *stipulation* or *stipulative content* — propositional content that goes above and beyond that of the mental image. *Background stipulations* do not reference anything in the mental image; they fill in background information about the imagined situation (e.g., what day it is). Stipulations that make claims about objects in the mental image that are not depicted by the image we will call *foreground stipulations*. When I imagine that Dick Cheney and a gray bunny are long-time friends, the

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[8] See McGinn (2004, ch. 2).

[9] Other philosophers, like Tye (1995) and Dretske (1995), disagree. They argue that perceptual experience has only what I have called basic qualitative content. Siegel (2008) has a useful summary of the debate. The Tye-Dretske view simplifies matters for me: on their view, label content is merely a kind of stipulative content, which I discuss next.

mental image depicts a taller figure imagined *as* Dick Cheney and a smaller gray figure imagined *as* a bunny. The figures are labeled with <Dick Cheney> and <bunny> respectively. That the two are friends is a foreground stipulation; there is nothing in the image imagined as their friendship.

Let us use *assignments* and *assigned contents* as a loose way of referring to all information captured by labels and stipulations; any piece of this information is an *assignment*. Assigned content covers background stipulations and the labels and foreground stipulations made about the objects presented by the mental image. It also covers whether these labels and foreground stipulations are made of the same or distinct objects; e.g., whether the labels <Marlon> and <Stanley> are assigned to a single object or two distinct objects.

(A clarification to head off an understandable confusion. The term 'assignment' invites a somewhat distorted perspective of imagination's phenomenology— it incorrectly suggests that imagining is a two-stage affair, where we first conjure up some qualitative mental "picture" and then label or stipulate various things in or about that "picture." Imagination does not work this way; there is no second "discovery" stage. The imagery comes with everything already labeled and stipulated.)

Armed with this theory of imaginative content, we're now in a position to investigate how the theory plays out in practice. We won't turn to modal epistemology quite yet. Instead we'll first see how the theory helps explain what we can and cannot imagine. One of the theory's virtues is that it offers the potential to explain both the extent of imagination's power and, with some further theory, imagination's limitations. I turn to imagination's power and limitations next.

2. Power

Assignments are an utterly ubiquitous feature of imagining. We have tremendous power and flexibility in imagining because we can fix via assignment what is the case in our imagined situation to an almost arbitrary level of detail. I can stipulate that Marlon has a Justin Timberlake tattoo on his bicep hidden underneath his shirt, or that Tom Nagel originally composed the Brady Bunch theme, or that puppies find Brando's voice soothing. I can imagine my great-grandmother even though I have no idea what she looks like; maybe I form an image of a woman who looks like Cyd Charisse or Madame Chiang Kai-Shek. That doesn't make it Cyd Charisse that I'm imagining. I'm imagining that the woman who looks *this way* is my great-grandmother, as she is labeled. The question of how I *know* this — how I know that it is my great-grandmother I am imagining, rather than some other woman — doesn't really make sense.[10] Of course by changing the assignments I could imagine that my great-grandmother *is* Cyd Charisse: my imagining of this woman, my great-grandmother, comes labeled <Cyd Charisse>.

My great-grandmother isn't Cyd Charisse, of course, and with a birth year of 1921, Charisse is too young to be my great-grandmother. This doesn't stop me from being able to imagine that she is my great-grandmother. Nor does the fact that, if Kripke is right about the necessity of origins, it is *impossible* for Cyd Charisse to be my great-grandmother. Imagining impossibilities isn't unusual: remember our example of the teenager in the DeLorean

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[10] Wittgenstein makes this point with his King's College example (1980, p. 39). When one imagines King's College on fire, there's just no doubting that one is imagining *King's College*, and not something else, e.g., a similar-looking part of UCLA, or a miniature replica of the College.

changing the past. As we visualize a scene between the kid and his young dad we stipulate that the scene is taking place in 1955 for "the second time" (of course the dad never ran across his son "the first time"). When we think about imagination in its own right, and aren't biased by philosophical considerations about modal epistemology, it is plausible that we can imagine the impossible. Strangely, because of modal epistemological considerations this is sometimes taken to be a controversial claim.[11] Let me add a number of familiar cases to solidify my claim that we can imagine the impossible.

I imagine myself receiving the Fields medal for proving Goldbach's conjecture. It's a lavish ceremony. Renowned mathematicians marvel at my mathematical ability and, given my limited background, they reckon my discovery to be the most startling since Ramanujan's. It is clear that I imagine (and I suggest that you also have imagined) — via stipulation — that I *really have proved it*. I imagine that my Fields medal-winning journal article contains the proof. I am not imagining myself as some kind of charlatan; my imagining would have quite a different character if I were.

I can also engage in a similar imaginative project: I can imagine that I have disproved Goldbach's conjecture. Now maybe if this were to actually happen it would be a more stunning feat, because most mathematicians believe the conjecture to be true. That's irrelevant. My imaginings do not contain any mathematical detail. I do not imagine any steps in my prize-winning proofs; I cannot snap out of my daydream and snap my fingers, say, "That's it!" and start writing. I'm simply imagining some heretofore undiscovered, yet, as far as my imagining goes, *unspecified*, mathematical details that I have miraculously managed to uncover.

I imagine two eighteenth-century men, one the white-haired heavily mustached Samuel Clemens, looking dapper in a white suit, the other Mark Twain, dressed in the simple clothing of a riverboat pilot. They are cursing one another and fighting. Twain hits Clemens with a spectacular left cross while hurling insults about his stunned opponent's proclivity for stealing other men's ideas. The man in the white suit is labeled <Clemens>; the other man is labeled <Twain>. It is stipulated that Twain is a riverboat pilot.

I imagine scientists making a shocking announcement: water, the clear colorless odorless tasteless liquid that covers 71% of the earth and is essential for life, is composed of previously undiscovered XYZ molecules, and not H_2O molecules. I am imagining being wrong about the composition of water. (Variation: similar situation without the shock. I imagine scientists have always known that water was XYZ and not H_2O.) The clear liquid is labeled <water> and I stipulate that this liquid, this water, is composed of XYZ.

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[11] Surprisingly it is Kripke who challenges whether we can imagine the impossible. Kripkeans are not the only ones to embrace an error theory (I count Yablo as Kripkean). Hart (1988, pp. 16–17) suggests that we cannot really imagine time travel; Geirsson (2005, pp. 294–99) proposes that neither we nor the ancients can imagine Hesperus distinct from Phosphorus, though it appeared to the ancients that they had (for Geirsson modal justification tracks appearance of imagining); Gregory (2004) argues that Lois Lane cannot imagine Clark Kent is not Superman "under the supposition" that Clark Kent is Superman. And van Inwagen writes, "[W]e cannot imagine worlds in which there are naturally purple cows, time machines, transparent iron, a moon made of green cheese, or pure phenomenal colors in addition to those we know." concludes van Inwagen. "Anyone who attempts to do so will either fail to imagine a world or else will imagine a world that that only seems to have the property of being a world in which the thing in question exists" (1998, p. 79). I discuss these error theories at length in my (2009b); see also footnote 20.

In one of the first two cases and each of rest I imagine the impossible. Goldbach's conjecture, if true, is necessarily true, and yet I imagine proving it false. Assuming Kripke's conclusions about *a posteriori* necessity, I imagine the impossible when I imagine Twain and Clemens are two different men and when I imagine water is not H_2O. Past-changing time travel is impossible yet we have no difficulty imagining the kid in the DeLorean, and if Kripke is right about the necessity of origins, Cyd Charisse could not be my great-grandmother. In each case assignments facilitate imagining the impossible.[12]

3. Limitations

Thus far I have stressed the power and flexibility of imagination; there's so much we *can* imagine that we might start to wonder whether imagination has any limits at all. Are there things that we cannot imagine, or that are difficult for us to imagine? If so we would like our theory of imagination to explain those limitations as well.

There is one interesting type of limitation that I will discuss here. It is more difficult to imagine some situations than others; in fact some things we seem downright unable to imagine. Following Gendler (2000a), let's call the explanatory puzzle that this limitation poses "the puzzle of imaginative resistance." The puzzle is often introduced with a moral example, like the following.

Rainy Saturday

It's a rainy Saturday and Idi is bored, staring idly out of the window and petting his kitten Ripley. As Ripley stretches and purrs, a whim strikes Idi. He scoops Ripley up, carries her down into the basement and gently places her paws in the vise on his dad's workbench. He quickly tightens the vise, crushing Ripley's paws and causing her terrible pain. Despite Ripley's terrible pain, Idi wasn't doing anything wrong; he was doing it on a whim, and it *was* a rainy, boring Saturday, after all.

The puzzle predicts that it's very difficult to imagine that the last sentence is true. Though Rainy Saturday is a moral case, as the literature on the puzzle has developed, it has become clear that imaginative resistance cuts across a wide range of topics.[13] It is difficult to imagine that an unsupported guess is rational; that $5+7 \neq 12$; that a "Why did the chicken cross the

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[12] I also concede that it is easy to imagine zombies, but it will follow from later considerations that imagining zombies "from the outside" provides no evidence for the possibility of zombies. Hence that's another case of imagining the impossible. This does not put the zombie question to rest. A number of authors think that zombie cases require imagining "from the inside," or "from the first-person perspective" (Nagel 1974, pp. 526–27n11; Hill 1997 and Nagel 2002, §V; Shoemaker 1993). I disagree; I do not think it is required. We *can* imagine zombies from the outside — when we imagine Sancho Panza, we don't have to imagine *being him* to establish that he's conscious — so if that were enough to establish their possibility, dualism would be vindicated. But this leaves it open whether we *can also* imagine zombie cases from the inside. A fuller discussion will have to wait for another occasion because the issues surrounding imagining from the first-person perspective turn out to be quite complex and require full treatment in their own right. See Kung (2009a).

[13] Brian Weatherson (2004) examines the whole range in detail. My examples come from or are inspired by Weatherson's discussion.

road? To get to the other side" joke is (really) funny; that the Canadian maple leaf — that very shape — is an oval.

I don't aim to solve the imaginative resistance puzzle once and for all by settling on a single explanation of resistance. Instead let me point to three different ways to explain the difficulty.

My own view is that the principal way to account for our inability to imagine some propositions 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 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.[14]

My proposal is that any *proposition* we find believable is one that we can stipulate or label in an imagining. Some indexical *sentences* like "I exist" or "I am here now" are absolutely certain as well, but that is because we understand how those sentences get their truth values. The linguistic meaning of "I exist" guarantees that when a sentence with that meaning is thought or uttered by me, it will be true, even though the content expressed at that moment, that Peter Kung exists, is not certain. It is not absolutely certain that I am Peter Kung. Thus my proposal correctly predicts that I will not have any difficulty imagining that I do not exist because the propositional content that Peter Kung exists is not certain.

This proposal both fits with the phenomenology of imaginative resistance and has a plausible commonsense explanation. In being not completely certain that a proposition is true, we leave a tiny bit of room to imagine a way for it to be false. For propositions that are absolutely certain, there isn't even this tiny bit of room. There are very few propositions that are certain in this sense; plausible examples include that squares have four sides, that bachelors are unmarried, and that modus ponens is a valid inference rule. The falsity of these propositions is, I am inclined to believe, not just difficult to imagine but downright unimaginable.[15]

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[14] See Unger (1975, pp. 62–65, 68); this is a partly stipulative use of 'certain'. The favored expression "true for all you know" does not capture what philosophers typically intend by "believable" or "epistemically possible." It is not true for all you know that water is not H_2O, since, presumably, you do know that water is H_2O.

[15] The line between the downright unimaginable and the merely difficult to imagine is fuzzy, and I won't try to tidy up the distinction here. In Gendler's "Tower of Babel" fable (2000a), the numbers anger God with their hubris. As punishment, and to the numbers' considerable dismay, God decrees that twelve is no longer the sum of two primes. Gendler claims we imagine, at least temporarily, that twelve is no longer the sum of two primes. Not everyone shares Gendler's conviction that we really can — via stipulation — imagine that twelve isn't the sum of two primes.

Some who write on the puzzle of imaginative resistance also want to solve the related puzzle of fictional truth: why can't authors make certain things true in their own stories? Despite what Rainy Saturday's author (me) wrote, it doesn't seem *true* in the story that crushing Ripley's paws in a vise on a whim is morally permissible. Appealing to certainty is not an attractive way to solve the fictional truth puzzle because it leads to "a kind of relativism about truth in fiction that seems preposterous" (Weatherson 2004, p. 25). Since we are concerned only with the imaginative puzzle, we aren't saddled with this worry.

A second proposal, due to Weatherson and Yablo (2002), invokes a conceptual relation, claiming that it is difficult to imagine violations of that conceptual relation. Here in rough outline is Weatherson's account (Yablo's account differs in detail but not in spirit, so I won't discuss it separately). When a set of underlying facts bear a constitutive "in virtue of" relation to a set of higher-level facts, it's going to be difficult to imagine both the underlying facts along with inconsistent higher-level facts. The idea is clearest if we consider fictional stories like Rainy Saturday as a set of instructions about what to imagine. Our practice with stories is to go along with the author and imagine whatever set of facts the author tells us to imagine. It's the author's story, after all. But authorial authority ends once the author has told us about the underlying facts. On the issue of what higher-level concepts, "the author's opinion is," Weatherson says, "just another opinion" (2004, p. 22). Yablo is free to tell you to imagine that Sally is holding a five-fingered maple leaf. His authority runs out when he instructs you to imagine that that shape is an oval. My authority ran out when I told you to imagine that Idi wasn't doing anything wrong. When authors overstep their bounds by demanding we imagine violations of "in virtue of" relations, we balk.

In my view this second proposal complements rather than competes with the certainty proposal. One way to explain why you are certain that a proposition is true is that the proposition expresses a relation between higher-level and lower-level facts that you are certain holds. You are certain, for example, that a thing is an oval in virtue of its shape, and that a five-fingered-shaped object is not an oval. While it's undoubtedly correct that violating the higher-lower conceptual relation explains some cases of resistance, I don't insist that all cases of resistance fit the conceptual model. As far as I am concerned there can be cases where you are certain that P and that certainty is not explained by your certainty about a higher-lower conceptual relation. One example might be Gendler's mathematical example. As Weatherson admits it isn't clear whether imagining that $5 + 7 \neq 12$ violates a conceptual "in virtue of" relation. A better explanation might be Nichols' (2006a) architectural analysis of resistance. Imagination is connected to our "sober inferential system" and that system rejects patently counter-arithmetical claims. We are certain that patently counter-arithmetical claims are false, meaning my certainly proposal covers Nichols' analysis.

The third solution is quite different in character. It appeals to interesting conative facts; in a broad sense, we have difficulty imagining what we're being asked to imagine because we don't want to imagine it. The sense of "want" gets spelled out differently by different authors. For instance Gendler proposes that some facts in a story are marked for "export," meaning that if they are true in the story, then that must mean they are also true in the actual world. Moral facts, like Rainy Saturday's claim that Idi wasn't doing anything wrong, are generally exported. But we don't want to accept that claim about the actual world — hence resistance. Currie and Ravenscroft (2002) postulate that imagination has a desire-like component, an "off-line" desire (which they think helps explain our emotional response to fiction). We know that Idi isn't a real person, so we don't actually want this nonexistent character to be actually punished; what we have instead is a desire-like imagining that he be punished. Resistance is explained by the fact that desire-like imaginings stick much closer to real desires than belief-like imaginings do to real beliefs. We're free to imagine that it's Saturday and raining, even if today is a gorgeous Wednesday; we don't enjoy the same freedom to identify with the motives of a morally repugnant character like Idi.

I won't take a stance here on whether one of these three alternatives offers the "right" explanation, nor am I going to try to hash out a taxonomy of resistance cases and describe

which feature(s) operate in which type of case. It is fine with me if the three operate in concert. What's important is that we can explain imagination's limitations.

Let me sum up where we are. What we've seen thus far is a theory of imaginative content. I've stressed that imagination has two kinds of content, qualitative content and assigned content. Assignments account for a great deal of imagination's power; in particular, our ability to imagine a range of impossible situations depends upon them. I've outlined some resources for explaining imagination's limitations. While this is a good start, there are of course some aspects of imagination that this theory doesn't try to touch. I don't claim in six pages to have a complete theory of imagination — that would require a book-length treatment. What's important is that the theory I have offered is independently plausible and does justice to our commonsense conception of imagination.

My theory allows us to see that *non*sensory imagination is simply assignment, and more specifically, since labels require imagery, is simply stipulation. Stipulation sounds a lot like supposition, and in some ways they are quite similar. But this is stipulation in my technical sense — though I confess that the term's connotations are not completely unwelcome, as we'll see in the next section — because nonsensory imaginative stipulation, unlike pure supposition, is still subject to imaginative resistance. For example you can suppose, but not nonsensorily imagine, that Idi did nothing wrong.[16]

Now we can start moving the discussion to modal epistemology, and we'll begin with the question that these imagined impossibilities make it imperative to answer: how can imagining be a guide to possibility if it so easily leads us to false possibility judgments? Twain couldn't punch Clemens in the face; water couldn't be XYZ, the teenager in the DeLorean cannot change the past. This might seem to close the book on imagining as a guide to possibility because if it's easy to imagine the impossible, then imagining can't be a reliable guide to possibility. Call this the impossibility puzzle. Not so, I argue in section 4. Some very plausible considerations about assignments show why an imagining based solely on assignments is not good evidence for possibility and, more importantly, makes it clear that we never should have relied on these assignment-based imaginings in the first place. This gives us a neat resolution of the impossibility puzzle. I'll then go on to explain in section 5 how, even in light of our suspicions about assignments, imagining that include qualitative content and *some* assignments can still serve as evidence for possibility. That is the plan for the next two sections.

4. Unconstrained Assignments

Given all the cases of imagining the impossible in section 2, why aren't we forced to abandon imagining as a guide to possibility?

Let's call an imagining that provides evidence for possibility a *probative* imagining. The strategy is to uncover a principled distinction between probative and non-probative imaginings such that cases of imagined impossibilities that we have looked at fall squarely on

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[16] My analysis of nonsensory imagination is compatible with more detailed proposals in the literature. McGinn (2002, chs. 10–12) defends a view in which to nonsensorily imagine a proposition is to *entertain* that proposition, to (nonsensorily) represent a possible state of affairs without assenting to its possibility. Currie and Ravenscroft (2002, §2.4) argue that nonsensory imagining has two components, the desire-like part discussed above and a belief-like part, with the latter having an inferential role that mirrors belief. Others that endorse nonsensory imagining are vague about what it is, and simply define it negatively, e.g., Chalmers (2002), Walton (1990), and Yablo (1993).

the non-probative side of the partition. An analogy to vision may help illuminate what we are after. Though it's plausible that perception delivers justified beliefs, we become aware that, on various occasions, our perceptual seemings are inaccurate. We will not know what to make of these inaccuracies — and we might even be led to a general skepticism — unless we can systematize our mistakes by delineating the circumstances in which our visual system is prone to error (poor lighting, high stress, hypnotism, distraction, drugs, and so on.). We would especially like an explanation that allows us, with the benefit of hindsight, to retrodict our past mistakes. Compare: armed with some understanding of vision, we can retrodict that when we wore rose-colors glasses we were likely to be wrong about the color of objects. We want something similar in the modal case, to be apprised of those features that led us to our imagining impossibilities in the past, so we can avoid similar mistakes in the present.

Fortunately we have just the feature we need to distinguish probative from non-probative imaginings: assignments, both stipulations and labels. I will show that assignment-based imaginings, like our imagined impossibilities, provide no evidence for possibility. Roughly, an imagining that P will not be evidence that P is possible if P's truth in the imagined situation follows from the assignments alone.[17] The reason is that stipulations and labels are virtually unconstrained, and what minimal constraints there are have no modal epistemological value.

As I explained in the previous section, the principal constraint on assignments is certainty. I said that 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. Let P be some proposition whose possibility we are trying to establish via imagining. The mere fact that we find P (or possibly P) believable, and hence are capable of making the assignments required to make P true in the imagined situation, is not good evidence for P's possibility. Believability just is lack of certainty. (Let us use 'non-certainty' to denote lack of certainty; it avoids the unwanted connotations of 'uncertain'.) It would be very odd if our *non-certainty* counted as evidence of P's possibility. Assume that psychological certainty confers the highest epistemic status. Then to be non-certain is to fall short of the very best epistemic position one can be in; how can failing to be in the best epistemic position be evidence for some proposition's possibility, particularly when we note that total ignorance is one way to fail to be in the best epistemic position? We need positive evidence for our claims of possibility, but assignments don't provide it; they merely reflect our less-than-ideal epistemic position. (Rejecting the assumption that psychological certainty confers epistemic status makes matters worse: then assignments have no epistemic constraints at all.) Assignments are almost as unconstrained as suppositions, and just as we do not take *merely supposing* that P to be evidence of P's possibility, *stipulating that P* or *labeling P* should similarly not count as evidence for possibility. What goes for each assignment individually goes for what follows from the assignments alone: if it is only by virtue of non-certainty that one is able to assign Q and assign R in the same imagining, and P is true in the imagining only in virtue of Q and R, this imagining does not provide evidence for P's possibility.

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[17] My remarks bear some similarity to Peacocke's (1985, §IV) remarks about "suppositional imagining." But Peacocke presents his claims about s-imaginings in the context of a theory of imagination that I find implausible; in Peacocke's view all imagining is imagining "from the inside." I hope to examine Peacocke's view in future work.

On the other hand, if we're in a better epistemic position with respect to P — if we have independent evidence for thinking that P is possible — then imagining is evidentially superfluous. Imagining that P via assignments would be a good guide to P's possibility only when based on prior information that the assignments, and hence P, are possible. The justification for thinking that P is possible depends on the independent evidence for the assignments; the imagining provides no new evidence.

Note the contrast between assigned content and basic qualitative content. The evidentiary value of a qualitative imagining is not undermined by our non-certainty because qualitative contents are not so unconstrained. Being in a less-than-ideal epistemic position with respect to a proposition does not thereby enable one to produce a mental image with that proposition as part of its *basic qualitative* content. For example, suppose you hear a bunch of musicians discussing blue notes, and whether a blue note would sound good in this phrase. You know that a blue note is a kind of musical note, but that is the extent of what you know. As a result of your ignorance, you are able only to imagine a sound in your mind's ear and *stipulate* or *label* that sound as a blue note. You speculate about the sounds the musicians might be talking about by using your imagination: you imagine various sounds — a mournful minor chord, a high trill — *as* blue notes. But your ignorance does not itself facilitate your imagining blue-note-*basic-qualitative*-content, the actual *sound* of a blue note. (A blue note is the kind of warbling note that Billie Holliday made famous, "a variable microtonal lowering of the third, seventh, and occasionally fifth degrees of the major scale."[18]) Basic qualitative contents are not unconstrained the way assigned contents are, and so the foregoing concerns about assigned contents do not transfer to qualitative contents. We'll evaluate the modal epistemological value of basic qualitative contents in the next section.

By examining the principal constraint on assignments — certainty — we've seen that, so far, we have reason to be suspicious of assignments' modal epistemological value. Let's now consider the other constraints on imagining that I raised in the previous section, to see whether any of them have modal epistemological value. The second approach claimed that when a set higher-level facts bears a conceptual "in virtue of" relation to a set of lower-level facts, it is difficult to imagine inconsistent higher-level and lower-level facts together. I argued above that this conceptual constraint is best understood as a special case of certainty, but let's set that argument aside for the moment and suppose that some higher-level/lower-level resistance does not result from certainty. Still, the *absence* of higher-level/lower-level resistance is not an epistemic credit. This is consistent with the *presence* of higher/lower resistance providing evidence for *im*possibility (although there is a worry that the resistance derives from an antecedent judgment of conceptual impossibility). The lack of evidence for impossibility does not amount to evidence for possibility.[19]

The third explanation for imaginative resistance was conative; in some sense, we don't want to imagine what we're being asked to imagine. Regardless of how the details are filled out, there does not seem to be a modal epistemological role for these desire or desire-like states. Desires (or desire-like imaginings — I'll suppress this addition) are not the sort of things that justify beliefs. We certainly wouldn't want to say that desiring that not-P in the way that leads to imaginative resistance counts as evidence that P is impossible. That is a more elaborate kind of wishful thinking; modal wishful thinking, in this case. And, more

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[18] *Webster's Ninth New Collegiate Dictionary*.
[19] Thanks to Masahiro Yamada for helpful discussion of this point.

importantly, merely lacking desires that would lead to imaginative resistance obviously does not count in favor of modal belief.

What this means is that none of the three constraints on imagining — certainty, conceptual, or conative — have any epistemic features to support assignments as evidence for possibility. Thus when we imagine a situation in which P, where P is simply an assignment, we have done nothing to remove the specter that it is only our non-certainty that is allowing us to so imagine. The same goes for any conjunction of assignments, or anything that follows from the assignments alone. When I imagine twin earth cases, labeling the clear stuff <water> and stipulating that the same stuff is XYZ, it follows from these two assignments that water = XYZ. It is only by dint of assignment that we are able to imagine an impossible situation like that and hence imagining the impossible situation gives us no reason to believe that water could be XYZ.[20] This is, I believe, the correct way to diagnose each case of imagining the impossible in the previous section: proving or disproving Goldbach's conjecture, Twain punching Clemens, past-changing time travel, Cyd Charisse as my great grandmother. It is assignments that allow us to imagine each case, and since we have good reason to treat assignments like suppositions, we can see that we should never have taken those imagining as evidence for possibility in the first place.[21] That's the solution to the impossibility puzzle.

These considerations about assignments allow us to render a summary verdict about nonsensory imagination as a source of evidence for possibility. In brief: it isn't. Since nonsensory imagining is in my view pure stipulation, it is no better evidentially than pure stipulation. Pure stipulation isn't evidence for possibility, so neither is nonsensory imagining.

5. Challenge Model

Imagined impossibilities are an obvious class of potential counterexamples to any imagination-based modal epistemology, so no imagination-based modal epistemology can get off the ground without solving the impossibility puzzle. But solving the puzzle is only the first step. With that puzzle safely out of the way, I am in a position to develop a positive account of when imagining *does* provide evidence for possibility. The rough thought is that the imagistic

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[20] I analyze most Kripkean *a posteriori* necessity cases this way: we imagine an impossible situation by assigning the *a posteriori* facts — that the same stuff is both water and XYZ, that two distinct planets are Hesperus and Phosphorus, that this woman is both the Queen and the Truman's daughter. According to my view these imagining were never evidence that the identities were contingent. A strength of my view is that it handles Kripke-style cases without an error theory about imagination. I see Kripke claiming that we don't imagine what we think we imagine; Kripke asserts that what I'm *really* imagining is scientists making a shocking announcement that the clear, colorless, …, liquid — *not* water — is XYZ, even though I take myself to be imagining something surprising about *water*. I agree with Hill that this explanation "…is fundamentally misguided; …in non-pathological circumstances introspection gives us pretty accurate access to the contents of our own states of imagination" (p. 83n10). I explore the difference between my view and Kripke's in Kung (2009b).

[21] The fact that my view explains *why* some imaginings are not evidence for possibility — and the explanation says more than just that we later discovered that what was imagined was impossible — is a significant advantage that my view has over other imagination-based views like Geirsson (2005), Hart (1988), and Yablo (1993). Those views either resort to an implausible error theory, as I pointed out in footnote 11, or they fall back to the claim that imagining provides only *prima facie* modal evidence that can be defeated upon further examination. Skeptics of imagination-based modal epistemology like Byrne (2007), Fiocco (2007), and Tidman (1994) are rightly unsatisfied with either response; their central complaint is that imagination is overly "promiscuous" (to borrow Byrne's term).

part of a sensory imagining — more precisely, the basic qualitative content of an imagining — does provide evidence for possibility.

Why do I think this? I think it is plausible that states with basic qualitative content provide evidence for possibility. The basic qualitative content of perceptual experience presents a way that space *can consistently* be filled around the perceiver. When my perceptual experience presents a red surface to my right and a black surface to my left, we theorists can say that, as far as the experience presents, a red surface on the right is consistent with a black surface on the left. That is one way that space *could* be filled. The scenarios used in skeptical arguments make this point nicely: suppose I am deceived by an evil demon and there is no material world. Still, we think, my visual experiences give me evidence of the way the world *could be*. This is so even if it is not in fact filled that way. What goes for the basic qualitative contents of perceptual experiences also goes for the basic qualitative contents of imaginative experiences.[22]

Although I think these considerations about basic qualitative content are plausible, I realize they may not convince a hardened modal skeptic. I am engaged in what Pryor calls (with respect to external world skepticism) a "modest anti-skeptical project" (Pryor, 2000, p. 517) for modal epistemology: showing that by starting with premises that we find plausible — rather than only those the skeptic will grant us — we can defend an imagination-based modal epistemology.[23] This is no easy task. As its dismissal in the literature attests, it is hard to see how to get an imagination-based view off the ground. The view needs to get the phenomena of imagining right. There are numerous puzzling cases to explain. I have already made some headway by resolving the impossibility puzzle. In the rest of the paper I'll use the theory of imagination to bring a complete imagination-based modal epistemology into focus. I'll revisit the issue of the modal skeptical challenge at the conclusion of the paper.

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[22] The debt to Peacocke's work should be obvious here.

One way to block the intuition that qualitative contents provide evidence for possibility is to hold that we infer possibility from actuality; perceptual experiences furnish *no* evidence for possibility except insofar as can be inferred from actuality. (I.e., experience presents space in way W; the world is such that W; whatever is actual is possible; therefore, way W presents space consistently.)

It strikes me that this confuses conceptual priority with epistemic priority. It may very well be that the concept of truth is more fundamental than the concept of possibility, and possessing the former concept is a prerequisite for acquiring the latter. But it does not follow that perceptual experiences cannot be a basic source of evidence for possibility. I think that is the more plausible view; and in fact I am inclined toward an even stronger line of reasoning: perceptual experience must provide evidence for possibility for it to provide evidence of actuality. Given that we know *a priori* that the actual world is consistent, if we had *no reason* to think that the way space is presented by experience is consistent, that would undermine experience's status as evidence for actuality. All these issues deserve further investigation.

[23] My approach bears some affinity to the approach that modest foundationalists like Alston (1989), Audi (1993), Moore (1939), Pryor (2000), and perhaps Chisholm (in his later work, e.g., 1988) take in explaining perceptual justification. Their view is that we are *prima facie* justified in believing that things are as they perceptually seem, and this justification does not depend on our justification for believing anything else. "For a large class of propositions," Pryor writes, "it's intuitively very natural to think that having an experience as of that proposition justifies one in believing that proposition to be true. What's more, one's justification here doesn't seem to depend on any complicated justifying argument" (p. 536). I take a similar stance when I 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.

Let's get into more specifics about the view.

For imagining a situation in which P to be evidence for possibility, the qualitative component of the imagining must be *part* of what makes the imagined situation P-verifying. I emphasize "part" because my negative assessment of assignments may lead one to think assigned content should be disregarded entirely. *Only* what the qualitative content makes intuitive is probative; assigned contents are *never* part of a probative imagining. But this is too hasty. Let us carry our ongoing comparison to perception a bit further. Suppose you see several figures in the distance fighting, though they are too far away to see who they are. You have it on good authority that the one on the left is Cheney, so you are justified in believing that Cheney is punching one of the other guys. Vision alone does not provide you with evidence that Cheney is punching someone. You don't see the figure on the left *as* Cheney (at least not initially). But what you see coupled with the knowledge that the figure on the left is Dick Cheney does give you reason to believe that Cheney is punching someone.

We can tell a similar story about modal justification. Some imaginings are built up with assignments, and hence are only as secure as the assignments upon which they are built. If we *know* that some assigned content *is* possible, then why shouldn't we be permitted to use the assignment in a probative imagining? For example, I know that it is possible for Tom Nagel to exist; I know this because I know that he (actually) exists. Hence my imagining an object labeled <Tom Nagel> might still be probative. We need to know what is required of a mixed imagining — an imagining with both qualitative and assignment content — for it to provide evidence for possibility. My answer is this proposal, modal evidence from imagination ("MEI" for short), which I will refine as we progress.

[**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.

In the remainder of this section, I clarify MEI and supplement it with further conditions. Here is a first clarification. By "intuitive" I will always mean what I take it that Kripke means: 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.[24]

A difficulty with the initial, informal statement of the negative thesis — "an imagining isn't evidence if P follows from the assignments alone" — was that it was put in terms of what *follows* from the assignments alone. The concern is whether "follow" is the right notion. One natural interpretation of "follow" is metaphysical entailment; another is conceptual entailment. On either interpretation, the negative thesis would rule out *good* examples, including the very examples I use to illustrate the negative thesis. The assignments that Putnam makes about XYZ, that it is not H_2O, do metaphysically entail that XYZ is not water;

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[24] I am assuming that intuitions are evidence. I agree with Kripke that "something's having an intuitive content…is very heavy evidence in favor of [it]…I don't know…what more conclusive evidence one can have about anything, ultimately speaking" (1972, p. 42). See DePaul & Ramsey (1998) for a survey of the intuitions debate. I have been influenced by Bealer's work on intuitions; see his (1992), (1996), (1999), and (2002). I realize that Bealer himself dismisses imagining as a source of evidence for possibility (2002, §1.2). I'll make a few comments on Bealer's view when I return to intuitions in section 0.

the conditions of the Gettier case conceptually entail that the believer does not know (more on the Gettier case in a moment).

What we were trying to capture with the informal statement falls out as a consequence of (ii). Condition (ii) ensures that the qualitative content of the imagining contributes something by way of making P intuitive. Suppose condition (ii) is not satisfied, and that even without the qualitative content, it is still intuitive that P — merely the assignments alone make P intuitive. Let $V_1, \ldots, V_n$ be the contents of the individual assignments that constitute assigned content V. For the assigned contents alone to make P intuitive is just for the conditional

if $V_1 \& \ldots \& V_n$, then P

to be intuitively correct. An issue for everyone is how we establish the correctness of conditionals. Some views of conditionals may allow that we use imagination to help evaluate the conditional, but even if we do, we would not then be using the imagination to establish the *possibility* of anything.[25] However we do it, it should be agreed that merely establishing such conditionals does nothing, by itself, to establish the possibility of P. What we have, rather, is the first premise of an argument:

1. if $V_1 \& \ldots \& V_n$, then P.
2. $V_1 \& \ldots \& V_n$ are compossible.
3. Therefore, P is possible.

Whether or not we have evidence that P is possible depends crucially on whether we have evidence for premise two. But that is the focus of our inquiry; we are investigating how we go about establishing something like the second premise.

A familiar example, the Gettier case (1963), will make this point plain. Gettier's story consists of the propositions:

V_1 = Jones sees Nogot waxing a Ford and brandishing a title deed for a Ford.
V_2 = Havit owns a Ford.
V_3 = Nogot does not own a Ford.
…

Gettier's example is so compelling because the intuition that, in the story, Jones does not know that someone in his office owns a Ford, is so very clear and strong. This amounts to a strong intuition that the conditional, *if V_1 & …& V_n, then Jones does not know someone in his office owns a Ford* (= P), is correct. For Gettier to have a genuine counterexample, not only must that conditional be true, but the consequent has to be possible as well. Thus we must have some evidence that the story itself, the antecedent, is really possible. Without evidence that the antecedent is possible, all we have (assuming for a moment a suppositional account of conditionals) is that on the supposition that $V_1 \ldots V_n$, P. But obviously we need more than this, because supposition is no guide to possibility. The upshot is that we need condition (ii) to ensure that counterexamples like Gettier's have more than merely a conditional conclusion.

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[25] Whether imagination figures in establishing conditionals may depend on the right view of conditionals; those who endorse a suppositional view of conditionals may be more inclined to think imagination plays a central role. See Edgington (1995) for a survey.

We did note, using the analogy of seeing from a distance Dick Cheney punching someone, that assignments may be *part* of a probative imagining. But not just any assignment is acceptable. Suppose Cheney imagines giving Benazir a "Square The Circle" construction kit as a birthday present. Benazir tears the package open, grins in delight as she takes out the compass and ruler, and in a few quick steps squares the circle. Some of the assigned contents are: *that's me, Dick Cheney*; *it is Benazir's birthday*; *Benazir has squared the circle*. As a result of imagining this situation, Cheney finds it intuitive that Benazir has squared the circle. If this means Cheney has evidence that Benazir could square the circle, then he has evidence that it is possible to square the circle. Something is amiss.

We need a recursive condition. Imagining S does not provide evidence that P is possible unless the imaginer possesses evidence that S is itself possible. The qualitative content of S presents no problem. However, if S has assigned content V, that assigned content may or may not be possible. It needs to be *authenticated*, or, at least, the imaginer must be in a position to authenticate it. That is, the imaginer needs to (or needs to be in a position to) ensure that this assigned content is possible.

    iii.   Let $V_1, \ldots, V_n$ be the contents of the individual assignments that constitute assigned content V. The imaginer must be in a position to either

    a)   provide evidence that $V_1 \& \ldots \& V_n$ is possible via some other source; or

    b)   provide evidence that $V_1 \& \ldots \& V_n$ is possible in accordance with [MEI] — that is, imagine a $V_1 \& \ldots \& V_n$ verifying situation without merely assigning $V_1 \& \ldots \& V_n$ (this is the recursive step).[26]

Cheney is unable to meet condition (iii) in imagining Benazir's gift. One way to meet condition (iii)(a) would be to possess evidence that $V_1 \& \ldots \& V_n$ is actual. Cheney obviously has no evidence like that. Neither can he imagine a situation that verifies *Benzir has squared the circle* without stipulating that very thing, so he does not meet condition (iii)(b) either. Because Cheney fails to meet condition (iii) his imagining gives him no evidence that it is possible to square the circle.

To see how this condition works and why it is correct, I will run through a couple of simple cases that have both qualitative and assigned content. These simple cases are for illustration; in the next section I'll analyze some more complex and philosophically interesting cases.

Let us start with a very simple case with only a single assignment. I have a favorite solid blue marble, Benny. I imagine Benny is green. I see in my mind's eye a spherical green object. The qualitative content of this imagining delivers that there is a single object in space, that the object is spherical, and that the object is green. The green object is imagined *as* Benny, it is labeled <Benny>. When I consider this imagined situation, it is intuitive that, in it, Benny is green. (If the object is not labeled <Benny>, it is not intuitive that Benny is green; at most what is intuitive is that there is a green spherical object.) For this imagining to provide evidence for possibility, I would have to authenticate its sole assignment by showing that the content assigned is possible.

What is involved in authenticating this single assignment? To answer that question we need first to understand the way in which assignments entail existential claims. This is an

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[26] For readability, I will generally omit the qualification "in a position to."

issue about *what* you imagine and not whether what you imagine is possible, so let's set authentication to the side for a moment. An imagining's qualitative content presents a domain of "things," each having various observational properties. I use the term 'thing' as a more general term than 'object'; objects are things, but things may also be regions of space, events, lines, and so on.[27] An assignment — more specifically, a label or foreground stipulation — says of one of these things that it *is   *, where the blank is filled in by some characteristic ("property" in the loosest sense); this may be an identifying characteristic, such as *is Santa Claus* or *is Tom Nagel's favorite song*, or a more familiar property like *is valuable* or *is water*. This pairing of thing and characteristic is roughly analogous to seeing as: you look at the object on your desk and see it as a telephone; similarly you imagine the green thing as Benny, or the figure as Santa Claus. In imagining Santa Claus, I visualize some thing, some t. The label is what says that that thing, that t, is Santa Claus. Let's use the statement $\exists x(IsSanta(x))$ as a way of expressing this content of my imagining: that there is something that is Santa Claus.[28]

Now we can return to the authentication question. What according to MEI do I need to authenticate when I imagine Santa Claus? In my imagined scenario, it is true that there is some *thing*. However that imagined fact, that the thing exists and looks the way it does, is delivered by the qualitative content. Hence it does not need authentication. What needs authentication is the *identity* of the thing, because that identity is assigned. In this case, that would mean authenticating that something is Santa Claus, i.e., providing evidence that something could be Santa Claus.

One way to authenticate one of these "imagined existentials" is to point to the existence of something actual. I can authenticate $\exists x(IsTomNagel(x))$ by pointing to the actual Tom Nagel. Obviously I can't do that with Santa Claus. In our sample case with Benny the marble, to authenticate the existential I need some evidence that it is possible that $\exists x(IsBenny(x))$. I do so by appealing to the fact that Benny actually exists. That is enough to make this imagining probative.[29]

Now consider a case with two assignments. I have a second favorite marble, Jenny, which is red and the same size as Benny. I imagine, as before, that Benny is green, this time also imagining that Jenny is purple and larger than Benny. I see in my mind's eye a green spherical object next to a larger purple spherical object. The smaller object is labeled <Benny> and the larger object <Jenny>. When I consider this imagining, I find it intuitive that Benny is green and Jenny is purple; I also find it intuitive that Benny is smaller than Jenny.

What do I need to authenticate here? As before, I need to authenticate the assignment that $\exists x(IsBenny(x))$. Of course I also need to authenticate the assignment that a (distinct) object is Jenny, and I do so by appealing to the fact that Jenny actually exists. But

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[27] "Thing" is meant loosely enough to include descriptive characterizations like "the reddish region."

[28] I mean the quantifier to quantify over imagined things, in the sense specified. That it is imagined is not part of the content. What I imagine is *That something is Santa Claus* and not *That something I imagine is Santa Claus.*

[29] Does this mean I could get evidence that Tom Nagel could be a fried egg by imagining that Tom Nagel looks like a fried egg; i.e., by imagining a spoon that is labeled <Tom Nagel>? I can authenticate the label since Tom Nagel actually exists. I think not. I'll come to this objection in section 0.

this is not all; the assigned content amounts to more than those two propositions taken individually. When there are two or more assignments, each will say something about either *one and the same* object or about *distinct* objects. In our case, we have the latter $(\exists x_1)(\exists x_2)(\text{IsBenny}(x_1) \ \& \ \text{IsJenny}(x_2) \ \& \ x_1 \neq x_2)$ rather than the former $(\exists x)(\text{IsBenny}(x) \ \& \ \text{IsJenny}(x))$. So I need to authenticate this more complex *conjunction* of assignments as well. This amounts to a demand for evidence that Benny and Jenny could be diverse. In this case, I can appeal to the actual diversity of Benny and Jenny to satisfy this demand.

Our two very simple marble examples illustrate how authentication works. We need to authenticate each assignment individually, and, in addition, we need to authenticate that the assignments are compossible. This is condition (iii). The second example with Benny and Jenny shows that demonstrating compossibility is a bit more involved than it might initially seem.

There are two ways to authenticate the conjunction A & B & C. One is to point to the actuality of A & B & C — that's option (iii)(a).[30] Alternatively, one imagines a second situation in accord with MEI establishing the possibility of A & B & C. This is the recursive option (iii)(b). This second imagining may be one in which A & B & C is made intuitive solely by the qualitative content. It may be one in which it is stipulated that A, stipulated that B, and intuitive that, in the situation, C; because option (iii)(b) is recursive, we would not yet be through. The stipulations of this second sub-imagining would themselves have to be authenticated, hence one would have to authenticate the conjunction A & B. This again presents two options. And so on.

This recursive model fits quite well with philosophy's method of counterexample. Your opponent's theory is committed to not-P. You tell a story; if you tell your story well, it should be intuitive that, in the story, P. This only counts as a counterexample, however, if P is possible, and for your story to give credence to the claim that P is possible, your story must itself be possible. If your story contains the suppositions A, B, and C, you must be in a position, at least in principle, to supply evidence that A, B, and C are compossible. How might you do this? You might point out that A, B, and C are actual. You might try telling a second story in which you suppose only A and B, and it is intuitive that C. Of course this second story provides evidence that A, B, and C are compossible only if your second story is possible; thus you need to supply evidence that the suppositions of your second story are compossible. And so on.

For practical purposes, we can regard (iii) as a challenge condition. If I devise a counterexample to your theory by imagining a P-verifying situation S where your theory predicts not-P, you may challenge whether my counterexample is indeed possible by questioning the various assignments I make in imagining S. You are challenging me to demonstrate that I have not somehow begged the question by smuggling in via assignment something that illegitimately prejudges the imagined situation in favor of P. If I can substantiate the challenged contents with further imaginings that advert only to assignments you yourself accept, your challenge fails, and my counterexample stands.

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[30] Or some other source of modal evidence. Though (iii)(a) is officially stated in terms of this more general claim, for simplicity I'll focus on evidence of actuality.

6. Devil in the Details

The major pieces of my view are now on the table. Sensory imagination has qualitative and assigned components. The assigned component explains imagination's power, and in particular, our power to imagine the impossible. Other features explain imagination's limitations. Sensory imagination has a plausible modal epistemology. When we correctly exploit imagery, we get evidence for possibility. When we imagine by assignment alone, we get no evidence.

I hope by now the reader has a sense of the view's micro details. I realize that because I've focused thus far on explaining and justifying the micro details, the philosophical upshot might not yet be apparent, because it might not yet be apparent what my view *does* justify us in believing. In the remainder of the paper I'll take a step back and look at the bigger picture. We'll take the view out for a test drive and show how it handles some more philosophically interesting cases. This will provide an opportunity to fill in more detail and articulate a few rules of thumb about what my view justifies.

Limitations of Imagination

Although the qualitative component of imagining is flexible, it is not endlessly so. Just as our perceptual faculties have upper bounds of acuity and discrimination, so is something similar true for imagination. Within its bounds, the mental image is faithful to what it is an image of. Descartes remarks at the outset of the Sixth Meditation that imagination works quite well on simple subject matter.

> When I imagine a triangle, for example, I do not merely understand that it is a figure bounded by three lines, but at the same time I also see the three lines with my mind's eye as if they were present before me; and this is what I call imagining.

However, we can only pack in so much detail, so much complexity, into the *qualitative* component of an imagining before it ceases to accurately reflect what we are trying to imagine. Descartes continues:

> But if I want to think of a chiliagon, although I understand that it is a figure consisting of thousand sides just as well as I understand the triangle to be a three-sided figure, I do not in the same way imagine the thousand sides or see them as if they were present before me. It is true that since I am in the habit of imagining something whenever I think of a corporeal thing, I may construct in my mind a confused representation of some figure; but it is clear that this is not a chiliagon. For it differs in no way from the representation I should form if I were thinking of a myriagon, or any figure with very many sides. (AT VII 72, CSM 50)

Descartes seems to be suggesting that we *cannot* imagine a chiliagon, because the "mental picture" of that figure will be the same as one of a myriagon. We know from our discussion above that we need not follow Descartes to this extreme conclusion; we make up for the imagination's qualitative limitations with assignment. Even if the qualitative component is the same, we can differentiate an imagining of a chiliagon from an imagining of a myriagon via stipulation or labels.

If Descartes is right, and we cannot imagine a chiliagon except via stipulation, does it follow on my account that we have no evidence that there could be a chiliagon? (I assume the assignments in question are stipulations, though the same points apply if they are labels.) If I imagine a chiliagon only by dint of stipulating: *that's a chiliagon*, does condition (ii)

("Without qualitative content Q, it would not be intuitive that, in S, P") not rule out the probity of such an imagining?

I have two comments on this case.

First, it is not clear to me that Descartes is right in his assessment of our powers of imagination. Certainly he is right that imagining a triangle is effortless, and in the "mental picture," the depicted figure genuinely has three sides. It is evident to anyone who has tried that imagining a one-thousand-sided figure is not similarly effortless, and our initial attempts to do so might result in an indistinct image with many sides. Descartes may be right that it is impossible to imagine an entire chiliagon, to see the whole figure in the mind's eye all at once, with any kind of distinctness — perhaps this does exceed our imaginative discrimination. However, it does not follow that we *cannot* imagine a chiliagon. To do so would require some concentration, imagining it, not all at once, but a few sides at a time, counting through the sides until we reached one thousand, like mentally tracing the perimeter fencing of a large ranch. Just because you cannot imagine the face of every member of your extended family all at once does not mean you cannot imagine them one at a time.

Second, and this is really the point of this case, we can use "imaginative induction" to imagine a chiliagon in a way that does not make illegitimate use of stipulation. Imagine a triangle. As Descartes says, no problem there. We produced evidence that there could be a triangle. Imagine inserting one side into the triangle, to form a square. Again, no problem. We've now produced evidence that there could be a square. Now imagine an n-sided figure for some large n in the Cartesian way, with the whole "confused" figure in your mind's eye at once. Let's grant that you can only do so via stipulation — you can't distinctly see with your mind's eye all n sides. Imagine inserting a side into the n-sided figure, to form an (n+1)-gon. That there is an (n+1)-gon does not follow from the stipulations alone. To challenge this imagining, one must challenge the stipulation *there is an n-gon*. But clearly we can imagine an n-gon in the same way, by imagining an (n–1)-gon and inserting a side. If the challenges persist, we'll eventually come down to a figure that we can simply imagine in the effortless way Descartes describes.

The qualitative content may not change much between imaginings once n gets sufficiently high. The qualitative content *alone* is not what makes it intuitive that the figure is n-sided: that is done by stipulation, a stipulation that, in each case, has been authenticated by the previous imaginings of an (n–1)-sided figure. There just has to be enough qualitative content to make it clear that, *given* that it is an (n–1)-sided figure, after the change it is an n sided figure.

Imagining Different Appearances

In practice, we authenticate many assignments by appeal to actuality. This is hardly surprising, given how common it is to populate our imagined worlds with the people, places, objects, events — loosely, entities — that we have encountered. For philosophical purposes, we are interested in how these particulars around us could be. If all these entities actually coexist, then often not only will each assignment be actual, but the conjunction of all the assignments will also be actual. Condition (iii) is satisfied by option (a).

For example, Cory imagines Justin Timberlake with a peace sign on his forehead. In her mind's eye she sees an object resembling Justin Timberlake, which is labeled <Justin Timberlake>. There are further labels; she sees the rounded part on top *as* his head, sees the bump in front *as* a nose, sees the flaps on the sides *as* ears. Intuitively, the symbol on

Timberlake's forehead is a peace sign. This imagining is probative only if Cory can authenticate the assigned contents. She can; her knowledge that Justin Timberlake actually exists and has eyes, ears, a nose, and so on authenticates the various labels. Thus, she has evidence that Justin could have a peace sign on his forehead.

I imagine my mother with a pink mohawk (which she has never had) in the kitchen of my childhood home, frying eggs. I see in my mind's eye the figure labeled as my mother, the black object in her hand as a frying pan, the yellow and white blobs in the pan as frying eggs; I stipulate that it is our kitchen, and so on. The shape and color of her hair is qualitative content. This imagining meets the requirements of MEI because I can authenticate the conjunction of all these assignments by remembering an actual situation where they all obtained — my mother actually did fry eggs in our old kitchen. It is intuitive that in the situation I've imagined, my mother has a pink mohawk, hence I have evidence that she could have one.

Imagining Non-Actual Identities

One reaction to my view is that it is too liberal: "The case against purely assigned content is compelling. However, if you allow mixed imaginings — imaginings with both assigned and qualitative content — to be probative just in case the qualitative content contributes something towards making the target proposition intuitive, the account will sanction some unacceptable propositions. Take some impossible proposition P and combine it with an observational judgment; this new proposition P' counts as evidence for what is possible by your lights, because it does not follow from the assignments alone.

"For example, Lee imagines Vikings receiver Ahmad Rashad catching a pass over the outstretched hands of cornerback Bobby Moore. She finds it intuitive that, in this imagining, Rashad leaps higher than Moore. That Rashad leaps higher is something she gleans from the qualitative content of the picture in her mind's eye; it does not follow from the assignments alone. By your lights, she has evidence that Rashad could leap higher than Moore, and hence that Rashad ≠ Moore. But this is impossible. Rashad *is* Moore."

This objection fails to appreciate the force of the recursive condition. If an identity is established by assignment, condition (iii) requires that it be authenticated. If the identity is actual, no problem. If the identity is *not* actual, the assigned contents establishing it cannot be authenticated by appeal to what is actual. Condition (iii)(b) calls for a second iteration of MEI. If the imagining for the second iteration still involves the same assigned contents establishing the identity, then we invoke a third iteration. This recursion continues as long as the identity in each sub-imagining is established by these same assigned contents. At some point, then, there will have to be an imagining that does not merely assign the identity. Lee can't meet this requirement. She'd have to imagine a situation in which it is intuitive that Moore is not Rashad without labeling or stipulating that very thing. But there is no way to establish that the imagined people are the actual Moore and Rashad except by assignment. Hence Lee's original imagining is not probative.

Here is another familiar case. Eddie wants evidence that the water-H_2O identity is contingent. He visualizes a clear liquid composed of XYZ molecules in the lakes and streams, falling from the sky, shimmering in the sunlight, etc. This involves myriad assignments, but most importantly, he stipulates that the stuff is XYZ (*not* H_2O) and labels the stuff <water>. Eddie finds it intuitive that in the imagined situation non-H_2O water shimmers in the sunlight. This intuition depends on the qualitative contents (that the water looks shimmery).

It does not immediately follow that Eddie's imagining is probative because his imagining includes *both* the assignment that some stuff is XYZ and that the *same stuff* is water.[31] By condition (iii) either Eddie needs evidence that, actually, water=XYZ, which he obviously doesn't have, or he still needs to imagine that water=XYZ without assigning that very thing. Since this was what Eddie originally set out to do, he should realize that he's in trouble. A virtue of this account is that it dovetails with the Kripke-Putnam thesis about *a posteriori* necessities, because it explains *why* we need to do more than imagine the identity holding by stipulation. To establish the identity without assignment, we need to imagine the kind of case that Kripke discusses — a clear, colorless, … liquid composed of XYZ flowing in the lakes and streams, and so on — and find it intuitive that the stuff is water. This brings us to our next issue.

Indispensable Intuitions

MEI gives an explicit role to intuition: we need to know the right way to describe the situation imagined. We consult our concepts and ask ourselves whether, intuitively, they apply or not in the situation. (Remember by "intuitive" I mean what I take it that Kripke means: 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.) I see no better way to adjudicate the correct way to describe these imagined situations. Does this mean that some modal disputes will come down to a conflict over what is intuitive in the imagined situation? Yes, but I do not see any way around this. It should not count against the proposal that it does not artificially eliminate diverging intuitions, which everyone acknowledges is a persistent phenomenon in philosophy.

In the example above, Eddie is supposed to imagine a situation that authenticates the assignments that the stuff is water and that the same stuff is XYZ (not H_2O). Here is his attempt: he imagines a situation in which a liquid composed of XYZ flows in the rivers, falls from the sky, is consumed by people, etc. He does not, however, stipulate that the stuff is water or label it as water. Now this imagining involves a great deal of assigned content, and condition (iii) requires that he authenticate the conjunction of the many assignments. Set that requirement aside for a moment. Even if it is met, the question remains whether this imagining provides Eddie what he seeks: is it a situation where *water* is XYZ (not H_2O)? He must ask himself whether, intuitively, the stuff in the lakes and streams is *water*. Kripke claims, most people think rightly, that when we carefully consider the matter, we will find it intuitive that the stuff is not water.[32] Some people have different intuitions. There is no way of foreclosing that (epistemic) possibility, though as is usual in philosophy, the more convincing the imagined case, the fewer people will have a diverging intuition. Kripke's work is deservedly famous because he presents cases so persuasively that our intuitions are plain. What MEI ensures is that intuition is operating on a situation that is itself possible.

Note that the intuitions in question — the intuitions mentioned in the above decision procedure — are not modal intuitions. Kripke does not appeal to the intuition that if the stuff is not H_2O, it *cannot* be water. That claim is what he is trying to *establish*. If everything ultimately hinges on a modal intuition, then the imagined situation is irrelevant. But it is not

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[31] Or, to express the assigned content using the "imaginative existentials" of section 5, $(\exists x)(\text{IsXYZ}(x)\ \&\ \text{IsWater}(x))$.

[32] …or, at least, that is it not intuitive that the stuff is water.

irrelevant. We learn something when we imagine the situation he lays out, and consult our *non-modal* intuition.[33]

This is a good point to stress the difference between what is psychologically natural to imagine and what has modal epistemological significance.[34] When we imagine something clear, colorless, coming from the taps, and flowing in the familiar way, we will typically imagine that stuff as water; in my terms, we will automatically attach that label <water>. The qualitative content often psychologically grounds assigned content.

We can explain this fact using the cognitive scientists' notion of a stereotype. A stereotype of a thing is the bundle of features we paradigmatically or typically associate with that thing. While I think it is hopeless to build a theory of concepts out of stereotypes, what we have in our bundle does impact the way we think of the thing, and *a fortiori* how we imagine the thing. When we imagine water, we often imagine it having the features in the stereotype; further, when we imagine something with the features in the water stereotype, we often imagine the stuff as water.

In my view, though labeling, or imagining as, is psychologically automatic, it is a significant epistemological step. It may not be evident that there is an epistemological step because we are usually in a position to take it. Suppose you develop a stereotype of X through observation. When you imagine the stereotypic features of X and label it as <X>, you are usually in a position to authenticate that label.

One difference between imagination and perception is that we can imagine deviations from the stereotype. Imagine Dick Cheney in a George W. Bush disguise. Imagine George W. Bush in a Dick Cheney disguise. Imagining something with the stereotypic features of X does not suffice, psychologically or epistemologically, to imagine X. We may need a back story to explain why X lacks its stereotypic features, or why the thing with all the stereotypic features of X is not actually X. Why isn't the guy with all of Bush's features Bush? Because he's Cheney in disguise.

We have stereotypes for things that are not straightforward to authenticate. Imagine: enormous serpentine reptile; sharp fangs; leathery wings; ancient; intelligence far superior to human beings; communicates telepathically; breaths fire. That's a dragon alright. We apply the label <dragon> automatically. If automatically applied labels needed no authentication, then that is all it would take to establish that there could be dragons. In my view, justifying that claim requires the additional epistemological step.

When we imagine a clear, colorless liquid coming from the taps, and flowing in the familiar way, and stipulate that that liquid is XYZ, it is natural to imagine that stuff as water. But the assignment still has to be authenticated. If you falsely believe that water is XYZ, you might find it intuitive that the stuff is water. Your modal beliefs are misguided owing to a false

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[33] This is where my intuition-friendly view differs from Bealer's intuition-friendly view. To a first approximation, I read Bealer as suggesting that we don't need imagination because we have modal intuitions. I agree that unaided modal intuition is good evidence; my contention is that it is rarer that Bealer suggests. We elicit non-modal intuitions about imaginary cases and that generates a modal intuition. E.g., we find it intuitive that necessarily knowledge is not justified true belief by considering the Gettier case. Thus we still need a modal epistemology for imaginary cases. I hope to discuss the connection between Bealer's view and my own in other work.

[34] Thanks to an anonymous referee (for another journal) for pointing out the need for clarification here.

non-modal belief. If you don't know what water is, then you shouldn't find it intuitive that the stuff is water. Insofar as you do, your intuition is mistaken. I see the Kripkean project as setting about correcting such intuitions.

In sum: imagination does not replace intuitions. We *elicit* non-modal intuitions about imaginary cases, meaning intuitions work alongside imagination in generating evidence for possibility.

Imagining Non-Actual Individuals

When we imagine actual individuals, we use our knowledge of their actuality to authenticate the stipulation or label that someone in the imagined situation is that individual. (E.g., I authenticate the assignment *something is my mother* by appeal to the actual existence of my mother.) Simple enough. But how do we authenticate the assignment *something is X* when X does not exist? Of course we cannot authenticate it using any kind of imagining where it is merely stipulated that X exists. We know from the rule of thumb above that the decision procedure will require a non-assigned authentication at some point. The only option is to imagine a situation lacking that assignment where it is intuitive that one of the imagined things is X. Frequently, this will involve imagining the origin of the putative X.

Could Barack Obama father a third child in addition to Malia and Sasha? Imagine a situation in which the President is posing for a photograph with his two daughters, Malia and Sasha, and his son, Barack Jr. The identity of each person imagined is assigned: that is President Obama, that is Malia Obama, that is Sasha Obama, that is Barack Jr., the President's son. The first three are unproblematic; they can be authenticated by appeal to actuality. But the last cannot be, and without the stipulation (or label — assume for simplicity that it is a stipulation) that the fourth person is Obama's son, it is not intuitive that he is. No imagining where it is merely stipulated that President Obama has a son will provide the required authentication. Thus we somehow have to imagine a situation establishing the existence of the son non-stipulatively. One way to do so would be to imagine Barack and Michelle conceiving a child, Michelle pregnant, Michelle giving birth to this child, and Malia and Sasha holding him. Again, this imagining involves many assignments, and the decision procedure requires that we authenticate the assigned contents. But, supposing we are able to do so (and note that the key people whose identities are assigned — Barack Obama, Michelle, Malia, and Sasha — actually exist), is it intuitive that in the imagined situation, Barack Obama has a third child? It is. Thus such an imagining (modulo the setting-aside two sentences back) would provide evidence that Barack Obama could have a third child.

Lee knows that there is no Santa Claus, yet she easily imagines many situations involving Santa Claus: young Kringle being teased for his portliness; Santa Claus crossing Uday off the list of good children; Santa soaring over her house in a sled pulled by flying reindeer. Each of these imaginings features the stipulation (or label) that something is Santa Claus. Lee must authenticate the stipulation to have evidence based on these imaginings, and she cannot do so by pointing to the actual Santa Claus. She has to imagine a situation without the assignment in which it is intuitive that Santa Claus exists. This will evoke a familiar story about Santa Claus's origins: a boy is named "Kris Kringle" by his parents; he grows up, moves to the North Pole with nothing more than a few beans to make reindeer fly; recruits elves to make toys, which he distributes to good children on Christmas eve; takes to wearing a red coat and red hat with white trim and sporting a full white beard and mustache; and so on.

Once again, this imagining involves many assignments, and the assigned contents must be authenticated; but again, set that aside for a moment. Intuitively, in the situation just imagined, is the man Santa Claus? Here, I take it that intuitions really do diverge. Some people, like David Lewis, find that intuitively he is. Other people's intuitions run with Kripke the other way. We would of course like to have a way to resolve such disputes. MEI is not in the business of doing so. That it locates a point of genuine disagreement in the right place should count in its favor, not against it.

Conflicts Between Assignments and Intuition

Though intuition usually follows assignment, there is the potential for conflict; in rare instances assignment and intuition directly conflict, or, more commonly, there is conflict between what follows from the assigned contents and intuition. Justin Timberlake has a remarkable imagination: he can imagine a squarish-looking figure, one that he finds intuitively is square, and stipulate that it is round. In such a fertile imagination, what is assigned may float free of and potentially flout what is intuitive. Even if we want to proclaim, "No imagination could be so fertile!" our model should not allow unrestrained imaginings, if such exist, to count as evidence of possibility. The problem is a conflict between what Justin finds intuitive (that the figure is square) and what he stipulates (that the figure is round). Thus we need a fourth condition.

iv. There is no R such that either (a) R follows "from the assignments alone" yet it is intuitive that not-R; or (b) it is intuitive that R and intuitive that not-R.[35]

Though Justin's imagining is a remarkable feat, it does not, courtesy condition (iv), count as evidence that round squares are possible.

Many perplexing cases fall under the purview of condition (iv). Because conditions (i)–(iii) of MEI allow any combination of assigned and qualitative content that the mind can produce, they certify that we have evidence for some very *recherché* possibilities. I want to accept *some* of these *recherché* cases: it is by my lights reasonable to believe that there could be water in the shape of an elephant because we can imagine something that looks like an elephant and label the stuff <water>. Imagine a thing that looks like a fried egg and *stipulate* that it is Tom Nagel and you have given yourself evidence that Tom Nagel could look like a fried egg.

(I hope it is clear that imagining Tom Nagel *is* a fried egg provides no evidence for possibility. Like the Rashad-Moore and water-XYZ cases, that would require the assignment: that something is Tom Nagel and that the *same* something is a fried egg. There is no way to authenticate that assignment.)

One might charge that this renders the account incapable of helping us resolve difficult cases. Is there a clash between the stipulation *that's Tom Nagel* and intuitions about the eggy thing? Is it not intuitive that Tom Nagel is not the thing that looks like a fried egg? Again, it is a fact that people's intuitions will diverge here, and because my account at least locates the divergence in the right place, it should not count against it that it does not give

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[35] Thanks to an anonymous referee (for another journal) pointing out problems with an earlier version of this condition.

The "follows from the assignments alone" formulation is the rough and ready way to state the condition. To be more precise, we would have to accommodate the problems with that formulation that I pointed out in section 5, but that would unnecessarily complicate the condition.

definitive rulings on borderline cases. We can make progress by elaborating on the imagined situation. We are more inclined to think there is a violation of (iv) when we do not imagine how the strange situation came about. Maybe we balk when we simply imagine a fried-eggy Tom Nagel because we do not see how Tom could have *started out* looking like a fried egg. But imagine Tom Nagel encounters Circe. First she turns him into a piggy-looking thing. Then she turns him into an eggy thing. (Imagine that the eggy thing is still conscious, and is thinking about its next book.) Imagine some undersea aliens can control water; first they make it flow up into a column, then they make it spell out "Never forget!" then they shape it into an elephant. In the cases of Tom and the elephantine water, we can make the conflict between assigned content and intuition disappear.

Imagining vs. What We Think We Can Imagine

We need one final condition to restrict modal evidence to literal imaginings.

> v.   The content of S is literal (i.e., not metaphoric).

It is meant to exclude cases like the following: Kofi imagines that Trygve is a block of ice, or Russia is a bear. The contents of these imaginings are *metaphoric*, and hence, by condition (v), not probative. It is of course very difficult to say what metaphor is in language, let alone in imagination. Nonetheless, philosophers routinely avail themselves of the distinction (e.g., linguistic semantic theories are developed to capture the truth-conditions of literal, but not metaphoric, utterances). I trust that we have enough of a grasp on the distinction to recognize metaphoric uses of imagination.

This condition also excludes cases where we imagine a representation of X, rather than X itself. When I point to a map and say, "imagine that this arrow is the Iraqi Third Army," I am exploiting a representational device, a map, and imagining things about the Iraqi army using that device. Because this is, again, a non-literal imagining, it does not give me evidence that the Iraqi Third Army could be an arrow, or could be arrow-shaped.

One might complain: if Kofi can imagine Russia metaphorically as a bear, then of course he can imagine it non-metaphorically as well. Were Kofi to do so, he would have evidence that Russia could be a bear. And that's absurd.

There is an element of truth to this claim: were Kofi to imagine Russia literally as a bear, he would have evidence that Russia could be a bear. I disputed what follows "of course." We cannot imagine Russia as a bear literally. (Try it.)[36] Thus we do not actually possess any evidence that Russia could be a bear. Recall our guiding comparison of imagination to perception. Were we regularly to see pigs flying through the air without assistance, we would then have evidence that pigs fly. But we have not in fact seen any such thing, so we have no evidence that pigs fly. The claims that someone *can* imagine Russia as a bear, that they *can* obtain such evidence, are themselves modal claims. We would be within our rights to ask how such claims are to be supported. It what actually imagine, not what we think we can imagine, that provides evidence for possibility.

7. Conclusions

Here is my final proposal.

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

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[36] See also the remarks about imaginative resistance in section 3.

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.

iii. Let V_1, …, V_n be the contents of the individual assignments that constitute assigned content V. The imaginer must be in a position to either

   a) provide evidence that V_1 & … & V_n is possible via some other source; or

   b) provide evidence that V_1 & … & V_n is possible in accordance with [MEI] — that is, imagine a V_1 & … & V_n verifying situation without merely assigning V_1 & … & V_n (this is the recursive step).

iv. There is no R such that either (a) R follows "from the assignments alone" yet it is intuitive that not-R; or (b) it is intuitive that R and intuitive that not-R.

v. The content of S is literal (i.e., not metaphoric).

Let me conclude with two remarks.

First remark. I have not argued that imagination is the sole source of evidence for possibility. If we have evidence that some non-modal proposition is true, we can derive that the same proposition is possibly true. Similarly, if by employing reasoning and our knowledge of the meaning of our words we establish that a proposition is necessary, we can derive that the proposition is possible.

Nothing I have said repudiates direct intuition of possibility as a source of evidence, as I granted in footnote 33. I think, however, that often we do not have direct intuitions about philosophical claims. We elicit intuitions by considering imagined situations, like the Gettier case, and use those elicited intuitions to draw philosophical conclusions.

Having conceded that there are other sources of modal evidence, let me register my suspicion that any type of nonimaginative conceiving is one of them. Until we have a complete and satisfying account of what nonimaginative conceiving is, I think philosophers are right to be uneasy about nonimaginative conceiving as evidence for possibility. The project of explaining why no existing accounts in the literature are complete and satisfying will have to wait for another occasion.[37]

Second remark. In section 5 I asserted that it was plausible that states with basic qualitative content, like perceptual and sensory imaginative experiences, provide evidence for possibility. These experiences simply *display* a way that objects could be arranged in space, for direct inspection, as it were. Though I find these suggestive remarks compelling, and hence continue to think that this is a perfectly legitimate starting point for a modest anti-skeptical project, I realize that I may not have satisfied hardened skeptics. It is always very difficult to satisfy a hardened skeptic, and I think that more can be said about basic qualitative content and this somewhat elusive notion of "displaying" a possibility. (In fact I think that the case for qualitative content as a source of basic modal justification is more promising than the case modest foundationalists make for basic perceptual justification.) But saying more to satisfy the hardened skeptic is a major undertaking, and one that will have to be pursued in other work.

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[37] As I noted very early on, Byrne (2007), Fiocco (2007), Tidman (1994), and van Inwagen (1998) argue for just that conclusion. I think their arguments are in the right direction, though of course I think my own view escapes their criticisms.

What I have described at some length is a fallibilist modal epistemology. Imagining that P in accordance with MEI is *prima facie* evidence that P is possible. It isn't infallible evidence; there are cases where imagining even according to MEI will lead to an incorrect judgment about possibility. The reader may already have thought of one: Escher drawings. The qualitative content of seeming to perceive or imagining, e.g., four continuous connected ascending staircases, as in Escher's "Ascending and Descending," depicts an impossible situation.[38] While this is true, let us ask ourselves whether the existence of perceptual illusions means that we no longer take experience as a *prima facie* guide to actuality. The answer is no. Escher-type illusions are the exception rather than the rule.[39] *Prima facie* evidence is fallible evidence; our imaginative experiences are a fallible guide to possibility, just as perceptual experiences are a fallible guide to actuality. All the familiar issues regarding fallibilism transfer from the perceptual to the imaginative.[40]

Accepting the existence of fallible evidence means one cannot simply complain that when you imagine P, *you might be wrong*; for all you know P is impossible. Imaginative experience is supposed to be evidence for possibility. As with any fallible evidence, one could have the evidence and yet have it turn out the evidence is misleading. It does not follow that you have to rule out — especially not in advance — that your evidence is misleading. Now the issue of what we need to rule out in advance is the subject of much recent debate, and is at the root of very deep skeptical worries.[41] However, I am not attempting mollify the hardened skeptic. I take as my starting point that having evidence does not require ruling out in advance that the evidence is not misleading, and rest content if modal epistemology turns out to be on a par with perceptual epistemology when it comes to this kind of skeptical worry.[42]

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[38] Though see Sorensen (2002).

[39] There is some psychological evidence that standard illusions, such as the Ponzo illusion, cannot be reproduced in imagination. See Reisberg & Morris (1985).

[40] The following discussion of fallibilism draws from Yablo (1993, §§V–VI).

[41] See recent debates about warrant transmission in papers by Wright (2002, 2003) and Davies (2000, 2003).

[42] I have developed these ideas over many years and have discussed them with just about everyone I know and several that I do not: thanks to several anonymous referees (for this journal and another) for helpful comments. From my time at NYU I would first and foremost like to thank Ned Block, Paul Boghossian, and Tom Nagel. I had very instructive discussions with Yuval Avnur, David B. Barnett, Ray Buchanan, Greg Epstein, Don Garrett, Liz Harman, Christopher Peacocke, John Richardson, Josh Schechter, and Brad Skow. Thanks to my Claremont colleagues Peter Thielke, Paul Hurley, Amy Kind, Alex Rajczi, Dion Scott-Kakures, Rivka Weinberg, and Charles Young; thanks also to Michael Nelson. I am particularly indebted to my friends Pete A. Graham (UMass Amherst), Peter J. Graham (UC Riverside…yes, there are two) and Masahiro Yamada for many fruitful conversations; each of them, at times, seemed to have better things to say about my own view than I did, though of course none of the errors in the paper are theirs.

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