

Conceivability and Defeasible Modal Justification

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All philosophers talk about knowing that it is possible that so-and-so, where what they claim is possible is often far removed from every day discourse and belongs rather in the fanciful world of philosophy. They say, for example, that it is possible that there are disembodied souls, that it is possible that there is a perfect God, that it is possible that iron can float on water, and that it is possible that the moon is made of cheese. In spite of the common talk of knowledge of possibility statements relatively little has been said about what justifies us in believing various possibility statements.

Recently, van Inwagen presented an account that is skeptical of us knowing any philosophically interesting possibility statements. The first section of this paper will present and assess the reasons van Inwagen gives for his modal skepticism. At the same time the critical discussion will provide some of the underpinnings for the positive view presented in the second section. Since van Inwagen's main criticism rests on the suggestion that modal judgment is imperfect, that lays the ground for the second section where I present an account of conceivability as a fallible guide to justified beliefs about what is possible. While the positive account is indebted to, especially, Yablo's recent discussion, it advances the discussion in several ways. For example, the account will explain how one can increase one's justification for a possibility statement or, in some cases, find a defeater for it, by "filling out" a given scenario. The thrust of the section is that the problems van Inwagen raises are correctable. The third

section will discuss how van Inwagen's examples, as well as some other examples, fare on the account presented in the second section.

Van Inwagen's Skepticism.

Peter van Inwagen has recently presented an interesting version of modal skepticism.¹ He presents three arguments whose crucial premises are assertions of possibility and then presents a view that entails that one cannot know that these crucial premises are true.² The arguments are

1. It is possible for there to be a perfect being.

2. Necessary existence is a perfection

So, 3. There is a perfect being.

1. It is possible that I exist and nothing material exists

2. Whatever is material is essentially material

So, 3. I am not a material thing.

1. It is possible that there exist vast amounts of suffering for which there is no explanation.

2. If there exists an omniscient, omnipotent, and morally perfect being, there cannot also exist vast amounts of suffering for which there is no explanation.

So, 3. It is impossible for there to be a necessarily existent being that is essentially omniscient, omnipotent, and morally perfect.

In each case van Inwagen questions the first premise, namely the possibility premise.

From these examples it is clear that if van Inwagen's skepticism is correct, then the consequences are wide ranging. Skepticism of the possibility premise in the second argument hits Descartes' dualism hard. Skepticism of the possibility premises in the first and third arguments deals a serious blow to both the advocates of the ontological argument and some versions of the argument from evil.

While van Inwagen does believe that we know modal propositions that are of use to us in everyday life, in science, and even in philosophy, he also claims that we do not know and cannot know the three possibility premises in the above arguments.³ Some of the possibility propositions van Inwagen claims we can know are:

It is possible that John F. Kennedy have died of natural causes.

It is possible that the table have been two feet to the left of where it in fact was.

It is possible that there be a full-scale papier-mâché mock-up of a barn that looked like a real barn from a distance.

It is possible that the legs and top of this table might never have been joined to one another.

Van Inwagen presents three arguments for his skeptical conclusion which I shall call *the analogical argument*, *the different sources argument*, and *the completeness argument*. I shall look at these arguments in turn.

The analogical argument.

Van Inwagen states his first argument as follows:

“In my view, many of our modal judgments are analogous to judgments of distance made by eye. That is, they are analogous to judgments of the sort that we make when – just on the basis of how things look to us – we say things like, “That mountain is about thirty miles away” or “It’s about three hundred yards from that tall pine to the foot of the cliff.” Such judgments ... can be pretty accurate. There are, however, circumstances – circumstances remote from the practical business of everyday life – in which they are not accurate at all. People had no idea about how far away the sun and the moon and the stars were till they gave up trying to judge celestial distances by eye and began to reason. Analogously, I should say, we are able to discern the modal status of some propositions in a way that, like our intuitive judgment of distance, is “non-inferential.””⁴

So, van Inwagen compares our “modal vision” to normal vision in terms of reliability. The argument can be reconstructed as follows:

1. Visual judgments are reliable in circumstances that involve the practical circumstances of everyday life.
2. Visual judgments are not reliable in circumstances that are far removed from the practical circumstances of everyday life.
3. In their reliability, modal judgments are like visual judgments.

So, 4. Modal judgments are reliable in circumstances that involve the practical circumstances of everyday life, and they are not reliable in circumstances that are far removed from the circumstances of everyday life.

The most direct way to address the argument is to accept the analogy, but deny the conclusion. What we should *not* do is focus on average observers when working with the analogy, for people can train themselves in various ways so that they become better judges of distances. We should not, for example, claim that because average observers cannot judge the distance to a rabbit 100 yards away within an error of 2 yards, a seasoned and well trained hunter cannot do so. And we should not claim that because average observers cannot tell whether you play a C or a C flat on a piano, a professional musician cannot do so. Or, to take an example even farther removed from the practical circumstances of everyday life, the average observer cannot discern whether the third violin in a symphony orchestra plays one false note when everyone in the orchestra is playing. In spite of that Stokowsky, the late conductor, had the ability to do just that. The point is, of course, that some people have abilities that others do not have, and some people can train themselves so that they become more able and more reliable at some tasks than the normal or average observer.

Philosophers work with possibilities more than most other people and it is part of their training to learn how to better discern possibility statements than the average person. For example, as a result of their training they are more knowledgeable than the average person about principles of logic and semantics that helps them determine whether or not something is possible or not possible. Furthermore, philosophers work with issues that often are far removed from the practical circumstances of everyday life. But even though the issues are far removed from the practical circumstances of the average person's everyday life, they are not far removed from the circumstances of a philosopher's everyday life, for it is her business to deal with these issues. So, in light of this, one would first of all expect that philosophers are more reliable judges of possibility statements than is the average observer.⁵ And secondly, since one needs to relativize

“everyday life” to the group one is dealing with, it is not at all clear that the issues at hand are far removed from the everyday life of the professional philosopher.

What we can conclude so far is that it doesn't follow from the argument that we cannot “non-inferentially” judge the truth of the three possibility premises. In order to conclude that we cannot do so, van Inwagen has to show that these premises fall into the class of modal claims whose possibility we, people who deal extensively with possibility statements and the issues at hand, cannot discern. Here he comes up short, for he simply claims that “...I should say that we [normal observers] have no sort of capacity that would enable us to know whether the crucial premises of our three possibility arguments are true...”⁶ As I have argued, it is not the capacities of normal or average observers that should concern us, but rather the capacities of those whose training and work involves discerning the possibility of the crucial premises. But van Inwagen dismisses the difference between the average observer and the professional philosopher in his next argument.

The different sources argument.

When discussing a fellow philosopher who believes he can make modal judgments of the kind van Inwagen is skeptical of, van Inwagen writes:

“He is as unaware of his immersion in this environment [composed of philosophers who unthinkingly make all sorts of fanciful modal judgments because they have always been surrounded by philosophers who unthinkingly make the same sorts of fanciful modal judgments] as a fish is of its immersion in water. He is unaware that the modal beliefs he expresses or presupposes when he says, ‘We’d have had more room if we’d moved the table up against the wall,’ (e.g., that it was possible for the table to be up against the wall)

and the modal beliefs he gives such confident expressions to in his writings on philosophical theology have quite different sources. The former have the source in our ordinary human powers of ‘modalization’...; the latter have their source in his professional socialization, in ‘what his peers will let him get away with saying.’⁷

The reasoning here is puzzling. When one discusses epistemic sources one usually has in mind, narrowly, which sense, or senses, one uses when acquiring a belief, as when we talk of perceptual beliefs as being acquired through, e.g., seeing, hearing, etc., or broadly, which cognitive powers one uses when acquiring a belief. The cognitive powers people have discussed in connection with possibilities include, e.g., modal intuition, imagining, and conceivability.⁸ If the source of modalization is, as van Inwagen suggests, human powers of modalization, then he hasn’t provided a reason for believing that philosophers don’t use those very same powers when they modalize. If the cognitive powers people use is some sort of a modal intuition, then he hasn’t given a reason to believe that non-philosophers and philosophers don’t use the faculty of modal intuition when they modalize, for, as I will argue, it is compatible with van Inwagen’s argument that both groups use the same source, e.g., that both use modal intuition, and that philosophers get away with saying things that non-philosophers don’t get away with saying.

To use an analogy, suppose that ordinary listeners and professional musicians both use their hearing as a source for acquiring beliefs about a particular musical performance. The ordinary listeners are rather taken with the performance and talk about how good it was. The professional musicians are very critical and point out various flaws in the performance. The ordinary listener would not get away with such criticism because we know that she cannot discern what she heard in such detail and with such understanding. The professional musicians do get away with what they say. Two things should be clear. What the latter get away with has

nothing to do with the source of their beliefs, for both groups acquire their beliefs via the same source. And the latter should get away with what they say, for we presume that given their training they are able to discern the details of the music and the performance to a much greater extent than the ordinary listener.

It is well known that one's ability to "see" or "intuit" in a given area of study increases greatly with study in that area. With greater familiarity with the subject and greater knowledge of it one acquires a certain feel for the subject that others lack. Mathematicians, for example, can "see" that certain theorems are true, while non-mathematicians cannot see so when observing or contemplating the same theorems. Perhaps we should look for an explanation of what philosophers can get away with in their circles in the familiarity and knowledge other philosophers have of the subject. The powers of modalization might be enhanced in philosophers due to their training, and that in turn reflects what they can get away with, for they are working with colleagues whose powers of modalization might have been similarly enhanced.⁹ I conclude thus that van Inwagen has not provided good reasons for claiming that modal beliefs that arise in ordinary circumstances and modal beliefs that arise in, e.g., philosophical theology, arise from different sources.

The completeness argument.

Van Inwagen states what I call the completeness argument as follows:

“Although it is in a sense trivial that to assert the possibility of p is to commit oneself to the possibility of a whole, coherent reality of which the truth of p is an integral part, examination of the attempts of philosophers to justify their modal convictions shows that this triviality is rarely if ever an operative factor in these attempts. A philosopher will confidently say that a (naturally) purple cow is possible, but he or she will not in fact

have devoted any thought to the question whether there is a chemically possible purple pigment such that the coding for the structures that would be responsible for its production and its proper placement in a cow's coat could be coherently inserted into any DNA that was really cow DNA – or even 'cow-like-thing-but-for-color' DNA. ... if *I* am right in my assertion that in the present state of knowledge no one is able to imagine a possible world in which there are naturally purple cows, it follows that ... no one is even *prima facie* justified in believing that naturally purple cows are possible."¹⁰

Van Inwagen is demanding a lot here, for he is claiming that when one commits oneself to the possibility of a whole, coherent reality with the truth of the possibility statement, one should be able to imagine all the relevant detail in a world that makes the statement true. We don't know that naturally purple cows are possible, he says, because no one is able to imagine the purple pigment that would be responsible for the color in the cow's coat and the proper placement of the relevant code in a cow's DNA. That is, it is not sufficient to imagine a purple cow, one needs to be able to imagine a coherent reality, including the microstructure that makes cows purple.

Here van Inwagen seems to follow G. Seddon, who argues that it is not possible that there be carnivorous rabbits on Mars.

"Are [carnivorous] rabbits possible on Mars? Clearly not. For one thing, they would be frozen for most of the year (this is *not* meant, however, to raise the possibility that there are frozen rabbits on Mars). Are carnivorous rabbits possible anywhere? No, this is a theoretical absurdity. Rabbits belong in the order *Lagomorpha*, and the lagomorphs have a place in the infra-class of eutherian mammals which is admittedly not as tightly structured as that of iron in the Periodic Table; nevertheless certain characteristics are grouped in a theoretically necessary way. Rabbits have the dentition of a herbivore – they

could not *eat* meat as they have no canines to tear it with. They have a herbivorous digestive system, and could not digest meat. Rabbits have the Rabelaisian habit of coprophagy: the stomach and intestinal system are adapted for the ingestion of large quantities of vegetation quickly, resulting in the production and excretion of capsules (soft pellets) rich in bacteria, and of high nutritive and digestive value, which are swallowed whole (reingested) at leisure in the safety of the underground burrow. A carnivorous rabbit would get a nasty shock in the burrow.”¹¹

After pointing out some more physical features of the rabbit that make it unsuitable to be a carnivore, Seddon concludes,

“The only way in which we could come to call a carnivorous animal a rabbit is that we could, after all, come one day to use the word ‘rabbit’ to refer, for example, to the animal we now call a tiger. But this has no bearing on the category ‘logical possibility’.”¹²

Seddon is stressing the importance of the context in which we imagine possibilities. But there is an important difference between Seddon’s argument and van Inwagen’s argument. The point of Seddon’s argument is that sometimes we conclude too hastily that what is impossible is possible, and that we sometimes realize that what we thought to be possible when considered outside of a proper context turns out to be impossible when considered in the proper context. What we sometimes hastily conclude is possible turns out to involve a language shift when considered more carefully; i.e., in the scenario above we are no longer talking about rabbits but rather some different kind of an animal altogether. In this case Seddon concluded that carnivorous rabbits are not rabbits on the basis of a rather cursory examination of what it takes for an animal to be a meat eater, and how it would differ from a rabbit. Given the differences there are good reasons to claim that the animals are not of the same kind.

While Seddon argues that metaphysical possibilities should be assessed in a context, van Inwagen is requiring significantly more than that. He is requiring that one be able to imagine all the relevant details when imagining a possible world in which, e.g., there are purple cows. Seddon concludes after comparing rabbits and carnivorous rabbits that they are not of the same kind, while van Inwagen argues that if we are not able to imagine the relevant details of the purple cows then we have to conclude that we are not justified in believing that they are possible. While Seddon seems right in his observation, van Inwagen certainly seems wrong. He is placing too great a restriction on what we can justifiably believe is possible.

Knowledge of possibilities is something even van Inwagen acknowledges. His concern is rather the scope of what we judge as possible. While Hume suggested that whatever the mind clearly conceives or imagines is possible, van Inwagen wants us to conceive of the relevant details before we conclude anything about possibilities.¹³ But we run into problems if we try to use that restriction on some of the possibilities that van Inwagen does allow for. I presume we should allow that we know that it is possible that LPs don't pop and click when played. Further, although van Inwagen does not discuss this possibility it seems like he would allow for it, since most of those who own LPs have imagined themselves listening to their old LPs without suffering the background noise and so this does not seem to be a possibility that is remote from the circumstances of everyday life. In spite of that it seems right that no one is able to imagine the details that make this possible. In order to do so one would have to imagine the details of the technology that allows one to play LPs without background noise, and it is implausible to assume that anyone can do so. The details are too many and require too much for anyone to be able to entertain them. So, it is fair to say that on van Inwagen's account we do not know that it is possible that LPs don't pop and click when played, and that certainly seems wrong.

Or, take one of van Inwagen's examples, namely that we know it is possible that John F. Kennedy have died from natural causes. According to van Inwagen, when knowing that this is possible one commits oneself to the possibility of a whole, coherent reality with the truth of the possibility statement, which includes that one be able to imagine the relevant detail in that world that makes the statement true. It turns out that on van Inwagen's account one cannot know that this is possible. Sure, one can know that it is possible that people die from natural causes or are shot to death. But what would it take, on his account, to know that *John F. Kennedy* have died from natural causes? We would have to imagine a possible world in which John F. Kennedy died from natural causes. Now, what does this involve? It involves, for example, imagining how the course of U.S. history, and world history, might have been had Kennedy not been shot. In addition to that, it would involve imagining some detail about the lives of those close to Kennedy. How might the secret service have changed their plan so that they could have prevented Kennedy's assassination? Might Jackie have married Onassis, and if so, what might the wedding ceremony have been like? Presumably no one has the mental power to imagine all of this and so, if we follow van Inwagen's strict requirements, we cannot know that it is possible that Kennedy have died from natural causes.

The problem with van Inwagen's account is that it ties justification of P, where P is the relevant possibility statement, too closely to both our present state of knowledge and our ability to imagine the details that make P possible. It appears to me that we can increase our justification of a possibility statement by both increasing the relevant knowledge we have and by increasing the detail in which we can imagine the situation in which the possibility statement is true. But justification comes in gradations and I will suggest below that we should require much less than

van Inwagen does for a belief to be justified, and thus require less than he does for knowledge of possibility claims.

What I conclude from the discussion so far is that van Inwagen fails to provide convincing arguments for modal skepticism. What remains to be done is provide an account of modal knowledge, or rather, since I am primarily concerned with what we can justifiably believe is possible, modal justification.

Modal justification.

van Inwagen's criticism of modal knowledge rests on the suggestion that modal judgment is imperfect and emphasizes that it is unreliable when it comes to philosophically interesting cases. However, we can acknowledge that modal judgment is imperfect and still argue that it doesn't preclude us from finding a fallible guide to justified beliefs about possibilities.

What should guide us when we say that a certain proposition is (metaphysically) possible? It is sometimes assumed that a proposition is possible iff it is not, or does not entail, a logical contradiction. But that answer is not very helpful as the following examples show. It is not obviously contradictory that gold has the atomic number of 81. Still, given that gold has the atomic number 79, it is necessarily true that it has the atomic number 79.¹⁴ Or, it is not obviously contradictory that Hesperus is not Phosphorus. And in spite of that, given that Hesperus is Phosphorus, it is a necessary truth that Hesperus is Phosphorus, and thus it is impossible that Hesperus is not Phosphorus. It is metaphysically impossible that gold has the atomic number 81, and it is metaphysically impossible that Hesperus is not Phosphorus, and the standard test of logical possibility is not a guide to metaphysical possibility.

There is a long tradition of viewing conceivability as a criterion of what is possible. We have already seen Hume's suggestion to the effect that whatever the mind clearly conceives or imagines is possible. Descartes claimed that since he can conceive himself without a body, his essence does not include his body. Robert Adams argues that his imagination provides him with grounds for believing that it is possible that unicorns exist.¹⁵ Stalnaker has argued that we are only able to believe the possible, and that seems to entail that if I come to believe something on the basis of conceiving of it, then it is possible.¹⁶ Swinburne argues that possibility statements are coherent in the sense that one can conceive of them and any other statement entailed by them being true.¹⁷ And Yablo presents an account of conceivability as a guide to possibility.

Of course, numerous philosophers have argued against conceivability as a guide to possibility. John Stuart Mill warned against conceivability as a guide to possibility when he wrote "our capacity or incapacity of conceiving a thing has very little to do with the possibility of the thing in itself; but is in truth very much an affair of accident, and depends on the past history and habits of our own minds."¹⁸ Reid argued that conceivability viewed as understandability is untenable, for we need, for example, to understand necessary falsehoods when employing reductio proofs in mathematics.¹⁹ And Kripke and Putnam warn against conceivability as a guide to possibility. Putnam writes "we can perfectly well imagine having experiences that would convince us ... that water *isn't* H₂O. In that sense, it is conceivable that water isn't H₂O. It is conceivable but it isn't logically possible! Conceivability is no proof of logical possibility."²⁰

While I agree with Mill, Reid, and Kripke and Putnam, I don't think that is a reason to give up conceivability as a guide to possibility. Mill is right in that what we can conceive of depends, at least partly, on the past history and habits of our own minds. That serves as a

reminder that, as I have argued, the past history and habits of the philosopher's mind makes her better suited to be a judge of what is conceivable than those who have not undergone a training similar to that of a philosopher. Furthermore, it also serves as a reminder that conceivability is to some extent discipline dependent; for example, the history and habits of a physicist make her a better judge of what is conceivable in physics than is a philosopher. Reid is correct in that conceivability as understandability does not seem tenable. And Kripke and Putnam are correct in that conceivability is no proof of possibility. But even though conceivability is not a proof of possibility, I want to suggest that in the absence of evidence to the contrary, conceivability provides one with justification that what is conceived is possible.

Contemporary accounts of conceivability fall into two main camps; epistemic accounts and non-epistemic (or ideal) accounts. The epistemic accounts emphasize that whether or not something is conceivable depends on what resources the thinker has available to allow her to think about the situation; e.g., one might argue, as Steven Yablo, that p is conceivable for person S if S can imagine a world she takes to verify p ,²¹ or, as James van Cleve, that p is conceivable for person S iff S sees that p is possible.²² Peter Menzies and David Chalmers advocate non-epistemic accounts of conceivability. The main features of Chalmers' account include that to be conceivable is to be true in a possible world, where the class of conceivable worlds is coextensive with the class of possible worlds, and where possibility is determined by conceptual coherence or incoherence and thought of in terms of an 'ideal conceiver' who doesn't have conceptual limitations, or ideal conceivability, for which one needs justification that cannot be rationally defeated. On Chalmers' view, "If there is to be a plausible epistemic/modal bridge, it will be a bridge between the rational and modal domains", i.e., between ideal conceivability and possibility.²³ I will not discuss the non-epistemic accounts here beyond remarking that it seems

like our judgments about what is conceivable, and thus our justification of what is possible, must be relativized to *our* epistemic status and capabilities.²⁴ In what follows, I will develop an epistemic account of conceivability.

While some of the elements of the account I provide below are similar to other accounts that rely on imagining, such as Yablo's account, I advance the discussion in several ways. For example, on Yablo's account, *p* is conceivable for me if I can imagine a world that I take to verify *p*. This allows Yablo to claim that whatever I find conceivable, I can *prima facie* regard as metaphysically possible. But he does not provide a way of advancing a discussion on a disagreement of what is possible in a way that allows for *degrees* of justification. Suppose, for example, that I claim to be able to imagine a world that contains naturally purple cows, and van Inwagen claims not to be able to do so. Suppose further that we cannot find a proposition whose truth entails that either one of us is wrong or casts serious doubt on either statement. In the absence of such a defeater both of us remain *prima facie* justified in our beliefs, on Yablo's account, and he does not provide a way to advance the discussion so that we can find out who has a stronger degree of justification. I will provide a way in which we can, in spite of not finding a defeater, nevertheless advance the discussion by introducing the notion of *filling out* a scenario and by doing so find a defeater, or, in some cases, by filling out the scenario increasing the evidence allowing us to conclude that one of us has a stronger justification for his belief. Further, I provide reasons for doubting the adequacy of Yablo's account of situation, or what is conceived of, as proceeding by way of objectual imaging, and provide an alternate and broader account. Finally, a different account of how imaging proceeds calls for a modified account of what justifies a modal belief.

Following a tradition that goes back to, at least, Hume I will develop an account of conceivability in terms of imaginability, where imagining can be propositional, pictorial, or a combination of the two.²⁵ We can, for example, imagine that Jane runs the mile in less than 5 minutes. This could be a propositional image in the sense that I imagine that the proposition that Jane runs the mile in less than 5 minutes is true while both understanding the proposition and understanding what it is for it to be true. Or, this could be a pictorial image, in which case I, for example, visualize Jane running the mile in less than 5 minutes. Or it could be a combination of the two, where I both use pictorial images and propositions when conceiving of this possibility.

To take a different example, suppose that I imagine that there is a dog behind me. The imagining can be propositional, in which case I imagine that it is true that there is a dog behind me, I understand the proposition, and I understand what it is for it to be true. Or the imagining can be pictorial, in which case I visualize a dog behind me. Again, it can be a combination of the two, as when I think to myself that there is a dog behind me and use pictorial imaging of a dog behind me as well, perhaps because the visual image gives me a sense of warmth and security that the propositional imaging doesn't give me.

While we can often employ both propositional and pictorial imaging, some possibilities cannot be pictured. For example, Sosa points out that negative existentials, simple mathematical facts, and dated facts about the remote past or future cannot be pictured.²⁶ But even if negative existentials cannot be pictured we can propositionally imagine negative existentials. We can understand the proposition, and understand what it is for it to be true that unicorns don't exist. However, there are some restrictions on what we can propositionally imagine. It seems to me, e.g., that we cannot understand what it is for it to be true that unicorns both exist and don't exist.

That is, we cannot understand what it is for contradictions to be true and so contradictions are not possible (in the sense of possibility we are discussing).

Cognitive science teaches us that it is highly personal whether someone uses propositional or pictorial imaging.²⁷ Some people have a hard time with visual imaging, while other seem to prefer visual imaging over propositional imaging. Consequently, I am not about to insist that one is more important than the other. Nevertheless, since propositions are truth bearers, only propositional imagings can have truth value and in that sense they are primary to, or more fundamental than pictorial imaging. Further one can presumably describe most of one's pictorial images in some detail and in that sense they are reducible to propositional imaging.

What is important is that regardless of whether one uses propositional or pictorial imaging one can construct *scenarios*, where scenarios are segments of possible worlds. I intend the notion of scenario to be broader than Yablo's notion of situation. Yablo thinks of a situation as propositional imaging proceeding by way of objectual imaging.²⁸ I worry about how Yablo's notion, so described, could deal with, e.g., negative existentials and simple mathematical facts that cannot be pictured, as well as complex shapes such as Descartes' famous chiliagon.²⁹ Instead, I suggest that one can visualize a scenario or, alternatively, a scenario can consist of, minimally, a coherent set of sentences. Some scenarios are very small. While it is not clear how small they can be, it is quite unlikely that a scenario can consist of a (simple) single proposition, for when one attempts to assess the truth of that proposition one needs to do so in a context and typically bring in, or tacitly assume, the truth of various background assumptions which then, minimally, have to cohere with the proposition being tested.³⁰ Other scenarios are quite large, as when one imagines a scenario that is extensive in scope as when it contains details, stretches over time, and/or is extensive in that it includes a larger segment of the world. Such a scenario

might, e.g., be constructed by an athlete who visualizes how she will score the winning goal in a soccer game, or it might be constructed by a novelist when she creates her characters and the environment they live in.

Typically scenarios are indeterminate in that they leave out much detail. It is well known, for example, that when one visualizes a tiger, then one cannot tell how many stripes it has. Or, try to imagine a man walking down the street. Now reflect on whether or not the man was wearing glasses. In all likelihood whether or not he was wearing glasses was left out of the act of imaging, although that detail can be filled in on further reflection. The same is true of novels and plays which rely on propositional descriptions of scenarios and that arguably often describe scenarios in great detail. While *Death of a Salesman* gives great many details about the protagonist, it is indeterminate what shoe size he wore. Again, the author could have easily remedied that with a more complete description of the scenario. But the author could never provide a fully determinate description of the protagonist and his environment. So, as a general rule, both propositional and pictorial imagines are indeterminate, although the details can often be filled in on further reflection.³¹

Given that scenarios can be both propositional and pictorial, let me suggest the following as a first attempt at stating the relation between one conceiving that P and one being justified in believing that P is possible:

J: If S conceives that P, then S is justified in believing that P is possible

where

C: S conceives that P iff S understands P, and S imagines a scenario in which P is true.³²

But this account seems to be too demanding. In order to see that consider the ancients who thought it possible that Hesperus is brighter than Phosphorus. The scenario they imagined might have included that we can observe two planets instead of one, one of which is visible in the morning and one of which is visible in the evening. As it turns out, since it is true that Hesperus is Phosphorus, it is necessarily true that Hesperus is Phosphorus. We can imagine two planets instead of the one we have, but if we do so then we would not be imagining *Hesperus* and *Phosphorus*. Instead, we would be imagining different objects. Consequently, the ancients were wrong when they thought they had imagined a scenario in which Hesperus is brighter than Phosphorus. Since they had not imagined a scenario in which Hesperus is brighter than Phosphorus they were, on the current account, not justified in believing that it is possible that Hesperus is brighter than Phosphorus. But this certainly seems too demanding. It was only during the late 20th century that we had the tools and evidence needed to conclude that it is necessary, if true, that Hesperus is Phosphorus. Based on the evidence available to the ancients we should certainly grant that they could justifiably, but falsely, believe that it is possible that Hesperus is brighter than Phosphorus.

In order to capture the intuition that the ancients were justified in believing that it is possible that Hesperus is brighter than Phosphorus we need to weaken (J). One way to do so is as follows:

J*: If it appears to S that she conceives that P, then S is justified in believing that P is possible.

It certainly appeared to the ancients, even during their best efforts, that they imagined a scenario in which it was true that Hesperus was brighter than Phosphorus and so we can now say that they were justified in holding that belief.

The same might be true of an iron bar floating on water.³³ I might imagine a scenario where it appears that an iron bar floats on water, and thus I might be justified in believing that it is possible that an iron bar float on water. But on further reflection I might have to concede that I was mistaken. I might have pictured something that looks like an iron bar floating on something that looks like water, but if it is true that natural kinds have essences, then it is very unlikely that it was *iron* and *water* that I was picturing. Instead, one possibility is that I pictured an iron bar floating on something that looks like water but has different essential properties that make it, e.g., at least eight times more dense than water. Of course, a number of background assumptions come into play when filling out the scenario, such as the laws of nature in the scenario imagined being the laws we know in our world.

One way to account for the powerful intuitions that often play a role when people work in their field of expertise is by appealing to the background assumptions the experts make. A mathematician, for example, is acutely aware of various laws and theorems, and her training allows her to work against the background assumption that these laws and theorems are true. It might be that what she sees, and we don't see, as conceivable and, perhaps, intuitively obvious is due to the training that puts these background assumptions to work. Once she starts filling out the scenario she might make it more clear to herself as well as the rest of us what assumptions she was working with. These background assumptions then provide some of the details that make the expert's scenario better than the novice's scenario.

That I can imagine a scenario where something appears true while it cannot be true does not mean that conceivability does not carry with it justification of beliefs of what is possible. It is a general feature of justification that it does not guarantee truth, and that one can be justified in believing what is false. For example, perceptual beliefs are typically justified although they do not guarantee truth.

Two things need to be emphasized, though. First, justification comes in degrees, i.e., one can be more or less justified in believing P. This fits nicely with the fact that scenarios can be more or less determinate and can vary in how complete they are. As a general rule, the more determinate the relevant scenario I imagine and the more complete it is, the higher degree of justification it confers on my belief that it is possible that P. Second, the justification is defeasible by additional evidence.

A standard account of evidential defeat goes as follows:

Evidential defeat: d defeats e as evidence for P if and only if e is evidence for believing that P, but e in conjunction with d is not evidence for believing that P.³⁴

Evidential defeat can be of two types. Defeaters can be undermining defeaters, as when one acquires evidence that destroys one's justification for believing that it is possible that P, or they can be contradicting defeaters, as when one acquires evidence that justifies one in believing that it is not possible that P. Further, the defeating evidence can be a matter of a priori reflection or it can be unearthed by empirical investigation, depending on each case. If it is a matter of a priori reflection, then the defeating evidence might be discovered when one, e.g., discovers on further reflection that the scenario contains a contradiction. If it is a matter of empirical investigation,

then the defeating evidence might, e.g., arise as a result of relevant scientific theories being improved on the basis of recent empirical research, and knowledge of these results would aid in constructing the relevant scenario. In either case, a philosopher, with her eye for conceptual clarity, consistency and coherence, is a valuable resource when initially investigating a scenario that is purported to show that P is possible.

Suppose that the evidence for believing it possible that P is the fact that it appeared to me that I imagined a scenario in which P is true. That is enough to confer some justification upon my belief that P is possible. If I now fill out the scenario and consider relevant factors that were not included in the original scenario, then I might realize that the filled out scenario contains evidence that conflicts with my initial evidence. If that is so, then that might suffice to defeat my initial evidence with the result that my belief is no longer justified. For an example of how this might work consider Seddon's carnivorous rabbits. Suppose that I consider a very limited scenario, such as one that consists of the proposition that there are carnivorous rabbits. Since it appears to me that I can imagine a scenario in which it is true that there are carnivorous rabbits, I have some justification for that being possible. But once I start filling out the scenario and decreasing its indeterminacy I acquire evidence to the effect that the animals I am considering are not rabbits at all, but rather rabbit look-alikes. The additional evidence undermines my initial evidence, and thus removes my justification for believing that it is possible that P.

As an example of a contradicting defeater consider the ancients and their belief that Hesperus could be brighter than Phosphorus. When considering that scenario in the light of recent theories of semantics we encounter evidence that indicates that it is necessarily true, if true, that Hesperus is Phosphorus. We thus have evidence that justifies us in believing that it is false that Hesperus could be brighter than Phosphorus.

And when Putnam claimed that “we can perfectly well imagine having experiences that would convince us ... that water *isn't* H₂O. In that sense, it is conceivable that water isn't H₂O”, then he had some justification for believing that the scenario is possible and thus that it is possible that water isn't H₂O. But when filling out the scenario he most likely came upon a contradicting defeater for the possibility that water isn't H₂O, namely evidence to the effect that if water is H₂O, then necessarily water is H₂O. What we initially were justified in believing, namely that it is possible that water isn't H₂O, turns out to be defeated by further evidence that shows that it is not possible that water is not H₂O.³⁵

Finally, consider an example that Yablo considers undecidable, namely the denial of Goldbach's conjecture. If Goldbach's conjecture is false, then there is a counterexample to the conjecture, i.e., there is at least one whole number that is not the sum of two primes. Yablo describes a situation that he *can* imagine and then proceeds to show how it falls short of imagining that Goldbach's conjecture is false.

For instance, I find it easy to imagine a computer printing out some unspecified even number n , and this being hailed on all sides as an authentic counterexample. Why wouldn't this be a case of imagining that non-GC? Because it suffices for the veridicality of *this* imagining for the following to be possible: GC has no counterexamples, but the computer produces a number n widely though erroneously hailed as a counterexample.³⁶ But instead of the example showing that we cannot imagine that Goldbach's conjecture is false, we should take it to show the limitations of Yablo's preferred way of having imagining proceed by way of objectual imagining. Surely, we can imagine, as many mathematicians have done, that Goldbach's conjecture is false, and surely we can imagine a scenario in which it is true that Goldbach's conjecture is false, i.e., we can imagine that it is true for some very large number that

it is not the sum of two primes. But that doesn't mean that we are thereby justified in believing that Goldbach's conjecture is false. As it turns out, every whole number that has been tested, up to an incredibly high number, has been the sum of two primes. Consequently, although we do not have a proof that Goldbach's conjecture is true, we do have strong evidence for its truth.

The account of modal justification provides an explanation of at least some disagreements that philosophers have about what we justifiably believe is possible. Such disagreements can arise because the disagreeing parties fill out the scenarios to different extents, or they fill them out differently. What one philosopher thinks is possible another might not think possible because she has filled out the scenario more fully and has found a defeater, or she has filled the scenario in a different way from the first one. The latter might, e.g., happen because the two have fundamentally different background assumptions that come into play when filling out the scenario. For example, a devout Christian and an atheist will in all likelihood end up with vastly different scenarios when considering issues of religious significance because one will fill out her scenario in a way that is compatible with her Christian beliefs while the other will fill out her scenario in a way that is compatible with her godless world. Because the scenarios are different both may be justified in holding their beliefs, even though the beliefs are incompatible.

Disagreements about how one should fill out a scenario can often be resolved. If the disagreeing parties can settle some factual issues, then that might show that one scenario was better than the other, and thus confers greater degree of justification on the relevant belief than does the other scenario. If one scenario, upon investigation, contains inconsistencies or contradictions, then revisions that eliminate those could resolve the disagreements. But sometimes factual or other investigation does not settle the differences and in those cases we have philosophers disagreeing on what we can justifiably believe is possible. In that case their

disagreement might be resolved when they look more closely at the scenarios they constructed. Perhaps they should evaluate their scenarios in a similar way as scientists evaluate theories; by looking at such issues as simplicity and, when applicable, predictability in addition to consistency and coherence.

Purple cows and perfect beings.

Where does this leave van Inwagen's possibility statements? One of his claims was that one does not know that it is possible that there be naturally purple cows, for one cannot conceive of such animals. On the account of modal justification presented above one can have justification for believing that there are purple cows for, minimally, one can entertain the proposition that there are purple cows, understand the proposition, and imagine a scenario in which it is true, i.e., one imagines a scenario that contains purple cows. Further, since I can conceive of naturally purple cows in the above sense, I have some justification for there being naturally purple cows.

The purple cow case is significantly different from the carnivorous rabbit case, for the change in the cow seems rather minimal compared to the change in the rabbits. The carnivorous rabbits might have looked like rabbits from afar, but given how much they need to change in order to be carnivorous it is unlikely that we have the same kind of animal as our rabbit. In contrast, it certainly seems possible that the purple cows retain all of their cow qualities and that the change is as minimal as, say, when flowers are bred for their colors. Of course, the evidence we have with the purple cow scenario might be defeated, but in the absence of a defeater I remain justified in believing that it is possible that there be naturally purple cows.

According to van Inwagen we do not know that it is possible for there to be a perfect being. While he provides no explanation for this particular case, the explanation probably runs along the lines that we do not have the capacity to imagine such a being. Granted, God being a spiritual being, we can not call up a pictorial image of him nor can we entertain a detailed description of him. But it certainly seems like we can have a propositional image of him as being all powerful, all good, and all knowing (which is traditionally what is meant by a perfect being). We can imagine it being true that there is such a being, and we understand what would make it true. Furthermore, a great many Christians interpret the world in light of a perfect being existing and so they certainly seem to have a fairly extensive scenario in mind when they conceive of such a being. Since they can conceive of a perfect being they have justification for believing it possible that there exists such a being.

Is it possible that there exist vast amounts of suffering for which there is no explanation? van Inwagen thinks we cannot know so. But we need to clarify how to understand the statement before continuing.

One way of understanding the statement is whether it is possible that some great evil has no explanation, including no causal explanation. It is not clear that we can conceive of such evil, for that would require us to conceive of uncaused evil. But that is hardly what van Inwagen has in mind. Instead he is most likely concerned with whether it is possible that there is some evil that is not necessary for a greater good, i.e., the statement is about the possibility of gratuitous evil. When so understood, then that would serve as a defeater for there being a perfect being, for surely a perfect being would not allow such evil.

Many atheists think they can conceive of scenarios that include vast amounts of suffering for which there is no explanation, in the sense above, and most of them believe that they live in a

world that contains such evil. So, not only can they conceive of gratuitous evil, the scenario they conceive of is vast and detailed. In light of that we should say that they have justification for their belief that it is possible that there exist vast amounts of suffering for which there is no explanation. They then often go on to argue that this possibility is a contradictory defeater for the possibility of there being a perfect being. Of course, this defeater can itself, in principle, be defeated, in which case the justification for it being possible that there is a perfect being is restored. One way to defeat the defeater is to show that the existence of vast amount of suffering for which there is no explanation is compatible with there existing a perfect being.

Finally, do we know that it is possible that I exist and nothing material exists? While van Inwagen thinks we cannot know that it is possible, the issue is not that clear cut on the account I have provided. Since we seem able to conceive of the possibility that I exist and nothing material exists, there is some degree of justification for the statement. But this might be a possibility that has an undermining defeater when we include the vast amount of information on the physical basis for mental activity in our total body of evidence, for if materialism is correct, then the *I* would not be able to exist without matter. And if that is so, then we cannot know that it is possible that I exist and nothing material exists.

While I am somewhat sympathetic with van Inwagen on whether we can know that it is possible that I exist and nothing material exists, the reasons for my conclusion are different from his. While on van Inwagen's account we never were justified in believing the possibility in the first place, I have emphasized that while we might be justified in believing that it is possible that I exist and that nothing material exists, that might be defeated by additional evidence.³⁷

¹ P. van Inwagen, "Modal Epistemology," *Philosophical Studies* 92, 1998, pp. 67-84.

² It is not within the scope of this paper to discuss the validity of these arguments. Instead, my concern is with the possibility premises.

³ van Inwagen, p. 69.

⁴ van Inwagen, pp. 69-70.

⁵ In his "Epistemology of Modality," *Journal of Philosophy*, November 1991, pp. 607-619, Philip Bricker makes a similar point when he points out that warranted belief about possibility is relative to history and to a community of theorists. See p. 609.

⁶ van Inwagen, pp. 70-71.

⁷ van Inwagen, p. 73.

⁸ Paul Tidman suggests that modal intuition is the key to logical possibility. See his "Conceivability as a Test for Possibility," *American Philosophical Quarterly* 31, 1994, pp. 297-308. Tidman and Stephen Yablo (see Yablo's "Is Conceivability a Guide to Possibility?" *Philosophy and Phenomenological Research*, March 1993), discuss imagining as a test of possibility. I am assuming here that imagining could then be construed as a source of beliefs of what is possible. Both of them discuss conceivability as a source of beliefs of possibilities.

⁹ Granted, philosophers do disagree on possibility statements, but other experts disagree as well and so one should not expect that expertise removes disagreements. Still, one needs to account for why disagreements among philosophers about possibility statements are so frequent, and I will suggest an explanation later in the paper.

¹⁰ van Inwagen, p. 78.

¹¹ George Seddon, "Logical Possibility," *Mind*, October 1972, pp. 481-494, p. 491-492.

¹² Seddon, p. 492. In spite of Seddon using 'logical possibility' his examples concern what is metaphysically possible.

¹³ David Hume, *Treatise of Human Nature*, (Oxford: Clarendon Press, 1968), p. 32

¹⁴ These examples are of course well rehearsed by the likes of Saul Kripke and Hilary Putnam.

¹⁵ Robert M. Adams, "Has it been Proved that all Real Existence is Contingent?," *American Philosophical Quarterly*, 1981, pp. 284-291.

¹⁶ Robert Stalnaker, *Inquiry* (Cambridge: The MIT Press, 1984).

¹⁷ Robert Swinburne, *The Coherence of Theism*, (Oxford: Oxford University Press, 1977).

¹⁸ J. S. Mill, *A System of Logic* (New York: Harper & Brothers, 1874), book II, chapter V, section 6.

¹⁹ Thomas Reid, *Essays on the Intellectual Powers of Man* (Cambridge: The MIT Press, 1969), p. 432.

²⁰ Hilary Putnam, "The Meaning of Meaning," in *Mind, Language, and Reality* (Cambridge: Cambridge University Press, 1975), p. 233. While Putnam uses 'logical possibility' in the passage, he certainly seems to be talking about metaphysical possibility.

²¹ Yablo, p. 29.

²² J. van Cleve, "Conceivability and the Cartesian argument for dualism," *Pacific Philosophical Quarterly* 64, 1983, pp. 35-45. With 'sees' van Cleve means what philosophers typically call intuition and so, ultimately, his account amounts to "p is conceivable for S iff S intuits that p is possible," and "if S can conceive that p then S is prima facie justified in believing that p is possible," meaning that in the absence of defeaters S is justified in believing that p is possible. As such, van Cleve's account seems too narrow, for one should certainly not limit what is conceivable to what one can intuit, and it appears that the account will have problems dealing with conflicting intuitions. But since van Cleve does not develop this account in his paper, it is hard to further assess it.

²³ "Does Conceivability Entail Possibility?," *Conceivability and Possibility*, eds. T. Szabo Gendler and John Hawthorne, (Oxford: Oxford University Press, 2002), pp. 145-200, p. 160. See also D. J. Chalmers, *The Conscious Mind: In Search of a Fundamental Theory* (Oxford University Press, 1996), pp. 66-68, "Materialism and the metaphysics of modality," *Philosophy and Phenomenological Research* 59, 1999, pp. 473-493. Also, P. Menzies, "Possibility and Conceivability: A Response-Dependent Account of their Connections," (eds.) Roberto Casati and Christine Tappolet, *Response-Dependence*, European Review of Philosophy, 3, (Stanford: CSLI Press, 1998), pp. 261-277.

²⁴ A full discussion of Chalmers account would lodge us deep in the primary/ideal conceivability (and with it, narrow/wide content) discussion which is beyond the scope of this paper. For a critical discussion of Chalmers' account, see Sara Worley's "Conceivability, possibility and physicalism," *Analysis* 63.1, 2003, pp. 15-23, Steven Yablo "Coulde, Woulda, Shoulda," *Conceivability and Possibility*, eds. T. Szabo Gendler and John Hawthorne,

(Oxford: Oxford University Press, 2002), pp. 441-492, and George Bealer, "Modal Epistemology and the Rationalist Renaissance," *Conceivability and Possibility*, eds. T. Szabo Gendler and John Hawthorne, (Oxford: Oxford University Press, 2002), pp. 71-126.

²⁵ Yablo discusses propositional and objectual imaginings, where the latter seem pictorial.

²⁶ E. Sosa, "Modal and Other A Priori Epistemology: How Can We Know What is Possible and What Impossible?" *The Southern Journal of Philosophy* 2000, supplement, pp. 1-16, p. 2.

²⁷ For a discussion, see e.g. Michael Tye, *The Imagery Debate* (Cambridge: The MIT Press, A Bradford Book, 1991).

²⁸ See, e.g., p. 27, where he describes a situation involving a tiger, and pp. 31-32 where he describes situations that might show that Goldbach's conjecture is false. Chalmers follows Yablo closely on this, but his notion of a situation is "(roughly) a configuration of objects and properties within a world." Chalmers, 2002, p. 151.

²⁹ Descartes writes: "if I want to think of a chiliagon, although I understand that it is a figure consisting of a thousand sides just as well as I understand the triangle to be a three-sided figure, ... 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 would form if I were thinking of a myriagon, or any figure with very many sides." *The Philosophical writings of Descartes*, vol. II, trans. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1991), p. 50.

³⁰ One can, of course, create a very complex and descriptive sentence by conjoining simple sentences, which is why I emphasize that it is unlikely that a scenario can consist of a *simple* sentence.

³¹ Yablo acknowledges that objectual imaging is, as a rule, indeterminate, but seems to assume that propositional imaging is not indeterminate.

³² There is a good reason for requiring this much for S conceiving that P. The first condition is required so that one cannot claim to conceive that P when one doesn't even understand the proposition expressed. For example, one cannot claim to conceive of souls existing if one doesn't understand the proposition expressed by 'souls exist'. The second condition requires that one understands what it takes for P to be true.

³³ The example is Seddon's.

³⁴ Matthias Steup, *An Introduction to Contemporary Epistemology*, (Prentice Hall, 1996), p. 13.

³⁵ David J. Chalmers suggests that one often gets the wrong results when conceiving of possibilities because one takes what he calls 1-conceivability to imply 2-possibility instead of 1-possibility. What roughly amounts to the same thing, one mistakenly takes logical possibility to imply metaphysical possibility. But Chalmers does not appear to have an explanation of why one might take something that is not metaphysically possible to be metaphysically possible without making this level confusion, or how one may be justified in believing that something is possible and then have that overturned by further evidence.

³⁶ Yablo, p. 31.

³⁷ I thank Al Casullo, Michael Losonsky, Peter Vranas, and an anonymous referee of the journal for their comments.