

MISLEADING MIND: THE DANGER OF UNWARRANTED EPISTEMOLOGICAL ASSUMPTIONS

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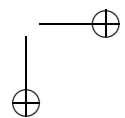
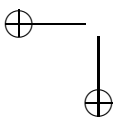
1. *Historical Background*

Epistemological considerations underly many philosophical theories about consciousness. From Descartes onward we find philosophers operating with the belief that our epistemological ability to conceive of something allows us to draw conclusions about the ontological or metaphysical possibility of that something. While Descartes attempted to justify the link, today’s appeal is largely assumed.

For Descartes, the connection between epistemology and metaphysics was guaranteed by God: if God exists and is not a deceiver, then our best ideas — those ideas which we conceive of clearly and distinctly — must be in some sense possible. For Descartes, this meant that God would be capable of creating these things accordingly. So, if we have a clear and distinct idea of mind as separable from body, then it must be at least possible for God to separate the two. While contemporary philosophers are quick to criticize Descartes’ dependency on God’s existence, many attempt to derive conclusions about metaphysical or logical possibility from epistemic considerations, arguing that these types of possibility are much weaker and hence less demanding notions of possibility than that of natural possibility.

2. *Contemporary Attempts to Link Conceivability and Possibility*

Even with this weaker sense of possibility, we encounter several difficulties. One of the first problems is to figure out what we mean by conceivability. If conceivability were nothing more than a vague ability to imagine something, then most things would be categorized as possible and only a few things (e.g. square triangles) would be categorized as impossible. In order to be philosophically interesting, conceivability must be a more refined and more rigorous test than our ability to imagine would provide. At the very least, such a test should not ignore what we know about the physical world. Current appeals to conceivability leave us with a disturbing lack of consensus and



point to our failure to adequately limit our notion of conceivability. Some philosophers think that they can conceive of gold floating in water, a mile of U238 remaining stable, or water being something other than H₂O (say XYZ), while others do not.¹ In other words, some people can conceive of a great number of things, whereas others can conceive of far fewer. Until we can reduce or at least account for these differences, appeals to conceivability have limited usefulness.²

In the meantime, we can try to figure out what an adequate notion of conceivability would entail in terms of possibility. This, too, seems problematic. Although positing a connection between conceivability and a weak sense of logical possibility is fairly straightforward, the resulting benefits are trivial. Of course, if I can conceive of something, then that something is logically possible — in the sense that there is no logical impossibility or contradiction in that which is being thought. But this seems to be precisely because conceivability and this weak sense of logical possibility are not all that different from one another: in conceiving of something, in a normal and moderately robust sense, a person has to ascertain that there aren't any logical hurdles or *a priori* inconsistencies. Once that has been done, there is a fairly trivial entailment between conceivability and logical possibility. But this sense of logical possibility does not get us very far.

The term "logical possibility" is often used to denote something much stronger. In these cases, a claim that something is logically possible is a claim that the world really could be this way — in the sense that it really could have turned out to be this way or that there is nothing to prevent an otherwise identical world from being this way. To avoid any possible equivocation between logical possibility in the weak sense and logical possibility in the strong sense, I will follow Joseph Levine (2001) in using the term "metaphysical possibility" for the stronger sense.³

Going from conceivability to metaphysical possibility is both more interesting and more difficult to justify. Positing an entailment between conceivability and metaphysical possibility is only justified if there is something to link our epistemic ability to a thing's metaphysical status. Is this the case? Here it is helpful to analyze a few examples and ask why we think there is a

¹ These examples are adapted from David Chalmers (1996).

² David Chalmers (2002) attempts to address this problem by distinguishing between various types of conceivability including *prima facie* and secondary conceivability, ideal vs non-ideal conceivability, and positive vs. negative conceivability. While a full analysis of each of these is beyond the scope of this paper, these distinctions are unable to resolve the problem outlined above and fall short of providing objective guidelines or criteria for conceivability.

³ To avoid conflating epistemic claims with metaphysical claims, Levine (2001) recommends using the term "conceptual possibility" to refer to claims involving what I *think* about a thing's modal status and the term "metaphysical possibility" to refer to cases in which "modal status is a mind-independent matter" (39–40).

connection between our epistemic abilities and ontological facts or possibilities.

Thought experiments are the stock-in-trade of analytic philosophers. In addition to being memorable and fun, they help us to figure out what we really think about a particular question. They often show us potential inconsistencies or contradictions in our own thinking or claims. But, employing thought experiments to do more than this assumes an unproven connection between epistemology and metaphysics.

David Chalmers' original zombie thought experiment (1996) is a good starting point. Here we are asked to conceive of two physically identical people. Both act in the exact same way, but one has consciousness (me) and one does not (zombie-me). Chalmers suggests that if this is conceivable, then consciousness is not logically determined by physical facts. And, if something is not *logically* determined by physical facts, then it is more than just something physical, and consequently it cannot be physically or reductively explained.

Underlying Chalmers' thought experiment are two assumptions. One is his belief that he can imagine physical identity without positing a corresponding identity in consciousness. As long as one does not assume that consciousness is physical, then two things could be physically identical but differ in terms of their conscious experience. (This is the point where most physicalists begin to disagree.) The other is his belief that our epistemic abilities are closely connected to the way things are in the world: that our epistemic abilities track what is possible in a general sense, at least to the point that if we cannot see a logical contradiction in something, then there is no reason to think it is ontologically impossible.

Physicalists can challenge either the conceivability of philosophical zombies which are physically identical to a corresponding non-zombie or the belief that our epistemic abilities track metaphysical possibility. Setting aside the first question regarding the conceivability of zombie twins until later, let us first focus on determining what my ability to conceive of something might actually tell me. For Chalmers it says something about how the world *could* be, which in turn tells me something about how the world *is*. As we just saw, if I can conceive of two physically identical beings, myself and zombie-me, and if this tells me that consciousness is not determined by physical facts, then my ability to conceive of something tells me something about how the world could be or could have been.

But does my ability to imagine or conceive really tell me something about how the world could be or does it just tell me how I *think* it could be? While the former consideration, how the world could be, may increase my theoretical knowledge about the world, the second, how I *think* the world could be, need not. In order for my ability to conceive of something to say something

about the real world, I have to have a great deal of confidence in my epistemic abilities and their link or ability to track the real world closely. Is such confidence justifiable?

While Descartes provided some justification for this belief, we are not in the same position. At best, we might develop a tentative justification by looking towards philosophy of science and using the fact of scientific progress to justify a belief that our epistemic capabilities at least track the real world well enough. But "well enough" is hardly sufficient for Chalmers' purposes, not to mention the fact that an appeal to scientific progress would require that we utilize a very robust notion of conceivability.⁴ If we use conceivability in a far less rigorous sense, where even laws of nature can be changed, then our justification will not help. In other words, if we take a notion of conceivability, such as the one used by Chalmers, and "conceive" of things such as: water is XYZ instead of H₂O, a mile of U238 remains stable, gold floats in water, and the ideal gas law ($pV=KT$) stays as is, but K has a different value, then I don't think that an account linking conceivability with metaphysical possibility will be forthcoming.⁵

But it is still worth trying to figure out why some think that the supposed conceivability of these things tells us something about their metaphysical status. While our tendency to draw a connection between epistemic facts or abilities and ontological facts or possibilities is well-documented, determining why this tendency persists is not.

3. *Kripke on Contingency and Necessity*

One possible motivation arises from a failure to heed Kripke's warning about assumptions of contingency and necessity. If instead, we follow Kant in assuming that the fact that something is known a posteriori means that that fact is contingent, not just in an epistemic sense but in a metaphysical sense, then all empirical discoveries involve contingent facts — facts which could have been otherwise. Suddenly, twin worlds, zombie twins, stable U238, gold that floats seem "possible" in a metaphysical sense. The fact that we learned about these things through experience (a posteriori access) means that there

⁴Employing a sufficiently robust notion of conceivability would seem to require that we utilize all the relevant facts at our disposal. The more we know about the things (or the science) in question, the more reliable our sense of conceivability might become. So if physicists are unable to "conceive" of the situation stipulated in our thought experiment, but non-physicists are able to do so, we may need to revisit the details of the thought experiment along with the scientific facts in question.

⁵Arguments for each of these can be found in Chalmers (1996). In this category, I would include any possible world scenarios, twin earth scenarios, and Martian examples which make a claim about metaphysical possibility.

was a time during which we had yet to gather empirical evidence one way or another, and that there was a time when we lacked the knowledge to be able to reject or confirm a particular thesis. Epistemically speaking, our knowledge of these things is contingent. While Kant took this to indicate a lack of metaphysical necessity, Kripke (1980) poses a successful counterexample to this claim, arguing that the fact that we have a posteriori knowledge of claims like “heat is molecular motion” does not diminish our commitment to the belief that heat is necessarily *identical* with molecular motion. In other words, epistemic contingency does not equate to metaphysical contingency.⁶ The fact that our knowledge of the atomic number of gold is a relatively recent discovery in the history of science shows me that our knowledge of this is contingent, but it does not indicate that the atomic number of gold could have been 80 or 86 instead of 79 — metaphysically speaking.

4. *Treating Laws as Superadded to the Physical World*

A further and more troubling motivation for our tendency to link conceivability and metaphysical possibility involves our understanding of laws of nature. Just as our *knowledge* about gold is contingent, so too is our knowledge of the laws of nature. We haven’t always known how an ideal gas would function or how acid would interact with gold. We haven’t always understood gravity as well as we do today. And, we tend to confuse the fact that our knowledge of these things is contingent with a belief that the thing itself is contingent. Further problematic is the fact that we can err in positing or formulating specific scientific laws. Simply stated: we might get them wrong. Here again, it might be tempting to think that there has been a change in the metaphysical status of that law, especially if we are not careful as to how we talk about the law in question. But this is not the case. Instead, it turns out that the relationship that we posited between two things either doesn’t exist or it doesn’t exist in the way we thought it existed. While our access to and our understanding of scientific laws is clearly something contingent, this does not suggest that the content of the law or the relations it describes are contingent. Drawing this conclusion would conflate an epistemic fact with an ontological fact.

Yet another fact about the way we acquire knowledge about scientific laws lends itself to misinterpretation. We tend to separate our knowledge about physical objects from our knowledge of how physical objects interact with other physical objects. This encourages us to view laws as something above and beyond individual physical objects — as something independent from or

⁶Here Kripke warns against “the confusion of the epistemological and the metaphysical, between a priority and necessity” (49).

superadded on top of those physical objects. We might even act as if the law itself is a thing which governs or controls physical objects rather than being something that describes the relation (or the causal powers) of the things themselves.

Differentiating between natural and nomological possibility and "mere" metaphysical possibility seems to rely heavily on the assumption that scientific laws are superadded to the physical world. When determining whether something is naturally or nomologically possible, we look at both our understanding of physical things and at our knowledge of the laws or relations between these. Although we tend to compartmentalize our knowledge about physical things and our knowledge about laws of nature, it is not clear that we can "split" the world in a similar fashion.

Yet the basic division drawn between natural or nomological possibility and logical (or metaphysical) possibility seems to depend greatly on the belief that natural laws are things which are superadded to the physical world. When determining natural possibility, incorporating *both* our understanding of physical things and the laws that govern these is seen as important, but when attempting to determine logical or metaphysical possibility, it is not uncommon to maintain what we know about the physical make-up of the world, but ignore or revise what we think we know about scientific laws. Approaching conceivability questions in this manner encourages us to treat laws as if they were both separate from the rest of the physical world and contingent.

This tendency seems to stem from our a posteriori access to the physical world. But as Kripke noted, the fact of our a posteriori access does not allow us to conclude that what we access lacks necessity. If physical laws are relations between physical things, then although the relation between water and gold would be different if water were not H₂O and gold did not have the atomic number 79, it does not seem to make sense to talk as if the relationship between water and gold could change simply by changing the physical law that governs this (with no corresponding change in gold or water itself).

Alan Sidelle (2002) attempts to defend the claim that laws are metaphysically contingent. In doing this, Sidelle treats laws as if they were superadded to the physical world. Arguing against the claim that laws of nature ought to be viewed as metaphysically necessary, Sidelle suggests, "... laws of nature are either contingent, or, if they are necessary, [...] this is much less interesting than it may appear at first glance" (310). Sidelle recognizes that "... of course, we don't want to confuse the possibility of having *found out* otherwise with the possibility of things having *been* otherwise — as Putnam and Kripke have argued" (314), but he believes that this confusion is not the only thing motivating our claim that a statement such as "Water is H₂O" involves a necessary identity. Instead, Sidelle suggests that when we make

statements such as "water is H_2O " and categorize these types of statements as being necessary a posteriori, what we mean and ought to say is in fact, that we have figured out a priori what general principle is required, in the case of water that "Nothing counts as water in any situation unless it has the same deep explanatory features (if any) as the stuff we call 'water'" (319) and that this principle, having been established in an a priori manner and being itself a priori, is what makes it seem as if water is H_2O . However, the necessity is due to "analytic and [...] linguistic conventions" and not to "metaphysically deep features of reality" (319). Furthermore, there clearly is an absence of "real necessity" in a metaphysical sense, because after all, water is not H_2O in every possible world. Sidelle states, "It is clear that each argument for some necessary a posteriori truth, if successful, establishes some such more general principle, and in each case, the argument looks a priori — we establish a priori what (sort of) empirical fact will generate a necessary truth, and empirically discover the particular fact" (319).

Similarly, with laws, it is not the individual law which is necessary, but rather, the criteria or general principle regarding what "deep explanatory features" the law needs to account for in order to be a law of the individual phenomena which are in question. So, any law which has the required "deep explanatory features" or can adequately explain the individual phenomena will work. In other words, if we have two possible candidates, law a and law b, if both fulfill the requirements, then neither law is necessary in a deep metaphysical sense, because either law would have worked equally well. The question as to which law is actually the case is then something contingent. Sidelle provides the following challenge, "Is there any inclination to say that since the constant *is* G, in worlds where objects produce a force between them, directly proportional to their masses and inversely proportional to the square of the distance between them, but of a somewhat different coefficient, the force would not be gravity?" (314). For Sidelle, what gravity actually is, turns out to be a contingent fact, because it could have been otherwise — not just in the sense that I could imagine it otherwise, but also in the sense that metaphysically, any other law which explained the force between two objects could have done the work equally well.

In order to make sense out of Sidelle's argument, we must assume that laws are somehow superadded to the physical world rather than relations necessarily resulting from the physical make-up of the objects involved. From an anti-realist perspective where laws are merely theoretical constructs posited in order to explain one phenomenon or another, it is reasonable to think that any theoretical construct which does the job equally well could be used in its place. However, the same cannot be said when this is looked at from a realist perspective. Hence the approach outlined by Sidelle is far from neutral. For a realist, for whom laws describe the causal powers of things and relations between things, it does not make sense to believe that any other law

which has the same "deep explanatory features" is equally possible, because the realist does not see laws (and the forces they posit) as things which are merely explanatory theoretical constructs.

At best these claims require a person to have a certain view of laws (e.g. laws are superimposed on the world or are mere theoretical constructs). Without either of these views of laws, there is something extremely counter-intuitive in the suggestion that laws could change without a corresponding change in the physical make-up of the thing in question. For example, there seems to be something fundamentally mistaken about the claim that gold is dissolved by a mixture of HCl and H₂SO₄ because there is a law or set of laws that governs or determines the interaction between these two things. A more accurate description of what happens between gold and HCl + H₂SO₄ takes the atomic structure of gold and the molecular structure of the acids into consideration. What gold and acids actually are determines how they relate to one another. There is no need for an additional law to be posited in order for these to interact with one another in a certain way. Instead their interaction is determined by their physical make-up. It is clearly true that I can think back to a time during which — as far as my own degree of knowledge was concerned — the law in question could have been otherwise. As Kripke suggests, something "might have turned out to have been" otherwise in the sense that my "sensory evidence" at the time was not sufficient in order to allow me to determine exactly what the law was or exactly which situation would result (Kripke 147).

However, this should not be taken as evidence that the law in question, as a description of how gold and acid interact, could have been different. Although the law may not have seemed necessary given our limited understanding of the physical world, this does not mean that the law or the relation in question is not necessary given a complete understanding of the physical world. I suggest that the tendency to believe that laws and the relations they describe are contingent is motivated by a limited understanding of physics on the one hand, and, on the other hand, by the fact that our knowledge of physical things (and their make-up) is often gained independently from our knowledge of physical laws. This, in turn, motivates our tendency to believe that knowledge of laws is somehow metaphysically independent of the things governed by these laws in the physical world. But if the structure of the thing both determines relations between things (or laws) and explains why these laws hold, then as Nancy Cartwright (1983) reminds us, while I might need to add laws or forces to understand or explain the interaction between two things, this does not suggest that laws or forces are themselves superadded

to the existing world.⁷ As Cartwright explains, “We add forces (or the numbers that represent forces) when we do calculations. Nature does not ‘add’ forces. For the ‘component’ forces are not there, in any but a metaphorical sense, to be added; and the laws which say they are there must also be given a metaphorical reading” (59).

If this is true, then as suggested by Cartwright, the law of gravity is not merely a law positing a “*resultant* force exerted between two bodies” or “a force *due to gravity*” (59-60), but is instead more correctly understood as positing “component forces” (59). The laws then describe the “causal powers that bodies have” (61). Thus, the fact that I need to study the relation between physical things in order to learn something about laws does not entail that this relationship is governed by something which is independent of the physical things themselves. If as Cartwright suggests, laws and the forces they refer to are things which *we* merely “add” on top of the knowledge we have of physical facts in order to explain, predict, or understand how the physical world works, then it would be a mistake to conclude that this epistemic fact entails a corresponding metaphysical fact.

And if laws and forces are nothing above and beyond the physical world and the things in it, but are instead a part of the physical world or the things themselves, then it is not clear that an argument suggesting that they are metaphysically contingent can succeed. So, although it does seem likely that Sidelle is correct to suggest that there is no reason to think that we would consider a force where the “constant is *G*, in worlds where objects produce a force between them, directly proportional to their masses and inversely proportional to the square of the distance between them, but of a somewhat different coefficient” not to be gravity, this fact by itself falls far short of providing proof of the metaphysical contingency of laws (or forces). Any metaphysical necessity would have to be in the particular law itself, not in the way in which we label the law. Although for all we know, the force could be *X* rather than *F*, this is at best an epistemic contingency. To suggest that our faulty access or lack of epistemic certainty provides evidence that the laws or the forces could have been other than they are, is to conflate epistemological factors with metaphysical factors.

Even in the case of brute laws, it seems wrong to suggest that a law could be changed without changing any intrinsic properties of individual facts. $F=ma$ cannot be changed to $F=ma^2$ without causing (or having been caused by) a corresponding change in the physical make-up of the things in question. Although the theoretical law that we posit could well have been otherwise, it is not the case that the law, in a metaphysical sense, i.e. as a relation which

⁷ In referring to structure, I am not referring to anything that is above and beyond the physical make-up of a thing. In other words, this should not be understood as referring to essences or as suggesting that a thing’s structure is something above and beyond its physical components and the relations which these determine.

is determined by the forces produced by bodies, could have been otherwise. In other words, the relation determined by forces produced by bodies and the forces themselves certainly do seem to have metaphysical necessity. Our ability to imagine that laws are different or "conceive" of things in some vague and unclear way such that the laws or forces in question are otherwise will not justify the conclusion that these laws or forces could be (or have been) otherwise, nor will it justify the claim that the laws lack metaphysical necessity.

5. *Placing Limits on Thought Experiments*

If laws are not the kind of things which are superadded on top of physical objects or physical facts, then there is little reason to justify treating them as if they were contingent and separable in thought experiments, at least in the case of thought experiments designed to help us arrive at conclusions about metaphysical possibility. Yet undergirding the force of various conceivability or inconceivability arguments in philosophy of mind is the assumption that scientific laws are contingent. Although it is certainly legitimate to question scientific laws (and many other things) in developing a good thought experiment, it is paramount that we avoid overreaching when we draw our conclusions. Thought experiments which assume that scientific laws are contingent and which claim to help determine metaphysical possibility are contentious at best.

Returning to our earlier examples, we can see what might be driving a belief that epistemic facts or access tells us something about the metaphysical status of the thing in question. If laws are superadded on top of the physical world and if I can imagine — simply by changing these laws a bit — that gold might have the atomic number of 79 but float, or that gold might be gold but not have the atomic number 79, or that water could have the properties it has but be XZY instead of H₂O, then this imagining could tell me something about the way the world could be. Thus, thought experiments would tell us more than just how things *seem* to us. They, instead, would tell us something about how the world could be. So all Chalmers has to do to make zombies conceivable is to change around a few laws.

Many thought experiments in philosophy of mind make similar moves from epistemic facts to metaphysical conclusions. Take, for instance, Thomas Nagel's bat example. For Nagel (1974), we don't have (and can't conceive of) an objective account of a subjective experience (what it is like to be something else). But in general, we do have objective access to other things that are physical. This seems to tell us something about subjective experience — namely, that a physical account of subjective experience would leave out the qualitative aspect of that experience. In other words, a purely physical

account would be unable to capture the essential part of the experience — what it is like. As such, it is unlikely that that experience is purely physical.

For Nagel, the fact that our epistemic access is limited, tells us something about the metaphysical nature of that which we are trying to access. If we were dealing with the same kind of “stuff” we would have the same kind of epistemic access to it. So if we can access physical “stuff” objectively, while only being able to access qualia subjectively, then this probably indicates that qualia are a different kind of thing altogether.

Frank Jackson (1982) makes a similar move from epistemic considerations to metaphysical conclusions. Here we have a scientist trapped in a black and white room who has all physical knowledge there is to have, but still seems to learn something new upon leaving that room and *experiencing* the color red for the first time. Jackson argued that this provided evidence that there was something non-physical about our qualitative experiences. And if our qualitative experiences are non-physical, then a physical explanation or account of mind is necessarily inadequate.⁸

Each of these thought experiments begins as a legitimate exploration of our intuitions, but ends up making a claim about what the world is or is not like — namely that physicalism is inadequate, because not everything is physical. However, unless we can provide something which justifies the move from epistemic access to metaphysical facts, using thought experiments to draw (or smuggle in) conclusions about that something’s ontological status illegitimately assumes a link between epistemology and metaphysics. This treats thought experiments as if they do more than illuminate our intuitions or clarify our thinking. Acting as if there were a correlation between our intuitions (or what we really think) and the way the world is, when we are unable to justify this claim, leads to problems not only for individual authors within philosophy as a discipline, but also in terms of philosophy’s usefulness for other disciplines.

For example, a physicist may be able to imagine (in a sci-fi sense) a stable mile of U238, however, she is not likely to agree that this is metaphysically possible. Nor is she likely to agree that it is conceivable in any rigorous sense of the term. The same is likely to be true of a biologist and the zombie example. Although a biologist might be able to imagine a zombie (someone with the same physical make-up as a non-zombie but lacking consciousness), she is unlikely to believe that it is metaphysically possible. In fact, I suspect that even if she were presented with an actual specimen, the scientist in question would continue to look for a physical difference — perhaps continuing to believe that there must be some difference even if she herself is unable to find it.

⁸ Jackson (1998) no longer stands by his original conclusions.

If we claim that our ability to conceive of something tells us something about that thing's metaphysical possibility, then we overstep the real usefulness of thought experiments, something which is potentially damaging to the credibility and perceived usefulness of philosophy as a discipline. If we want to continue to play a role in the mind-body debate and in the on-going discussion about consciousness (and be taken seriously), then we must analyze the impact epistemic facts about access are having on the conclusions we draw. So while nothing in this paper should be understood as an attack on thought experiments as thought experiments, it is an attack on some of the ways in which thought experiments are employed. Thought experiments, by themselves, cannot provide conclusive information about what the world is like or how it could be, but they can help us to identify our underlying assumptions and beliefs and clarify our thinking — often in surprising ways. Returning to a legitimate use of thought experiments — one that does not rely on unsupported epistemological assumptions — will benefit both philosophers and non-philosophers.⁹

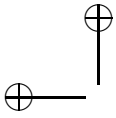
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