

# *Overcoming Cartesian Intuitions: A Defense of Type-Physicalism*

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## **1. Introduction**

Type-physicalism is the view that sensory states and properties are identical with their nomologically correlated brain states and properties.<sup>1</sup> The main challenge to this view is how to overcome conceivability arguments such as the conceivability of disembodiment or of zombiehood. In this paper, I explain how I think the type-physicalist should respond to such arguments. More specifically, I want to argue that even if the separability of, for instance, pain and c-fiber stimulation<sup>2</sup>, is ideally conceivable, this does not show that it is possible.<sup>3</sup> This is because pain and c-fiber stimulation might be one and the same property in reality and yet their separability would still be conceivable, given the deep psychological differences between the concepts we use to pick out sensory properties and the concepts we use to pick out physical properties.

A rough sketch of my argument is as follows. First, I explain how the conceivability of  $p$  might fail to be an accurate guide to the possibility of  $p$ . Then, having shown this, I argue that there are good independent reasons to think that conceivability is in fact an unreliable guide to possibility in the case of consciousness. Finally, I respond to some tough objections to this line of thinking. It is important to realize that my argument does not seek to show that the conceivability of sensory properties without their correlated brain properties *necessarily* represents an impossible state of affairs. This would take a much stronger argument than that of which I claim to be in possession. Rather, I merely argue that it is plausible to think that conceivability systematically misleads us in the case of consciousness. Put simply, I agree that it is possible for modal intuitions over consciousness be true. I just think that there are

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<sup>1</sup> Type-physicalism should be distinguished from *token-physicalism*. The latter view holds merely that every state that instantiates a sensory property also instantiates a brain property. As such, it is compatible with the idea that while all sensory states are also brain states, the property that makes that state a sensory state is distinct from the property that makes that state a brain state. Type-physicalism is a much stronger thesis; it claims that sensory properties *just are* brain properties. Type-physicalism thus entails token-physicalism, but not vice versa.

<sup>2</sup> It is now known that much more goes on in the brain when we experience pain than c-fiber stimulation. The neuroscientific details are not really important, though. If the reader wishes, she can substitute 'pain's nomologically correlated brain state' for every instance of 'c-fiber stimulation' in what follows.

<sup>3</sup> I assume that the separability of sensory properties and brain properties is ideally conceivable. One could of course respond to conceivability arguments by denying this. I do not consider such a strategy in this paper.

very strong reasons in favor of rejecting them.

## 2. Conceivability and Possibility

Conceivability arguments all have the form ‘it is conceivable that  $p$ , therefore, it is possible that  $p$ ’. For example, the antiphysicist argues that the separability of pain and c-fiber stimulation is conceivable; therefore, it is possible for these properties to come apart. Or sometimes one will see an analogous argument made at the level of *all* sensory properties and brain properties: it is conceivable for there to be a disembodied being who has sensory experiences; therefore, such a being is possible. Whichever argument is made, the important point is that such arguments presuppose that conceivability is an accurate guide to possibility. We shall call this idea the *conceivability-possibility principle*. The question is: why think that this principle is true?

*Prima facie*, it seems that there are clear counterexamples to the conceivability-possibility principle. For example, I can conceive of jumping 100 ft. high. Or alternatively, I can conceive of eating an entire elephant in one sitting. But neither of these states of affairs is possible. Perhaps there is a similar kind of illusion in the case of consciousness. Doesn’t this show that conceivability arguments are no good? The answer is “no”. The conceivability-possibility principle can be saved by distinguishing between *nomological possibility* and *metaphysical possibility*. Roughly, the difference is this: a state of affairs  $p$  is nomologically possible when it could happen given the way the world *in fact* is. The idea here is that we hold fixed the actual laws of nature as well as certain other facts about the actual world.<sup>4</sup> In contrast, a state of affairs  $p$  is metaphysically possible when it could happen given a very different world. This sense of possibility thus includes states of affairs that could only happen if the laws of nature were different and if certain other facts about objects and properties in our world did not hold.

The upshot of this distinction is that these apparent counterexamples to the conceivability-possibility principle can be removed. For example, while it is nomologically impossible to jump 100 ft. high, it is metaphysically possible. In other words, in a world where the law of gravity was sufficiently weaker, this state of affairs would be possible. Similarly, while it is nomologically impossible to eat an entire elephant in one sitting, it is metaphysically possible; in a world where human physiology was sufficiently different, this state of affairs would be possible. Therefore, by qualifying the conceivability-possibility principle, the above conceivability arguments can be put back on firm ground. They argue that, for instance, since the separability of pain and c-fiber stimulation is conceivable, it is *metaphysically possible*.

One might object that the notion of metaphysical possibility is too weak to refute type-

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<sup>4</sup> Of course, we do not hold *all* the facts of the actual world fixed. For then our possible world would be identical with the actual world, and nothing would be different. The kind of facts we hold fixed are of a more general type, pertaining to the natural world. The technical details of this concept are not crucial to my presentation. An intuitive grasp of it suffices.

physicalism. This is because *everything* seems possible in the metaphysical sense of the term. As such, even if the separability of sensory properties and brain properties is metaphysically possible, it is inconsequential. However, this line of thinking is flawed for the following reason: even in a world very different from ours, there could not be married bachelors. This is *not* the claim that married men could not be called ‘bachelors’. If speakers in such a world used the term ‘bachelor’ to denote married men over the age of fifty, say, then the statement ‘there are married bachelors’ would be true in that world (assuming, of course, that one married man over the age of fifty existed.) But *we* would not treat this as a world containing married bachelors. Alternatively, even in a world very different from ours, the number three could not come before the number two. This is *not* the claim that the number that comes before two could not be called ‘three’. If speakers in such a world used the term ‘three’ to denote the number one, then the statement ‘three comes before two’ would be true in that world. But *we* would not treat this as a world in which the number three comes before the number two. This shows that some states of affairs are impossible even in the metaphysical sense of the term. Therefore, one cannot simply dismiss the notion of metaphysical possibility without further argument.

Finally, fed up with the very notion of possible “worlds”, one might object as follows: even if the separability of sensory properties and brain properties is metaphysically possible, why should this matter? Type-physicalism holds that these properties are identical in the *actual* world. Therefore, the fact that these properties can come apart in a fundamentally different world does not show that type-physicalism is false. The problem with this objection is that it fails to understand the relation of identity. As Kripke showed in his “Naming and Necessity”<sup>5</sup>, if  $A = B$ , then  $A = B$ , not just in every nomologically possible world, but in every metaphysically possible world as well. For if  $A$  and  $B$  are really one and the same, how could changing the laws of nature or altering any other facts possibly cause them to be distinct? The notion that, under any circumstances, one and the same thing could have been two distinct things is self-evidently absurd. Those who remain unconvinced have probably mistaken the relation of spatio-temporal continuity with that of identity.<sup>6</sup>

We are now in a position to clearly state the challenge that conceivability arguments pose for type-physicalism. (1) Type-physicalism holds that, e.g., pain = c-fiber stimulation, and so (2) pain = c-fiber stimulation in every metaphysically possible world. But (3) the separability of pain and c-fiber stimulation is conceivable, thus (4) there is a metaphysically possible world in which pain exists independent of c-fiber stimulation. But by (2) and (4), we get a contradiction. Therefore, pain is not identical to c-fiber stimulation. So, type-physicalism is false.

In the next section, I shall argue that the inference from (3) to (4) is unsupported. There

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<sup>5</sup> See Kripke’s “Naming and Necessity” (1972).

<sup>6</sup> What I mean is this. A skeptic has probably confused the property of being continuous in space and time with the relation of being identical. A statue and the portion of clay it is made of are continuous in space and time; in this sense, we could say they are “one”. However, they are not identical. For the statute cannot survive being rolled up into a ball, while the portion of clay can. (See Gibbard’s “Contingent Identity” for an opposite view.)

is another explanation as to why the separability of sensory properties and brain properties is conceivable. Moreover, I think there are strong independent reasons suggesting that this alternative explanation is the right story to tell. I turn now to the issue of how it is *a priori* possible for the conceivability-possibility principle to be false. The crucial ingredient in my argument is Loar's distinction between concepts and properties, as put forth in his "Phenomenal States" (1997). In a nutshell, my strategy will be to argue that the separability of sensory properties and brain properties would be conceivable even if they were one and the same in reality. This follows from the deep psychological differences between the concepts we use to pick out sensory properties and the concepts we use to pick out brain properties. Accordingly, since there is every independent reason to think that sensory properties and brain properties are in fact the same, I conclude that we should be very skeptical of conceivability arguments seeking to show that they are distinct.

### 3. How the Conceivability-Possibility Principle Might be False

My argument presupposes that what is conceivable and what is metaphysically possible are *not* the same thing. As such, it would be possible for someone to object to my argument by denying that we even possess the concepts necessary to draw such a distinction. However, I think such a view is highly implausible. The notion of some state of affairs being conceivable while at the same time being metaphysically impossible makes perfect sense. The idea is here is that for some state of affairs  $p$ , there exists a metaphysical necessity preventing  $p$  from obtaining even in a world radically different from ours, despite the fact that  $p$  is conceivable. Put otherwise, one can say that there might be a state of affairs  $p$  such that when Mother Nature created the universe, she could not make  $p$  the case. But given certain features of our cognitive system,  $p$  is bound to be conceivable, and consequently, the reason that Mother Nature could not make  $p$  the case is something that will forever remain beyond human comprehension. If I am correct, then the distinction between conceivability and metaphysical possibility makes *prima facie* sense. But we have not yet explained how a state of affairs could be conceivable while at the same time being metaphysically impossible. In order to explain this, we must distinguish between concepts and properties.

Loar explains that we do not grasp properties directly, but rather by virtue of *concepts*. Put roughly, a concept  $C$  of a property  $P$  is a way we have of thinking about  $P$ . For example, my concept of the property water might include that it is my favorite drink. Moreover, the application of a concept to an instance involves the exercise of psychological abilities. For example, certain concepts involve dispositions to behave in such-and-such a way. The important point is that concepts are tied essentially to certain features of our cognitive system. In comparison, a property  $P$  is simply a way some subject might actually be, independent of our ways of conceiving of that subject. For example, *being a liquid* would still be a property of water under appropriate circumstances, even if no cognitive agents existed to conceptualize water as being that way. Properties are thus a part of the furniture of the objective world; they are not determined by our concepts, but rather by natural features of

the world itself. For our purposes, the upshot of this distinction is that it is *a priori* possible for one property to be conceptualized into two independent ways such that the resulting concepts can come apart in imagination, despite the fact that they pick out one and the same property in reality. Not surprisingly, I shall argue that this is what happens in the case of consciousness. Below, I explain the details of this account.

The concepts we use to pick out sensory properties differ from the concepts we use to pick out brain properties in at least two significant ways.<sup>7</sup> First, sensory concepts are *recognitional*. As such, they do not scientifically conceive of their referents in terms of structure and function<sup>8</sup>, but rather as being of such-and-such a general type of inner property; beyond this, no further description of the referent occurs. In comparison, the concepts we use to pick out brain properties are *physical-theoretical*. This is important because physical concepts conceive of their referents precisely as properties exhibiting a certain structure and function (where these features are given meaning within the relevant scientific framework). Second, the application of these two types of concepts to instances involves very different psychological abilities. For example, applying a sensory concept to an inner property involves the exercise of attention, introspection, and recognition. Furthermore, it often involves the exercise of certain behavioral dispositions, such as to rub a certain area in the case of pain. In comparison, the application of a physical concept to a brain property involves the exercise of perceptual, verbal and theoretical abilities. Accordingly, it is hardly controversial to assume that there are deep psychological differences between the two kinds of concepts, both with respect to how they conceive of their referents and with respect to the different psychological abilities that they involve.

Now we wanted an alternative explanation as to why the separability of sensory properties and brain properties is conceivable, one that does not assume that it is because it is metaphysically possible for these properties to come apart. That's to say, we wanted an explanation of how the conceivability-possibility principle could be false. It is clear that we now have such an explanation. (i) If, e.g., pain = c-fiber stimulation, then (ii) pain = c-fiber stimulation, not just in every nomologically possible world, but also in every metaphysically possible world. However, (iii) given the deep psychological differences between the concepts we use to pick out our pains and the concepts we use to pick out c-fiber stimulation, (iv) the separability of these properties would be conceivable, i.e., these concepts would come apart in imagination, despite the fact that they pick out one and the same property. For how could we expect them *not* to come apart? Surely nothing about the concepts themselves could prevent this. Put simply, then, this would be a situation in which a state of affairs *p* would be conceivable despite being metaphysically impossible. Since sensory properties and brain properties may in fact be identical, it is *a priori* possible for the conceivability-possibility

<sup>7</sup> The following points draw heavily upon Loar's discussion of sensory (what he calls 'phenomenal') concepts and brain concepts.

<sup>8</sup> A concept conceives of a property in terms of *structure* when it reveals the physical composition and organization of that property. A concept conceives of a property in terms of *function* when it reveals the causal relations that property bears to other properties, objects, and events.

principle to be false.

This shows how it is possible for conceivability to systematically mislead us into thinking that sensory properties are irreducible. However, we have not yet given any reason to think that what we conceive of in such cases is *in fact* false. In the next section, I present the reasons for thinking that the conceivability-possibility principle is false. My basic strategy will be as follows. First, if as the antiphysicalist maintains, the conceivability of sensory properties without their correlated brain properties entails such a state of affairs is metaphysically possible, then some form of property dualism is true. (Conceivable states of affairs that *prima facie* support property dualism I shall call ‘Cartesian intuitions’<sup>9</sup>.) Second, I argue that, if property dualism is true, then some highly plausible scientific and commonsense views about the physical world and the place of consciousness in that world are false. Therefore, given that it is *a priori* possible for the conceivability-possibility principle to be false anyway, I conclude that it is more probable that Cartesian intuitions are false.

#### 4. Positive Reasons In Favor of Rejecting Cartesian Intuitions

If what I have said so far is true, then whether the conceivability-possibility principle is true is an empirical question. I want now to present my reasons in favor of rejecting the principle. As I mentioned above, I shall argue that the principle is likely false for it implies property dualism. The problem with property dualism is that it is inconsistent with some very plausible scientific and commonsense views that should not be given up. Or at least to reject these views merely because the separability of sensory properties and brain properties is conceivable would be a serious mistake, given the foregoing remarks on conceivability.

If Cartesian intuitions are true, then it is metaphysically possible for sensory properties to exist independent of their correlated brain properties. To give a concrete example, such intuitions hold that it is metaphysically possible for pain to exist independent of c-fiber stimulation. But if that’s true, then pain and c-fiber stimulation are distinct properties. For, under any circumstances, it is absurd to think that one and the same property might have been two distinct properties. Accordingly, if conceivability is an accurate guide to metaphysical possibility, then some form of property dualism is true (i.e., the view that there are two fundamentally different kinds of properties in the world: sensory properties and physical properties). But if property dualism is true, then some very sound scientific and commonsense views about the physical world and the place of consciousness in that world are false. Therefore, we cannot merely accept Cartesian intuitions at face value while holding that our other views are correct. Below, I flesh out this inconsistency.

First, there is a systematic relation between sensory properties and brain properties. Here is the evidence. (i) For every occurrence of a certain type of sensory property, there is a simultaneous occurrence of certain type of brain property. For example, whenever we are experiencing pain, our c-fibers are undergoing stimulation, and vice versa. (ii) By

<sup>9</sup> This is the terminology adopted by Hill and McLaughlin in their (1998).

administering certain drugs that affect brain properties, we simultaneously affect sensory properties. For example, whenever we drink alcohol, the changes in brain properties are accompanied by changes in sensory properties. (iii) Finally, if part of the brain correlated with a certain type of sensory property is damaged, we no longer experience that type of sensory property. For example, if one's c-fibers are damaged, one no longer experiences pain. Why is this a problem for property dualism? Property dualism holds that there are in fact two properties here, not one property conceived of in two independent ways. But if that's the case, we will need new laws of a fundamentally different kind, correlating sensory properties and brain properties. Such laws would falsify our current scientific view of the world. To see this, consider the following.

According to contemporary physics, if there are any physical laws that we have not yet discovered, they are bound to be laws governing the behavior of microscopic entities. That's to say, they will be laws governing the behavior of protons, neutrons, and electrons, or smaller entities still. The reason to think this is that in principle the behavior of macroscopic entities such as tables and chairs can be predicted and thus explained by the behavior of the microscopic entities that compose them. Therefore, it would come as a great shock to physics were we to discover new physical laws governing the behavior of macroscopic entities. However, if sensory properties and brain properties are distinct, then this picture is radically false. For brain states are also nothing over and above the particles that compose them. There is nothing mysterious about brain properties; they are perfectly well-understood within the confines of contemporary physics. Thus, new laws correlating sensory properties and brain properties would entail that particles that behave in a uniform way throughout the physical universe, suddenly behave very differently when organized into brain properties: they are accompanied by qualitative sensory experiences! Furthermore, think of the sheer number of new laws that this would presumably require. *Prima facie*, it seems that we would need a new law for every type of sensory property. Surely, at this point it is obvious that something has gone wrong. This would be a ridiculous price to pay merely to accept Cartesian intuitions, given that they are possibly false anyway.

Turn now to the challenge property dualism poses to commonsense. There is perhaps no stronger intuition than the notion that sensory states can cause behavior.<sup>10</sup> The idea is that my experience of pain causes me to behave in certain ways, e.g., to rub the painful area, to utter certain verbal reports, to avoid the painful stimulus, and so on. One might argue that any theory which fails to account for the causal interaction of sensory properties and physical properties should be rejected as absurd. However, if property dualism is true, then this view is false. To see this, consider the following.

First, it seems that the physical world is causally closed. In other words, for any physical event  $e$ , it seems that there can only be another physical event  $e^*$  that caused  $e$ . Why is this a problem for property dualism? Behavior is physical in nature. For example, consider removing your hand from a hot stove. This involves the firing of certain neuron populations in the brain, the conduction of electrical impulses down the spinal cord, and finally the

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<sup>10</sup> Additionally, this idea is crucial to many of our folk-psychological explanations of our own and others' behavior.

contraction of certain muscle groups in the arm. However, if we search for the cause of this behavior, all we ever find is other physical events in the brain and nervous system; we never find anything non-physical. Therefore, if pain and c-fiber stimulation are not identical, it is c-fiber stimulation, not pain, that is the cause of your moving your hand. (Worse yet: together, these physical events form a causally sufficient condition for your behavior. That's to say, there is no *gap* in the causal chain where a non-physical thing need exert its influence. We do not need to postulate anything further to fully explain how your behavior occurred.) Second, even putting these worries aside for the moment, it's not even clear how something non-physical could in principle interact with something physical. This was Princess Elizabeth's objection to Descartes. These considerations strongly suggest that property dualism entails epiphenomenalism about sensory properties. Accordingly, it would be a mistake not to reject Cartesian intuitions, given that they are possibly false anyway.

If these arguments are right, then there is strong reason to think that the conceivability-possibility principle is false. For it implies property dualism, and the latter is inconsistent with some highly plausible scientific and commonsense views. However, one might object that property dualism need not have such consequences. To this extent, by far the most attractive theory is something along the lines of Maxwell's *nonmaterialist physicalism*.<sup>11</sup> Roughly, Maxwell's idea is that brain concepts such as 'c-fiber stimulation' rigidly refer to intrinsic properties of matter. In other words, brain concepts are two-dimensional in the way that other natural kind concepts such as 'water' are two-dimensional; the property which fixes the reference of 'c-fiber stimulation' is distinct from the property that it picks out, just as the property that fixes the reference of 'water' is distinct from the property that it picks out.<sup>12</sup> Maxwell then argues that, e.g., while the structure and function of c-fiber stimulation does not entail pain, it is possible that the intrinsic nature of the physical state that *realizes* c-fiber stimulation in the actual world entails pain.

In short, by locating sensory properties at the level of matter, it seems that Maxwell's theory would allow that particles behave in a uniform way throughout the universe; we would not need laws of a fundamentally different kind. Moreover, sensory properties would be "built in" to the physical states realizing brain properties; hence, epiphenomenalism can be avoided. If successful, this theory would effectively undercut my argument. There would no longer be any reason to doubt that the conceivability-possibility principle is true. For the conceivability of sensory properties and their correlated brain properties can be explained away as follows: when it seems that we are conceiving of, for instance, pain that is not c-fiber stimulation, what we are really doing is conceiving of pain that lacks the *superficial* structure and function of c-fiber stimulation. We are *not* conceiving of pain that lacks the intrinsic properties of the physical state that realizes c-fiber stimulation in the actual world. As such,

<sup>11</sup> See Maxwell's "Rigid Designators and the Mind-Body Problem" (1978).

<sup>12</sup> More fully: the property that guides us in picking out instances of c-fiber stimulation is 'having such-and-such a structure and function'. However, this property picks out a further, distinct property; it picks out an intrinsic property of matter. Similarly, the property that guides us in picking out instances of water is 'being a clear, odorless liquid that fills the oceans and lakes on Earth'. However, this property picks out a further, distinct property; it picks out the property of being H<sub>2</sub>O.

we are not truly conceiving of pain without c-fiber stimulation.<sup>13</sup> However, there are serious problems with taking this line of response to my argument.

First, Maxwell's theory allows one to hold on to the scientific and commonsense views I mention only by making further counterintuitive assumptions. For example, by locating sensory properties at the level of matter, we are forced to accept that there is something it is like to be a particle. However, we seem very justified, both on scientific and commonsense grounds, in thinking that consciousness in this sense is something that only higher mammals enjoy: we don't think there is something it is like to be a bacterium, never mind an electron or quark! Second, Maxwell's theory is a substantive metaphysical thesis that suffers from tough objections of its own. One such objection is the so-called *combination problem*; roughly, how sensory properties located at the level of matter could combine so as to form smooth, continuous sensory states, such as visual sensations.<sup>14</sup> As such, his theory would have to derive large-scale support from other arguments and considerations. As things stand, it does not look like such support is imminent.

To sum up, I have argued that Cartesian intuitions should be rejected because they are inconsistent with highly plausible scientific and commonsense views about the physical world and the place of consciousness in that world. Hence, it is not a good strategy to seek to undercut my argument by making further assumptions that equally conflict with other of our rational commitments (for example, if Maxwell's theory is true, we must give up the idea that there is nothing it is like to be a particle). Moreover, rejecting Cartesian intuitions seems to be the more reasonable option, given that there is no good independent reason to accept Maxwell's theory, aside from the fact that it obeys the conceivability-possibility principle. However, it would be absurd to accept such a bold metaphysical view simply because the separability of sensory properties and brain properties is conceivable, particularly when we have already explained how it is *a priori* possible for the conceivability-possibility principle to be false.

## 5. Objections and Replies

**FIRST OBJECTION:** Your argument presupposes that one and the same property might be conceptualized in two independent ways. (Two concepts *C* and *C\** are independent when one cannot connect them independent of experience, i.e., *a priori*.) But that seems possible only if the two concepts involve different reference-fixing properties. For example, it is possible for one and the same physical property to be independently conceptualized as both 'heat' and 'molecular motion', but this is only because the property that guides us in picking out heat in the actual world, viz., being the cause of such-and-such a sensation, is different from the property that guides us in picking out molecular motion in the actual world, viz.,

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<sup>13</sup> In other words, it allows one to explain way separability intuitions about sensory properties and brain properties using Kripke's model. Kripke first presented this model in his (1972).

<sup>14</sup> For a discussion of the combination problem, see Chalmers's "Consciousness and Its Place in Nature" (2002).

having such-and-such a structure and function. However, this explanation is not open to you, for type-physicalism holds that, e.g., the property that guides us in picking out pain is identical with pain itself, and also that the property that guides us in picking out c-fiber stimulation is identical with c-fiber stimulation itself. Accordingly, if you want to hold that sensory concepts and brain concepts can be independent, then you must also hold that they involve different reference-fixing properties. Since type-physicalism implies that these two conditions cannot hold at the same time, your account is unstable.

**FIRST REPLY:** This objection is flawed for it presupposes that (i) if two concepts have the same property as reference-fixer, then (ii) one would be able to see this *a priori*. However, such an idea is badly flawed. For one thing, it seems to place ridiculously high standards on human cognitive abilities such that no cognitive-psychological factors might prevent one from seeing this *a priori*. Furthermore, I think that there are positive reasons, at least in the case of consciousness, to suppose that psychological factors would prevent one from seeing that sensory concepts and brain concepts coreferred, despite having the same property as reference-fixer. This is because sensory concepts do not scientifically conceive of their referents in terms of structure and function but rather as being of such-and-such a general type of inner property. In comparison, brain concepts are physical-theoretical and thus conceive of their referents precisely as properties having such-and-such a structure and function. Given these differences between sensory concepts and brain concepts, it would be unreasonable to think that one could connect them *a priori*. That would require sensory concepts to analyze their referents either as having structure *S* and function *F* or else as having *X*, where *X* implies having *S* and *F*. Or alternatively, the ability to connect them *a priori* would require that brain concepts conceive of their referents as being such-and-such a general type of inner property or else conceive of them as being *Y*, where *Y* implies being such-and-such a general type of inner property. But given the different psychological abilities that underlie the two kinds of concepts (introspection and recognition in the case of sensory concepts, perception and verbal-theoretical analysis in the case of brain concepts), neither is possible. Therefore, it would be tendentious to assume that two concepts could not have the same property as reference-fixer while being independent of each other, for they might be independent merely because of certain psychological factors of our cognitive system. To deny this would be to miss the point of the concepts/properties distinction altogether.

**SECOND OBJECTION:** You intend for your argument to be limited only to Cartesian intuitions. But given that it is the fact that such intuitions involve distinct kinds of concepts, or concepts that play distinct conceptual roles in our cognitive system, a similar argument might be made about a wide-range of our modal intuitions. For example, while it is nomologically impossible to jump 100 ft. high, no one would want to deny that it is metaphysically possible. However, given the distinctness of the concepts 'human' and 'jump', one could make the argument that such a state of affairs would be conceivable even if it was metaphysically impossible. Analogous remarks apply to any other modal intuition involving distinct kinds of concepts. Therefore, if we reject Cartesian intuitions, we should reject a wide-range of other modal intuitions. The result is a wide-reaching modal skepticism that threatens to undermine our most basic modal notions, such as validity, entailment, and

consistency.<sup>15</sup> Surely, this is an unacceptable consequence.

**SECOND REPLY:** I agree that my argument entails that a wide-range of our modal intuitions may in principle be false. For example, given the distinctness of the concepts ‘human’ and ‘jump’, and given the different conceptual roles that these concepts play in our cognitive system, it seems clear to me that jumping 100 ft. high would be a conceivable state of affairs even if it was metaphysically impossible. This much seems to follow from both the idea that conceivability and metaphysical possibility are not the same notion and Loar’s distinction between concepts and properties. However, this is not the reason I actually give for rejecting Cartesian intuitions. It is crucial to see this. Cartesian intuitions are *not* to be rejecting as false merely because the separability of, e.g., pain and c-fiber stimulation, would be conceivable even if these two properties were one and the same, and thus identical in every metaphysically possible world. To be sure, this is an important component of my argument, for it turns the question as to whether Cartesian intuitions are true into an empirical question. But the reason I give for actually rejecting them is the *further reason* that they are inconsistent with highly plausible scientific and commonsense views. In other words, given the *a priori* possibility that Cartesian intuitions are false anyway, and given that they conflict so radically with other highly plausible views, I conclude that it is more probable that Cartesian intuitions are false. Therefore, since other modal intuitions do not pose the problems that Cartesian intuitions do, there is no reason to think they are false. Or at least nothing in my account supports giving them up. Accordingly, my argument does *not* entail a wide-reaching modal skepticism.

**THIRD OBJECTION:** Your second reply misses the point for the following reason: you cannot claim that other modal intuitions are to be accepted as true merely because they do not have the same implausible consequences that Cartesian intuitions do. This is because, for a given modal intuition *m*, the only reason we ever had to think that *m* was true was that one could not even in principle see how *m* might be false (i.e., we lacked an explanation of how some state of affairs *p* could be ideally conceivable while at the same time being metaphysically impossible.) However, in explaining how conceivability can mislead us in a wide-range of cases, this reason has been removed. Therefore, even if other modal intuitions are completely unproblematic, it seems that there are no independent reasons to think that they are true. For all we know, they are false too.

**THIRD REPLY:** This objection argues that in explaining how it is *a priori* possible for the conceivability-possibility principle to be false, we have removed the central support for treating conceivability as an accurate guide to metaphysical possibility in any case. For example, the worry is that the only reason to think that the modal intuition, “it is metaphysically possible to jump 100 ft. high”, is true is that conceivability could not fail to be an accurate guide to metaphysical possibility in such a case. For how could it be? Since we have given an answer to this question, the objection argues that we have incurred the dialectical obligation of motivating other modal intuitions. The challenge is to motivate them in a way that goes beyond merely pointing out that they do not conflict with our scientific and commonsense views.

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In essence, this is the objection Chalmers makes to my kind of account in his (1999).

The first thing to note is that this is not a problem unique to my account. Put otherwise, one cannot hope to avoid this problem simply by rejecting my argument. As I mentioned above, that the conceivability-possibility principle might be false, basically follows from (i) the conceivability/metaphysical possibility distinction, and (ii) the concepts/properties distinction. Since these two distinctions can be motivated independent of my argument, this is a problem for anyone wishing to treat a given modal intuition as true. Therefore, it is not clear that I have any special burden with regards to it. Having said that, one could argue that a wide-range of other modal intuitions should be accepted, not simply because they do not conflict with our current scientific and commonsense understanding of the natural world, but rather because they are actually *supported* by this understanding. How so? Again, consider the modal intuition that it is metaphysically possible to jump 100 ft. high. This intuition is supported by our scientific understanding of human physiology and the laws of nature. For example, we know that how high a person can jump crucially depends on his leg strength, as well as other features of his physiological makeup. Moreover, we know that this will also crucially depend on the force that gravity exerts on him. Hence, our scientific views actually support the modal intuition that, in a very different world, i.e., one in which humans had sufficiently stronger legs, and the law of gravity was sufficiently weaker, we really would be able to jump 100 ft. high. Therefore, this modal intuition inherits luster from our scientific understanding of the act of jumping; given that the latter is plausible, we should think that the prior is plausible. So not only is there no reason to reject this intuition as false, there are positive reasons to think that it is true. Analogous remarks apply to a wide-range of other cases.<sup>16</sup>

**FOURTH OBJECTION:** You accept, then, that a wide-range of other modal intuitions is to be accepted as true. In fact, one might go so far as to say that the only problematic modal intuitions concern consciousness; in every other case, there is good reason to think that they are true. That being the case, it seems that the conceivability-possibility principle is highly motivated.

You have argued that Cartesian intuitions should be rejected as false because they are inconsistent with some highly plausible scientific and commonsense views. But however plausible such views are, they are not necessarily true. For example, while it certainly seems that particles must behave in a uniform way throughout the universe, it is possible that they do not. Or alternatively, while it certainly seems that sensory states can cause behavior, it is possible that they are really epiphenomenal. Therefore, if it turned out that there was a strong reason in favor of accepting Cartesian intuitions as true, these views could be given up. The reliability of all other modal intuitions is a strong reason to accept Cartesian intuitions.

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<sup>16</sup> Just to be clear: I am *not* suggesting that a given modal intuition *m* is true when it is supported by science or commonsense; rather, I am suggesting that when *m* is supported in this way, we should *accept* *m* as being true. The truth of *m* is a completely different question from the reasons we have in favor of accepting *m*. If *m* is true, this is because *m* accurately represents a genuinely metaphysical possible state of affairs. However, we can have more or less evidence for thinking that *m* is true. The idea here is that when *m* is supported by our present scientific theories, we should think *m* is true. But when *m* is inconsistent with our present scientific theories, as is the case with Cartesian intuitions, we should think *m* is false.

Hence, we should simply revise our scientific and commonsense views to accommodate property dualism.

**FOURTH REPLY:** This objection is tougher than the rest. Put simply, it argues that since I am willing to accept that (a) all other modal intuitions are true, I should equally be willing to accept that (b) Cartesian intuitions are true. What is the support for this argument? The reason seems to be that if other modal intuitions are true, then there must be some psychological explanation of why this is the case. More precisely, it seems that there must be some family of psychological mechanisms  $\phi$  such that  $\phi$  tends to produce true modal intuitions. (For example, one might say that  $\phi$  has to do with the way we form concepts of properties.) Consider the alternative: if there is not a psychological explanation in terms of  $\phi$ , then given the *a priori* possibility for conceivability to mislead us in such cases, the truth of these modal intuitions would be highly improbable. In other words, if they were true, this would be a matter of pure chance. But that is surely absurd. As such, the objection argues that given the truth of other modal intuitions, it is reasonable to think that  $\phi$  functions to produce true modal intuitions in the case of consciousness as well.

Now there are two ways one might respond to this objection. The first is to deny that (a) is the case. The idea that all other modal intuitions are true, or at least that there are no problems with accepting them as true, presupposes that separability intuitions over natural kinds and their corresponding physical-theoretical counterparts do not falsify the conceivability-possibility principle. Some philosophers reject this: they argue that the separability of, e.g., water and H<sub>2</sub>O, is ideally conceivable while at the same time metaphysically impossible. The same argument is then made about the whole range of *a posteriori* necessities. While I think this line of response is attractive, I also think that it faces some tough objections. Accordingly, I would like to provide a different response to the fourth objection. Roughly, it goes as follows.

There are significant differences between Cartesian intuitions and all other modal intuitions, even those over the separability of natural kinds and their corresponding physical-theoretical counterparts. More specifically, they involve concepts and cognitive processes that are fundamentally different from the concepts and processes involved with other modal intuitions. Cartesian intuitions involve the exercise of a concept that conceives of an inner, subjective property, and a concept that conceives of an external, objective physical property. Hence they uniquely involve one concept that is tied essentially to the first-person perspective in a way that even other recognitional concepts are not, and another, psychologically distinct concept that is tied essentially to the third-person perspective. The fourth objection argued that we should accept Cartesian intuitions as true because they are plausibly understood as the product of the same family of psychological mechanisms  $\phi$  that tends to produce other true modal intuitions. However, given these unique aspects of Cartesian intuitions, this argument does not appear to be very strong.

One might object that a wide-range of other modal intuitions also involve distinct concepts and cognitive processes. Nevertheless, we are willing to accept them as true. For example, the concepts 'human' and 'jump' are distinct; they play different roles in our cognitive system. Moreover, the cognitive processes that are involved in conceiving of

humans and those conceiving of jumping are presumably different. But there is every reason to suppose that the modal intuition, “it is metaphysically possible to jump 100 ft. high”, is true. Why should the difference between the concepts and processes involved in Cartesian intuitions be considered more significant than the difference between the concepts and processes involved in other modal intuitions? More to the point, why should we think that it is possible for  $\phi$  to function in the latter cases so as to produce true modal intuitions but not in the former? However, this objection crucially underestimates the psychological gap between the first-person perspective and the third-person perspective. Below, I explain this concept.

It is hardly controversial to assume that there are deep cognitive-psychological, and therefore neural, differences between the features of brains that make first-person experiences possible, and the features of brains that make third-person, verbal and theoretical organization of information possible. This idea is strongly supported by the fact that while the latter features are well-understood (for example, we can get a computer to perform these functions), the former remain largely, if not entirely, mysterious to us at present. Therefore, given these distinct psychological and neural differences involved with the two perspectives, and consequently, the concepts that are tied essentially to these perspectives, it would be completely tendentious to assume that Cartesian intuitions do not differ significantly from other modal intuitions. Or at least a very powerful argument would be needed to show that these unique aspects of Cartesian intuitions are not important as far as the functioning of  $\phi$  is concerned. As things stand, it seems that one would be justified in treating Cartesian intuitions as a totally different kind of psychological entity altogether; conceiving of a sensory property without a brain property, or vice versa, should not even be understood as a standard case of conceiving, it is a *sui generis* psychological act. Hence, it seems that one is justified in accepting all other modal intuitions as true while rejecting Cartesian intuitions as false: for all we know, Cartesian intuitions are too fundamentally different from other modal intuitions for the reliability of the latter to generalize to the former. If I am correct, then the apparent positive support for Cartesian intuitions is removed.

## 6. Conclusion

In this paper, I explained the challenge that conceivability arguments pose to type-physicalism, and I outlined how I think the type-physicalist should respond to such arguments. Conceivability arguments presuppose that conceivability is an accurate guide to metaphysical possibility; hence, if the separability of, e.g., pain and c-fiber stimulation, is conceivable, then there is a metaphysically possible world in which these properties actually come apart. However, I have argued that this is not the only explanation for why such states of affairs are conceivable. They might be conceivable because of deep psychological differences between sensory concepts and brain concepts. Given these differences, the separability of pain and c-fiber stimulation would be conceivable even if these two properties were one and the same in reality.

Noting that a similar argument might be made about a wide-range of modal intuitions, I argued that Cartesian intuitions should not be rejected for this reason, but rather for the *further reason* that they are inconsistent with some highly plausible scientific and commonsense views about the physical world and the place of consciousness in that world. These other views are so plausible that, given the possibility for Cartesian intuitions to be false, it is highly probable that they are *in fact* false. Crucially, one cannot make the same argument about other modal intuitions. Therefore, type-physicalism can have its cake and eat it too: it can justifiably reject conceivability arguments without being committed to a wide-reaching modal skepticism. Conceivability arguments thus have no force against type-physicalism.

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