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## Zombies, the Uniformity of Nature, and Contingent Physicalism: A Sympathetic Response to Boran Berčić\*

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**ABSTRACT:** Boran Berčić, in the second volume of his recent book *Filozofija* (2012), offers two responses to David Chalmers's conceivability or modal argument against physicalism. This latter argument aims at showing that *zombies*, our physical duplicates who lack consciousness, are *metaphysically possible*, given that they are *conceivable*. Berčić's first response is based on the principle of the *uniformity of nature* that states that causes of a certain type will always cause effects of the same type. His second response is based on the assumption that the basic statements of physicalism in philosophy of mind are or should be contingently true. I argue that if Berčić's first defence is aimed at the *conceivability* of zombies, it is unsatisfactory. Moreover, I argue that a quite similar argument, offered by John Perry in his book *Knowledge, Possibility and Consciousness* (2001), is afflicted by a similar problem. Nevertheless, under a more plausible interpretation, Berčić's argument might be taken to attack the *metaphysical possibility* of zombies. This version of the argument might be effective and has the merit to point out a so far overlooked link between the discussion of the Chalmers's conceivability arguments against physicalism and the modal strength of causal links and natural laws. Then, I argue that Berčić's second defence of physicalism, which cannot be combined consistently with his first one, in any case, should not be formulated in the terms of contingent physicalism.

**KEY WORDS:** A posteriori contingent physicalism, Chalmers's conceivability argument, physicalism, qualia, uniformity of nature, zombies.

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## 1. Introduction

Physicalists or materialists in philosophy of mind think that mental states and properties are respectively identical to physical states and properties or depend on physical states and properties in ways that confers to the latter an ontological “primacy”.<sup>1</sup> However, there are certain persistent intuitions, then refined or articulated in philosophical arguments, for the conclusion that conscious experiences involve properties, usually called *qualia*, that cannot have a place in the physical or natural world. Qualia are taken to be features of our conscious mental states, usually conscious experience as those involved in having pain or perceiving the world. Qualia are taken to characterise the specific ways a subject enjoy having these mental states. For instance, the specific way in which the taste of Malvasia is given to you, when you drink it, involves *qualia* that characterise the way in which you undergo the conscious gustatory experience of that wine.

A class of arguments, known as modal arguments, has been advanced for the conclusion that qualia cannot have a place in the physical world. These arguments rely on the idea of the *philosophical zombie*.<sup>2</sup> A philosophical zombie (*zombie*, from now on) is a hypothetical creature who is a duplicate of you or me in terms of physical composition, but who lacks qualia. The modal arguments move from the conceivability of *zombie worlds*, that are physical duplicates of our world that contain zombies, to derive their metaphysical possibility, and this is then taken to threaten physicalism.

Boran Berčić has recently argued, in the second volume of his book *Filozofija*, that there are two defensive barriers between physicalism and the modal argument based on zombies.<sup>3</sup> His first response is based on the principle of the *uniformity of nature* that states that causes of a certain type will always cause effects of the same type. Berčić’s second response is based on the assumption that the basic statements of physicalism in philosophy of mind are or should be contingently true.

In this paper, I argue that Berčić’s first defence is unsatisfactory, if he intends to attack with it the thesis that zombies are conceivable. Moreover, I will argue that a quite similar argument, offered by John Perry in his book *Knowledge, Possibility and Consciousness* (2001) is afflicted by a similar problem. However, I show that, under another plausible interpretation, Berčić’s first defence might be taken to attack the thesis that zombies

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<sup>1</sup> Supervenience is the main notion used to spell out this dependence, see McLaughlin and Bennett (2011).

<sup>2</sup> Kripke (1971), Chalmers (1996). For an introduction to the zombie arguments and the debate on them, see Kirk (2011).

<sup>3</sup> Berčić (2012: 179–184).

are metaphysically possible. This argument is more plausible and it has the merit to point out a link between the discussion of the conceivability arguments against physicalism and the modal strength of causal links and of natural laws. This is an important connection that surprisingly has been addressed, independently, by very few contemporary authors.<sup>4</sup> I then will argue that Berčić's second defence of physicalism, which cannot be combined consistently with his first one, in any case, should not be formulated as he does in terms of contingent a posteriori physicalism. Without pretending to offer a definitive argument, I will rehearse some of the considerations that have induced many physicalists to think that the fundamental statements of their view are, although a posteriori, metaphysically necessary and not contingent.

I will proceed as follows. In section 2, I present Chalmers's conceivability argument and my interpretation of Berčić's argument from the uniformity of nature. I argue that neither this defence of physicalism nor a similar advanced by Perry are successful. In section 3, I set out and discuss the merits of a different reading of Berčić's argument from the uniformity of nature. In section 4, I consider Berčić's second response to the modal argument and briefly explain why many physicalists prefer not to endorse contingent physicalism.

## **2. The uniformity of nature and the conceivability of zombies**

Berčić's defends physicalism from a formulation of the modal argument offered by David Chalmers.<sup>5</sup> This argument goes as follows:

1. In our world there are conscious experiences.
2. There is a logically possible world physically identical to ours, in which the positive facts about our consciousness do not hold.
3. Therefore, facts about consciousness are further facts about our world, over and above the physical facts.
4. So materialism is false. (Chalmers 1996: 123)

I take that the core of Berčić's first response to Chalmers's modal argument is contained in the following passage:

The intuition about *the uniformity of nature*—that the same causes always lead to the same outcomes—is in direct contradiction with the second step in Chalmers's argument. If the same causes always lead to equal effects, then

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<sup>4</sup> I am only aware of Garrett (2009).

<sup>5</sup> Berčić (2012: 180).

it is simply not possible a world that is the same as our physical world and where there is no conscious life. (Berčić 2012: 181–182)<sup>6</sup>

In this passage, it is explicitly stated that the target of the response is premise 2 of Chalmers's argument. However, it seems that before discussing Berčić's argument we should carefully consider its aim.

Berčić's intention is expressed in the text that precedes his argument, where he states the main question that he wants to answer:

*Can I really conceive a being who has no mental states although is physically exactly like me? ...* (Berčić 2012: 181)<sup>7</sup>

Berčić talks about *conceivability* (*zamislivost*). Thus, we might assume that his argument is directed against the *conceivability* of zombies. So, it is surely worth considering what we should take conceivability to be.

Conceivability is an *epistemic* notion taken to concern what we can find coherent *a priori* by using our concepts. In particular, we can say that *S* is conceivable when it expresses a certain hypothesis, that, in a position of ideal reflection, we cannot *a priori* rule out. So, the conclusion of Berčić's argument, under the interpretation suggested above, is that in thinking in an ideal reflective position about the physical story *P* and the phenomenal fact *Q*, we would find out *a priori* that *P* and not-*Q* is incoherent. This means that a zombie world should be ruled out just by reflecting on the issue by employing the concepts involved in thinking about *P* and *Q*. So, let thus formulate Berčić's argument accordingly.

It seems that a central premise in Berčić's argument is the following formulation of the principle of the *uniformity of nature*.

If an instantiation of type *A* causes an instantiation of type *B*, then, *ceteris paribus*, any instantiation of type *A* causes an instantiation of type *B*.

<sup>6</sup> All the translations from Croatian are mine. The original is: "Intuicija o uniformnosti prirode – da jednaki uzroci uvijek dovode do jednakih posljedica – u direktnoj je kontradikciji s drugim korakom u Chalmersovom argumentu. Ako jednaki uzroci uvijek dovode do jednakih posljedica, onda naprosto nije moguć svijet fizički identičan našem u kojem nema nikakvog svjesnog života." (Berčić 2012: 181–182).

<sup>7</sup> In the original: "Mogu li doista zamisliti biće koje nema nikavih mentalnih stanja iako je fizički potpuno jednako momu? ... Ako su sva fizička svojstva dvaju bića potpuno jednaka, onda i sva ostala svojstva, uključujući i mentalna, moraju biti potpuno jednaka! Da bi biće slično meni moglo ne imati nikakva mentalna stanja a da ja imam ta koja imam, mora postojati nekakva fizička razlika u moždanim stanjima. Ako nema nikakve fizičke razlike, ne može biti niti bilo koje druge razlike. Dakle, mi možemo zamisliti zombija sličnog nama, ali nije jasno kako bismo mogli zamisliti zombija do posljednjeg neurona jednakog nama. Ako ne možemo, to bi značilo da zapravo nije moguće zamisliti zombija". (Berčić 2012: 181)

The expression “*ceteris paribus*” means that all other conditions have to be equal or held constant. In the requirement in the principle above the expression means that all other relevant conditions that obtain when the instantiation of type *A* causes an instantiation of type *B* have always to obtain for the other instantiations of *A* to cause instantiations of *B*.<sup>8</sup> For simplicity’s sake, in the following uses of the principle of uniformity of nature I will drop the *ceteris paribus* clause and the specification that the principle concerns repeatable instantiations of a certain type. Let us now introduce some further notation that is useful to present Berčić’s argument.

Let us assume that *P* is the physical story about our world. *P* is a conjunction of all the microphysical truths about the universe. Specifically, *P* can be the (possible or future) *complete* physical story about our world that also includes functional properties specified in terms of causal roles.<sup>9</sup> So, physicalists would think that the story *P* would be enough to describe and explain qualia or at least to describe what ontologically “fixes” their occurrences.

In addition, let us assume that *Q* is a fact involving the instantiation of a *quale* in our world, for example the fact of having pain or a certain qualitative feature. Now, (*P* and not *Q*) is the description of a *zombie world*. This is a world that is physically identical to our world but that contains zombies, our physical duplicates that lack qualia.

If we assume that Berčić’s argument supports the conclusion that zombie worlds are inconceivable, we could formulate it as follows.<sup>10</sup>

1. If the instantiation of *P* causes the instantiation of *Q*, then always instantiations of *P* would cause an instantiation of *Q*. (*Uniformity of nature* applied to *P* and *Q*)
2. An instantiation of *P* causes an instantiation of *Q*. (Physical to mental causation)
3. *A priori* we know that *P* is instantiated in the zombie world. (By hypothesis)

<sup>8</sup> Given that the issue is not relevant in the following discussion, no commitment is here needed about the *relata* of casual relations and thus about what kind of entities are these instantiations.

<sup>9</sup> If you worry about the intelligibility of any reasoning whose premises include *P*, you are not alone. There is an increasing awareness amongst philosophers of mind that something substantial should be said about the proper understanding of what is meant by “physical” in many arguments for or against physicalism. For an introduction to the contemporary debate on this issue, see Montero (2009). For a more opinionated treatment, see Stoljar (2010). My attempt to contribute to this debate is Malatesti (2008).

<sup>10</sup> The assumption that events are the entities that satisfy *P* and *Q* and are causal *relata* is made for expository reasons, without any commitment on ontological issues about causation.

4. *A priori* we know that an instantiation *P* causes an instantiation of *Q* in the zombie world. (From 1 and 2).
5. *A priori* we can rule out (*P* and not-*Q*). (From 4)

Therefore:

6. It is not conceivable (*P* and not-*Q*). (From 4 and 5)

This argument, if effective, would even defend forms of *a priori* physicalism from modal arguments based on zombies. According to these versions of physicalism, in an ideal reflective position, we would know *a priori* that (*P* entails *Q*) and thus that zombie worlds are inconceivable. There are several physicalists that endorse this doctrine, usually by maintaining that an analysis of our mental concepts would reveal the complete physical story *P* would entail the instantiation of *Q*.<sup>11</sup>

However, this reading of Berčić's argument give us an invalid argument. In fact proposition 4 does not follow logically from premises 1 and 2 given that they are *a posteriori*, and they should be both *a priori*.<sup>12</sup> Although Berčić does not say so, it can be conceded to him that we know *a priori* the principle of the uniformity of nature and its specific instance in premise 1. However, we cannot know *a priori* the content of premise 2 that states that an instance of *P* causes that of *Q* in our world. In fact there is *no a priori* accessible logical contradiction in thinking that *P* might not have caused *Q* or whichever of its effects. In particular, we have to remind ourselves that, in order not to beg the question with dualism, Berčić cannot assume the truth of physicalism in his argument. Moreover, *a fortiori*, he cannot assume the truth of *a priori* physicalism, according to which it is *a priori* that (*P* entails *Q*). This would be a premise that might, somehow, ground the conclusion that we know *a priori* that *P* causes *Q*. So, it seems that if Berčić's target is the conceivability of zombies, the suggested interpretation of his argument is not effective.

Interestingly, John Perry has attempted to deny the conceivability of zombie worlds by considering the physical effects of the instantiation of *Q*, instead than its physical causal antecedents as in Berčić's argument.<sup>13</sup> According to Perry, given that by hypothesis *Q* is not instantiated in the, alleged, zombie world; it would follow that also the physical effects of the instantiation of *Q* will not be instantiated in it. However, this would mean that the world where *Q* is not instated will diverge, in a physical way, from

<sup>11</sup> For endorsements of *a priori* physicalism, see Shoemaker (1980) and Dennett (2007). It has been also argued that if physicalism is true, it as to be *a priori* physicalism, see for instance Jackson (2007). For a response, see McLaughlin (2007).

<sup>12</sup> In fact, if we know *a priori* that (*p* then *q*) we cannot derive that we know *a priori* that *q*, if we do not know *a priori* that *p*.

<sup>13</sup> Perry (2001: 72–89).



our world. Thus, the complete physical story *P* of our world could not be instantiated in that other world. Therefore, Perry concludes that that world cannot be a zombie world.

Perry, then, maintains that his argument shows that the real issue raised by the modal argument based on zombies is the opposition between epiphenomenalism and interactionism and not that between dualism and physicalism. However, also Perry's argument appears to be trading on the questionable assumption that *a posteriori* truths about our physical world should determine what can be ruled out *a priori* and, thus, what we cannot conceive.<sup>14</sup>

To recapitulate, two attempts at undermining the conceivability of zombies do not succeed. The reason is that, in trying to downgrade the conceivability of zombies to a form of *prima facie* conceivability, these reasonings have to rely on *a posteriori* theses about our world. However, Berčić's central intuition that the uniformity of nature can be used to resist the modal argument based on zombies can be shaped in a different and more successful way.

### 3. The uniformity of nature against the metaphysical possibility of zombies

It is useful to present Chalmers's modal argument in a now standard formulation that makes explicit some premises that are left implicit in the version that has been addressed by Berčić.<sup>15</sup>

Chalmers's now standard formulation of the modal argument that is also known as *conceivability argument* goes as follows.<sup>16</sup>

1. *P* and not-*Q* is *conceivable*.
2. If *P* and not-*Q* is *conceivable*, *P* and not-*Q* is *metaphysically possible*.
3. If *P* and not-*Q* is *metaphysically possible*, materialism is false.

Therefore:

4. Materialism is false.

Let us clarify the premises.

The notion of conceivability in the first premise is the epistemic notion that I have presented in the previous section. On the other hand, the

<sup>14</sup> See for this line of argument, Chalmers (2009).

<sup>15</sup> See Chalmers (2009). To be precise, this is the schematic structure of Chalmers's argument, given that his more fine grained distinctions between different types of conceivability and possibility are not made here explicit.

<sup>16</sup> Chalmers (2009: 314).



notion of *metaphysical possibility* in the second premise is an *ontological* notion that is taken to depend on what follows from the nature or from the essence of the entities concerned. Specifically, we can say that the sentence *S* is metaphysically possible when its falsity does not follow from the nature or essence of the entities that are involved in its truth-maker. Thus, the second premise states the existence of an inferential connection between the epistemic realm of what we find conceivable, to the ontological realm of what is metaphysically possible.

Finally, the third premise of the argument concerns an ontological consequence of endorsing physicalism or materialism. This is the claim that physicalists have to accept that from their position follows that the fundamental psychophysical relation between mental and physical properties, being an identity or some other relation of ontological dependency, has to be metaphysically necessary. While I will discuss this premise of the conceivability argument in section 4, here I consider its second premise.

Berčić's argument from the uniformity of nature can be directed against the thesis that if *P* and not-*Q* is *conceivable*, then *P* and not-*Q* is *metaphysically possible*. The aim of response would be to offer a non-question begging counterexample by showing that, independently from the assumption of physicalism, although the zombie world is even ideally conceivable, it is nonetheless metaphysically impossible. Let us begin with a formulation that exploits the principle of uniformity of nature, as presented by Berčić:

1. If the instantiation of *P* causes an instantiation of *Q*, then always instantiations of *P* would cause an instantiation of *Q*. (Uniformity of nature applied to *P* and *Q*)
2. An instantiation of *P* causes an instantiation of *Q*. (Physical to mental causation)
3. There is an instantiation of *P* in the zombie world. (By hypothesis)
4. It is metaphysically necessary that an instantiation *P* causes an instantiation of *Q*. (From 1 and 2)
5. It is metaphysically necessary not (*P* and not-*Q*). (From 4)

Therefore:

6. It is metaphysically impossible (*P* and not-*Q*). (From 3 and 5)

It seems that also this formulation is not valid. Neither the instance of the principle of uniformity of nature nor the fact that *P* causes *Q* are stated as being metaphysically necessary. However, this is a requirement for the derivation of thesis 4 from these premises. Let us see whether a reformulation of the principle of the uniformity of nature can help here.

Berčić does not state explicitly the modal force of the principle of the uniformity of nature used in his argument. Nevertheless, it is plausible to assume that it involves implicitly a modal operator of necessity.<sup>17</sup> Specifically, I would suggest that the principle of uniformity of nature, to be used in the argument against the metaphysical possibility of zombies, should involve a metaphysically necessary consequent. Thus, the principle could be states as:

If the instantiation of *P* causes an instantiation of *Q*, then it is *metaphysically necessary* that always instantiations of *P* would cause an instantiation of *Q*. (Strong uniformity of nature applied to *P* and *Q*)

Thus, we have a third formulation of Berčić's argument:

1. If the instantiation of *P* causes an instantiation of *Q*, then it is *metaphysically necessary* that always events *P* would cause an instantiation of *Q*. (Strong uniformity of nature applied to *P* and *Q*)
2. An instantiation of *P* causes an instantiation of *Q*. (Physical to mental causation)
3. There is an instantiation of *P* in the zombie world. (By hypothesis)
4. It is metaphysically necessary that the instantiation of *P* causes an instantiation of *Q*. (From 1 and 2)
5. It is metaphysically necessary not (*P* and not-*Q*). (From 4)

Therefore:

6. It is metaphysically impossible (*P* and not-*Q*). (From 3 and 5)

Let us now evaluate the argument.

The argument appears to be formally valid. In addition it is not begging any question for the majority of dualists. The principle of uniformity of nature could be endorsed also by dualists or even idealists as a principle that regulates whatever causal relations they are ready to endorse. In addition, the specific application of this principle to the argument against the possibility of zombies is based on the assumption that the instantiation of *P* causes the instantiation of *Q* in our world. Also this premise does not beg any questions for the majority of dualists. In fact, many dualists are epiphenomenalists, if not interactionists, and, thus, recognise, at least, physical to mental causal relations.

However, some dualists, who are not willing to question the principle of uniformity of nature, might deny that physical states cause *Q*. Thus, they would support, for example, *parallelism* or *mental to physical only interactionism*. Regardless the issue of the plausibility of these latter doc-

<sup>17</sup> Moreover, in a personal communication, Berčić explained me that this is how he understands the principle of uniformity of nature.

trines, it would in any case follow that the conceivability argument based on zombies does not do the job it was meant to do by its proponents. Instead of supporting dualism, it would become an argument for supporting the denial of physical to mental causal relations. Thus, Berčić's argument is valid and it is not question begging. However, we have to see whether its premises are true. Clearly, the modally strong version of the uniformity principle calls for our attention.

The principle of uniformity of nature, especially when the cause is the complete physical story *P*, and thus with all the *ceteris paribus* conditions in their place, might appear to be tenable here. However, it is important to recognise that Berčić, in order to block the metaphysical possibility of zombies, needs to state it in a quite strong modal form.<sup>18</sup> Now, the problem of spelling out the modal strength of the principle of uniformity of nature and of the laws of nature in general has been widely discussed in metaphysics, and in philosophy of science. Starting from David Hume, empiricists have argued that empirical evidence can only support a "regularity account" of laws of nature and causation. According to this doctrine, the uniformities of nature are only regularities that have no kind of strong necessitation.<sup>19</sup> However, others, such as Sydney Shoemaker for instance, have advanced the stronger requirement that they involve metaphysical necessity.<sup>20</sup> Without adjudicating the issue here, it is important to stress that Berčić's argument bridges the debate on zombies with this one concerning the modality of the principle of the uniformity of nature. Thus, he reveals that the metaphysical possibility of zombies depends on the issue of how modally strong is the "causal cement" of the universe.

However, let me also qualify the extent of Berčić's result in relation of the debate on the conceivability argument. First, it has to be acknowledge that offering a counterexample to a thesis, although it might show that the thesis is false, it does not show why it is false. In addition, it is fair to say that an independent argument for the thesis that, at least in the case of qualia, what we can conceive is a guide to its metaphysical possibility is a central part of the principal modal arguments against physicalism, that have been advanced by Kripke and Chalmers. These defences have, in one way or the other, traded on the special first personal access that we supposedly have to qualia. This access confers us a special authority to grasp the essential nature of these properties. This authority, by being in turn

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<sup>18</sup> In a personal communication, Berčić told me that he defends also the stronger claim that it is metaphysically necessary that *P* causes *Q*. However, this strong determinism is not required by my formulation of Berčić's argument from the uniformity of nature.

<sup>19</sup> A classical empiricist account of the uniformities of nature is offered in Hempel and Oppenheim (1948).

<sup>20</sup> Shoemaker (1998).

embedded in our mastery of the concepts about qualia used in conceiving zombies, guarantees that zombies are metaphysically possible.<sup>21</sup>

On the other hand, physicalists have offered arguments aimed at undermining this special access. In particular, many discuss about the nature of the concepts that we use to think, from the first person, about qualia to determine whether or not there is such a special access that would justify the second premise of the conceivability argument.<sup>22</sup> Berčić does not engage directly with these recent debates; however he addresses a central tenet for many physicalists engaged in the discussion. This is the thesis that the basic statements of the physicalist position are *a posteriori*. So, let us now move to the second family of considerations that Berčić has advanced to resist the modal arguments against physicalism.

#### 4. Contingent physicalism

Berčić thinks that the physicalists have another line of defence against the argument from conceivability: they should maintain that physicalism is contingently true. This line of reasoning goes as follows:

Even if the mental and physical are not the same, this *does not follow* from the intuition that it is logically possible that the mental and physical are not the same. The logical possibility that the mental and the physical are not the same is *not sufficient* to show that the mental and the physical *de facto* are not the same. For this reason the physicalists have insisted on the thesis that the identity between the physical and the mental is a *contingent* identity, which is established by a *posteriori* scientific investigation rather than a *priori* philosophical argument. Just as no amount of *a priori* philosophical reasoning can establish whether or not a professor of ethics in the Faculty of Arts is the Dean of the Faculty, no amount of *a priori* philosophical reasoning can say whether or not mental states *are* physical states of the brain. (Berčić 2012: 183–184)<sup>23</sup>

<sup>21</sup> Kripke (1971), Chalmers (2009). Notoriously, Descartes, in his argument from clear and distinct perception in the *Meditations* (Descartes 1641 (1996)), relied on the goodness of God to bridge the transition from his *clearly and distinctly conceiving* a distinction between his mind and his body to their *possible* difference.

<sup>22</sup> See Alter and Walter (2007).

<sup>23</sup> In the original: “Čak i da mentalno i fizičko nisu isto, to ne slijedi iz intuicije da je logički moguće da mentalno i fizičko nisu isto. Logička mogućnost da mentalno i fizičko nisu isto nije dovoljna da bi se pokazalo da mentalno i fizičko *de facto* nisu isto. Upravo su zbog toga fizikalisti inzistirali na tezi da identitet između fizičkog i mentalnog jest kontingentni identitet kojega se utvrđuje aposteriornim znanstvenim istraživanjem a ne apriornom filozofskom argumentacijom. Isto kao što nikakva količina apriorne filozofske argumentacije ne može reći da li profesor etike na Filozofskom fakultetu jest Dekan tog Fakulteta ili nije, isto nam tako nikakva količina apriorne filozofske argumentacije ne može reći da li mentalna stanja jesu fizička stanja mozga ili nisu.” (Berčić 2012: 183–184).

The contingency of the basic physicalist claims can be traced back to the identity theory that was advanced by U.T. Place and J.J.C Smart in the first half of the twentieth century.<sup>24</sup> The core claim of this position was that each type of conscious experience and its properties are contingently identical, respectively, to a type of physical, neural, state and its physical properties. Thus, if we take qualia to be properties of experiences, and remind ourselves that *P* contains a complete story about the brain of the relevant subject, *Q*, by being contingently identical to some physical fact described in *P*, will be entailed, contingently, by *P*.

The upholders of identity theory maintained that the psychophysical identities of types of conscious experiences with types of brain states were contingent, such as other identities discovered by science. So, they maintained that, as we have discovered the contingent identity between water and H<sub>2</sub>O, there were good reasons for believing that neuroscience would have one day discovered the type of neural state to which a certain conscious experience, say a pain in your elbow, would be contingently identical. Such a discovery would be, of course, *a posteriori*.

These philosophers, besides pointing to the reasons for expecting, in general, that discoveries of contingent psychophysical identities were possible and probable, embarked also in the philosophical task of showing that there were no *a priori* reasons for thinking that such discoveries were impossible. This latter task was carried forward by dismantling one by one several *a priori* objections to the possibility of discovering psychophysical contingent identities.<sup>25</sup> Given the adherence of these physicalists to the analytic paradigm of their time, the majority of these rebuttals involved focussing on the supposed linguistic and semantic wrong turns taken by their opponents. The core of this detailed defensive manoeuvring was the idea that although *a priori* it was possible to conceive that psychophysical identities are impossible, in our reformulation of the issue that (*P* and not *Q*) is metaphysically possible and thus that (*P* does not entail *Q*), this was not damaging to the assumption that these identities were contingent. Consider someone who would like to dismiss the identity of water with H<sub>2</sub>O by maintaining that we can conceive that it is possible that water is not H<sub>2</sub>O.

So, Berčić, at least on this respect, bring us back to the origins of physicalism in the analytic philosophy of mind.<sup>26</sup> It is important to stress that he offers contingent physicalism as a second line of defence from the modal argument that is independent from his argument from the uniform-

<sup>24</sup> Place (1956) and Smart (1959).

<sup>25</sup> A rather detailed defensive work was carried forward in Smart (1959).

<sup>26</sup> However, Berčić does not endorse type to type psychophysical identities.

ity of nature. Moreover, these two defences should be independent. In fact, the physicalist that endorses the metaphysically strong version of the principle of uniformity of nature has to conclude that her position is incompatible with the metaphysical possibility of zombies. Thus, the basic psychophysical identifications in his doctrine (or the other relations of non symmetric dependence between physical properties and mental properties) have to be necessary. In any case, what Berčić needs from these earlier versions of physicalism is just the epistemic tenet that the basic physicalist theses are *a posteriori*. Thus, the conceivability of zombies, once proved their impossibility, would not be a problem for *a posteriori* necessary physicalism.

However, it might be worth exploring an important issue that is left out from Berčić's treatment of the conceivability argument. At least in contemporary philosophy of mind, modal arguments come with sub-arguments to debunk the physicalists from contingent physicalism and force them to endorse modally stronger theses. This, of course, is done to render the physicalist's position vulnerable to the conceivability arguments. In particular, Kripke has famously argued for the conclusion that physicalist should embrace necessitation physicalism.<sup>27</sup> The central background of Kripke's modal argument against type-type identity theory was his argument that psychophysical identities cannot be contingent. First, thanks to his celebrated idea that the epistemic distinction between *a priori* and *a posteriori* and the ontological distinction between necessary and contingent are orthogonal, Kripke could maintain that the assumption that these identities can be discovered *a posteriori* is not guarantee of their contingency. Second, by arguing that psychophysical identities are expressible by means of *rigid designators*, that are terms who refer to the same entity in every possible world (where that entity exists), he could conclude that these identity have to be necessary; the central idea here being that an entity is necessarily identical to itself.

## 5. Conclusion

To recap, I have discussed Berčić's response to the modal argument based on the principle of the uniformity of nature. I have stressed that his reasoning can be shaped as a very interesting and, so far, not sufficiently explored line of thought. I have also argued that it even might work, if it is based on a modally strong principle of the uniformity of nature. However, establishing the plausibility of this principle would lead us directly into

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<sup>27</sup> Kripke (1971).

the debate of the modal strength of the principles that regulate causation and the natural world.

In addition, I have argued that Berčić cannot couple the argument from the uniformity of nature with contingent *a posteriori* physicalism. First, this position is not compatible with the recommended strong modal reading of his argument from uniformity. Second, it is not a good alternative response to the modal argument. In fact, it is part of the tradition of the conceivability arguments, at least from Kripke on, to offer quite strong considerations for the endorsement of modally necessary forms of physicalism. Anyway, it seems that Smart and Place's relevant legacy for Berčić is that the specific psychophysical relations endorsed by physicalists, identities or more relaxed ontological dependencies, are to be discovered *a posteriori*.

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