Let's Dance!
The Equivocation in Chalmers' Dancing Qualia Argument

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Abstract. David Chalmers' dancing qualia argument is intended to show that phenomenal experiences, or qualia, are organizational invariants. The dancing qualia argument is a reductio ad absurdum, attempting to demonstrate that holding an alternative position, such as the famous inverted spectrum argument, leads one to an implausible position about the relation between consciousness and cognition. In this paper, we argue that Chalmers' dancing qualia argument fails to establish the plausibility of qualia being organizational invariants. Even stronger, we will argue that the gap in the argument cannot be closed. .

Key words: consciousness, functionalism, qualia.

1. Introduction

If we build an artificial system which mirrors the brain's functional organization completely, would that system have the same conscious experiences we do (assuming it was conscious at all)? David Chalmers argues that it would (Chalmers 1994, 1995, 1996). He claims that an artificial brain will have exactly the same conscious experiences as a human brain, provided that the artificial brain has the same functional organization as a human brain. Using his dancing qualia thought experiment, Chalmers attempts to show that one is led to an untenable position if one assumes that the nature of conscious experience depends on more than the functional organization of the brain.

In this paper, we argue that his dancing qualia argument fails, and for a rather deep reason which renders the argument irreparable. We show that no untenable position is obtained when assuming the falsity of the desired conclusion. We conclude that the issue of the relation between consciousness and the functional organization of the brain remains completely up in the air as far as Chalmers' argument goes.

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2. Background

In this section we present some background on the dancing qualia argument. We discuss the logical structure of the argument, Chalmers' need for the argument, and how we will refute the argument.

2.1. THE STRUCTURE OF THE ARGUMENT

The dancing qualia argument rests on a number of background assumptions:

> *Anti-Materialism*: The facts about consciousness in our universe do not globally logically supervene on the physical facts of our universe.[1] For example, the 'zombie' world which is the world that is physically identical to ours but in which the positive facts about consciousness do not hold, is a logically possible world. In short, there is a fundamental split between the phenomenal and the physical, and the phenomenal (including consciousness) does not logically supervene on the physical.
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> *Natural Dualism*: Although consciousness does not logically supervene on the physical, it does so naturally.[2] In our world (but not in every logically possible world), there are 'phenophysical' laws that associate conscious experiences with physical states.[3] In short, there is a fundamental split between conscious experiences and cognitive states, but in our world they are lawlike related.
> *Coherence Principle*: The phenophysical laws in our world that associate phenomenal experiences with physical states are such that consciousness and cognition are coherent with each other.[4] For example, my visual experience of a basketball game is reflected by me having psychological dispositions with regard to a basketball game and not to something like a boring lecture. In short, our cognitive states and our conscious experiences are 'in sync.'

Chalmers wants to argue for the following claim:

> *Principle of Organizational Invariance*: The phenophysical laws that hold in our world are such that phenomenal experiences arise from the functional organization of physical states alone. That is, the nature of conscious experiences is fully determined by the mere abstract functional organization of the physical states. Therefore, systems that are functional isomorphs of each other will have identical conscious experiences.[5] In short, conscious experiences are *organizational invariants*.[6]

We refer the reader to Chalmers' book (Chalmers, 1996) for a much more rigorous exposition of all of these claims. However, the above characterisations suffice to present and criticize Chalmers' argument.

The dancing qualia argument takes the form of a *reductio ad absurdum*. The argument assumes the falsity of the Principle of Organizational Invariance. Using the above background assumptions, the argument deduces from this assumption

a position that is in contradiction with the Coherence Principle. Therefore, the assumption is false, and Organizational Invariance holds.

2.2. THE NEED FOR THE ARGUMENT

To some readers the need for giving an argument for the Organizational Invariance of consciousness may be not be clear. There are two possible reasons for this:

1. First, someone may remark that Organizational Invariance trivially follows from the claim of Functionalism, for which there are other good and independent arguments. That is, like any other cognitive property, consciousness is likely to be reduced to purely functional terms, and is therefore an organizational invariant.

   However, one of Chalmers' background assumptions is the rejection of Materialism. According to Chalmers, there is a fundamental difference between cognition (which is purely physical) and consciousness (which is purely phenomenal). Therefore, being a Functionalist when it comes to cognition does not imply that one is a Functionalist about consciousness. The latter requires a separate argument: the dancing qualia argument.

2. Second, even if one is a Functionalist about cognition, while leaving this matter open with regard to consciousness, then still it may seem as if the Organizational Invariance follows directly from the Coherence Principle. That is, consider the very assumption that the reductio makes that two functionally equivalent brains made out of different materials would have different conscious experiences. Given the background assumption that Functionalism is true when it comes to cognition, the cognitive properties of the two brains are identical. Therefore, at least one of the brain's conscious experiences is out of sync with its cognitive properties. Hence the assumption that the Organizational Invariance is false contradicts the Coherence Principle, and the assumption must be rejected.

   Unfortunately, also this piece of reasoning is incorrect. Although two different conscious experiences are different in *some* respects, they can still be similar enough to both be coherent with some fixed cognitive property. For example, the well-known inverted spectrum thought experiment shows how two different conscious experiences can be in sync with a single set of cognitive properties. The Coherence Principle therefore merely *constrains* the set of conscious experiences that can be associated with cognitive properties. However, the claim of Organizational Invariance implies that, assuming Functionalism for cognition, each cognitive property *uniquely determines* which conscious experience will be associated with the cognitive property, and is therefore a much stronger claim. The dancing qualia argument is specifically designed to rule out scenarios like the inverted spectrum.

2.3. THE AIM OF THIS PAPER

Although many readers will find some of the background assumptions of the argument controversial, it is not our aim to defend or undermine any of these claims. Neither will we argue for or against the plausibility of the conclusion of the argument. Our only goal in this paper is to show that the dancing qualia argument, in which Chalmers uses the above assumptions as premises and in which he tries to conclude the truth of the Organizational Invariance, is invalid. More specifically, with Chalmers we simply assume all of the background assumptions of the dancing qualia argument. However, given these assumptions, we show that assuming the falsity of the Organizational Invariance does not lead to a contradiction.

3. The *Dancing Qualia* Thought Experiment

Chalmers sets up his argument in the following way:

> Whether consciousness could arise in a complex, synthetic system is a question many people find intrinsically fascinating. Although it may be decades or even centuries before such a system is built, a simple thought experiment offers strong evidence that an artificial brain, if organized appropriately, would indeed have precisely the same kind of conscious experiences as a human being.[7] Consider a silicon-based system in which the chips are organized and function in the same way as the neurons in your brain. That is, each chip in the silicon system does exactly what its natural analogue does and is interconnected to surrounding elements in precisely the same way. Thus, the behavior exhibited by the artificial system will be exactly the same as yours. The crucial question is: Will it be conscious in the same way that you are? (Chalmers 1995, p. 86).

At this point, Chalmers poses the assumption which his *reductio* will try to undermine. The assumption is that the answer to the question he raised above is 'No':

> *Anti Organizational Invariance Assumption*: The system with the silicon brain will *not* be conscious in the same way as the one with the real brain. (For the rest of the paper, we will refer to this assumption simply as the Anti-Assumption.)

This assumption means either that the system with the silicon brain will not be conscious at all or that its phenomenological experiences are different from the system with the original brain. With Chalmers, we will assume that the artificial system is conscious, but that its experiences are different from ours.

Suppose that we have a silicon duplicate of the visual cortex of a person called Bob. We also suppose that this silicon copy has the same functional organization as Bob's original cortex. Finally suppose that there is a two-position switch with which one can connect either Bob's original cortex or the silicon duplicate to the rest of Bob's brain and body. Given this thought experiment, Chalmers shows the Anti-Assumption to be untenable.[8]

In accordance with the Anti-Assumption, we assume that when the switch is in the mode in which Bob's original cortex is connected to the rest of his original

brain and body, then Bob is having different experiences than when the switch is in the other position, in which case Bob is using the silicon cortex. Assume that Bob is looking at an apple, and is experiencing red when using his original carbon brain, and blue when the switch is flipped to the silicon brain. Imagine flipping the switch back and forth several times quickly. The colors blue and red will dance before Bob's eyes.

By making sure that the cortices retain the same functional organization at the moment of flipping the switch, the functional organization of the whole of Bob's brain in the situation in which we do not flip the switch will be identical to the organization of Bob's brain in the situation in which we do flip the switch. Therefore, there can be no behavioral difference between these two situations either. Hence, since Bob doesn't report a change when the switch is not flipped, he won't report a change either when the switch is flipped.

So, while the colors are dancing before Bob's eyes, he reports no change at all. This is in contradiction with the Coherence Principle, and therefore a very implausible position. The Anti-Assumption must therefore be rejected, and hence the truth of the Organizational Invariance must be accepted.

Some readers may remark that Bob seeing different colors is not incompatible with the Coherence Principle, as it was noted before that the inverted spectrum scenario is compatible with it. However, this would be confusing dancing qualia with inverted qualia. That is, in the thought experiment Bob's color spectrum is not inverted, but changes between 'standard' and inverted. So, although Bob may indeed not be able to characterize a single color experience just by itself, Bob can nevertheless characterize the *relationship* between different color experiences. It is this *change* in qualia that Bob should be able to detect.

We therefore agree with Chalmers that the position of Bob reporting no change in experience while Bob experiences dancing qualia is a very implausible position. Indeed, we do not criticize this last and inductive step of the argument in which this position is rejected. Rather, our criticism lies in the preceding and fully deductive part of the argument. More specifically, we claim that the untenable position is never obtained.

4. The Gap in the Argument

Our position is that the argument gives no principled justification for assuming that qualia dance before the eyes of a single individual, rather than assuming that in the experiment there are two individuals, each of which is drifting in and out of their own phenomenal world. By helping himself to the former view, Chalmers automatically gets the conclusion he wants.

The argument states that, while flipping the switch, *Bob* is switching between using his original cortex, and the silicon duplicate. Since it was assumed that the silicon cortex would give rise to different visual qualia than the original cortex, the

qualia that *Bob* gets differ as *he* is using different visual cortices. And this leads, as we saw, to the untenable position.

Although Chalmers doesn't use 'Bob,' he nevertheless uses a single indexical to draw the reader to the view of there being one individual:

> ... where *you* had previously seen red, *you* may now experience [blue] ... (Chalmers 1995, p. 86, emphases added)

> What will happen, then, is that *my* experience will change 'before my eyes.' Where *I* was once experiencing red, *I* will now experience blue. (Chalmers 1996, p. 268, emphases added)

At times, Chalmers even appeals to some homuncular picture, in which the experiencing subject is getting visual qualia passed along from one of the, for this subject, *external* visual cortices:

> ... red and blue experiences 'dance' *before the system's inner eye* ... (Chalmers, 1994, emphasis added)

> With the switch in one mode, you *use* the natural visual cortex; in the other, the artificial cortex is activated. (Chalmers 1995, p. 86, emphasis added)

Statements like the latter two mistakenly suggest that the unchanging part of the brain, separated from the visual cortex, experiences the visual qualia that Bob experiences. The suggestion is that the only task of the visual cortex is to collect 'visual sense data', which will subsequently be 'seen' by some 'inner eye', belonging to the rest of the brain. The mistake is that, while not including Bob's visual cortex, the rest of Bob's brain would have the same visual capacities as Bob as a whole has. In other words, such statements commit a homunculus fallacy.

Statements like the former two do not make this mistake, but do insist that there is one and only one individual that is getting different kinds of qualia when the flip is switched. However, why can't we view flipping the switch in the experiment as a switch between the reports we get from two individuals, each with their own phenomenal world? That view seems reasonable enough, as there are two different physical systems involved, and with such a view, no untenable position will be reached. Chalmers does not provide us with any reason to rule out this view.

We criticize Chalmers' argument in its subtle appeal to the reader's intuitions. The way the argument is phrased leads the reader into thinking that in the experiment only one phenomenal world is involved. From this, the untenable position follows. However, we think that the experiment can be viewed differently, in which case the untenable position is not obtained. By not arguing for why one should adopt the first view, the dancing qualia argument contains a gap.

In the next two sections we will further explore the thought experiment, and make the gap in Chalmers' argument more precise.

4.1. THE CRUCIAL QUESTION

We think that it is not a good idea to speculate about the number of *individuals* in the thought experiment. We introduced the 'Two Person Alternative' in the previous section solely in order to draw the reader's attention to the appeal that Chalmers' argument is making to the reader's intuitions. However, the Two Person Alternative is just as suggestive. Therefore, we want to advise against attempts to argue for or against any of the two alternative views. We think that the notion of 'individual' is not one which can be used objectively to decide which view is correct, simply because there is no clear agreement on what makes an individual an individual.

In fact, the two views on the experiment directly reflect two ways in which one can reasonably define what makes two individuals the same or different: It is reasonable to make their physical realization the defining characteristic, and it is equally reasonable to make their functional organization the deciding factor. Hence, all arguments that exploit the notion of an individual to argue for or against any of the two views with regard to the thought experiment are bound to beg the question.

Fortunately, there is a safe way to talk about something having experiences in the dancing qualia argument. Instead of talking about individuals, one can simply say that the whole *physical system*, consisting of Bob's body, one of the cortices, and the rest of Bob's brain is having those experiences. In this way we can reformulate the thought experiment in a neutral way.

Let us call the system of the original body plus the original cortex plus the rest of the original brain 'CarboBob,' and let us call the system of the body plus the silicon cortex plus the rest of the original brain 'SiliBob.' Since we get the reports through Bob's body, the system we get the reports from is dependent on which cortex happens to be connected to Bob's body at that moment. Thus, if the original brain is connected to the body, then we get reports from 'CarboBob,' whereas if the silicon brain is connected to the body, then we get the report from 'SiliBob.'

Let us define the 'connected system' as the system whose cortex is connected to the rest of the system. We can now formulate the Crucial Question:

> *Crucial Question*: If we flip the switch, does the newly connected system experience any change?

The Crucial Question provides us with an objective, safe, non-suggestive, and neutral question, because it is phrased in a way we can all agree on: It asks whether any of the two involved systems, having an identical functional organization but a different physical realization, will experience any change when the switch is flipped.

In order for the dancing qualia argument to go through, Chalmers must answer the Crucial Question 'Yes.' However, in the next section we show that his argument gives us no reason to answer 'Yes' or, rather, fallaciously helps itself to reasons to answer 'Yes.'

4.2. THE EQUIVOCATION FALLACY

The newly connected system is connected at the moment the old one gets disconnected. This system will have different conscious experiences from the old one. However, although one can thus talk about a change in experience, it is still an open question of whether or not the newly connected system will experience a change.

The difference is subtle but very real. The subtle part is that in the thought experiment, the two systems alternate interacting with the same environment and share a lot of physical material. Thus one is being lured into thinking that the change of experience equals an experience of change. However, just because some system's experience differs from that of some other system does not mean that that system (or any system) experiences this difference.

The step from the change of experience to the experience of change is a non-trivial one and needs to be argued for. The gap in Chalmers' argument is that no such argument is being made. Instead, Chalmers does not notice the step, and simply equates the two. He thus makes an *equivocation fallacy* between *a change in experience between two systems* and *a system's experience of change*, or between *some experience changing between two systems* and *some system experiencing change*.

Although we can only speculate, we believe that the equivocation is the result of the subtleness of the thought experiment and, subsequently, the way the thought experiment and accompanying argument were being phrased. The argument takes a 'One Person View' which, at places, seems to be the logical result of a homuncular picture which, on its turn, could be the result of the simple fact that the two systems share everything but the visual cortex. The resulting interpretation of the thought experiment would thus amount to something like the following: The two different cortices produce red and blue qualia, which are subsequently received and experienced as such by the homunculus in the rest of the brain. Hence the change in visual qualia would indeed be experienced as a change. Needless to say, we reject this homuncular picture, but we believe that this is how Chalmers trapped himself and the reader into his own thought experiment.

We have now achieved the first and main goal of our paper. We have shown that Chalmers' argument is invalid by explicating the gap it contains and the equivocation that seemed to fill it. In the rest of the paper, we argue that the situation for Chalmers is even worse than this; we show that the gap is irreparable. In short, we argue that although there is a change in experience, this change will not be experienced. We want to stress that the reader may disagree with the second part of the paper, while still agreeing with the first part.

5. Experiencing Change

We showed that Chalmers' dancing qualia is invalid: it does not give any principled reason for answering the Crucial Question affirmatively. Of course, this does not

mean that one could not come up with a good reason to answer the Crucial Question with 'Yes' after all. That is, someone may indicate how the change in experience can lead to an experience of change. However, we will now argue that there is good reason to believe that the answer to the Crucial Question must be 'No'. Therefore, the dancing qualia argument must fail.

We give three arguments for our position. The first two arguments both rely on somewhat informal but intuitive discussions. The third argument combines these ideas into a less intuitive but more exact argument.

5.1. RECOLLECTING EXPERIENCE

It is plausible to assume that a system can only experience a change in visual experiences through some recollection of previous visual experiences. However, how does recollection of visual experiences work? Once again, there are two competing ways to think about this.

Very much compatible with the dancing qualia argument is the idea that some part of the brain has somehow stored the qualitative nature of previous visual experiences in some kind of 'visual qualia databank'. The experiences of both SiliBob and CarboBob are stored in a databank, and either of the two Bob's can pull out previous experiences of themselves and of each other.

With the above view, either of the two Bob's can recall and compare their current experience with each other's past experiences, and indeed notice the change in experience. It is indeed this view that the dancing qualia argument often seems to appeal to. However, there is a problem with this view.

The claim of Natural Dualism is that experiences are not physical states, but are associated with them. Hence experiences cannot be stored as experiences. Therefore, the idea of a visual qualia databank cannot be taken literally, and the story of recollecting experiences is, by Chalmers' very own background assumptions, necessarily more complicated than suggested above.

We propose an alternative way to think about recollecting experiences that is more compatible with Chalmers' assumptions. Our view is that recollection works by the reconstruction of experiences through invocation of some of the very same psychological mechanisms that were also involved at the time of the original experience.[9] By the phenophysical laws that hold in our world there will be an experience associated with this activation, and this experience will be the recollected experience.

Unfortunately for Chalmers, with the alternative view one has to answer the Crucial Question 'No.' To see this, let us reconsider what will happen when we flip the switch.

Suppose that the newly connected system is SiliBob. We know that the functional organization of SiliBob is identical to the one of CarboBob. Therefore, regardless of where and how memory is actually physically realized, the functional organization of SiliBob's memory will be exactly the same as CarboBob's. Thus,

if CarboBob was looking at an apple at the time it was still connected, then SiliBob will remember looking at an apple, even if SiliBob was 'off' at the moment of the actual experience.

Notice that up to this point, our story is perfectly compatible with the dancing qualia argument. However, whereas Chalmers would continue by saying that SiliBob remembers the apple just as CarboBob experienced that apple, we claim that this is not true.

On our view, recollecting visual experiences involves the use of some of the same mechanisms that are also involved when having current visual experiences. Moreover, these mechanisms with which the visual experiences are associated are, by the thought experiment, assumed to be part of the visual cortex.[10] Therefore, the qualitative nature of these recollected visual experiences are just as dependent on the physical nature of the visual cortex in use as the qualitative nature of current visual experiences. Hence, although the qualitative nature of the experiences may be different between the two systems, the qualitative nature of the experiences that SiliBob remembers is similar to the qualitative nature of the experiences that SiliBob is having now. That is, SiliBob will currently experience the apple as blue, but also remember the apple as being blue. To SiliBob, the apple never changed color. Therefore, SiliBob will not experience any change, and hence the body reporting no change comes as no surprise.

Of course, a similar story holds for CarboBob, although for CarboBob both the current and remembered experiences involve red qualia. In general, as we change the physical nature of the cortex, then under our plausible view that the visual cortex plays a crucial role in remembering past experiences, the nature of the remembered experience will also change. Moreover, this change is plausibly similar to the change in current visual qualia between CarboBob and SiliBob. Hence neither SiliBob nor CarboBob will notice the change in experience, and the answer to the Crucial Question is 'No'.

5.2. SWITCHING BRAINS

In this section we present a second argument to convince the reader that the answer to the Crucial Question must be 'No.' This argument involves a discussion of a thought experiment that is similar enough to the original thought experiment to warrant the same answers to all relevant questions, yet which is different enough to prevent the reader from making the same intuitive, but mistaken moves as the dancing qualia argument makes.

The new thought experiment differs from the original thought experiment in the following two respects:

1. *Replace whole brain*
   Instead of just the visual cortex, a silicon copy of the whole brain is made.
2. *Destroy old brain*
   Everytime the switch is flipped, a copy of the current brain is made, but from

> the other material than the material of which the current brain is made. At the same moment the copy is created, the old brain is discarded. Finally, all of this is assumed to take absolutely no time. Thus there is at any time only one brain in existence, but it is of a different material depending on the position of the switch.

As in the dancing qualia argument, we can assume that the silicon brain gives rise to a blue experience whenever the carbon brain gives rise to a red experience. Now, suppose we just flipped the switch, and that Bob's brain changed from carbon to silicon. So, SiliBob (Bob with the silicon brain) is experiencing blue now, whereas CarboBob (Bob with the carbon brain) was experiencing red. Does SiliBob notice this change in experience? The right answer is again 'No', but this time the answer may be more obvious to the reader.

Since in this thought experiment the whole brain gets replaced, there is this time no room for homuncular intuitions. More importantly, since a whole new brain is created every time the switch is flipped, it should now also become clear that the silicon brain may as well have come into existence without there ever been any carbon brain at all. That is, whether CarboBob ever existed or not is completely irrelevant for the nature of the experiences that SiliBob is having. Therefore, just because CarboBob happened to exist right before SiliBob came into existence (and thus we can speak of a change in experience), does not mean that SiliBob experiences this change.

The readers that are still unconvinced can even try to imagine replacing Bob completely. That is, we have a switch, and when we flip the switch, then we instantly create a copy of Bob's complete body, destroy the old one, and place the body double wherever the old body was. Again, you can ask yourself how the situation of flipping the switch to get SiliBob from CarboBob would make SiliBob's behavior nor his experiences any different from the situation in which we would create SiliBob where there never had been CarboBob at all. And again, the right answer is that there is no difference in these respects. SiliBob does not say: 'Wow, I just became conscious'! just because CarboBob did not happen to exist before SiliBob came into existence. However, if you want to bridge the gap from 'changing experience' to 'experiencing change', then you have to claim that SiliBob has access to CarboBob's conscious experiences, and thus you have to hold exactly this.

To complete our argument, we should make clear that the above two varieties of the thought experiment are similar enough to the original thought experiment to warrant the same answers with regard to the important questions (like the Crucial Question). However, this is an easy task. In the original thought experiment, the two cortices never get destroyed. Nevertheless, one is always 'off,' and has no effect on the behavior nor experiences of the system that is 'on.' Moreover, one always has to make sure that each cortex gets 'updated' according to the other cortex at the moment of flipping the switch. The situation of instantly making a new copy, and destroying the original is therefore not any different from the

original situation when it comes to the relationship between the for the argument relevant relationship between physical states and conscious experiences.

Finally, since the visual cortex is assumed to be at least partly responsible for Bob's visual experiences, you will get different visual experiences by replacing the whole brain (or even the whole body) if and only if you replace the visual cortex alone. It follows that unless one holds some mistaken homuncular view, the varieties discussed in this section should lead one to the exact same conclusion as with in the original thought experiment, and that is that the answer to the Crucial Question must be 'No.'

5.3. 'NO'

The ideas of the above two arguments can be combined into a precise argument. Let us go back to the original thought experiment, and let us suppose that SiliBob is the newly connected system. Following the first argument, the assumption of Natural Dualism entails that all experiences are associated with physical states. Therefore, any experience of SiliBob of a change in the color of the apple must be associated with some physical state of SiliBob. However, following the second argument, the fact that CarboBob was the connected system right before SiliBob became the connected system does not make the physical nature of SiliBob any different from any other situation in which SiliBob currently is the way he is. Hence the nature of this physical state would be exactly the same in this situation as in the situation in which SiliBob had always been the connected system. Therefore, since SiliBob does not notice any change if he had existed all along, SiliBob will not notice any change in the original situation either. Therefore, the answer to the Crucial Question is 'No'.

6. Conclusion

We have argued that Chalmers' dancing qualia argument is invalid, and irreparably so. However, the reader is reminded that by showing Chalmers' argument to be invalid, we have not argued for or against the plausibility of its conclusion. It is perfectly possible that there is an alternative type of argument for the claim of Organizational Invariance.

7. Acknowledgements

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Notes

[1]See pp. 93–106 (Chalmers 1996).
[2]See pp. 124–129 (Chalmers 1996).
[3]Chalmers calls these laws 'psychophysical', but we find the name 'phenophysical' more consistent with Chalmers' lexicon.

[4]This general principle expresses the overall idea of a number of more detailed principles, as discussed by Chalmers (See pp. 218–225, Chalmers 1996).
[5]See pp. 247–249 (Chalmers 1996).
[6]The term 'implementational invariants' may be better here, as the claim states that conscious experiences are invariant over different physical implementations of the same functional organization.
[7]The Coherence Principle is not written in stone. For example, the phenomenon of blindsight is one of several but rare cases where the Coherence Principle is violated (see Chalmers 1996, p. 219). Therefore, Chalmers realizes that the best he can do is to provide 'strong evidence' for the claim of Organizational Invariance.
[8]It was observed earlier that the Coherence Principle can be violated on rare occasions. Therefore the obtained position is merely 'untenable' rather than impossible.
[9]There is empirical evidence from psychology that supports this view.
[10]Otherwise, SiliBob and CarboBob could not be assumed to have different visual experiences.

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