

# Consciousness, psychophysical harmony, and anthropic reasoning

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**Abstract:** The thesis, typical among dualists, that there are no necessitation relations between events of consciousness and physical events implies that it is *prima facie* lucky that in our world the apparently existing psychophysical laws usually match events of consciousness and physical events in a “harmonious” way. The lucky psychophysical laws argument concludes that typical dualism amounts to a psychophysical parallelism that is *prima facie* too improbable to be true. I argue that an anthropic reasoning in the space of possible worlds makes the appearance of a harmonious match situation unsurprising, and that this is all that is needed for the argument to be harmless to a typical dualist.

## *1. The lucky psychophysical laws argument and the present reaction to it.*

In the recent literature on consciousness, one finds variants of an argument or consideration, which we may call “the lucky psychophysical laws argument”, of roughly this form:

1. A claim of the typical dualist<sup>1</sup> is that states or events of consciousness don’t metaphysically necessitate physical states or events and physical states or events don’t

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<sup>1</sup> “Dualists” include both dualists about substances and dualists about properties, who understand consciousness properties as non-physical properties instantiated by physical entities, possibly just spacetime regions. The typical dualist thesis of non-necessitation is presumably more extended among dualists about properties, but there are non-necessitation tendencies even in interactionist substance dualists (see Descartes’ Sixth Meditation (1641) and the initial chapters of Hart (1988)). The thesis of non-necessitation is very explicitly defended by authors who don’t commit to substance dualism, and whose dualist sympathies are not unqualified, such as Kripke (1972, lecture III) and Chalmers (1996, ch. 3).

metaphysically necessitate states or events of consciousness. (From now on we will sometimes write just “event(s)” in places where we should strictly write “state(s) and/or event(s)”, assuming states to be events of a certain kind.)

2. So, under typical dualist assumptions, the vast majority of possible worlds with the actual physical evolution will be worlds where the actual psychophysical laws don’t hold: For example, while in the actual world the psychophysical laws are such that the existence of a red apple in the physical visual field of a mind’s body will usually lead to a visual experience as of a red apple in the body’s conscious mind (and thus to an experience intuitively made veridical by that physical event), and the physical event of eating an apple on the part of a person will usually be preceded by a conscious visual experience as of an apple in the person’s mind (and thus by an experience that intuitively plays a role in rationalizing that behavior), in most worlds with the actual physical evolution the psychophysical laws will be such that these relations will not usually obtain.
3. So, under typical dualist assumptions, it is *prima facie* lucky that in our world events of consciousness and physical events are related in the “harmonious” way ultimately determined by the actual psychophysical laws (which determine, for example, that the existence of a red physical object in the visual field is usually followed by a visual experience as of a red object, and that the eating of an apple will usually be preceded by a visual experience of an apple).

Places where variants of this argument or consideration are mentioned include Latham (2000), Chalmers (2010, 132; 2018), Mørch (2017; 2020), Saad (2019), Pautz (2020), and Cutter and Crummett (forthcoming).<sup>2</sup> These authors extract very different morals from their variants of the argument. Latham, Chalmers and

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<sup>2</sup> One important point to be emphasized about these variants is that insofar as they use a notion of possible worlds, this is not a realist notion—they don’t assume that all the worlds in question have the same sort of reality as the actual world. As a consequence, they don’t understand the “luckiness” involved in the argument as a kind of statistical coincidence, but as an *a priori* improbability of certain features of the actual world that somehow calls for an explanation.

Pautz essentially see it as a serious problem for (versions of) dualism, and don't espouse any solution on behalf of the dualist. Mørch and Saad essentially see it as an argument against the thesis of typical dualism that there are no necessitation relations between physical events and events of consciousness. Cutter and Crummett see it as a kind of Leibnizian argument for theism, specifically for the existence of a god responsible for the actual harmonious relations between events of consciousness and physical events.<sup>3</sup>

In this paper I will explore and defend a different reaction to the lucky psychophysical laws argument. Briefly put, the reaction is that the appearance of actual harmony between physical events and consciousness events (whether there is real harmony between the actual physical evolution and the actual conscious evolution or not) can be argued to be unsurprising via an anthropic reasoning in the space of possible worlds. This will imply in turn that the argument can be seen as an abductive argument for possible worlds realism, or at least for a realism about a large class of possible worlds with different and sufficiently varied conscious evolutions. The anthropic reasoning in question will appeal to a natural assumption about what it must be like to be in the cognitive position of an intellectually sophisticated conscious mind—one that, in particular, considers seriously arguments of a sophisticated nature concerning scientific or philosophical empirical issues. In essence, it will be argued that it is unsurprising that we find ourselves experiencing what appears to be a harmonious match situation, for only under such an appearance will it be the case that sophisticated conscious minds—minds that employ our established ways of reasoning, and possibly others that extend them—will think of themselves as having a sufficiently complete and

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<sup>3</sup> Goff (2018) develops a related argument as a problem for cognitive phenomenalism, the somewhat non-standard view that thoughts, especially occurrent beliefs and desires, are phenomenal, non-functional states of a non-sensory kind (see e.g. Siewert (1998), Pitt (2004), Farkas (2008), Montague (2016), for different versions of the view). Goff's "cognitive fine-tuning problem" is the problem of how to explain, from a cognitive-phenomenalist perspective, for example, the fact that the eating of an apple is usually preceded by a (phenomenal) belief that there is an apple in front of one (along with other (phenomenal) beliefs and desires that together rationalize that behavior), or the fact that a (phenomenal) perceptual belief that there is a red object in front of one is usually preceded by a sensory physical experience that there is a red object in front of one. ((See our approach to the cognitive fine-tuning problem in section 4 below.))

generally reliable set of conscious experiences, as we do think of ourselves in the actual world. It is indeed natural to assume that this must be the cognitive position of an intellectually sophisticated conscious mind, for in a different position a conscious mind will presumably be unable to consider seriously any scientific or philosophical pursuits with an empirical content. And it will be emphasized that this proof of “unsurprisingness” is all that is needed for the argument to be harmless to a typical dualist, under the hypothesis that all possible worlds exist.

Put in a slightly more precise way: The present reaction to the lucky psychophysical laws argument on behalf of the dualist will develop the idea that an anthropic reasoning in the space of possible worlds makes unsurprising the proposition that the actual psychophysical laws appear to be harmonious, in a precisified but natural sense of “harmonious” to be defined shortly. The structure of the reasoning will be as follows. My first anthropic premise is that an intellectually sophisticated conscious mind (like ours) must be such that it appears to it that conscious experiences sufficiently completely and generally veridically represent physical events that lead to those experiences via the psychophysical laws (together with other, especially physical, laws). (In a different position, it does seem to be the case that a sophisticated conscious mind will not be able to take seriously any intellectual pursuits with an empirical content, as intellectually sophisticated conscious minds like ours normally do.) Next, we define a set of psychophysical laws PL to be harmonious in a possible world when appropriate physical events in that world generally lead via PL (and other laws) to conscious experiences that veridically represent those events, and appropriate physical events in that world are generally led to via PL (and other laws) by conscious experiences that play a role in rationalizing them. Then I argue for the thesis that, if it did not appear to a sophisticated conscious mind that the psychophysical laws of its world are harmonious, it would not appear to it that conscious experiences sufficiently completely and generally veridically represent physical events that lead to those experiences via the psychophysical laws, and hence the mind in question would not be an intellectually sophisticated conscious mind (like ours); this will be my second anthropic premise. The two premises reasonably imply the conclusion that it must appear to actual

intellectually sophisticated conscious minds that the actual psychophysical laws are harmonious, and, under the hypothesis of the existence of all possible worlds, or of a large class of possible worlds with different conscious evolutions, the appearance of actual harmony is thereby shown to be in some sense unsurprising. I will briefly indicate how this “unsurprisingness” protects typical dualism from the lucky psychophysical laws argument under that hypothesis, and how the unsurprisingness in question also implies that the conjunction of dualism and realism about the class of possible worlds (or at least a realism about a large class of possible worlds with different conscious evolutions) receives a measure of abductive support.

In section 2 I will argue for the first premise and I will explain the nature of anthropic reasoning and its connection with our reasoning’s two premises. In section 3 I will argue for the key second premise and will develop the reasoning as such. In section 4 I will present other interesting versions of the reasoning, that share a certain abstract form with it, but use alternative reasonable variants in the definition of harmony and in other assumptions. In section 5 I will consider and reject several conceivable objections to (our) anthropic reasoning, defending in particular the adoption of the hypothesis of the existence of a large class of possible worlds in that reasoning.

## *2. The first premise and anthropic reasoning.*

My first premise is that an intellectually sophisticated conscious mind (like the minds of the readers of this paper), one that, in particular, takes seriously its intellectual pursuits with an empirical content, must be such that it appears to it that conscious experiences in its world sufficiently completely and generally veridically represent physical events that lead to those experiences via the psychophysical laws. I am presupposing here that (phenomenal) conscious experiences can be representational events in virtue of their intrinsic structure and their occurrence in a network of appropriate constant correlations with other events, even if conscious experiences need not be essentially representational, or representational by their very nature.

Thus, a visual experience as of a red apple presumably represents in the actual world the existence of a red apple in front of one.

My first premise codifies what seems to be a necessary characteristic of a sophisticated conscious mind behind any sincerely proposed sophisticated argument or reasoning with empirical assumptions, including most scientific reasoning, the proposal of the lucky psychophysical laws argument, and the considerations in the present paper. (Note that the lucky psychophysical laws argument clearly takes for granted a (presumable) empirical fact, the fact of harmonious relation, and its conclusion presupposes that very fact.) Our actual empirical beliefs, both directly perceptual beliefs and empirical beliefs less directly linked to experience, are justified by their links to experience. Such links are presumably instances of the psychophysical harmony that the lucky psychophysical laws argument takes for granted: such beliefs are typically assumed, and they will be assumed in our main reasoning, to be physical (presumably functionally characterizable) events, which are (in however complex ways) intuitively rationalized by suitably linked experiences. If our actual experiences appeared not to be generally veridical, our actual empirical beliefs would appear not to be generally veridical either.<sup>4</sup> Now, both the typical dualist and the lucky psychophysical laws objector, and indeed any sophisticated scientific or philosophical reasoner who uses empirical premises, such as the authors mentioned above or I myself in this text, would normally take themselves to be generally reliable as to their empirical beliefs as a sort of default assumption. On the assumption that they are not, their consciously proposed arguments with empirical premises would be defeasible from the start simply via the observation that they could not be assumed to be generally reliable—with the negative implication this would have, for example, for their proposal of those very arguments. On the other hand, in order for sophisticated conscious reasonings with empirical assumptions to be taken seriously, they must also rely

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<sup>4</sup> This conclusion will in fact hold also if we conceive of beliefs as phenomenal events of a not purely physical nature, as do typical cognitive phenomenologists (see note ((??)) above), provided merely that we assume that empirical phenomenal beliefs must be linked to phenomenal experiences by appropriate relations of rationalization. In section 4 we will explore a variant of our anthropic reasoning that uses the cognitive phenomenologist assumption instead of the more usual assumption that beliefs are physical events.

on an intuitively sufficiently complete basis of empirical beliefs and thus of conscious experiences; an intuitively poor basis of conscious experiences would not appear to support appropriate general empirical beliefs.

In accepting this first premise, we must come to see as unsurprising that, being intellectually sophisticated conscious minds that take seriously their intellectual pursuits with an empirical content, our conscious experiences must appear to us to have certain properties of completeness and general veridicality. Or, put contrapositively, we must come to see as unsurprising that, if our conscious experiences did not appear to us to have those properties, we could not take seriously any intellectual pursuits with an empirical content, and the kind of considerations we are making, and other philosophical and scientific pursuits, would just not be possible. The very fact that our minds are able to consider seriously these pursuits necessitates certain facts about the nature of our conscious events.

Our first premise, as well as our second premise, are *anthropic* premises. I will next explain why I am calling these premises “anthropic” and why anthropic premises can help reduce the sense of “luckiness” or surprise created by some claims. Then I will give my considerations in favor of our second anthropic premise in section 3.

Anthropic premises, propositions, or principles get their name from a usage inaugurated by the physicist Brandon Carter (1974). In a broad sense, an anthropic premise is one stating that certain theses of a descriptive kind must stand in a certain relation to certain claims about the reasoning observer or a class of observers to which it (the observer) belongs.<sup>5</sup> Carter’s original anthropic premises say that certain theses of a descriptive kind must be *consistent* with certain claims about the reasoning observer. Thus, Carter’s “weak anthropic principle” says roughly that the description of our (of us humans) local environment in the universe has to be consistent with the claim that observers exactly like us exist; and Carter’s “strong anthropic principle” says roughly that the physical laws and global description

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<sup>5</sup> As Carter himself later noted (and lamented), the name unintendedly suggests that the relevant sort of observers must be human; but they need not be. On the other hand, my characterization of anthropic reasoning is admittedly very broad and encompassing (the characterization in Bostrom 2002, for example, is stricter), but so are the uses of “anthropic” now common in the philosophical and scientific literature—see e.g. Friederich 2021.

of our universe have to be consistent with the claim that observers exactly like us exist. Carter's principles are basically platitudes (at least for a physicist!), even if, as is commonly done in the physical context, one takes the "strong anthropic principle" to presuppose the non-trivial thesis that there are other universes besides ours whose physical laws and global description are not consistent with the claim that observers exactly like us exist in them. But the principles have been heuristic aids in suggesting non-trivial claims, including other anthropic theses. Thus, for example, it is generally believed, for a number of non-trivial physical reasons, that the physical laws of our universe can be consistent with the claim that observers exactly like us exist only if a good number of the so-called "constants of nature" adopt values in certain relatively narrow ranges—if they are "fine-tuned" in certain ways.<sup>6</sup> This entails in turn the "fine-tuning" claim *If the physical laws had been the same but the constants of nature had not adopted values in the appropriate relatively narrow ranges, observers exactly like us would not have existed.* This sentence in italics is again an anthropic premise, though this time a non-trivial one involving counterfactual implication instead of consistency.

Anthropic premises can help reduce the sense of surprise created by some claims. This is especially the case if we reason against the background of a hypothesized multiverse or large class of existing universes or worlds. Under the hypothesis of the existence of a certain multiverse, belief in a certain anthropic proposition can help reduce the sense of surprise created by the descriptive claim embedded in the proposition. For example, under the hypothesis that our universe is just one among a myriad of existing physical universes all with the same physical laws but with different sets of constants of nature—a hypothesis common to several recent theories in fundamental physics—establishing the proposition, that if the physical laws had been the same but the constants of nature had not adopted values in the appropriate relatively narrow ranges beings like us would not have existed, helps reduce the sense of surprise that may be generated by the observation that the constants of nature have adopted values in the relatively narrow ranges required for our existence. If the laws had been the same but this hadn't been so, we (the kind of physical beings

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<sup>6</sup> For expositions of "fine-tuning" see, e.g., Friederich (2021) and Lewis and Barnes (2016).



we ordinarily and scientifically take ourselves to be, disdaining philosophical skepticism) wouldn't be here to make any reasoning or observation at all—as one might put it, again anthropically. Or, as we might also put it, it's no surprise that, given the laws, we observe a universe where the constants of nature have adopted values in the relatively narrow ranges required for (what we take to be our physical, generally correct) observations to take place at all.

Our first premise is clearly anthropic in the broad sense, though perhaps somewhat close to a platitude. It is certainly somewhat platitudinous to say that we could not have failed to live under the appearance that our conscious experiences are sufficiently complete and generally veridical if we were to be conscious minds of a certain intellectual sophistication concerning empirical matters. This doesn't sound too different from saying (again anthropically) that we could not have failed to find ourselves to be conscious minds if we were to be conscious of anything, which is undoubtedly a triviality. Yet even these trivialities may make it unsurprising for a believer in all possible worlds (or in a large class of worlds with different conscious evolutions) that we find ourselves living under that appearance of completeness and veridicality, or that we find ourselves to be conscious beings at all. For they make explicit the ideas that only the appearance of completeness and veridicality could be consistent with a conscious mind of a certain intellectual sophistication, and that only a world with conscious beings could have appeared in some way to some being.

Our second anthropic premise (*If it did not appear to a sophisticated conscious mind that the psychophysical laws of its world are harmonious, it would not appear to it that conscious experiences sufficiently completely and generally veridically represent physical events that lead to those experiences via the psychophysical laws*), on the other hand, is not a platitude, and it is in this sense closer to the also counterfactual “fine-tuning” claim from physics from three paragraphs back. Again this premise would, if we had reasons to believe it, help reduce a certain sense of surprise. Or at least this will be so under the hypothesis that our world is just one in a multiverse of existing possible worlds with different and sufficiently varied conscious evolutions. As the lucky psychophysical laws argument makes poignantly clear, the typical dualist assumption of non-necessitation makes it *prima facie* surprising that we appear to

live in a possible world where the psychophysical laws make it the case that physical and consciousness events are related in a harmonious way. But if we had reason to believe our second anthropic premise, the appearance of harmony of these laws would not be so surprising. For we would have reason to think that if substantially different laws had appeared to hold, the realm of experiences would have seemed to be either greatly incomplete or not generally veridical (unlike what we ordinarily and scientifically take it to be, and even unlike what we normally take it to be from a philosophical point of view, when we reason philosophically from empirical premises). Or, as we might also put it, it's no surprise that our experiences ultimately suggest to us that we live in a world where the psychophysical laws adopt the harmonious form required for those very experiences to be sufficiently complete and generally veridical (as we ordinarily and scientifically, and even philosophically most of the time, take them to be).

*3. The reasons for the second premise and the unsurprisingness of the actual psychophysical laws.*

What are then the reasons to believe our second premise? In order to make these reasons as clear as possible, we should first be a bit more explicit than before about what the “harmony” mentioned in this premise means and involves.

Recall that we are calling a system of psychophysical laws PL harmonious in a possible world when appropriate physical events in that world generally lead via PL (and other laws) to conscious experiences that veridically represent those events, and appropriate physical events in that world are generally led to via PL (and other laws) by conscious experiences that play a role in rationalizing them. Thus, we count one such system as harmonious, first, only if it predominantly includes cases where an appropriate physical event is intuitively rationalized (in part) by a conscious experience or a set of conscious experiences. Here we understand “appropriate” physical events to be intuitive physical actions of conscious beings that would count intuitively as rational provided they are rationalized (in part) by conscious experiences representing suitable physical events. For

example, the eating of an apple by a person is intuitively rationalized in part by the apparent existence of an experience as of an apple in the person's conscious mind, because this experience, in virtue of its content, rationalizes a belief that an apple is in front of one and this, together with other beliefs and desires, rationalizes the eating of the apple. In general, perceptual beliefs with a certain content are plausibly rationalized by corresponding conscious experiences with the same content, and those beliefs can then in turn contribute to the rationalization of behaviors involving some relationship with that content.<sup>7</sup> But the apparent existence of the suitable rationalizing experiences in the vast majority of appropriate cases in the actual world is indeed *prima facie* lucky under typical dualist assumptions.<sup>8</sup>

Cases where we speak of a belief having as its content the occurrence of a certain conscious experience have a peculiar feature that it is relevant to note for our purposes. We assume that beliefs can get such contents via the existence of suitable networks of constant associations. But the way in which a conscious experience rationalizes a belief with the content that that experience exists involves a certain subtlety. A visual experience as of a red apple intuitively rationalizes in some way the belief that there is such an experience; and this belief may then in turn rationalize suitable behaviors, e.g. the writing of a philosophical paper on phenomenal red, or a verbal report that phenomenal red (as opposed to physical red, presumably) exists. But in these cases it doesn't seem as if the conscious experience

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<sup>7</sup> All this will be so whether we conceive of beliefs as physical, functional events, as we are assuming in our main reasoning, or whether we conceive of them as phenomenal events, as do cognitive phenomenologists.

<sup>8</sup> We must perhaps underline our assumption that harmony (both in the experience-behavior direction and in the physical world-experience direction) obtains in virtue of certain relations between the contents of experiences and physical events. Some of the literature on luckiness and harmony appeals also to alleged intrinsic and essential properties of experiences, not related to their natural content, that supposedly play a role in rationalizing behavior. For example, it is sometimes claimed that pain rationalizes pain avoidance behavior purely in virtue of intrinsic and essential characteristics of its phenomenology—that the phenomenology of pain intrinsically and essentially rationalizes pain avoidance behavior—and that it is lucky, and a case of surprising harmony, that pain avoidance behavior is usually preceded by phenomenal pain. (See e.g. Pautz (2020) and Cutter and Crummett (forthcoming).) I don't wish to make that controversial assumption here, and in fact am inclined to reject it. I doubt that any phenomenology can intrinsically and essentially rationalize any physical behavior.

rationalizes the belief in virtue of its content. We will make the natural assumption, however, that also in these cases rationalization proceeds ultimately in virtue of content. Furthermore, we will assume that in these cases beliefs are not directly rationalized by the “first-order” experiences of phenomenal red, and are instead rationalized by introspective “second-order” experiences that have the “first-order” experiences as their objects. Thus, it is natural to think that there is phenomenal red and also that, by introspecting on this, an experience of the red and its phenomenology is produced in a normal mind, and that this latter, “second-order” experience rationalizes in virtue of its content a belief that there is phenomenal red (and that this belief can then play a role in the rationalization of suitable behaviors). (See Kriegel (forthcoming) for a recent view of this kind and mentions of similar views.)

The remarks so far concerned what harmony involves when consciousness events lead to appropriate physical events via the psychophysical laws. In the case of physical events leading to conscious experiences, we assume, as indicated, that for an appropriate physical event to lead to a conscious experience in a harmonious way the conscious experience must intuitively veridically represent the physical event. Here we understand an “appropriate” physical event as one that is suitably physically related to the conscious being that has the relevant conscious experience. So, we see the essence of harmony in this direction as consisting in the generally veridical representation by conscious experiences of appropriate physical events. The apparent actual existence of experiences representing complex physical events in appropriate detail is indeed *prima facie* lucky, especially in virtue of the fact that the representing experiences must possess a quite complex phenomenological structure. For example, if a visual experience is to represent the existence of a red apple in front of me, it must involve a great number of visual phenomenal qualities taking on values in several qualitative dimensions (shape, length, hue, etc.). No less lucky seems the apparent fact about the actual world that the appropriate phenomenological structures are associated in constant ways with the represented physical properties.

The assumptions above do not exclude as disharmonious systems of connections exemplified in conscious lives not too

different from those of actual humans, and which could also be seen as typically involving suitable relations of veridical representation and rationalization. For example, conscious lives which were broadly isomorphic to ours and just differed qualitatively from ours, e.g. which just differed from ours in that their conscious color spectrum was inverted. Or conscious lives which had somewhat poorer or somewhat richer perceptual representational structures, e.g. conscious perceptual structures that provided somewhat less conscious visual detail than that of us actual humans, or that provided some more conscious visual detail. And there are vastly many other possibilities that we would presumably not want to consider as taking us beyond the area of what we would be ready to call harmonious connections between physical and consciousness events; but probably enough has been said to convey the idea. In any case, a harmonious system of connections ought to consist to a very large extent of connections leading to conscious experiences that are natural veridical representations of corresponding physical events, and of connections leading to apparent physical actions that are intuitively rationalized by conscious experiences. A system of connections where, for example, veridical conscious representations could not arise (e.g. one such that the conscious life of physical humans in its world just did not exist, or such that it consisted just of a persistent pink visual blur or of random noises) could not be called harmonious in the sense that is of relevance here.

Turning finally to our argument in favor of our second premise, suppose that it did not appear to a sophisticated conscious mind that the psychophysical laws of its world  $w$  are harmonious. This means that either it would not appear to it that appropriate physical events in  $w$  generally lead via the psychophysical laws (and other laws) in  $w$  to conscious experiences that veridically represent those events, or it would not appear to it that appropriate physical events in  $w$  are generally led to via the psychophysical laws (and other laws) in  $w$  by conscious experiences that play a role in rationalizing them (or both).

But suppose, for a contradiction, that (\*) it did appear to the mind in question that conscious experiences sufficiently completely and generally veridically represent physical events that lead to those experiences via the psychophysical laws. This clearly means that the first horn above is excluded and we are left with the second horn: it

would not appear to the mind in question that appropriate physical events (intuitive physical actions of conscious beings that would count intuitively as rational provided they are rationalized (in part) by conscious experiences representing suitable physical events) in  $w$  are generally led to via the psychophysical laws (and other laws) in  $w$  by conscious experiences that play a role in rationalizing them. However, given (\*), this can't be: if the second horn held, then this by itself would make it not appear that conscious experiences sufficiently completely and generally veridically represent appropriate physical events that lead to those experiences via the psychophysical laws. For if (\*) holds, if an intuitive physical action can intuitively be rationalized (in part) by a certain experience, then it will appear that such an experience will generally exist and be correct. For example, the eating of an apple will appear to be intuitively rationalizable (in part) by a (veridical) experience as of an apple in front of the relevant conscious being, and if (\*) holds, it must appear that such experiences will generally exist in that being's (sophisticated conscious) mind.

One possible worry about the reasoning of the preceding paragraph concerns the case of beliefs having as their content the occurrence of a certain conscious experience. A belief with this kind of content, we are assuming, is rationalized by a "second-order" introspective conscious experience having the occurrence of a "first-order" conscious experience as its content. In a case of this kind, the belief is not rationalized by an experience that is in turn made veridical by a physical event that leads to the experience via the laws, but by an experience that is made veridical by another experience. So, even if it appeared that conscious experiences sufficiently completely and generally veridically represent appropriate physical events that lead to those experiences via the psychophysical laws, beliefs having as their content the occurrence of a certain conscious experience need not appear to be generally harmoniously rationalized in  $w$ . (Note that in speaking of disharmony here, we are ipso facto under the supposition, that we already made explicit, that beliefs are physical events.) But we can assume that such beliefs must appear to be relatively few for sophisticated conscious minds, and do not affect our reasoning that if (\*) held, then also it would appear that appropriate physical actions of conscious beings in  $w$  are generally led to in  $w$  by conscious experiences that play a role in rationalizing them: for the vast majority

of those physical actions will not appear to be belief events with the relevant kind of content. (Nevertheless, we will give an alternative reasoning in section 4 designed to deal in a different and perhaps more satisfactory way with this issue.)

We can conclude, then, that if it did not appear to a sophisticated conscious mind that the psychophysical laws of its world are harmonious, it would not appear to it that conscious experiences in its world sufficiently completely and generally veridically represent physical events that lead to those experiences via the psychophysical laws. This would not necessarily mean that it will appear that in the apparently disharmonious *w* conscious experiences will appear to be not generally veridical—the experiences that do occur in *w* may still appear to be generally veridical even if its psychophysical laws do not appear to be harmonious. But it will mean that in *w* it will not appear that when an appropriate physical event takes place, generally a conscious experience is lawfully produced *and* the lawfully produced conscious experience is veridical. Thus in *w* the domain of conscious experiences will appear to be either greatly incomplete (by comparison with the domain of actual conscious experiences) or consisting of experiences that will not be generally veridical (or both). This is what our second premise really amounted to.

In a world where the appropriate physical events do not appear to lead to a sufficiently complete and generally veridical set of conscious experiences, sophisticated conscious minds must suffer a serious cognitive handicap by comparison with the normal conscious minds of the actual world. The domain of their experiences will appear to them to be either greatly incomplete or not generally veridical (even if their empirical belief events, understood as physical functional events, might still be generally veridical).<sup>9</sup> Their conscious experiences will appear to them to present an incomplete or a highly distorted image of their physical world, and they will be unable to take seriously any scientific or philosophical pursuits with an empirical content. In particular, they will be unable to embark on many kinds of considerations that we normally engage in, for example in this very paper.

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<sup>9</sup> ((The situation will be quite different, in fact quite worse, if we understand belief events as conscious (phenomenal) events, as in cognitive phenomenalism. We will consider this supposition in section 4.))

Put in a more condensed and perhaps in some ways more perspicuous fashion, our argument for our second premise is essentially as follows: Suppose that the psychophysical laws had not appeared to be harmonious. This would mean that it would not have appeared to a sophisticated conscious mind that the volume of conscious information received by conscious minds from the physical world would be generally correct, or it would not have appeared that the intuitive physical actions of conscious minds would be generally appropriately rationalized by their conscious experiences. But a little thought shows that both horns imply that it would not have appeared to a sophisticated conscious mind that the volume of conscious information received from the physical world would be sufficiently complete and generally correct. So, worlds where the volume of conscious information received from the physical world by a sophisticated conscious mind appears to be sufficiently complete and generally correct must appear to be harmonious.

Having reached our desired second premise, we can conclude that it is unsurprising that the psychophysical laws appear to relate consciousness events and physical events in a harmonious way. If the psychophysical laws did not appear to be harmonious, our conscious experiences would appear to be either comparatively few or not generally reliable, and our conscious picture of the world would appear to be either incomplete or unreliable, against what we take for granted, even in these very reasonings we are making. If we assume that our conscious image of the world appears to be sufficiently complete and generally correct, as we need to be the case for these very reasonings to make enough sense to us, then it's not surprising that the world we are experiencing is a world that appears to make it possible for us to be sufficiently founded and generally reliable in our conscious representation of it; and such a world must be one where the psychophysical laws ultimately appear to make it the case that physical events and consciousness events are related in a harmonious way. As we might put it, it's no surprise that we find ourselves having apparently fairly complete and generally veridical conscious experiences representing a world whose psychophysical laws adopt a form required for us to be able to have those experiences. We could only think that we sufficiently completely and generally veridically



represent a world if this world appears to be one whose psychophysical laws allow that kind of representation to happen.

Our anthropic argument can be seen as providing an “abductive” defense of dualism together with possible worlds realism, or at least of dualism together with a realism about a large class of possible worlds with different and sufficiently varied conscious evolutions. This is because, assuming the multiverse of possible worlds, or a large multiverse of different and sufficiently varied conscious evolutions, it will follow via our anthropic reasoning that, if dualism is true, it implies that the psychophysical laws must in some sense appear to be as they appear to be. Given that dualism has a presumably true and substantive implication under the assumption of possible worlds realism, or of a realism about a large class of possible worlds with different and sufficiently varied conscious evolutions, we obtain simultaneous abductive confirmation for dualism and the corresponding variety of realism about possible worlds.

#### *4. Two variants of our anthropic reasoning.*

It would be good if our reasoning, or appropriate variants of it, could work under alternative but reasonable assumptions concerning what harmony involves. In this section we will briefly argue that this is indeed the case, by presenting two variants of the reasoning that again proceed under reasonable assumptions.

In one first variant, we seek to give an alternative treatment of the relationship of harmony with introspective experiences. To this effect we first modify our first premise, so that it now says that an intellectually sophisticated conscious mind must be such that it appears to it that conscious experiences in its world sufficiently completely and generally veridically represent physical *and* conscious events that lead to those experiences via the psychophysical laws. We now define harmony so as to involve *both* empirical experiences and introspective experiences; we define a set of psychophysical laws PL to be harmonious in a possible world when appropriate physical *and* conscious events in that world generally lead via PL (and other laws) to conscious experiences that veridically represent those events, and appropriate physical events in that world are generally led to via PL

(and other laws) by conscious experiences that play a role in rationalizing them. Finally, our second premise is that if it did not appear to a sophisticated conscious mind that the psychophysical laws of its world are harmonious (in the just mentioned sense), it would not appear to it that conscious experiences sufficiently completely and generally veridically represent (physical *and* consciousness) events that lead to those experiences via the psychophysical laws.

The argument for the second premise, as above, starts with the supposition that it does not appear to a sophisticated conscious mind that the psychophysical laws of its world are harmonious (in the mentioned sense), but (for a reductio) that (\*\*) it does appear to it that conscious experiences sufficiently completely and generally veridically represent (physical *and* consciousness) events that lead to those experiences via the psychophysical laws. Then it again follows immediately that the first horn of the dilemma directly entailed by the violation of apparent harmony doesn't hold, which leaves us with the second horn. But now this second horn can be seen to be in conflict with the supposition (\*\*): it can't be the case that *both* it doesn't appear that appropriate physical events in the world in question are generally led to via the laws by conscious experiences that play a role in rationalizing them *and* it appears that conscious experiences sufficiently completely and generally veridically represent (physical *and* consciousness) events that lead to those experiences via the laws. This argument does not depend on the assumption that introspective experiences have a relatively minor role in rationalizing appropriate physical actions.

In this variant, we can now conclude that it is unsurprising that the psychophysical laws appear to have the effect of relating conscious experiences (both empirical and introspective) and events in general in a harmonious way. If we assume that our conscious experiences must appear to be sufficiently complete and generally correct, then it's not surprising that the world we are experiencing must appear to be a world that makes it possible for us to be sufficiently complete and generally reliable as to our representation of it via conscious experiences; and such a world must appear to be one where the psychophysical laws ultimately make it the case that events in general and conscious experiences (empirical and introspective) are related in a harmonious way.

Chalmers (2010, ch. 5; 2018) has underlined a species of harmony as especially mysterious: physical beliefs concerning consciousness events, or physical reports about such events, are apparently generally true in the actual world, yet under typical dualist assumptions this seems lucky. The anthropic reasoning just given ought to temper this sense of mystery, at least to a good extent. In worlds where physical beliefs or reports of consciousness events do not appear to be generally true *because* it doesn't appear that appropriate physical events (in general) in the world in question are generally led to via the laws by conscious experiences that play a role in rationalizing them, the reasoning for our second anthropic premise shows that it will appear that conscious experiences (in general) will be either greatly incomplete or not generally veridical. To the extent that this is incompatible with our anthropic requirement on intellectually sophisticated conscious minds (Chalmers', mine, and others'), needed for the practice of reasoning seriously with empirical and introspective premises, it is not surprising that we find ourselves living in a world that appears to make that practice feasible.

In a second variant of our anthropic reasoning, we adopt the cognitive phenomenalist assumption that belief events in the relevant sense are conscious (phenomenal) events, instead of our earlier assumption that they are physical events. We now adopt as first premise the claim that an intellectually sophisticated conscious mind must be such that it appears to it that perceptual beliefs in its world sufficiently completely and generally veridically represent appropriate (physical or consciousness) events that lead to those beliefs via the psychophysical laws (together with other laws) and appropriate physical experiences with the same contents. (Again, in a different position concerning its (phenomenal) perceptual beliefs, it does seem to be the case that a sophisticated conscious mind will not be able to take seriously its intellectual pursuits with an empirical content, as intellectually sophisticated conscious minds like ours normally do.) We again change our definition of harmony, defining a set of psychophysical laws PL to be harmonious in a world when physical experiences in that world ((possibly, neural correlates of conscious experiences)) generally lead via PL to conscious perceptual beliefs with the same contents, and appropriate physical events are generally led to via PL by conscious perceptual beliefs that rationalize (in part)

those events. And we take as a second premise the thesis that, if the psychophysical laws did not appear harmonious to a sophisticated conscious mind, it would not appear to it that perceptual beliefs sufficiently completely and generally veridically represent appropriate (physical or consciousness) events that lead to those beliefs via the psychophysical laws and appropriate physical experiences with the same contents.

How do we argue for this second premise under the new understanding of harmony? Suppose that the psychophysical laws did not appear harmonious in a certain world  $w$ . That must be because either it does not appear that physical experiences in  $w$  generally lead via the laws to conscious perceptual beliefs with the same contents, or it does not appear that appropriate physical events are generally led to via the laws by conscious perceptual beliefs that rationalize (in part) those events. As in our main reasoning in section 3, we now argue that the first horn is excluded if (\*\*\*) it did appear that perceptual beliefs sufficiently completely and generally veridically represent appropriate (physical or consciousness) events that lead to those beliefs via the psychophysical laws and appropriate physical experiences with the same contents. But once more a little thought shows that the second horn can't hold either under the supposition of (\*\*\*). Note that this argument again does not depend on the assumption that introspective experiences (or the corresponding introspective perceptual beliefs) have a relatively minor role in rationalizing appropriate physical events: the argument can be taken to assume introspective beliefs to be perceptual beliefs like any others.

This ends our argument for our second premise in this variant of our anthropic reasoning. In this variant, we can now conclude that it is unsurprising that the psychophysical laws appear to have the effect of relating physical experiences and perceptual beliefs (understood as phenomenal events) on the one hand, and perceptual beliefs and intuitive physical actions on the other, in a harmonious way. If we assume that our perceptual beliefs appear to be sufficiently complete and generally correct, then it's not surprising that the world we are experiencing is a world that appears to make it possible for us to be sufficiently complete and generally reliable as to our representation of it via conscious perceptual beliefs; and such a world must be one where the psychophysical laws appear ultimately to make it the case

that appropriate physical events and perceptual beliefs are related in a harmonious way.

This anthropic reasoning casts at least significant light on Goff's harmony problem for cognitive phenomenalism ((see note ?? above)). If the psychophysical laws did not appear to be harmonious, it would not appear that perceptual beliefs sufficiently completely and generally veridically represent appropriate events that lead to those beliefs via the psychophysical laws and appropriate physical experiences with the same contents. But we might reason anthropically that it's no surprise that it appears that the actual psychophysical laws lead to sufficiently complete and generally reliable conscious perceptual beliefs: If things appear to be this way, the laws must appear to be harmonious, and if they didn't appear to be this way, then intellectual pursuits relying on the assumption of sufficient completeness and general reliability of our perceptual beliefs (including the present paper) could not appear to be of much cognitive value anyway.

##### *5. Objections to (our) anthropic reasoning.*

One straightforward way of dismissing our anthropic reasoning would be by rejecting the hypothesis of the multiverse of possible worlds, or of a large multiverse of worlds with different conscious evolutions, as unintuitive or even absurd. But the hypothesis is far from absurd. As we noted, in recent theoretical physics a number of theories postulate the existence of large multiverses, or large classes of worlds or universes, where the universes in one such class differ among themselves in the configuration of certain fundamental aspects of nature. Recent dualists often think it plausible that one such fundamental aspect of nature are the psychophysical laws, so it is not implausible, at least from a dualist perspective, to think that the universes in a multiverse of that kind might differ among themselves in the configuration of the psychophysical laws. If we think this, the hypothesis of a certain physical multiverse could be plausibly coupled with the hypothesis that every universe in such a multiverse actually corresponds to a largish class of universes with the same physical evolution but different conscious evolutions; and then we would get

a natural way of thinking of a large class of possible conscious evolutions as a class of existing universes.

Furthermore, if we focus on purely metaphysical considerations, one might note that even if possible worlds realism or a realism about a large class of possible worlds were ultimately to turn out to be a bad hypothesis, it is not at present a dead hypothesis. Lewis (1973; 1986) and other reputed philosophers (e.g. Divers (2002), Yagisawa (2009)) have accepted possible worlds realism or thought it plausible, so we should at least take seriously its potential implications, such as the alleged anti-dualist implications of the lucky psychophysical laws argument read under a realist construal of possible worlds. In fact, if a variant of the argument did lead in a sound way from possible worlds realism to an anti-dualist conclusion, it might be considered by a (physicalist) Lewisian as one more piece of abductive evidence in favor of possible worlds realism.<sup>10</sup> Or, it might be considered by a convinced dualist as one more argument against possible worlds realism. Or, if the anthropic considerations developed above are correct, the argument might be taken as providing strong abductive support for the conjunction of dualism *and* possible worlds realism—this is actually the position that I incline to and that I mentioned at the end of section 3. Evidently, the matter needs to be explored, even if only on account of its bearing on the status of possible worlds realism and its relationship with the mind-body and consciousness problems. I thus think that we can or even must explore philosophically the assumption of the existence of large classes of possible worlds, and specifically large classes of possible worlds with different and varied conscious evolutions.

Another way of questioning our anthropic reasoning would be by undermining in some way its implicit concession of the statistical estimates presupposed in the lucky psychophysical laws argument itself. But I think this is an unpromising avenue for an objector. Certainly, under the dualist assumption of non-necessitation, among the set of possible worlds where the presumable actual physical evolution takes place the worlds where the actual conscious evolution

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<sup>10</sup> Lewis is well known to have been a physicalist about the actual world. But he did not discard non-physical properties as impossible or as necessarily uninstantiated. The lucky psychophysical laws argument and our discussion of it of course assume that consciousness properties exist and have a pattern of instantiation across possible worlds dictated by typical dualist assumptions.

takes place will be a tiny minority—in fact, under the dualist assumption that there are just physical and conscious mental properties, presumably a minority of just one among the many possible worlds. But even if we consider the possibly broader set of worlds where the actual psychophysical laws hold and the actual physical evolution takes place (possibly broader because the laws and the physical evolution may not determine uniquely the actual conscious evolution), it is reasonable to think that the worlds in that set will be a tiny minority. It is reasonable to think that, even if the physical evolution plus the actual psychophysical laws don't determine uniquely the evolution of all actual conscious minds, they highly constrain it. The mental lives of actual conscious beings in possible worlds where the physical evolution and the psychophysical laws are as in the actual world are presumably quite similar to their mental lives in the actual world. In particular, if we are assuming that events of consciousness are generally related to intuitively normally associated physical events and that physical events are related to intuitively normally associated events of consciousness, it is hard to see how the conscious mental lives of actual conscious beings could differ in more than relatively minute respects while the actual psychophysical laws still hold and the actual physical evolution is still the same. And if the relevant worlds differ from the actual world only in minute respects concerning the conscious mental lives of actual conscious beings, it is reasonable to think that their set can be given a small “measure” as compared with the set of worlds where the actual physical evolution is still the same but the psychophysical laws, and thus the conscious mental lives of actual conscious beings, may be (wildly) different.<sup>11</sup> It doesn't look like we can reasonably question

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<sup>11</sup> ((Here is another argument for the same conclusion: The actual psychophysical laws presumably imply that a physical human being will “have” just one or at most a small finite number of correlated “streams” of conscious mental events—perhaps “split brain” patients may “have” more than one conscious stream. Then the cardinal number of the set of possible worlds that share the actual physical evolution, where the actual psychophysical laws hold, and where at most the mental evolution of physical human beings differs from the mental evolution of physical human beings in the actual world, must be at most countably infinite (assuming, as is reasonable, that the number of human beings in the actual world is at most countably infinite and that the possible mental evolutions in a human stream of consciousness are at most countably infinite). But under the dualist assumption of non-necessitation, there is no metaphysical barrier to alternative psychophysical laws implying that the

the statistical estimates assumed in the lucky psychophysical laws argument. And in any case, we can of course assume those estimates here for the sake of argument.

It may be good to note that the (often implicit) restriction of the consideration in (variants of) the lucky psychophysical laws argument to the space of worlds with the actual physical evolution (or some not much larger set of worlds) is necessary if the desired “luckiness” conclusion is to be reached. As I have observed elsewhere (Gómez-Torrente, forthcoming), in the extremely rich, whole space of metaphysically possible worlds it is reasonable to think that the proportion of worlds with a certain consistent qualitative characteristic P versus the worlds with its negation not-P will be more than usually 50/50.<sup>12</sup> If so, it is to be expected that the lucky psychophysical laws argument cannot be run on the whole space of possible worlds, because in this huge space harmony is presumably neither rare nor typical.<sup>13</sup>

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physical events involving a physical human being are accompanied by arbitrarily many streams of consciousness; so, under the dualist assumption of non-necessitation, the number of possible worlds compatible with the actual physical evolution looks again much larger than the set of worlds with the actual physical evolution where the actual psychophysical laws hold.))

<sup>12</sup> This claim relies on the reasonable Lewisian assumption that a possible world is a qualitative filling of a Quinean “Democritean” structure (a structure of four-dimensional spacetime coordinates) or of some reasonable extension of such a structure. The set of qualitative fillings of a structure of this kind, as Lewis noted, must presumably have cardinality beth-two. And if so, both the set of metaphysically possible worlds having a consistent qualitative property P and the set of metaphysically possible worlds having not-P will usually have cardinality beth-two as well. For let w be a world which has P (not-P); usually we will be able to modify in beth-two ways the Democritean or extended-Democritean structure of w by using our modal imagination, while retaining w’s possession of P (not-P) in the modifications. Where P is the existence of harmonious psychophysical relations in any of the senses above, this will certainly be feasible.

<sup>13</sup> To make this reasonable, consider that it is plausible to think that there are beth-two worlds which share with the actual world the part that contains conscious beings but differ from the actual world elsewhere, and so beth-two harmonious worlds; but there are plausibly also beth-two worlds where physical events lead to consciousness experiences in a harmonious way because such experiences are generally veridical, but there is no harmony in the direction from conscious events to physical events, for example because the relevant conscious experiences are relatively few, and so presumably no harmony overall.



In the course of their defense of a theistic response to the lucky psychophysical laws argument, Cutter and Crummett (forthcoming) briefly consider the possibility of a response to the argument based on (in effect) anthropic reasoning under the hypothesis of a suitable multiverse. They reject a response of this kind on the grounds that, even if the psychophysical laws had not been harmonious, this would not have meant that there would not be conscious “observers”, by which they mean conscious minds with a minimally coherent conscious mental life. This is undoubtedly true, but the anthropic premise that they are (in effect) rightly rejecting (namely, *If the actual physical evolution obtained but the psychophysical laws were not harmonious, then there would be no minimally coherent conscious minds*) is just one of the conceivable anthropic premises in this philosophical vicinity, and in fact a rather uninteresting one. The property of being a conscious mind with a minimally coherent conscious mental life is quite undemanding. In anthropic reasoning, nothing precludes the use of more demanding but to all appearances real properties of beings like us, which can give rise to more substantive anthropic reasonings.

For example, the property involved in Carter’s anthropic principles, or in the anthropic premise *If the physical laws had been the same but the constants of nature had not adopted values in the appropriate relatively narrow ranges, observers exactly like us would not have existed*, implicitly involves the idea of *physical* observers, which in this context evidently means beings embedded in a physical world external to their minds that is (at least largely) fairly completely and veridically represented by such minds as far as their observations of it go—observations which are typically taken to include not just direct perceptual matters, but also sophisticated propositions involving large amounts of mathematics and physics. And in part this is because if the physicists’ observers were not by-and-large sufficiently informed and cognitively reliable minds, their own reasonings as physicists would be implied to be insufficiently founded or unreliable, and largely worthless.<sup>14</sup> The property used in our anthropic reasoning

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<sup>14</sup> Cutter and Crummett actually mention the fact that multiverse hypotheses in physics which imply that a vast majority of observers in the multiverse are “Boltzmann brains” (brains formed in empty space by spontaneous random particle fluctuations, complete with the false experiences and memories of normal, physically identical but embodied brains in a “normal” environment) are regarded as disconfirmed by physically available evidence. One reason for this is of course that

above, that of being a sophisticated conscious mind with an apparently sufficiently complete and generally veridical experiential world, is again demanding though not more demanding than the property involved in more usual anthropic premises in physics, and makes for a substantive anthropic premise (in effect, *If the psychophysical laws had not appeared harmonious, then there would be no sophisticated conscious minds thinking of themselves as having sufficiently complete and generally reliable conscious experiences*) which is not evidently false, and which we argued to be true in section 3 above.

Perhaps something ought to be said as well, in conclusion, about general objections to anthropic reasoning. Objectors have sought to pinpoint ways in which anthropic reasoning in general (and thus ours in particular) might not be so epistemically virtuous as its proponents seem to think. Lewis, the main proponent of possible worlds realism, while not disdainful of anthropic reasoning and its apparent ability to reduce our sense of surprise in certain cases, emphasizes his view that anthropic reasoning cannot provide *explanations* of the facts that it makes (somehow) unsurprising. For Lewis, explanations must give “information about the causal or nomological ways of our world” (Lewis (1986), 133), and it is clear that nothing like this is provided by anthropic reasoning in general or by its instances in this paper in particular. To the extent that, in reserving “explanation” in this way for an especially virtuous epistemic task of which anthropic reasoning cannot provide examples, Lewis degrades the epistemic capacity for illumination of anthropic reasoning, I must disagree with him. Of course, Lewis is free to single out a particular meaning for “explanation” to which he attaches a special significance. The Lewisian meaning is seemingly the most prominent meaning at work when scientists speak of explanation. But this just points to the presumable fact that the truths that science can provide illumination

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physics just doesn’t allow itself more than a small degree of philosophical skepticism, but another more tacit reason is that if we were in fact Boltzmann brains, we would know practically nothing of what we think we know, including most of physics, as we would be related in an epistemically thoroughly inadequate way to our physical environment (compare Carroll (2021)). In some sense it is of course epistemically possible that we are Boltzmann brains, just as it is epistemically possible that we are only coherent conscious minds related in a cognitively thoroughly inadequate way to our physical environment. But just as if this is the case then we are pretty much worthless as truth seekers, if we are Boltzmann brains we are pretty much worthless as well.

about will be provided by science with an illumination that consists in their subsumption under “the causal or nomological ways of our world”. It is simply unclear, to say the least, that there are no truths about which science cannot provide full illumination, and that there are no other kinds of serious reasonings that can provide illumination about those truths, illumination fully deserving of the name “explanation”. A case could be made, for example, that our anthropic reasonings above are at least serious attempts to subsume certain presumable truths under what we might well regard as metaphysical laws or principles concerning the space of possible worlds and the distribution of fundamental properties in it. And so a case could be made that they are at least serious attempts to provide those truths with metaphysical explanations, in a respectable sense of this expression.

Like Lewis, many, perhaps most scientists, view anthropic reasoning against the background of a multiverse as unscientific, but see it in an even darker light than Lewis. The reasons usually adduced for this are that this kind of reasoning is based on unfalsifiable assumptions (the existence of the relevant multiverse is unfalsifiable); that it doesn’t lead to any precise predictions (the assumption of a multiverse implies that, in a sense, all of a wide range of possibilities happen, and few or none are excluded from happening); or that it distracts from the search for truly scientific explanations. (See e.g. Steinhardt (2011) or Lindley (2020), ch. 16.) I am inclined to agree with these claims, but in my view they don’t constitute reasons for discrediting anthropic reasoning against the background of a chosen multiverse. As I see things, the matters on which we seek illumination via this sort of reasoning are probably not matters on which the ultimate truth or the ultimate illumination is likely to come from science as normally practiced. It has not been uncommon, for example, to think that the kind of illumination that might throw light on the properly philosophical consciousness and mind-body problems could not come from theories formulated strictly according to the established patterns of scientific reasoning. If, as argued above, important illumination concerning the consciousness and mind-body problems may come from anthropic reasoning against the background of a multiverse of worlds with different conscious

evolutions, that impression of many philosophers will have received a good amount of confirmation.

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