Physical-Effect Epiphenomenalism and Common Underlying Causes

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ABSTRACT: Qualia epiphenomenalism is the view that qualitative properties of events, such as the raw feel of tastes or painfulness, lack causal efficacy. One common objection to qualia epiphenomenalism is the epistemic argument, which states that this loss of causal efficacy undermines our capacity to know about these epiphenomenal qualitative properties (Sterjnberg, 1999; Watkins, 1989). A number of rejoinders have been offered up to insulate qualia epiphenomenalism from the epistemic argument. In this paper I consider and ultimately reject two such replies, namely, the common underlying cause reply and the appeal to physical-effect epiphenomenalism.

RÉSUMÉ : L'épiphénoménalisme des qualia est la thèse voulant que les propriétés qualitatives des événements, comme les sensations de goût ou de douleur, soient dénuées d'efficacité causale. On objecte souvent à cette forme d'épiphénoménalisme l'argument épistémique, selon lequel cette absence d'efficacité causale nous rendrait incapables de connaître ces mêmes propriétés qualitatives épiphénoménales (Sterjnberg, 1999; Watkins, 1989). Plusieurs réponses ont été proposées pour isoler l'épiphénoménalisme des qualia de l'argument épistémique. J'étudie dans cet article, pour finalement les rejeter, deux de ces réponses, soit l'appel à la cause sous-jacente commune (Common Underlying Cause Reply) et l'appel à l'épiphénoménalisme des événements physiques.

Qualia epiphenomenalism is the view that qualitative properties of events, such as the raw feel of itchiness or painfulness, lack causal efficacy. One common objection to qualia epiphenomenalism is the epistemic argument, which states that this loss of causal efficacy undermines our capacity to know about these epiphenomenal qualitative properties (Sterjnberg, 1999; Watkins, 1989). A number of rejoinders have been offered up to insulate

***Dialogue* 51 (2012), 397–418.**
© Canadian Philosophical Association/Association canadienne de philosophie 2012
doi:10.1017/S0012217312000674

https://doi.org/10.1017/S0012217312000674 Published online by Cambridge University Press

qualia epiphenomenalism from the epistemic argument. In this paper I consider and ultimately reject two such replies, namely, the common underlying cause reply and the appeal to physical-effect epiphenomenalism.

This paper is divided into five sections. After introducing and motivating qualia epiphenomenalism (§1), I outline the epistemic argument against qualia epiphenomenalism (§2). I then address two common responses to the epistemic argument. First, the Common Underlying Cause Reply (§3) states that we have knowledge of our epiphenomenal qualitative properties by virtue of the fact that the physical properties that strongly subvene epiphenomenal qualitative properties cause the beliefs/memories that are appropriate to the epiphenomenal qualitative properties. I argue (§4) that this tactic fails because this relation between the qualitative properties and the beliefs/memories about the qualitative properties is indirect, and hence it is possible to render the counterfactual "Had my pain not occurred, my belief that I was in pain would not have occurred" false. If the beliefs/memories about the qualitative properties can occur without the qualitative properties having occurred, these beliefs/memories are unjustified and possibly false, so are not considered knowledge. I then consider Physical-Effect Epiphenomenalism (§5), according to which qualitative properties are epiphenomenal vis-à-vis physical effects but are efficacious vis-à-vis mental effects, so beliefs/memories about prior qualitative properties are justified. I conclude that if beliefs/memories are irreducibly mental they are epiphenomenal with respect to the physical domain themselves. On the other hand, if beliefs/memories are reduced to the physical, qualitative properties once again lack the ability to cause them to occur.

1. Qualia Epiphenomenalism

Here is a (seemingly) trustworthy saying: our desires and raw feelings influence our behaviour. We desire a hamburger, and not surprisingly, we eat one. We feel pain and so our hand moves away from the hot stove top. Can this common sense assumption that qualitative properties of events play a causal role in human behaviour be misguided? Plenty of philosophers argue that it cannot. Terence Horgan, for example, argues that mental inefficacy is an "outrageous offense against common sense" (Horgan, 1987, 504), while Jerry Fodor suggests that "if it isn't literally true that my wanting is causally responsible for my reaching ... then practically everything I believe about anything is false and it's the end of the world" (Fodor, 1989, 77).

On the other hand, there are some weighty reasons to take qualia epiphenomenalism seriously. According to two leading qualia epiphenomenalists (Gadenne, 2006; Robinson, 2004), qualia epiphenomenalism follows naturally from the following three principles: (1) physical causal completeness, which states that every event has a sufficient physical cause; (2) irreducibility, which states that qualitative properties of events are distinct from physical properties of events; and (3) the principle of causal exclusion, which states there can be no more than a single sufficient cause for any given effect. In support of

https://doi.org/10.1017/S0012217312000674 Published online by Cambridge University Press

physical causal completeness, William Robinson provides a thorough account of the physical transactions from muscle contraction back to the chemical activity surrounding neurons before noting:

> The picture that these facts support is one in which all our actions are effects of extremely complex, but completely physical, interactions of the cells in our brains and the neurons that lead into and away from our brains. (Robinson, 2004, 158)

In other words, all physical effects, including behavioural effects, have a sufficient physical cause.

There is also ample reason to endorse (2) irreducibility.[1] Volker Gadenne alludes to several famous thought experiments—Thomas Nagel's bat argument, Frank Jackson's Mary argument, and David Chalmers' zombie argument—that indicate there is a distinction between qualitative properties of events and physical properties of events. He then concludes that these thought experiments are not even necessary, since:

> It is sufficient to point out that there are undeniable events, such as pains or afterimages, which we identify by features that are not physical. We do not find these features among properties like shape, volume, mass, or electrical charge ... Hence [qualitative mental properties] cannot be identical with (identity understood as sameness) or realized as physical properties. (Gadenne, 2004, 103)

Qualitative mental properties are discernibly distinct from physical properties—we cannot weigh out a pound of love, or measure out the positive/negative charge of hope (though, some may speculate that hope would have a positive charge!). Given this distinction, qualitative mental properties must be distinct from physical properties.

Finally, the qualia epiphenomenalist also argues that (3), the principle of causal exclusion, is intuitively obvious. Overdetermination is plausible in rare cases, such as when two assassins pierce the target's heart at the same time, but Robinson argues that it is implausible in the case of mental causation:

> Jones might have died of fright from the noise of a gunshot even if the bullet had not entered his heart and killed him. We can understand an alternative causal route in this case, but there seems to be no analogue in the case of qualitative events and neural causes, i.e., no ground for saying that some neuron(s) would have had raised activation in virtue of a qualitative event even if there had been insufficient pre-synaptic activation to bring about this result. (Robinson, 2006, 86)

For Robinson, and for other qualia epiphenomenalists, countenancing overdetermination in the context of mental causation is implausible.

These three principles, when combined together, lead to qualia epiphenomenalism. If there can be no more than a single sufficient physical cause for an

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effect, then it follows that distinct qualitative properties of events must be excluded from causal efficacy. Qualia epiphenomenalism is the doctrine that qualitative properties of events lack causal efficacy, so qualia epiphenomenalism is justified by these three propositions taken together (Robinson, 2004, 158; Tammelleo, 2008, 42-43; Gadenne, 2006, 105).

Before moving on, it is worthwhile distinguishing several different versions of epiphenomenalism. In its broadest form, epiphenomenalism is the doctrine that mental properties lack causal efficacy *tout court*, meaning that mental properties of events cannot have physical or mental effects. Following Watkins (1989, 159), call this Classical Epiphenomenalism, as expounded by C. D. Broad (1925, 118; 1959, 791). On the other hand, many consider epiphenomenalism to only be the doctrine that mental properties of events cannot causally influence any physical effects (Jackson, 1982; Nagasawa, 2010). Call this Physical-Effect Epiphenomenalism.

There is a second set of worthwhile distinctions: the events under discussion in this paper have, at least, four different properties. Events have physical properties, such as synchronous neural firing; they have functional properties, such as the causal relations they bear to other events; they have intentional properties, such as what these events intend for, or direct at; and they have qualitative properties, such as what this event feels like for the subject. For example, I am starving in the desert when a stranger walks up to me and tells me that there is a chocolate bar lying in the sand on the other side of the dune. This news causes an event to occur in me. This event has qualitative properties (feelings of relief and excitement), it has intentional properties (my excitement is about, or specifically directed at, the one chocolate bar out of the set of all chocolate bars), it has functional properties (the presence of chocolate bars typically cause mouth preparation behaviour, and chocolate bar pursuit behaviour), and it has physical properties (neural/chemical reactions cascade throughout my brain). Given these differing properties of the event, it is possible to only be an epiphenomenalist with respect to one, or perhaps two, of these properties. Thus, following the taxonomy of Frank Jackson (1982), the Qualia Epiphenomenalist argues that qualitative properties of events lack causal efficacy, while other properties may be causally efficacious. Similarly, it is possible to only maintain the irreducibility thesis with respect to one of the properties. Thus, it is possible to believe that qualitative properties fail to reduce to physical properties, but intentional and/or functional properties do reduce to physical properties. In what follows, I focus on qualia epiphenomenalism—the doctrine that qualitative properties are both irreducible and causally inefficacious—while I only briefly discuss the possibility that intentional properties are irreducible and epiphenomenal.

2. The Epistemic Argument

Epiphenomenalism has its share of problems. Indeed, the presumption in favour of mental causation is so strong that Tyler Burge argues, "There is no

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real hope that epiphenomenalism could become a credible view" (Burge, 1993, 112). Or again, Brian McLaughlin calls epiphenomenalism "truly incredible" (McLaughlin, 1994, 284). Perhaps the most pernicious argument against epiphenomenalism is the so-called Epistemic Argument. While there are several versions of the epistemic argument, this paper focuses on unjustified intentional properties (i.e., beliefs/memories) about epiphenomenal qualitative properties.[2] According to this version of the epistemic argument, since qualitative properties are not causally efficacious they play no role in bringing about the instantiation of intentional properties in the subject, such as beliefs/memories about those qualitative properties. Since these beliefs/memories about epiphenomenal qualitative properties do not arise because of the epiphenomenal qualitative properties, these beliefs/memories about the qualitative properties may occur without the occurrence of the corresponding qualitative properties. Therefore, beliefs/memories about epiphenomenal qualitative properties are unjustified and possibly false. Since beliefs/memories must be both true and justified in order to count as knowledge, these beliefs/memories about epiphenomenal qualitative properties cannot be counted as knowledge, and these epiphenomenal qualitative properties cannot be known. Michael Watkins raises this concern:

> If qualia are not causally efficacious, then my beliefs and memories would be just as they are whether there were qualia or not. Beliefs about qualia cannot be justified on the basis of qualitative experiences since those experiences do not cause those beliefs (Watkins, 1989, 160; see also Stjernberg, 1999).[3]

Epiphenomenal qualitative properties are not relevant to the occurrence of beliefs/memories about those experiences; in fact, those same beliefs/memories may be in place in the absence of those experiences. But if I can believe that pineapples are sweet, and have a memory that pineapples are sweet, even if the actual taste experience was sour, or there was no taste experience whatsoever, the belief that pineapples are sweet is unjustified, and possibly false, and does not count as knowledge, while the quality of the experience is unknown.

Frank Jackson calls this epistemic argument "the most powerful reply" (Jackson, 1982, 134) to his knowledge argument which endorses qualia epiphenomenalism. Similarly, Alexander Staudacher calls this epistemic argument "the most challenging" (Staudacher, 2006, 154) objection to qualia epiphenomenalism, while William Robinson calls it "the most powerful reason for rejecting epiphenomenalism" (Robinson, 2011). Clearly, this epistemic argument requires a response if qualia epiphenomenalism is to remain a viable option. In what remains of this paper I consider two prominent responses to this epistemic argument, and I find them both wanting.

3. The Common Underlying Cause Reply

According to the Common Underlying Cause Reply, epiphenomenal qualitative properties supervene (with nomological or metaphysical force) upon the physical

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properties that cause the effect. This being the case, it is not correct to suggest that epiphenomenal qualitative properties have nothing to do with the occurrence of the effect, or are irrelevant to the occurrence of the effect. Rather, qualitative properties, though causally unrelated, are still intimately related with the effect in virtue of their supervenience on the cause of the effect, and this close relation suffices to dispel any epistemic worries that qualia epiphenomenalism faces.

I want to briefly consider three different articulations of this reply. Frank Jackson hints at the Common Underlying Cause Reply in his discussion on qualia epiphenomenalism. According to Jackson, epiphenomenal qualitative properties are related to behavioural effects as the movements on a theatre screen at one moment are related to the movements on a theatre screen a moment later. The first movement (a punching, for example) seems to cause the second movement (a falling), but the first movement is caused by the projector, which also causes the second movement. Jackson summarizes, "No matter how often *B* follows *A*, and no matter how initially obvious the causality of the connection seems, the hypothesis that *A* causes *B* can be overturned by an overarching theory which shows the two as distinct effects of a common underlying causal process" (Jackson, 1982, 133; see also Nagasawa, 2010, 47). Since the qualia epiphenomenalist maintains that epiphenomenal qualitative properties are the products of the same physical cause that brings about the behavioural effect, the epiphenomenalist can appeal to these underlying causal processes to explain how epiphenomenal qualitative properties are related to these effects.

Alexander Staudacher makes a similar point, but makes some significant expansions. Staudacher distinguishes between direct and indirect causes: direct causes are either immediate causes of the effect, or parts of the causal chain that leads to the effect, whereas indirect causes mean that "the cause of A is also the cause of B" (Staudacher, 2006, 156). Thus, beliefs/memories about past qualitative experiences[4] will have the same cause as the actual qualitative experiences, or, in Staudacher's words, the qualitative experiences will bear an "indirect causal relationship" (Staudacher, 2006, 156) with the beliefs/memories about the experiences.[5] This means that the beliefs/memories are counterfactually dependent on the qualitative properties: "the belief would not have arisen if the fact hadn't obtained" (Staudacher, 2006, 159; see also Robinson, 2004, 165-167). This counterfactual dependency is sufficient to dispel the epistemic argument outlined above. After all, we wouldn't believe we were in pain if the cause of the pain had not occurred as well, so we are justified in believing we were in pain.

Of course, qualitative properties will only be indirect causes of the memories/beliefs about those qualitative properties if there is a sufficiently stringent necessity relation from the physical cause to the qualitative properties. Volker Gadenne adds this crucial component to the picture. He argues that qualitative properties are properties of physical systems, so it is reasonable to expect qualitative properties to be determined by the physical properties of the physical

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system. Thus, the relation between qualitative properties and their underlying base is one of "strong supervenience, or dependence" (Gadenne, 2006, 103). This supervenience relation grounds the psychophysical law $P_1 \rightarrow M_1$, stating that whenever the physical cause occurs, the qualitative properties necessarily occur as well (Gadenne, 2006, 104). Thus, the counterfactual "If Q [the qualitative property] had not occurred, $P2$ [the effect] would not have occurred in the given situation" (Gadenne, 2006, 109; see also Robinson, 2004, 161) is necessarily true. As Gadenne summarizes:

> Is it really possible, on epiphenomenalist assumptions, that you experienced pain yesterday ($t1$), when the dentist treated your teeth, but now ($t2$), for some unknown reason, you believe you experienced pleasure in that situation? It is improbable, even if Q-states should be epiphenomena. The *brain states* that produced pain at $t1$ are causally connected with the *brain states* at $t2$, so that the latter are inclined to produce memories that correspond to what was actually experienced at $t1$. Causation on the physical level *together with* the supervenience of Qs leads to the same result as would causation on the mental level. (Gadenne, 2006, 112)

The strong supervenience relation ensures that the belief/memory nomologically depends upon the past qualitative property. This nomological dependency ensures that we believe we were in pain only when we actually were in pain, which dissolves any epistemic concerns.

4. Problems with the Common Underlying Cause Reply

This Common Underlying Cause Reply is endorsed by a number of qualia epiphenomenalists. Indeed, Hans Muller, a critic of epiphenomenalism, acknowledges that he was "convinced by it for many years" (Muller, 2008, 86). There are, however, significant problems with this solution, all of which stem from the gap between, or the indirectness of the relation between, the belief I was in pain (P_2) and the qualitative property of pain (M_1). If qualitative properties are causally efficacious, the causal relation from the qualitative property to the effect is direct and immediate ($M_1 \rightarrow P_2$), so the appearance of P_2 guarantees that M_1 occurred, which justifies and proves the belief P_2 true. If qualitative properties lack causal efficacy, there is no causal relation from the epiphenomenal qualitative property to the belief about the qualitative property, so there is a gap between the occurrence of the pain and the belief about the pain—the belief about the pain follows from a physical cause, which in turn determines that the pain will be present as well ($M_1 \leftarrow P_1 \rightarrow P_2$). This gap enables the critic to render false the requisite counterfactual "Had the epiphenomenal mental property not occurred, the effect would not have occurred" by demonstrating certain instances where the mental property does not occur, but the effect still does. If this counterfactual fails, then the belief that I was in pain can occur without any actual pain, so the belief that I was in pain cannot be counted as knowledge.

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But is it possible that for a belief about an epiphenomenal qualitative property to occur without the occurrence of the corresponding qualitative property? The most rudimentary demonstration that the qualitative property can be absent while the effect still occurs is found in Daniel Dennett's argument that epiphenomenal mental properties, since they make no difference, should be able to cease to appear, or run ten years behind, while everything else should remain the same (Dennett, 1978, 252). This means that my experience of pain may have occurred ten years ago, and yet I now believe that I just experienced pain a moment ago—a dubious epistemic predicament, to say the least.

Volker Gadenne provides the characteristic reply to this expression of the gap problem. As highlighted above, the qualia epiphenomenalist has at her disposal the claim that the appearance of the physical cause necessitates the appearance of the supervening qualitative properties, so qualitative properties cannot be "arbitrarily distributed" (Gadenne, 2006, 111) in the manner that Dennett's thought experiment suggests. Rather, if the qualitative property is absent, or lags ten years behind, then there will be some alteration to the physical cause as well, which will in turn result in some alteration to what effect occurs. The strong supervenience relation guarantees that the effect will only occur when the epiphenomenal qualitative property does, so the epistemic credentials of epiphenomenalism are re-established.

Gadenne's response raises an important question: how strong is the necessity relation from the physical cause to the qualitative property that supervene upon the cause? Typically, supervenience relations are either metaphysically necessary or nomologically necessary. The epiphenomenalist rejects a metaphysically necessary supervenience relation. After all, if the physical cause metaphysically necessitates the qualitative properties that supervene upon the cause then there is no possible world where the physical cause appears but the supervening qualitative properties do not. Many epiphenomenalists, however, are persuaded by zombie arguments, or inverted qualia arguments, which presuppose that the physical cause can appear without the supervening qualitative properties (Chalmers, 1996, 123; Robinson, 2004, 168; Jackson, 1982). The epiphile, therefore, rejects the metaphysical necessity of the mental properties. This stands to reason, as a number of authors suggest that a metaphysically necessary supervenience relation is hardly distinguishable from reductionism (Kim, 2005, 49; Pauen 2006, 134). The supervenience relation, therefore, is likely to be one of nomological necessity. But now the epiphobe can insist that missing and/or inverted qualitative properties are metaphysically possible again, which reintroduces the aforementioned problem.

William Robinson gets around this problem by granting that there are nomologically distinct possible worlds where the belief/memory that I was in pain occurs without the actual pain, but in this world, under these laws, the belief/memory that I was in pain cannot possibly occur without the actual pain. As William Robinson concludes: "the possibility of a world in which laws are different and we do not know that our qualitative events occur does not show

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that in *this* world we do not know that they occur" (Robinson, 2004, 168-169). And if our belief/memory that we were in pain is necessarily preceded by the pain in this world, this re-establishes the epistemic merit of the belief/memory.

There are two reasons to think that Robinson's reply will not work, the first of which arises from a consideration of the problem of epistemic luck. Imagine that Sally spins around until dizzy, points in some random direction, and says "Montreal is in that direction." Sally's belief could by chance be true, but because this true belief came about due to luck, it is hardly considered knowledge. To avoid epistemic luck, it is typically assumed that true beliefs must be justified as well. For example, if my true belief that Montreal is in the specified direction is rooted in an analysis of the local geography and a familiarity with the relevant maps, this true belief is counted as knowledge. Not surprisingly, Duncan Pritchard suggests that epistemic luck's "elimination is an adequacy condition on any theory of knowledge" (Pritchard, 2005, 151) while Jonathan Dancy concludes that "knowledge must somehow not depend on coincidence or luck" (Dancy, 1985, 134).

As it turns out, while Robinson's solution may demonstrate that the belief that I was in pain is *true* in this world, the belief arises from an unreliable epistemic mechanism, so the belief is still not *justified*. Rather, the belief is only true due to epistemic luck, which prevents it from being considered knowledge. Here is the epistemic mechanism that I claim is unreliable: an effect (i.e., belief that I was in pain) is justified because it is caused by the same physical property instance that determines that a qualitative property (i.e., pain) will be instantiated, which in turn supports the relevant counterfactual. But imagine a nomologically distinct world where P_1 causes the belief that I was in pain and also subvenes itchiness (M_x). Imagine also that there is a psychophysical law in that world such that $P_1 \rightarrow M_x$ so that whenever I have the belief that I was in pain I will have had an itchy experience. In this case the cause of the effect (i.e., the belief that I was in pain) was the cause of the qualitative property (i.e., itchiness). It is also the case that the counterfactual "Had itchiness not occurred the belief that I was in pain would not have occurred" is necessarily true. These are the same criteria that the epiphenomenalist appeals to in this world to justify the belief that I was in pain. Does this mean that in that distant world the belief that I was in pain is justified as well? The same mechanism brought it about, so it should be justified. However, it seems plain that my counterpart's belief that he was in pain cannot be considered justified knowledge, as there never was any pain, so the epistemic mechanism is unreliable.[6] And, if the principle "the cause of the belief is the cause of the qualitative property" does not deliver knowledge in that world, why should it be considered a reliable epistemic mechanism in this world? In fact, assuming that there are many metaphysically possible psychophysical laws (i.e., $P_1 \rightarrow M_r$, $P_1 \rightarrow M_s$, $P_1 \rightarrow M_t$, etc...), there will be many possible worlds where the cause of my counterpart's belief that he was in pain subvened tinglyness, anger, jealousy, etc... One of these many possible worlds will hold a person whose

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belief he was in pain was caused by the physical property instance P_1 that subvenes a painful quale. But now it looks like this unreliable epistemic mechanism has simply gotten lucky on one occasion. In the same way that Sally's pointing finger will correctly point to Montreal on occasion, or a broken clock will be correct once a day, so the cause of the belief that I was in pain will subvene a pain quale in some one possible world. And, in the same way that Sally does not *know* where Montreal is, or a broken clock does not *know* the time, because of the epistemic luck involved (even though it was correct in this case), so Robinson does not *know* that he was in pain (even though he may be correct in this world).

Not only does Robinson's model fail due to the epistemic luck involved, but his model also appears to be question begging. Robinson's response relies upon the view that in this world the belief that I was in pain is preceded by a pain—otherwise the belief that I was in pain would not be true, and would not be knowledge. In order for the belief that I was in pain to be preceded by a pain, however, the psychophysical law $P_1 \rightarrow M_1$ must hold. But how can we be sure that the appropriate law $P_1 \rightarrow M_1$ holds in this world?[7] Humans lack the ability to introspect their own neural activity, so they cannot correlate the introspected qualitative state M_1 with specific neural activity P_1. Even if humans gained this ability (perhaps through being hooked up to a real-time fMRI machine), abstraction to law requires more than a single confirmed instance, so we will have to confirm the law through memory of prior instances. According to epiphenomenalism, however, memory lacks causal efficacy, so the epiphenomenalist cannot believe in the psychophysical law $P_1 \rightarrow M_1$ because she remembers prior instances of this law occurring.[8] Thus, the epiphenomenalist cannot be certain of the psychophysical law $P_1 \rightarrow M_1$. And, if there is no certainty that this law holds, then it is not possible to appeal to this law holding in this world as a foundation for knowing that M_1 occurred.[9]

To summarize, if mental causation is true, then my pain causes my belief that I was in pain. The relation between the mental cause and the effect is immediate, so it renders the counterfactual "Had my pain not occurred, my belief that I was in pain would not have occurred" true. As a result, my belief that I was in pain is true and justified knowledge. In contrast, on qualia epiphenomenalism, my pain is caused by the cause of my belief that I was in pain. The relation between the pain and the effect is indirect or mediated, and hence it is possible to render the counterfactual "Had my pain not occurred, my belief that I was in pain would not have occurred" false. So the belief that I was in pain is an unjustified and possibly false belief. The epiphenomenalist responds to this charge by supposing that there is a nomologically necessary psychophysical law holding between the qualitative property and the appropriate belief. But, for so long as the psychophysical law is only nomologically necessary, it is possible that this law fails, which falsifies the relevant counterfactual and casts our knowledge of our qualitative states in doubt. Robinson replies by emphasizing that in this world, under the proper psychophysical law,

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the belief that I was in pain is true, and hence is counted as knowledge. But, the unreliable justificatory mechanism implies that the epistemic luck involved prevents this belief from being counted as knowledge, even if it is true. Moreover, the presumption that the appropriate psychophysical law holds in this world is question begging, for the epiphenomenalist cannot demonstrate that this is a world where the appropriate psychophysical law holds. For these reasons, appeal to a common underlying cause will not overcome the epistemic argument against qualia epiphenomenalism. Another strategy is needed to salvage qualia epiphenomenalism from the epistemic argument—and to this I now turn.

5. Physical-Effect Epiphenomenalism

Physical causal completeness combined with causal exclusion implies that every physical effect has a sufficient physical cause, to the exclusion of mental causes. But this does not self-evidently imply that qualitative properties cannot cause mental effects (Jackson, 1982, 133; Cavendar, 2009, 105-106; Nagasawa, 2010, 42). Thus, as noted above, there are those who endorse physical-effect epiphenomenalism, which supposes that qualitative properties are epiphenomenal vis-à-vis physical effects, but causally efficacious vis-à-vis mental effects. If qualitative properties retain causal efficacy within their own domain, then qualitative mental properties (i.e., pain) may cause mental effects (i.e., the belief that I was in pain). If the belief that I was in pain was caused by the pain, the belief that I was in pain is justified knowledge, and the epistemic argument against qualia epiphenomenalism dissolves. As Nagasawa explains:

> If epiphenomenalists accept ... that events in the physical domain, but not necessarily in the mental domain, are causally inefficacious in virtue of their falling under a mental type, then they can reject the inconsistency objection by claiming that Mary's colour experience, which is an event in the mental domain, does cause Mary's acquisition of knowledge about the experience, which is also an event in the mental domain (Nagasawa, 2010, 42).

According to Nagasawa, Mary's colour experience is efficacious vis-à-vis mental effects, and knowledge acquisition is a mental effect of the colour experience, so it is knowledge.

Assuming that qualitative properties causally influence the instantiation of mental intentional properties (beliefs/memories), a key question that arises is whether these intentional properties are reducible to functional/physical properties or not. According to some philosophers in the debate, not only are qualitative properties irreducible but intentional properties are irreducible as well (Chalmers, 1996, 82; Chalmers, 2003, 229; Searle, 2003, 155ff). David Chalmers, for example, argues that beliefs about qualitative properties are partly constituted by those qualitative properties, so a functional/physical duplicate lacking the qualitative properties cannot have the same belief content. Hence:

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> Phenomenal realists often hold that while the phenomenal is conceptually irreducible to the physical and functional, the intentional can be analyzed in functional terms. But if what I have said here is correct, then this irreducibility cannot be quarantined in this way (Chalmers, 2003, 230).[10]

If intentional properties are irreducible to the functional/physical, as Chalmers gestures at, then certain problems arise. First, if qualitative properties can only cause intentional properties because intentional properties are irreducibly mental, intentional properties lack the ability to cause behavioural effects for the same reason. Behavioural effects, such as hand movements and utterances, are physical effects. These physical effects have a sufficient physical cause, which, assuming the qualia epiphenomenalist continues to adhere to physical causal completeness and causal exclusion, excludes these intentional properties from causing this physical behaviour (cp. Nagasawa, 2010, 42). This leads to the unusual consequence that my unreduced belief that I was in pain is considered knowledge, but my utterance "I was in pain" is not knowledge, because it was caused by neither the belief that I was in pain nor the pain itself. It also leads to the view that the belief that I was in pain was caused by the pain itself, but the physical utterance "ouch!" was not. And, as Daniel Dennett suggests, this move amounts to, "retreating into a solipsistic world where there is only himself, his beliefs, and his qualitative properties, cut off from all effects in the world" (Dennett, 1991, 403). These counterintuitive consequences suggest that there is something wrong with the model.

Perhaps the epiphenomenalist can swallow these counterintuitive consequences and still maintain that intentional properties, though they do not cause or justify utterances, are still justified themselves since they are caused by the relevant prior experience. As it turns out, even this concession is not available to the epiphenomenalist. The causal exclusion problem, as originally formulated by Jaegwon Kim, implies not only that the qualitative property (M_1) cannot cause a physical effect (P_2), but also that the qualitative property M_1 cannot cause the intentional property M_2. To see why, notice that according to strong supervenience, which we have seen that most qualia epiphenomenalists accept, M_2 is completely determined to occur by its subvenience base P_2, which, according to the causal exclusion principle accepted by the qualia epiphenomenalist, excludes the qualitative property M_1 from being counted as a cause of M_2 (Kim, 2005, 39ff; see also Bailey, 2006, 495). Thus, the qualia epiphenomenalist is not able to suppose that M_1 can causally influence M_2. Interestingly, the classical epiphenomenalist position that Broad articulates excludes the possibility that mental properties can causally contribute to the instantiation of mental properties for precisely this reason:

> (2) The complete immediate cause of any experience is a simultaneous bodily event in the brain or nervous system of some one living organism. (3) No experience is a cause-factor in the total cause of any bodily event. (It is unnecessary to add that no

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> experience is a cause-factor in the total cause of any *mental* event, for that follows immediately from Proposition (2) above). (Broad, 1959, 791)

The epiphenomenalist agrees that mental properties are dependent upon, and determined by, physical properties, which means that the intentional property M_2 is determined by physical properties, so there is no work left for the qualitative property M_1 to do.

Given these difficulties associated with the view that qualitative properties causally contribute to the instantiation of *unreduced* intentional properties, a number of epiphenomenalists suggest that qualitative properties causally contribute to the instantiation of *reduced* intentional properties. As Alexander Staudacher points out:

> The motivation for taking qualia-epiphenomenalism into consideration at all is mainly the uneasiness felt by many in accepting one of the available reductive accounts of qualia. These reservations against a reductive account of qualia may well be compatible with a reductive account of other mental states and properties as beliefs or intentional properties. (Staudacher, 2006, 155)[11]

It is possible that intentional properties reduce to the functional/physical, and if this is the case then qualitative properties may causally influence these mental intentional properties. This solves both of the problems that plagued the nonreductive account of intentional properties. It guarantees that the belief that I was in pain can cause the assertion "I was in pain", since the belief is physical so it can influence physical behaviour. It also prevents the pain (M_1) from being pre-empted as a cause of M_2 by the subvening physical base P_2, since M_2 is P_2. Since pain caused the belief that I was in pain, this belief is justified and can be counted as knowledge.

This move does not work. After all, the epiphenomenalist, by definition, argues that qualitative properties do not causally influence physical effects. If intentional properties are physical, as this solution presumes, then qualitative properties will not be able to causally contribute to the occurrence of these physical intentional properties. Hans Muller expresses the difficulty:

> ... It seems clear that beliefs must count as physical according to the qualia epiphenomenalist. But this means that beliefs cannot be caused by qualia on pain of violating the following restriction: 'the instantiation of qualitative properties makes a difference to other mental states though not to anything physical.' (Muller, 2009, 110)

Qualitative properties do not influence physical effects, so, to the extent that intentional properties are physical, these qualitative properties will not causally contribute to their occurrence. And, if qualitative properties contribute nothing to the occurrence of beliefs/memories about qualitative properties, then those beliefs once again lack proper justification and cannot be counted as knowledge.

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To summarize, on one version of epiphenomenalism, physical-effect epiphenomenalism, qualitative properties are inefficacious vis-à-vis physical effects, but causally efficacious vis-à-vis mental effects. My pain may therefore cause my belief that I was in pain if this belief is a mental effect. Since the belief that I was in pain is caused by the pain itself, it is a justified, true belief, so this belief is considered knowledge and this qualitative property can be known about. If this belief is irreducibly mental, however, it cannot cause or justify utterances or behaviours appropriate to the belief. Moreover, since this belief itself is determined to occur by a physical base, the qualitative property is excluded as a cause. Reducing the belief to the physical hardly solves the problem, for then the qualitative property will not be able to cause or justify the belief. Since the belief is not caused by the qualitative property, it is an unjustified belief that cannot be counted as knowledge.

In conclusion, two popular responses to the epistemic argument against qualia epiphenomenalism have been blocked off. Beliefs/memories about qualitative properties are not justified by physical causes that strongly subvene correlating qualitative properties, for this indirect relation between the belief and the qualitative property allows for the epistemically precarious scenario whereby the belief appears without the corresponding mental property. Nor are unreduced beliefs/memories about qualitative properties justified by endorsing physical-effect epiphenomenalism, for this move either leads to the view that unreduced beliefs/memories cannot cause their appropriate behavioural effects, or the view that reduced beliefs/memories cannot be caused by qualitative properties. Having blocked off these responses to the epistemic argument, the epistemic argument still stands as a powerful objection to qualia epiphenomenalism. The qualia epiphenomenalist is left with several options. She can attempt some other method of resisting the epistemic argument,[12] or she can consider some other solution to the mental causation problem that does not involve rejecting the principle of mental causation. What should be avoided, however, are the persisting appeals to common underlying causes or physical-effect epiphenomenalism. These methods of response simply will not work.[13]

Notes

1 The arguments in this paper are crafted within the context of property epiphenomenalism, whereby mental properties of events lack causal efficacy. Many epiphenomenalists endorse property epiphenomenalism (Jackson, 1982; Staudacher, 2006), so I have followed this model. Some, however, endorse event epiphenomenalism, whereby mental events lack causal efficacy (Robinson, 2006). This distinction will not be relevant to what follows, as the same issues appear in both contexts. Thus, on event epiphenomenalism, physical events are sufficient causes of behavioural effects so distinct mental events lack causal efficacy. Or, on property epiphenomenalism, physical properties of events are sufficient causes of behavioural effects so mental properties of events lack causal efficacy. The possible exception to this interchangeability comes with the Davidsonian position, whereby causation is an

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extensional relation that occurs between events *simpliciter* rather than in virtue of properties of events. Thus, an epiphenomenalist of this persuasion can argue that mental properties of events lack efficacy, but the event that has the mental property is causally efficacious. Alexander Staudacher, for example, introduces a related position, whereby qualitative properties of mental states are causally inert, but the mental states themselves may be causally efficacious: "If these properties are supposed to be causally inert relative to the physical world this leaves open the possibility that the respective states themselves have causal influence on the physical world." (Staudacher, 2006, 155; see also Gadenne, 2006, 108, Hyslop, 1998, 65-66). The Davidsonian model has fallen out of favour, largely due to the fact that certain properties of events/objects appear to be causally relevant while others do not. To use an example from Ted Honderich, the weight of the pear rather than the colour of the pear (or, the pear *simpliciter*) appears to cause the scale to read two pounds. I take it that causation occurs in virtue of certain properties, which means that property epiphenomenalism is the view that mental properties of events lack causal efficacy due to the fact that physical properties of events are sufficient causes, not due to the fact that events *simpliciter* are sufficient causes. Thus, the suggestion that the events that instantiate qualitative properties are causally efficacious, though not in virtue of their qualitative properties, does not solve the problem.

2 Other versions of the epistemic argument include (1) the unknowability of qualitative properties due to their lack of influence on behavioural effects. According to this epistemic argument against qualia epiphenomenalism, qualitative properties lack causal efficacy, so they do not cause people to make utterances about them, or engage in the behaviour that is appropriate to the qualitative property. Thus, the utterance "I am in pain" cannot count as evidence for the appearance of the qualitative property of pain, nor can the sudden withdrawal of the hand from the stove count as evidence that a particularly unpleasant experience occurred. After all, this behaviour originated in some source other than the feeling of pain, so the pain has nothing (causal) to do with whether this behaviour occurs or not. To borrow an example from Hans Muller, writing a philosophy paper on qualitative properties is not caused by the qualitative properties (Muller, 2008), so it cannot be evidence of the existence of qualitative properties. Or, to use another example, the stupefaction that Mary, the advanced scientist who knows all of the neuroscience but has never seen colour, expresses upon being exposed to red for the first time is no evidence that she had a qualitative experience of red (Campbell, 2003; Campbell, 2011). Indeed, these same behaviours would occur in the absence of the qualitative properties of the events, so there can be no behavioural evidence for qualitative properties (Dennett, 1991, 402-403; Medlin, 1967, 110-111; Place, 1988, 218). This renders the behavioural utterance "I was in pain" unjustified, which in turn prevents it from being classified as knowledge. Another version of the epistemic argument states (2) that the belief in epiphenomenalism is unjustified due to the fact that intentional properties lack causal efficacy. The belief in epiphenomenalism is, of course, a belief. In order for this belief to be counted as knowledge it must be both justified and true. Let us assume, for the sake of the argument, that it is true. How, then, is

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the belief in epiphenomenalism justified? Richard Swinburne suggests (and ultimately rejects) that epiphenomenalism may be justified by appeal to experience, memory and/or testimony (Swinburne, 2011, 206-207). It is unlikely that we can experience our own beliefs failing to have any causal impact on our beliefs. Similarly, we cannot appeal to our memory of how prior beliefs failed to have an impact because we never experienced this impotence in the first place, nor would these prior memories cause us to believe (or have anything to do with our belief) that beliefs lack efficacy. Rather, the belief that beliefs lack causal efficacy would come from some brain event. And if one human is in this dire epistemic predicament, it benefits her little to appeal to the testimony of another human who is in the same predicament. The obvious reply to this problem (indeed, one that Swinburne considers) is to point out that epiphenomenalists justify their belief in epiphenomenalism through inference from the three antecedent beliefs mentioned above. As unpacked in the previous section, the epiphenomenalist believes in epiphenomenalism because of the conjunction of the principles of physical causal completeness, irreducibility and causal exclusion. The epiphenomenalist, therefore, has inferential knowledge that epiphenomenalism is true. That is, these three principles are propositions, and the epiphenomenalist holds a propositional attitude (i.e., a belief) toward these propositions. The propositions that the epiphenomenalist believes in stand in a logical relation, so the epiphenomenalist *infers from* her three antecedent beliefs *to* the conclusion that epiphenomenalism is true. In the words of William Robinson, these three beliefs *lead to* the belief in epiphenomenalism (Robinson, 2006, 85). Notice the (apparently) causal import of the language—one believes in epiphenomenalism because of these reasons, where the "because" seems to be taken literally (i.e., seems to *be* the *cause*). On this model we have "causation in virtue of reasonableness" (Antony, 1989, 167-8; see also Martin, 1993, 72; Fricker, 1993, 279), or, in the words of Bill Brewer, we have "compulsion by reason" (Brewer, 1995, 244). One is an epiphenomenalist because the logical conjunction of the principles of physical causal completeness, irreducibility and causal exclusion compels them to believe in epiphenomenalism. While the classical epiphenomenal position is that these three antecedent beliefs lead to, and hence justify, epiphenomenalism, the classical epiphenomenalist also maintains that no beliefs, including these three antecedent beliefs, can lead to, or hence justify, any belief, including the belief in epiphenomenalism. According to epiphenomenalism, the reasoning between the three antecedent beliefs is not the reason for their belief in epiphenomenalism. Rather, their belief in epiphenomenalism arises, as does every belief, because of brain events that are blind to the reasonableness or unreasonableness of the beliefs they subvene. Thus, the "reasons that suggest epiphenomenalism" (Robinson, 2006, 85) are not actually the causes of someone becoming an epiphenomenalist. And this leaves the belief in epiphenomenalism without adequate justification, and hence this belief cannot be counted as knowledge. This argument is similar to the concern raised by (but not endorsed by) Alec Hyslop: "If epiphenomenalism is true it would never be rational to believe it is true. Why is this? A rational belief is, if roughly, a belief held because of other beliefs we hold. If we did not hold those other beliefs we might well not

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hold on to that (hopefully rational) belief ... My belief that epiphenomenalism is true, cannot be related in the required way to other beliefs. It cannot then be rational" (Hyslop, 1998, 65-66). Since beliefs lack causal efficacy, the belief in physical causal completeness, irreducibility and causal exclusion is not the reason for the belief in epiphenomenalism, or the reason why someone believes in epiphenomenalism, and hence the belief in epiphenomenalism cannot be counted as knowledge.

3 For similar formulations of this problem, see Pauen (2000); Pauen (2006); Walter (2007). There are also a number of philosophers who raise this problem with the intent of refuting it: Chalmers (1996), 193; Gadenne (2006), 101; Robinson (2004); Robinson (2006), 88; Staudacher (2006), 154.

4 I follow Staudacher here in discussing past qualitative experiences in the context of the common underlying cause reply, rather than occurrent qualitative experiences. Staudacher (2006, 161; see also Gertler, 2001, 308; Butler, 2011, 137; Chalmers, 2003, 248-250) argues that occurrent qualitative experiences are justified by acquaintance, whereas memories of past qualitative experiences are justified by appeal to common underlying causes. A discussion on the model of justification by acquaintance is beyond the scope of this paper.

5 Staudacher's distinction between direct, generative causes and indirect, counterfactually dependent causes raises an important question. Can the epiphenomenalist avoid the difficulties they face by endorsing a counterfactual account of causation? That is, the mental property M_1 strongly supervenes upon the physical cause P_1 of the effect P_2, which ensures that the effect is counterfactually dependent on M_1. If causation is a matter of counterfactual dependence, then M_1 is a cause of the effect, and the epistemic argument against epiphenomenalism dissipates. While this is a plausible move that has been attempted by a number of philosophers (Loewer, 2002; Bennett, 2003), it is not available for the epiphenomenalist. The epiphenomenalist, by definition, argues that mental properties lack causal efficacy. If they endorse the counterfactual model of causation, mental properties will have causal efficacy, and their position will be proven false. The epiphenomenalist rejects mental causation because they are convinced by the truth of physical causal completeness, causal exclusion and irreducibility. If they endorse mental causation through a counterfactual analysis of causation, they will have to reject the principle of causal exclusion. After all, now the effect P_2 will have a sufficient physical cause P_1 and a distinct mental cause M_1. The epiphenomenalist is unwilling to pay this price. Not surprisingly, therefore, the epiphenomenalists listed in this section reject the counterfactual account of causation. I will leave aside the related question of whether qualia can have an indirect causal relationship with physical behaviour without violating the doctrine of qualia epiphenomenalism.

6 It is possible to argue that the epistemic mechanism is reliable by virtue of the fact that every time I believed I was in pain I can know that I felt itchy, so I can know at that moment that I felt itchy. However, assuming that epiphenomenalism is true, the physical cause P_1 necessitates the instantiation of the belief that I was in pain, so the true belief that I was feeling itchy would never cross the mind.

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7 Michael Pauen (2006) raises this concern as well, though his argument differs from mine. He argues that psychophysical laws can only be proven through empirical observation, where these empirical observations need to be falsifiable. If qualitative properties are epiphenomenal, however, there will be no observable differences between the conscified person and the zombified person, so there can be no empirical evidence that physical property P_1 always subvenes mental property M_1. This renders the psychophysical law unfalsifiable, so it cannot be proven empirically. Appeal to first-person evidence is of no avail, since recognizing psychophysical laws supervenes on functional/causal properties, which the epiphenomenalist cannot help themselves to. Thus, Pauen concludes that the epiphenomenalist cannot establish the requisite psychophysical law $P_1 \rightarrow M_1$.

8 Perhaps the qualia epiphenomenalist can respond by pointing out that they do not necessarily agree that memory lacks causal efficacy. That is, it is possible to think that qualitative properties are inefficacious while intentional properties are efficacious. This move may allow the qualia epiphenomenalist to appeal to justified, true memories in support of the belief in the psychophysical law $P_1 \rightarrow M_1$. The qualia epiphenomenalist, however, doubts that this memory was itself caused by an experience of the psychophysical law $P_1 \rightarrow M_1$, so this memory is not justified knowledge itself.

9 The epiphenomenalist may respond, as Staudacher suggests without endorsing, the requisite strong supervenience relation $P_1 \rightarrow M_1$ is knowable *a priori* (Staudacher, 2006, 167), and thus does not require memory for evidence. But *a priori* knowledge is typically self-evident knowledge such as ”A=A” or ”all effects have causes”. What is it about $P_1 \rightarrow M_1$ that is self-evident? Why is it obvious that C-Fibre firing has to subvene pain rather than, say, bliss or itchiness? It is tempting to incorporate the effect P_2 into a possible answer: pain hurts so it is self-evident that it will correlate with avoidance behaviour, itchiness is bothersome so it is self-evident that it will correlate with alleviatory scratching behaviour. This move is not available to the epiphenomenalist however, for the mental property M_1 is only guaranteed to correlate with the appropriate behavioural effect P_2 if we presuppose that the appropriate psychophysical law holds, which is what we are trying to establish. Without recourse to the appropriately related effects, there is simply no reason to suppose that $P_1 \rightarrow M_1$ is knowable a priori. Indeed, on epiphenomenalism, it is coincidental that physical property P_1 subvenes an epiphenomenal mental property M_1 that is appropriately correlated with the effect P_2. The hurtfulness of pain contributes nothing to the occurrence of avoidance behaviour, so this effect was entirely oblivious to how things felt a moment ago—yet the effect matched the feeling perfectly. The hand would still pull away from the hot stove if bliss supervened upon C-fibre firing. The hand would still scratch at surface tissue if nostalgic sentiments supervened upon P_1 rather than itchiness. This argument should not be confused with a related coincidence problem, articulated by Bieri (1992, 283) and Hutto (1999, 389), whereby it is an implausible coincidence that psychological explanations of behaviour are repeatedly successful despite the fact that mental properties play no causal role in the occurrence of the behaviour. This coincidence

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problem is dispelled by appealing to strong supervenience: since the mental properties strongly supervene on the causes of the behaviour, their isomorphic relation to the effect is explained (Pauen, 2006, 150). Rather, the concern raised here is why the appropriate mental properties strongly supervene on the causes of the behavoiur (cp. Kirk, 2008, 77-78; Chalmers, 2003, 129). When any mental property at all can supervene on the cause of the behaviour, why is it that the mental property that supervenes on the cause of the behaviour is so appropriate for the behaviour? Perhaps the response is that the synchronism provided by the perfect psychophysical laws is a brute, unexplainable fact. But, those who endorse mental causation have a more compelling story. Namely, the hand pulled away from the hot stove because of the severe unpleasantness of the feeling that arises when the hand is on the stove. The isomorphism between the mental property and the effect is predictable if mental properties are causally efficacious, but it is incredibly coincidental if they are not.

10 Strictly speaking, Chalmers is only speaking of the irreducibility of phenomenal beliefs. Chalmers argues that there may be other beliefs (i.e., about causation and mathematics) lacking phenomenal content which may be reducible. But he argues that, "it is not out of the question that their content might still be irreducible" (Chalmers, 2003, 266). Since consciousness may be required to have concepts and beliefs at all (Chalmers, 2003, 266; Chalmers, 1996, 20), Chalmers considers with approval the possibility that all beliefs are irreducible due to their being constituted and/or dependent upon irreducible conscious experience. Of course, the irreducibility of intentional properties is common in the wider discussion as well (Dretske, 1988; Fodor, 1987).

11 Hans Muller (2009, 110) argues that Frank Jackson also thinks of beliefs as broadly physical. While Jackson argues that the physical includes the functional (Jackson, 1986, 291), this does not necessarily imply that beliefs are included amongst the physical/functional. Indeed, Jackson suggests that there may be mental states other than qualitative properties that are also distinct from the physical: "For all I will say it may be that you have to hold that the instantiation of qualitative properties makes a difference to other mental states though not to anything physical" (Jackson, 1982, 133). Presumably, Jackson may have intentional mental states in mind here.

12 To be sure, viable avenues of resistance remain available, such as the suggestion that phenomenal beliefs are justified in virtue of one's acquaintance with qualitative properties rather than in virtue of the causal relation between qualitative properties and beliefs (Gertler, 2001, 308; Staudacher, 2006, 161; Butler, 2011, 137. Chalmers, 2003, 248-250).

13 I would like to thank two anonymous referees for their valuable comments and criticisms. This research was supported by the Social Sciences and Humanities Research Council of Canada.

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