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Demystifying Consciousness: A Non-reductive Framework

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Abstract: The phenomenon of consciousness has proved to be a notoriously convoluted concept, inviting various fields of philosophical inquiry to comprehend. In discourse on philosophy of mind, there are contentious perceptions on the elusiveness of consciousness; whether it is a reductive concept, a non-reductive concept or the easier way out, eliminating any mental language and substituting it with scientific language. This paper, by studying David Chalmers' invaluable submissions on consciousness, provides a non-reductionist framework that will set the direction of the attempts by psychologists, neuroscientists and philosophers to comprehend consciousness. To begin with, Chalmers' arguments for the fundamental nature of consciousness will be discussed. Furthermore, it juxtaposes Chalmers' assertions with the reductionist approach by the sciences. Having articulated these two perspectives regarding consciousness, a framework for theorizing consciousness is put forward.

Keywords: consciousness, dualism, materialism, reductive, supervene.

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1 Introduction

In the exploration of a third-person perspective of consciousness, diverse contentions have been and are still being raised on its plausibility. It appears that the intrinsic, subjective and qualitative nature of the phenomenal qualities of experience makes a scientific perspective an arduous task. In 2013, Chalmers noted that a scientific framework of consciousness ought to encompass first-person data and third-person data.[2] The first-person data, more specifically, is concerned with the qualitative essence of our mental states; what it is like to have a said experience. The third-person data conversely draws correlations between a subject's psychological states and the brain processes that precipitate these psychological states. It must be stated that while most scientific theories of consciousness deploy a reductionist standpoint of consciousness, Chalmers employs a non-reductionist approach, precisely, that of the property dualists. For this reason, he asserts that a scientific framework ought to employ a first and third-person perspective of consciousness. More so, Chalmers has previously suggested that since a physicalist notion of consciousness is unsatisfactory, we must contrive a fundamental theory of consciousness, that is, one that investigates consciousness entirely through phenomenology.[3]

In the ensuing discussions, by appraising Chalmers' ubiquitous submission on consciousness and juxtaposing it with the third-person scientific perspective of consciousness, I put forward a non-reductive framework on consciousness. I avow that the four criteria of the framework will situate studies of consciousness within a satisfactory trajectory and contemporaneously silence various debates on the matter. First, the paper discusses the intricacies of the easy problem and the hard problem of consciousness. It typically introduces the nuances of the ineffable nature of consciousness in the philosophy of mind. Furthermore, Chalmers' position on consciousness and how it contrasts with the reductionist position of the sciences will be explicated. Finally, the non-reductive framework will be explored and it will point out what a framework of consciousness must not be, and lastly illustrate how we can embrace a satisfactory first- and third-person account of consciousness.

2 The two problems of consciousness

2.1 The easy problem of consciousness

The easy problem of consciousness is termed 'easy' due to its susceptibility to empirical validation. It is therefore an easy problem because we can use scientific tools to ascertain the underlying mechanistic processes through which various conscious states emanate. As Klein and Colin put it, "easy problems involve sorting out the mechanisms that mediate conscious perception and action".[4] It is admittedly a putative axiom that mental states are caused by the physio-chemical processes of the brain, and there are various tools (EEG, fMRI, MEG) through which we can monitor brain states.

To give a comprehensive explication of the easy problem of consciousness, I will situate it within the supervenience theory. Chalmers writes on the supervenience theory:

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[2] Chalmers, David J. "How can we construct a science of consciousness?." *Annals of the New York Academy of Sciences* 1303, no. 1 (2013): 25-35. https://doi.org/10.1111/nyas.12166

[3] Chalmers, David J. "The Conscious Mind: In Search of a Fundamental Theory." (1996).

[4] Klein, Colin, and Andrew B. Barron. "How experimental neuroscientists can fix the hard problem of consciousness." *Neuroscience of Consciousness* 2020, no. 1 (2020): 1. doi: 10.1093/nc/niaa009

The notion of supervenience formalizes the intuitive idea that one set of facts can fully determine another set of facts. The physical facts about the world seem to determine the biological facts, for instance, in that once all the physical facts about the world are fixed, there is no room for the biological facts to vary.[5]

From the foregoing extract, the supervenience theory dichotomizes two sets of properties, the fundamental properties which are the basic properties, and the concomitant higher properties which are precipitated by the basic properties. Here, the fundamental or basic properties on the one hand are, as Chalmers calls them, the A-properties, and on the other hand, the higher properties are referred to as the B-properties. The A-properties precipitate the existence of B-properties and by that accord, the B-properties serving as a corollary of the A-properties supervene (or depend) on the A-properties to exist. Physical facts about the world, for example, determine the existence of biological facts. Stated differently, biological facts necessarily entail physical facts and thus human beings, plants and animals can exist if and only if they have the properties and characteristics of being physical. It follows that physical properties are necessary and sufficient conditions for human beings, animals and plants to exist. Similarly, Seeds are necessary and sufficient conditions for plants to exist, while oxygen and hydrogen are necessary and sufficient conditions for water to exist. The relationship between biological properties and human beings as I see it is essentially that biological properties supervene on physical properties about the world. In the same vein, the relationship between plants and seeds within the supervenience theory is presented as 'plants supervene on seeds'. Seeds are the fundamental properties by which plants exist and physical properties are the fundamental properties by which biological properties exist.

In reconciling this succinct explanation of the supervenience theory to the easy problem of consciousness, it strikes me that in this case, A-properties are the brain states while the B-properties are the mental states, precisely consciousness. Moreover, Chalmers points out that the third-person data are the neurophysiological data of the brain processes of the subject.[6] As I understand it then, the A-properties are the third-person data while the B-properties are the first-person data.

The easy problem of consciousness essentially focuses on the neuronal correlates that consciousness has to neurophysiological data. This is undoubtedly an easy task, to see the regions of the brain that precipitate conscious experience. That notwithstanding, however, why do we have these conscious experiences? Could third-person data obtained through the use of various neuroscientific tools give a satisfactory account of qualia? Could science enable us to know what it is like to have a conscious experience? These are the questions that the hard problem of consciousness explores.

2.2 The hard problem of consciousness

The hard problem of consciousness arises from the complexity of comprehending the properties of conscious experience. The subjectivity, privacy and the qualitative nature of our conscious experiences place mental states on a different paradigmatic sphere from that of physical states. Admittedly, as indicated in the foregoing, brain states do indeed cause the emergence of mental states and as a corollary, consciousness. However, it must be acknowledged that regardless of

[5] Chalmers, *The Conscious Mind*, 32.

[6] Chalmers, David J. "How can we construct a science of consciousness?." *Annals of the New York Academy of Sciences* 1303, no. 1 (2013): 25-35. https://doi.org/10.1111/nyas.12166 ; Chalmers, David. "The hard problem of consciousness." (2007)

scientific explanations of mental states mainly by employing a reductive approach, science tends to be oblivious to the qualitative property of our conscious experiences. Generally speaking, albeit our mental states are an emergent property of the physio-chemical processes in the brain, there is an underlying qualitative property of our mental experiences that all the relevant third-person data cannot account for. For our purpose, I will limit the discussion on the hard problem of consciousness to qualia.

2.2.1 The explanatory gap

Suppose a young boy has had a severe case of migraine ever since infancy and whenever he has migraines he sweats. The medical officers, through a period of examination, realize that the amount of pain he experiences is consistent with the amount of sweat he has; on a scale of 1-10 if the degree of pain is at 5 he sweats less than he would if the degree of pain was at 7. Now in a recent visit to the hospital, he claims the pain of the migraine is at 9/10 and at the same time he is sweating profusely. The medical officers give him medication to ease the pain. It must be noted that medical doctors have brain observational tools to observe the C-fibre firings in the brain. It strikes them that according to the readings on the brain machines, the C-fibre is firing less (which implies that the pain must be reduced), nonetheless, the boy is still sweating profusely and claims that the pain is still at a 9/10.

In the above story, it can be validly inferred that regardless of the number of physical facts that the medical officers have, they cannot ascertain the degree of pain experienced by the young boy. More precisely, the medical officers do not know what it is like for the young boy to experience migraines. The philosophical quandary in this case is: are correlations of mental states to brain states sufficient to provide a satisfactory account of the qualitative property of the conscious states of the subject? The necessity of the brain in engendering consciousness is irrefutable, yet the reduction of mental states to brain states leaves out qualia. It follows that while third-person data is necessary to occasion first-person conscious experience, it is not sufficient to comprehend these experiences. As Joseph Levine puts it:

Of course, the above is precisely the functionalist story. Obviously, there is something right about it. Indeed, we do feel that the causal role of pain is crucial to our concept of it, and that discovering the physical mechanism by which this causal role is effected explains an important facet of what there is to be explained about pain. However, there is more to our concept of pain than its causal role, there is its qualitative character, how it feels; and what is left unexplained by the discovery of C-fiber firing is *why pain should feel the way it does*.[7]

The explanatory gap, put succinctly, espouses the need to jettison the ideology that physicalism can conclusively account for the mental domain. Otherwise stated, sciences and other minds cannot accurately and completely know my phenomenal experiences. In line with Nagel's analogy, inasmuch as we may have pertinent data about the makeup of bats, we are limited in knowing what it is like to be a bat.[8]

Many theories have been adduced to resolve the explanatory gap. While Paul Churchland[9] submits an eliminative thesis, Daniel Dennett[10] posits that consciousness is illusory and

[7] Levine, Joseph. "Materialism and qualia: The explanatory gap." *Pacific philosophical quarterly* 64, no. 4 (1983): 354-361: 357.

[8] Nagel, Thomas. "What Is It Like to Be a Bat?." *Philosophical Review* 83, no. 435 (1974).

[9] Churchland, Paul M. "Eliminative materialism and the propositional attitudes." *the Journal of Philosophy* 78, no. 2 (1981): 67-90.

[10] Dennett, Daniel C. "Consciousness Explained." (1991).

Chalmers (1996; 2013) espouses a property dualist position to demystify consciousness. The third-person data of the sciences, contrastingly offers a reductive approach to this ineffable phenomenon. I will commence with Chalmers' asseverations regarding consciousness.

3 The conceptual autonomy of consciousness

Chalmers, a property dualist,[11] upholds a binary relationship between the brain and the mind while maintaining a sharp dichotomy with regard to their ontological relationship and the conceptual relationship respectfully.[12] Chalmers' core position may be summarized as follows:

Facts about consciousness are not physical facts. Facts about consciousness are over and above physical facts. Moreover, we cannot understand consciousness in totality by appealing to physical properties. This is because consciousness is a subjective mental state. Accordingly, as Thomas Nagel posits, we cannot know what it is like to be a bat no matter how much knowledge we have of the physical facts about a bat. In the same vein, we cannot know consciousness in totality by appealing to physical facts or properties. It follows that consciousness is a fundamental property and thus we can only understand it in totality by studying it independent of physical states. Moreover, it is an emergent property that cannot be reduced to physical properties or states. Therefore, it is conceptually autonomous of the brain.

Regardless of the repudiations hurled at Chalmers, the strength of his theory is hinged on the claim that consciousness is a distinct property of the brain. More particularly, consciousness is an abstract mental property that is conceptually distinct from the brain yet the brain is a physical entity through which consciousness arises. To reinforce his position, Chalmers for the most part amalgamates logical supervenience theory to the property dualist thesis in affirming the conceptual incommensurable nature of consciousness to the brain. The supervenience theory is therefore the underlying theory that is deployed to emphasise the supremacy of consciousness to the physical domain.

3.1 Logical Supervenience Theory

For logical supervenience, a set of properties is said to supervene on another set of properties if and only if the two sets of properties do not contradict each other conceptually. This means that the logical supervenience theory is not limited to empirical knowledge, but rather it is limited to pure logic, specifically, conceptual properties. Consequently, we can say two sets of properties supervene logically albeit being empirically impossible.[13] Chalmers writes on logical supervenience:

B-properties supervene logically on A-properties if no two logically possible situations are identical with respect to their A-properties but distinct with respect to their B-properties…God could not have created a world with male vixens, but he could have created a world with flying telephones. In determining whether it is logically possible the constraints are largely

[11] Property dualism recognizes the body (brain) as the substance that fundamentally exists. Mental states are an emergent property of the bio-chemical processes that occur in brain. Besides, for the property dualists, the mind is none reductive.

[12] Even though the mind is ontologically dependent on the brain, the mind is conceptually distinct from the brain.

[13] Stated differently, logical supervenience can have sets of properties that do not exist in the world or a set of properties that violate the laws of nature. However, due to the fact that the set of properties are conceptually coherent, one is correct in stating the supervenience of the two properties.

conceptual. The concept of a male vixen is contradictory.... the concept of flying telephone is conceptually coherent.[14]

Chalmers uses examples of a male vixen and a flying telephone to illustrate the notion of logical supervenience. If two sets of properties are logically coherent, those two sets of properties are logically possible, regardless, if two sets of properties are paradoxical, then those two sets of properties are logically impossible. Moreover, given that a vixen is a female fox, the concept of a male vixen is antithetical to logical supervenience theory. Further, the term 'flying telephone' shares affinity with the aforementioned 'male vixen' and concomitantly is contradictory from an empirical perspective. That notwithstanding, remember that logical supervenience is entirely based on the coherence of concepts. The concept of a telephone that can fly is not contradictory at all. It is possible that we can have a flying telephone in the logical possible worlds. This is because the concept of a telephone and the concept of flying go hand in hand without running into a contradiction. "Sleeping water", 'dancing tree', "hungry chair" and "praying phone" for example, correspond to logical supervenience. It must be pointed out that Chalmers offers four arguments that use logical supervenience theory, however for our purpose, we will only expound on the philosophical zombie argument.

3.2 Philosophical zombie argument

In the philosophical zombie argument, Chalmers validates his submission that it is logically possible for a physical entity to exist and perform the functions of a living thing, without necessarily being conscious. It is to be noted that the significance of the philosophical zombie argument is to affirm Chalmers' assertion that facts about consciousness do not entail facts about the physical world. Chalmers presents the philosophical zombie argument as follows:

So let us consider my zombie twin. The creature is molecule for molecule identical to me, and identical in all low-level properties postulated by a completed physics, but he lacks conscious experience entirely. To fix ideas, we can imagine that right now I am gazing out of the window, experiencing some nice green sensations from seeing the trees outside, having pleasant experience through munching on a chocolate bar, and feeling dull aching sensations in my right shoulder…. What is happening to my zombie twin? He will be conscious in the sense described earlier- he will be awake, able to report the contents of his internal states, able to focus attention in various places, and so on. It is just that none of this functioning will be accompanied by any real conscious experience. There will be no phenomenal feel. There is nothing it is like to be a zombie.[15]

From the above showing, Chalmers commences the argument by establishing the logical possibility of the existence of a zombie. Remember that logical supervenience does not deal with a posteriori knowledge but a priori knowledge. If two sets of concepts are coherent, then those sets of properties are logically possible. The conception of having a zombie that is psychologically identical to me and not phenomenally identical to me is conceptually coherent and consequently, logically possible. Suppose my zombie twin and I are gazing outside the window and eating a chocolate bar. I will call my zombie twin Collin. The disparity between Collin and me is that Collin lacks conscious experience while I have conscious experience. This means that I am both a psychological being and a phenomenal being while Collin is only a psychological being. Collin can do everything I can do physically. He is capable of eating a chocolate bar, gazing through the window, and staring at the green grass and trees outside the

[14] Chalmers. The Conscious Mind, 35.

[15] Chalmers. *The Conscious Mind*, 94-95.

house. One can admittedly infer from this scenario that while I know how it feels like to perceive green trees and grass and how it feels like to taste a chocolate bar, Collin does not know what these experiences feel like. More specifically, Collin does not know the qualitative nature of experiencing green trees or grass and tasting a chocolate bar. All that Collin has is brain states that enable him to express consciousness functionally, nonetheless, Collin does not know what it feels like to be a zombie. In addition, Collin is incapable of engaging in mental activities such as introspection.

All in all, the philosophical zombie argument upholds the assertion that it is logically impossible for consciousness to logically supervene brain states (physical world). As the foregoing has established, there is a logical possible world in which I have a zombie twin (Collin) who is physically identical to me (has a brain and other physical properties of a human being) but lacks consciousness. Consciousness is not a higher-level property of the physical world[16] and thus it cannot be reduced to physical states or properties.

3.3 Strengths of David Chalmers' position

It is incontestable that Chalmers' arguments are compelling and cannot be jettisoned. Let us give attention to the philosophical appeal of Chalmers' elucidations. First. Chalmers substantiates his position on the conceptual autonomy of consciousness through the use of logical supervenience as a framework. We cannot know all there is about consciousness by studying physical facts. The reason Chalmers makes this claim is that even though consciousness is an emergent property of brain states, it is conceptually distinct from consciousness. It follows that we can know everything there is to know about consciousness if and only if we study it as a fundamental property: if and only if we study it autonomously from physical facts.

Second, the subjective nature of consciousness raises the issue of qualia. Chalmers' theory accounts for the importance of qualia,[17] nevertheless, reductive materialism does not do justice in explicating how qualia can be explained by appealing to the processes that occur in the brain. There is something more to consciousness than just referring to it as the biochemical processes that occur in the brain. According to Chalmers, consciousness is a complex concept that cannot be understood in totality by appealing to physical systems such as the brain. As Galen Strawson puts it on the importance of qualia:

Let me rephrase. It is an objective fact that there is something it is like for me to hear and see the piano. It is an objective fact that there is something it is like for you too, and for these identical twins standing beside us. And we may all fully agree in language about what it is like. But this doesn't prove that we are identical, experientially speaking. There remains a real and unanswerable question about whether the experience is the same or different for any two of us.[18]

The field of science proffers that consciousness is a product of the physio-chemical processes that occur in the brain. Similar to Strawson, for Chalmers, this does not wholly explain the concept of consciousness. It appears that the inner experience that is associated with

[16] Consciousness is not a higher level property of the physical world because it does not logically supervene on physical states. Through the use of the philosophical zombie argument, Chalmers validates his assertion that facts about the physical world do not entail facts about consciousness.

[17] Qualia is the qualitative property of experience of the subject.

[18] Strawson, Galen. "Mental reality." (2010):63.

consciousness cannot be understood by examining the brain. The qualitative property of experience (qualia) is subjective to the agent of experience.

This typically implies that whether neuroscientists can locate the area in the brain that is responsible for the production of certain experiences, they cannot know the qualitative property of those experiences. There is therefore something more to consciousness than merely opining that it is a product of physio-chemical processes that occur in the brain. One cannot reduce pain to biochemical processes in the brain and claim to know the pain Mary and John experience. This is because consciousness is an intrinsic property and only the subject of experience is aware of the various conscious states they experience. Consequently, Chalmers suggests that due to the first-person nature of consciousness, there must be a search for a fundamental theory of consciousness.

To conclude this section, Chalmers' theory has merit because he has been convincing in his claim that consciousness is a fundamental property that is conceptually autonomous of brain states. Adherents of Chalmers' theory avow that his theory will stand the test of time due to the use of logical supervenience theory. The reductive materialists, however, emphasize the significance of the ontological dependence of consciousness on brain states. It is worth pointing out Daniel Dennett's[19] coherent castigation of the philosophical zombie argument in his book, *Consciousness Explained.*

4 Reductive Materialism

Let us give attention to how the neurophysiological brain processes produce conscious states; and how the A-properties produce the B-properties. The field of neuroscience, as previously mentioned, submits a reductive thesis by reducing all mental states to brain states. In their rendition of consciousness, pre-eminence is given to the brain and therefore there is a disregard for the qualitative nature of the experience of the subject. The neuroscientists do of course recognize the ontology of consciousness, nonetheless, the neuronal correlates of conscious experience to brain processes, imply that third-person data is enough to comprehend consciousness.

The significant merit of reductive materialism is that it is an empirically verifiable theory because it is congruent with the findings of neuroscience. Reductive materialism takes matter to be the fundamental stuff through which we have mental states. Moreover, the claims made by reductive materialism hold brain states to be rudimental and as a result, allow for verification (by the use of EEG machines and other brain monitoring machines) of the claims made by this theory. For instance, the type-type identity theory postulates that every type of mental state can be reduced to brain states without remainder. By the same token, in conducting neuroscientific research, the main aim of scientists is to find the neuronal correlates that mental states have with brain states. For the reason that the brain is the source of every mental state, neuroscientists aver that every mental state is triggered by a biochemical process in the brain and thus can be reduced to that specific brain state,[20] as I see it, generally maintain that by verifying the correlation between various mental states and brain states, neuroscientists and reductive materialists could validate the notion that all mental states are reducible to brain states. This nonetheless raises a question: is the neuroscientific assessment of consciousness attenuated by causal fallacies? To the question, I argue that the theories presented by the neuroscientists, for

[19] Dennett, Consciousness Explained, 405.

[20] Anthony Hudetz, and Robert Pearce. *Suppressing the Mind: Anesthetic Modulation of Memory and Consciousness*. New York, NY: Human Press, 2009.

the most part, cannot be faulted as having committed the false cause fallacy such as the 'mistaken correlation for cause fallacy.' This is because the correlations between these two states are empirically verifiable through the use of electrochemical reading machines. More so, scientific induction thrives on observation and uniformity: if a correlation has been consistently observed to always occur the same way, it follows that those correlations have uniformity and regularity and may be incontrovertibly accepted. In furtherance of this point, it is incontestable that uniformity or regularity in our observations of events makes some scientific theories tenable and valid. Neuroscientists, for example, were able to conclude that the hypothalamus is responsible for various conscious states due to the uniformity of the correlation that occurs between conscious states and the biochemical processes that occur in the hypothalamus. It is for this reason that they posit that all mental states can be reduced to brain states.

In conclusion of this point, because the claims made by reductive materialism, precisely the type-type identity theory, correspond with neuroscience, it follows that we can verify the tenets of this theory. I suggest then that a plausible theory in philosophy of mind ought to correspond with the sciences. Despite being faulted on other grounds, reductive materialism is a verifiable theory. It thus passes Armstrong's assertion that a good theory of the mind corresponds to the physio-chemical makeup of man.[21]

Notwithstanding the appeal of reductive materialism as it lends itself to empirical verification, it is also repudiated on many grounds. One of such grounds through which it is faulted is with regard to the issue of qualia. So, while both (Chalmers and the sciences) positions on consciousness are valuable in advancing studies in consciousness yet are not without contentions. I attempt, in what follows, to establish a framework that not the least amalgamates their positions, but also serves as a guideline for consciousness research.

5 Towards a non-reductive framework

Louise Antony defines non-reductive materialism as a theory that asserts that "there are mental phenomena; they are material in nature; and, notwithstanding, they form an autonomous domain."[22] Non-reductive materialism holds that even though mental states are ontologically dependent on brain states, they cannot be reduced to brain states. Although mental states are an epiphenomena property of brain states, there is something more to mental states (such as quale) than just claiming that they are biochemical processes that occur in the brain.

A valid inference could perhaps be drawn that while the reductive materialists make us appreciate the saliency of brain states in the production of consciousness, the property dualists make us appreciate the importance of mental states rather than just construing them as brain states. The non-reductivist framework I propose is as follows:

1. It should be a materialist account of the mind.
2. Resolves the mind and body problem.
3. Does not dispute the existence and significance of qualia.

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[21] Armstrong, David Malet. "The nature of mind." In *The Language and Thought Series*, pp. 191-199. Harvard University Press, 1980:295.

With reference to Armstrong's work (*The Nature of the Mind*), it is impossible for one to establish a theory of consciousness that is autonomous of the brain. Armstrong claims that since man (in this sense, generic) is a physio-chemical organism, any theory that is established about man must be within the confines of neuroscience or neurobiology.

[22] McLaughlin, Brian P., and Jonathan Cohen. "Contemporary Debates in Philosophy of Mind." (2007).

4. The tenets that the theory posits should be empirically verifiable: it should provide a first and third-person account of consciousness.

Let us extrapolate these criteria in detail. To begin with, it must be noted that any theory of the mind should be within a materialistic framework. This is a necessary condition because it is veracious that the mind is ontologically dependent on the brain. By positing that the mind is ontologically dependent on the brain, I mean that the mind (mental states) cannot exist without the brain. It is through the electrochemical processes in the brain that mental states such as consciousness are produced, and as a result, it would be fallacious for any theory of the mind to postulate a non-materialist account of the mind. Besides, since mental states are, of course, caused by brain states, brain states are fundamental entities while mental states are the epiphenomena. It follows that any theory of the mind that does not recognize mental states to be ontologically dependent on brain states is counter-intuitive. Stated pithily, as I see it, our theorizing of consciousness ought to be from a materialist perspective due to the ontological supervenience of the mental domain on the brain.

Second, I suggest that a definitive theory of the mind should resolve the mind-body problem. It should be a theory that is antithetical to Descartes' substance dualism. Due to space, I will not stray long on this, nonetheless, it has been the aim of scholars to depart from the mind-body problem. It therefore appears that this has been a major criterion that is practised in the academic community.

Third, a quale is a significant aspect of mental state and should be taken seriously. For the most part, the privacy and subjectivity of first-person data cannot be jettisoned in our account of the mind. There is an intrinsic and qualitative property of our experiences and this qualitative property of experience cannot be satisfactorily explained by appealing to brain states. As Chalmers has previously noted, we can only understand consciousness in totality by studying it independently of brain states.

The final criterion is empirical verification (third-person data). Considering that it is incontrovertible that the brain is the fundamental entity through which consciousness is produced, findings made about mental states should have some form of verification in the brain. That is to say, mental states such as pain, albeit cannot be reduced to brain states, should correlate with brain states. A question may be posed about the inadequacy of the observations of correlation to comprehending qualia. I understand that there is a qualitative property of pain yet since pain is produced by the firing of neurons in the brain, if one claims to experience pain, it should be empirically verifiable by pointing to the firing of neurons in the brain. For instance, we could inflict some level of pain on the subject, ask the subject to describe the amount of pain it feels (let us say on a scale of 1-10) and check the correlations that occur in the brain during these events. Due to the advancements in brain wave research, it has been found that beta waves are responsible for every conscious experience of a subject.[23]

It must be noted however that I admit that although we can verify the neuronal correlate of mental states such as pain we cannot know the qualitative property by observing the firing of neurons in the brain. That notwithstanding, since this discussion is hinged on materialism and consequently is scientific, the elucidations made regarding consciousness should be empirically verifiable because mental states have a causal relationship with brain states. Empirical verification of the theory is typically possible if and only if the theory can provide first and

[23] Kao, Fu-Chien, Shinping R. Wang, and Yu-Jung Chang. "Brainwaves analysis of positive and negative emotions." *ISAA* 12 (2015): 1263-1266.

third-person data of consciousness. The point I am attempting to make here is that the theory should hold as much prestige to qualia (first-person data) as it would hold for brain states (third-person neuroscientific explanation). Again, the possibility of having a scientific account of consciousness that has first-person inclusivity has been contested, anyhow, I tend to agree with Kim's submission on the matter. Kim writes on the possibility of having a first and a third-person account in the field of science:

But not for the latter-day materialists: for them, the irreducibility only means that psychology, and other special sciences, are "autonomous", and that a materialist can, in consistency and good conscience, accept the existence of these isolated autonomous domains within science.[24]

5.1 Inverted spectrum argument as an affirmation of the fourth criterion

The inverted spectrum argument has one instrumental ramification that will help us appreciate the value of empirical verification in our theorizing and research on consciousness. Further, seeing that property dualism and non-reductive materialism are similar, it (inverted spectrum argument) also, more significantly, repudiates Chalmers' submission on a fundamental theory of consciousness: one that is above physical facts and mainly focused on phenomenology. Conversely, if we are to establish a fundamental theory of consciousness, then how can we affirm the claims made about the phenomenological states of individuals? Chalmers' theory is not empirically verifiable because he submits the need for a fundamental theory of consciousness that transcends physical causal closure. This is because facts about consciousness are well and above physical facts and it is only by the laws of nature that the mind is contingent on physical states, nevertheless, it is conceptually autonomous. This fundamental theory of consciousness that Chalmers proposes, should be studied in isolation from brain states due to the conceptual autonomy of consciousness. Indeed, the inverted spectrum indicates that we cannot get far in knowing the internal character of a given sensation logged on to the world without the appropriate diagnosis of the brain states. For instance:

We have two people, James and Mikel, and we invite them in a dark room. We then place a red object about three metres from James and Mikel. James and Mikel are asked to describe the object that is three metres away from them. While James says he sees a red ball, Mikel says he sees a green object. If we take mental states to be well and above physical states (as Chalmers asserts), how do we know who is right?

Solely depending on the phenomenology of two beings cannot affirm to us who is right. For qualia to have a valid reference to the world we cannot solely resort to the internal subjective state. We can however only know who is right between the two if and only if we observe the neurological configuration of James and Mikel. Upon further investigation, we may perhaps realise that there is a problem with the information the optic nerve is transmitting to the brain due to damage to Mikel's photoreceptor cells.

In conclusion, for us to affirm the phenomenological states of a being we must verify the brain states of that individual. It follows that theories on consciousness should be susceptible to verification.

[24] Kim, Jaegwon. *Supervenience and mind: Selected philosophical essays*. Cambridge University Press, 1993.

6 Conclusion

Generally speaking, I propose that research and studies on consciousness should take a non-reductivist approach. The non-reductive framework essentially amalgamates first-person data and third-person data in consciousness studies and as such emphasizes the significance of both data to the understanding of consciousness in totality. While Dennett's heterophenomenology (2003: 2007) is partly commensurate with the framework, its debilitation emanates from its failure to grant ontological relevance to qualia states. In closing, this framework invites psychologists, philosophers, neuroscientists and other academics researching consciousness to acknowledge that although there may be disparities in their approach to the phenomenon, academic inclusion of diverse views is essential to furthering studies on consciousness. I suggest that by following the non-reductive framework, we can make strides in working towards an understanding of the totality of consciousness.

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