Quining and Unquining Qualia

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An Examination of Daniel Dennett's Consciousness Debate

By

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PREFACE

To say that completing this work did not take a toll on me would be a lie. Countless times, I gave up on thinking about thinking, consciousness, and qualia. Huxley's enduring question haunts me: *"How is it that anything so remarkable as a state of consciousness comes about as a result of irritating nervous tissue, just as unaccountable as the appearance of a Djinn when Aladdin rubbed his lamp?"* Even more unsettling is McGinn's conclusion: that consciousness is essentially a mystery beyond human comprehension. Despite the difficulty, I refuse to surrender. I remain obsessed with uncovering what really goes on within our consciousness. I often feel as though everything I write is wrong, that I am fooling myself—but I cannot stop. We can still uncover more, however daunting the task may be. No matter how far I go in philosophizing, I am always at the beginning.

Since childhood, even before formal education, I have been thinking about thinking. I vividly recall those moments of estrangement—moments where I alienated myself from myself, observing my consciousness in its stillness. I was fortunate, perhaps blessed, to find philosophy. My abstract musings found a "name." Philosophy became a window through which I could peek "inside." Now, it is about trying to get in—forcefully, persistently.

John Searle's emphasis on the "obvious" subjectivity struck me the most as I journeyed through the library of consciousness studies. What mesmerized me in childhood—the essence of subjectivity—is apparently tied to what we now consider "qualia." This drove me to embark on this journey of scrutinizing consciousness. I acknowledge that what I have written may not stand the test of time—that qualia may be deemed nonexistent, mere illusions. Still, my attempt to connect qualia to subjectivity, to recognize it as a primordial aspect, is a call back to my childhood musings. I also wish to share this idea with others in the study of consciousness, urging them to preserve the uniqueness of human thinking.

The task is difficult, especially with the sciences' limitation in accounting for subjectivity. But is it not our responsibility to uncover the mystery in this challenge? This book is speculative, emerging from the optimism that science might one day explain subjectivity. There is always the possibility that Dennett's claim—qualia are illusory—will be proven right. But we must not dwell on that; the road to understanding consciousness remains open.

This work focuses on the "quine-ability" or "unquine-ability" of qualia, asking whether qualia have a place in the discourse of science, philosophy, or consciousness studies. I explored the debate between the easy and hard problems of consciousness, asserting that the hard problem merits scrutiny. Analyzing Dennett's *Quining Qualia*, I delved into his position on quining qualia. Given that the term (*to quine*) is niche, I explored its origins and significance in the qualia discourse, which helped form my conclusions about the place of qualia in discussions of science, philosophy, and consciousness.

The epistemic distance hypothesis reflects my return to my religious roots, inspired by Augustine's philosophy. I argue that qualia are the foundation of subjectivity, arising before any other form of thought. Although this may seem disappointing in light of David Lewis' views (to conclude that qualia are primitive notions), I believe it is my best response so far. I draw further inspiration from Leibniz's idea that the mental and physical are like two trains running on parallel tracks. Qualia are at the starting point, much like how train operators begin their journey.

Beyond contributing to the discourse on consciousness, this work can also impact AI studies—particularly in the quest to create the most human-like AI, a goal that should, if possible, incorporate qualia. Moreover, my novel take on qualia and subjectivity could improve mental health diagnoses by emphasizing a bottom-up approach. Most importantly, the conclusions drawn here can deepen our understanding of our relationship with God. Through the epistemic distance hypothesis, we might better grasp how God influences our actions (cf. Augustine).

Finally, I extend my gratitude to those who supported me on this journey. To Dr. Gerald Pio Franco, whose keen scrutiny sharpened my ideas. And to Dr. Lumberto Mendoza, whose appreciation and expertise contributed greatly in the later stages of this work. I also thank myself for my persistence. I am still here, doing what I love, and there is more to do.

INTRODUCTION

In a lecture in September 2022, Matteo Colombo[1] talked about the foundations of predictive processing. In a specific part of the lecture, he focused on the content and consciousness aspect of predictive processing. A predictive approach in philosophy of mind and cognitive science in general is applying a combination of the Bayesian model of perception and cognition with "predictive coding," a tool used by neuroscientists to model how the brain operates.[2] Predictive approach in philosophy of mind is highly functionalist in nature. It relies on behavioral observation results coming from neuroscience and psychology. Since the talk is functionalist in nature, it does not care much about the so-called "hard problem of consciousness."[3] An interesting correspondence happened at the open forum after the lecture. Riccardo Manzotti,[4] pertaining to the hard problem and the "easy" problem, pointed out a manifestation. As he said, "The dividing of the problem is suspicious. There is only one problem, the hard problem. One[5] is a completely different problem. The hard problem is the problem of consciousness." To which the speaker, Matteo Colombo replied, "I'll go the other route and say that there is only one problem, and that is the easy problem."

The hard problem and the easy problem divide is supposedly coming from the explanatory gap that is present in the field of consciousness. While in the easy problem, scientists and thinkers are only more concerned about the combination of perception, cognition, and action, as they are empirically observable through behaviors, the hard problem is more concerned about the intrinsic nature of consciousness. The hard problem is the problem explaining why certain mechanisms are accompanied by conscious experience. While several philosophers of mind do accept the existence of this hard problem, for others like Matteo Colombo, the hard problem does not exist.

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[1] Matteo Colombo, Tilburg University, "Foundations of Predictive Processing" in Scuola Universitaria Superiore IUSS Pavia, Linguistics & Philosophy IUSS Center, September 19-21, 2022.
[2] Drayson, "Direct Perception and the Predictive Mind," 3146.
[3] See David Chalmers "Facing up to the Problem of Consciousness" 1995.
[4] Riccardo Manzotti, IULM University-Milan.
[5] Easy problem.

In this book, I would like to articulate my position in the controversy between the hard problem and easy problem through insights coming from my review of Daniel Dennett's *Quining Qualia* (1997). His work was so influential that it brought forth what we know today as the absent qualia hypothesis. The absent qualia hypothesis simply states that qualia (or quale, sing.) are just not existent. The intricacy of what Dennett proposed however was not mere elimination but specifically quining. In this book, this elimination or quining by Dennett will be investigated aiming to answer whether qualia should be quined or not. It should be noted that quining qualia implies the elimination of the intrinsic and phenomenal, thus one way in which a philosopher can deny the hard problem is by denying qualia.

The current state on the discourse of consciousness in philosophy of mind is about the controversy between the hard and easy problem. The schism starts with the debate about whether such a hard problem exists or not. One thing that is central to this hard problem is the existence of qualia. Qualia are those phenomenal sensations that are accompanied by our experience. They are the very sensation when one sees the color red, when one feels a specific bit of pain, or when one smells a specific coffee aroma. Assume that there is a super scientist that is living in a closed off room only consisting of black and white colors. Her television only produces black and white, her magazines are all black and white, however she is a super scientist, so she knows everything scientific, including her neurobiology. She has not been outside her room, but she knows everything about a specific color red. She has all the resources needed to know epistemologically what it is like to see red. She has not seen red, but she knows that the color red can have this and that adverse effect on her neurobiology—which neurons will fire or how her optical neurons will react. Perhaps the moment will come that she will eventually leave the room and finally see the color red. Such is the indication of what we are trying to imply here as that quale. That experience of a certain quality that is phenomenal in nature, quite literally more of *sense* than of *mind*, that is the quale.

This intrinsic aspect of our experience is extremely hard to adopt into science. The biggest hurdle comes from the seeming impossibility of its functionalization. Philosophy has not achieved functionalizing the intrinsic, thus consciousness as a field has not been admitted as science. There are still a lot of challenges that must be overcome.

In Chapter 1: *Consciousness Revisited*, consciousness will be discussed. Different denotations of consciousness will be reviewed. The differences in the denotations of consciousness can provide us clarification about the main issue of consciousness. Such issues are mostly within access and

phenomenal consciousness. As such, the gap that is present in explaining consciousness will also be looked at. What makes it difficult for science to account for the phenomenal aspect of consciousness? Different accounts from different philosophers will be presented here as it would be noticeable how these different philosophers have different takes on how qualia fit in our reality or how it could be possible to explain qualia as they fit in our discourse.

In Chapter 2: *The Term Quine*, the novel notion that Dennett is trying to impose will be examined. What really is Dennett trying to accomplish in his attempt to quine qualia? What is with this term called quine? Roughly, quining can be understood as pertaining to elimination, devaluation, or neglect of a specific notion. This elimination, devaluation, or neglect of a concept is then applied to qualia. In this chapter, the origin of the term will be hypothesized as coming from 1) a (Douglas) Hofstadter-ian influence via computer programming, 2) the philosopher Willard van Orman Quine with his naturalism, as the term quining is quite Quine-an, or 3) Daniel Dennett memeing on Quine's name.

In Chapter 3*: To Quine or Not to Quine: Following Dennett's Project*, Daniel Dennett's *Quining Qualia* will be discussed. This should include his main rationale regarding his project to quine qualia. Dennett pointed out how different takes from different philosophers regarding the nature of qualia are simply confused notions. He used "intuition pumps." better known as thought experiments as the core of his justifications. This is in line with his reaction about how the discourse on consciousness especially on qualia is quite convoluted, thus the confused notions hypothesis. Dennett provided three implied main theses to justify the quining of qualia: 1) that qualia do not matter via verification principle, 2) that intrinsicality as that main characteristic of qualia is just an illusion, and 3) that qualia are ineffable.

In Chapter 4: *Qualia in Philosophy and Science*, qualia's status as a subject of discourse in philosophy and science will be maintained. Prospects regarding how qualia can fit in the discourses of science, philosophy, and consciousness will be looked at. Qualia as they are central to consciousness will be discussed as to how they fit in our consciousness discourse. Epistemic distance hypothesis will be presented here owing to an inspiration from an article giving a relativistic treatment to consciousness. Qualia's status in the discourse of science will be reviewed and it will be concluded that qualia are quine-able in the sciences. This is owing to science's set limitations and qualia's daunting existence that are quite elusive to the current science. Qualia being in philosophy is another discussion however since qualia are and must be objects of discourse especially in the

philosophy of mind. In this part, specific implications of the epistemic hypothesis are also looked at including implications in epistemology and in theology.

In Chapter 5: *Qualia and Beyond*, the book is reviewed, scrutinizing its possible weaknesses. The threat (or opportunity) from future studies is also looked at mostly because the nature of this book is highly hypothetical. What happens in the future will always be something we are not sure about. Different ways in which qualia can be important in other discourses are discussed including its being a demarcation between humans and *seemingly human* generative machines. The inherent problem of computationality as foundation for reality is described. Qualia's implications in other fields including mental health discourse and theology are also discussed. A challenge is posed for the future pertaining to completing the picture of neuroscience and consciousness without eliminating the phenomenal.

CHAPTER 1

CONSCIOUSNESS REVISITED

What is Consciousness? The term itself is loaded as it can have denotations that have entirely different implications. Typically, when we say that *x* has a property of being conscious, we are compelled to believe that such *x* has the capability to think, has the capability to react mentally, or has any sort of semblance of mental function brought forth in a similar manner by how the human brain gives off such function; such may include imagining, feeling, or just being in a state of awareness. However, consciousness can also be believed as something not of the mind or the brain per se but just a computational phenomenon. This falls within the assumption that everything that happens is predetermined by way of strict causality; including the human mind with its presupposed "free will," everything is just as it is because of prior circumstances—every decision made by humans is just a resulting factor of the external circumstances.

One concept that appears here and there whenever the discourse of mind is buzzing about is quale. Quale is a notion that may or may not be deserving of being at the core of philosophy of mind, as its existence in the whole formulation of the nature of consciousness is being questioned. However, if questions against its relevance and existence are mistakes, the notion of quale has the potential to be the fundamental clue in understanding what consciousness really is. This is not to say that humanity is ignorant of consciousness. Humanity has made strides in the fields of neuroscience and psychology laying out the current scope of knowledge pertaining to consciousness. The scope is not exhaustive however since still there are knowledge gaps that persist. The notion of quale, for one, is still unresolved. This whole book is focused on the notion of qualia.

Roughly, qualia pertain to such phenomenal sensations in one's experience. Such sensations include one's feeling of seeing blue or seeing a specific color for the very first time; or feeling pain as wholly that pain, independent of what one thought of or evaluated of such pain. In a way,

qualia can be understood to be a primordial of subjectivity.[1] The enigma of consciousness is still at its peak, and it is difficult to evaluate at which stage humanity is already at. Perhaps, we have only uncovered just a little of it and more and more uncovering is yet to come. Perhaps, we are already at our limit, and we will never understand more about consciousness. Either way, the present library of consciousness at least presents us with different ways in which consciousness can be understood.

Different Denotations of Consciousness

There are five ways in which one may mean what consciousness is: sentience, wakefulness, higher-order consciousness, access consciousness, and phenomenal consciousness (Carmel and Sprevak, 2015:104).[2]

a. Sentience

We can say that something is sentient when a thing acts in an intelligent way and responds to its environment. In that case, robots or single celled animals which are able to respond to their environment can be deemed as conscious.[3] In this sort of consciousness, conscious contents or internal contents of consciousness do not matter that much. Rather, response is more emphasized; a robot dog, for example, can be regarded as sentient conscious if it can react to its environment. The focus for this sort of consciousness is response and that fortunately is functionally definable. Since this sort of consciousness is functionally definable, it is also functionally reducible to scientific language.

b. Wakefulness

Wakefulness is the sort of consciousness understood as the state of being awake, as opposed to being asleep. This is one of the focuses neuroscientists undertake. One result from this field claims that there is a neurobiological difference between sleep and wakefulness.[4] Understanding wakefulness clears the difference between being awake and being asleep at a chemical level. While the state of being awake is a

[1] While qualia's primordial character can be hard to digest leading to its insignificance—since primordial stuff tend to be mysterious to the point of being "unphilosophical," it is important to consider that qualia are those primordial that are obvious to everyone. Later in this book, qualia will be regarded as the start of experiencing in the epistemic distance hypothesis.
[2] Carmel and Sprevak, "What is Consciousness," 104.
[3] Ibid.
[4] Roth and Schwartz, "Neurophysiology of Sleep and Wakefulness," 367.

product of the combined effort of basal forebrain, hypothalamus, and brainstem causing excitation of motor neurons, the state of being asleep is a combination of cholinergic and glutamatergic brainstem neurons being activated and aminergic neurons being inactivated.[5]

c. Higher Order Consciousness

Higher-order consciousness is the creature's awareness of itself as a thinking being; hence also known as metacognition.[6] Metacognition is a different subfield on its own and Joelle Proust made a good neutral definition for it defining metacognition as "the set of capacities through which an operating cognitive subsystem is evaluated or represented by another subsystem in a context-sensitive way."[7]

d. Access Consciousness

Access consciousness (hence a-consciousness) as coined by Ned Block pertains to what he stated as "global availability."[8] It serves to disambiguate from the other kind, phenomenal consciousness. Access consciousness pertains to that sort of consciousness which is poised for use as a premise in reasoning, poised for rational control of action, and poised for rational control of speech.[9] This could be thought of as epistemic subjective; the epistemic realization of one's own thought, the idea of pain, the thinking about thinking. This epistemic subjectivity is to be disambiguated from ontological subjectivity, which is subjectively and ontologically distinct,[10] and which could be closer to phenomenal consciousness. Access consciousness is when consciousness is being made sense of. When it comes to reducing consciousness into being functionally definable by using multiple subjective reports, access consciousness is the one being functionally defined. This is not where the challenge in demystifying consciousness comes in.

e. Phenomenal Consciousness

Fifth and last is the central focus of this book, phenomenal consciousness (hence p-consciousness). Also known as quale, this is that subjective feeling that is an accompaniment to mental activity. Simply,

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[5] Brown and McCarley, "Neuroanatomical and neurochemical basis of wakefulness and REM sleep systems," 46.
[6] Carmel and Sprevak, "What is Consciousness," 104.
[7] Proust, The Philosophy of Metacognition, 4.
[8] Block, Consciousness, Function, and Representation, 119.
[9] Block, "On a confusion about the function of consciousness," 231.
[10] Searle, The Mystery of Consciousness, 98.

this is the what-it-feels like to perceive something.[11] Accounting the variances in describing and explaining the general idea of qualia among philosophers, this book will also use the term qualia for phenomenal consciousness. The mystery of consciousness lies in this distinct, special—in some hard to define way,[12] and ontologically subjective sort of consciousness. Here is the pain example by John Searle to give more clarity on the demarcation between the two: a-consciousness concerning epistemic subjectivity and p-consciousness concerning ontological subjectivity.

> "A few hundred milliseconds after you pinched your skin, a second sort of thing happened, one that you know about without professional assistance. You felt a pain... This unpleasant sensation had a certain particular sort of subjective feel to it, a feel which is accessible to you in a way that it is not accessible to others around you. This accessibility has epistemic consequences—you can know about your pain in a way that others cannot— but the subjectivity is ontological rather than epistemic. That is, the mode of existence of the sensation is a first person or subjective mode of existence, whereas the mode of existence of the neural pathways is a third-person or objective mode of existence; the pathways exist independently of being experienced in a way that a pain does not. The feeling of the pain is one of the qualia."[13].

The subjectivity is ontological at the moment of pinching. That person feeling that pain is aware of that sensation, that experience, in a way that is unknown to others. It is also arguable that the person feeling that pain does not completely know that sensation—he is just aware of it.[14] Qualia are experiential;[15] and one problem we, humans, have is our incomplete understanding of our experience. The more we lack understanding of our experience, the more likely that we are being deceived by our experiences. Meanwhile, a-consciousness is more epistemic. At this point, I happen to know that I am in pain. I can now report that I am in pain so that others may become aware that I am in pain. But others will never fully

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[11] Carmel and Sprevak, "What is Consciousness," 104.
[12] Dennett, "Quining Qualia," 619.
[13] Searle, The Mystery of Consciousness, 98.
[14] The unknowability of qualia to the point that language cannot express it is similar to the unknowability of the Kantian noumena (see Mendoza 2019; Stenius 1960). A question can be posed against it such that: can such be considered a form of knowledge? Qualia knowledge in this case can still be a form of knowledge *via negativa*. In this essay demarcations will be discussed and "going around" the idea of qualia will be explored, via epistemic distance hypothesis.
[15] Block, "On a confusion about the function of consciousness," 230.

understand my pain since I cannot fully report my complete awareness of my pain. Epistemically understanding that sensation, that awareness, or that qualia, it seems that we are only peeking at our experience; glancing without full understanding of it.

There is an apparent gap between a-consciousness and p-consciousness with p-consciousness as the big mystery of the self and a-consciousness as that thing that can be easily understood. By being easily understood, it pertains to its viability to be functionally defined thus scientifically understood. A-consciousness can be functionally defined because it is the sort of consciousness that can be empirically observed. It can also result to subjective reports since it is poised for rational use. For p-consciousness to be scientifically observed, it must be perceived within a parameter that is already being perceived scientifically. If it is to be assumed that consciousness is of the brain and not an entirely independent phenomena, in that case, (1) consciousness then can be scrutinized with the same attitude scientists do with the brain, or (2) as per David Chalmers,[16] it could be that it is bound within a certain psychophysical law, which, while not necessitating an existential dependence on the brain, explains the coherence between consciousness and awareness. These two formulations of consciousness can be an entrance for consciousness to come in the realm of science. The latter leads to panpsychism, a view in philosophy of mind which claims that mind or a mind-like aspect is a fundamental and ubiquitous feature of reality. The radical implication of Chalmers' panpsychism renders everything in the universe, even the non-living ones, to be in some sense conscious. This is similar to how Anaxagoras treated nous as the underlying principle, the arche,[17] or with G.W. Leibniz' central use of monads.[18] Such a conclusion, Searle describes is ridiculous, calling panpsychism an "absurd view." According to him, thermostats lack "enough structure to even be a remote candidate for consciousness (Searle 1997:1)."[19] Veering away from Chalmers' position, the challenge now is to scrutinize consciousness with the same attitude scientists do with the brain or with any other physical phenomena.

[16] The Conscious Mind, 244.
[17] Aristotle, The Complete Works of Aristotle, 3356.
[18] Savile, Leibniz and the Monadology, 189.
[19] Searle, "Consciousness and the Philosophers," 1.

Consciousness and Science

Scrutinizing consciousness in a scientific way is a challenging task. The problem here is the ontological subjective nature of p-consciousness. Scientific inquiry can easily observe and scrutinize human behavior, but behavior does not really reflect what is going on in the mind.[20] To make sense of the phenomenal, it seems that the only reliable account is of the self. This however brings forth more problems. The difficulty in someone making sense of his quale, of his p-consciousness, to a point that it can be scientifically investigated was also implicated in Ludwig Wittgenstein's private language argument.[21] Say, I pinched my skin and thus I felt pain. Perhaps, I can name such pain as "pain 1." Then, I'll do it again perhaps in another part of my body to experience another pain thus calling that "pain 2." Subsequent varying pains could then be "pain3," "pain4," so and so. Newly sensed pains can be referred to previously named pains if they are the same. Those named pain sensation could then perhaps be written in some sort of diary; so, whenever I feel pain, I can then go back to that diary and maybe name another one or refer to a previously named one. With those records, I have then essentially recorded my experience, or so, generally, my qualia. Such records then can be scrutinized scientifically because they have now become empirical. However, as Wittgenstein puts it: "what is this ceremony for?"[22] How sure am I that "pain1" and perhaps "pain256" is not the same pain? Or that, whether subsequent pains are repeated pains? And the bigger problem would be: how can I make specific differentiation between those pains I have named?

Another problem, as pointed out by Searle,[23] pertains to the nature of science itself. Scientific explanation relies on ontological reductions. Ontological reduction is a form of reduction "in which objects of certain types can be shown to consist in nothing but objects of other types."[24] A disposable cup, for example, can be shown to be just a collection of plastic polymers. Ontological reduction can also pertain to reduction of property such as heat or light wherein it could be the movement or vibration of molecules in an object or a wave-particle collection of photons, respectively. The general idea of ontological reduction is to re-translate the understanding of a certain phenomenon into a more familiar language, the

[20] Searle, The Rediscovery of Mind, 22.
[21] Wittgenstein, Philosophical Investigations, §258.
[22] Ibid.
[23] The Rediscovery of Mind, 111.
[24] Searle, The Rediscovery of Mind, 113.

scientific language, thus it tends to give more emphasis on generality and objectivity.[25]

Scientific language is a language that is independent of any factor that causes confusion on the understanding of a certain phenomenon. It has a closed system, a closed physical system, which relies on mathematics with its deductive property and empirical observation with its inductive property. The confusion for understanding heat for example stems from each persons' varied perceptions of heat. A child touching a cover pot of rice cooked some minutes ago may perceive such a cover pot to be hot while that child's mother touching the same cover pot may feel otherwise. Understanding heat, with the complex physics of molecules, to be at least scientific, should discard such confusion from varying perception between the mother and the child. Fundamentally, for a phenomenon to be understood in an objective sense, its subjective aspects should be discarded. *For a phenomenon to be scrutinized scientifically, it must remove subjectivity. This could be hard if that phenomenon we are aiming to understand is consciousness, that which is primarily subjective.*

In Searle's attempt to include consciousness in scientific discourse, he claims that consciousness is an emergent, physical property of the brain same as to how solidity or liquidity is an emergent, physical property of H_2O molecules when they are in a lattice structure or when they are freer, randomly rolling on each other, respectively.[26] Searle describing qualia as emergent is considerably a form of mind-body supervenience. Chalmers described supervenience such that:

> B-properties supervene on A-properties if no two possible situations are identical with respect to their A-properties while differing in their B-properties.[27]

In this case, B-properties are the higher-level properties such as heat or consciousness, while A-properties are lower-level properties such as molecular vibrations or neuronal processes. Biological properties, hence, B-properties, can be said to supervene on physical properties, A-properties, that if there are two possible situations that are physically identical, it should also be biologically identical.[28] Jaegwon Kim generally described this mind-body supervenience in the following form:

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[25] Ibid., 116.
[26] Ibid., 14.
[27] Chalmers, The Conscious Mind, 33.
[28] Ibid.

> If an organism is in some mental state M at t, there must be a neural physical state P such that the organism is in P at t, and any organism that is in P at any time is necessarily in mental state M at the same time.[29]

The idea of supervenience makes way for consciousness to be within the realm of science. At the very least, it aligns consciousness to be at the same level with heat, with molecular vibrations as its lower level, or water, with molecular compound H_2O as its lower level. While it is arguable that there is no logical or conceptual connection between the feeling of pain and C-fiber stimulation implying at least that there is no logical contradiction in supposing that one may have its C-fibers stimulated and consequently without pain or any sort of mental state, as Kim pointed out, the absence of conceptual connection between a specific mental state and a consequent neuronal process does not prove that it is possible for one to exist without other. This is because the logical or conceptual connection is also lacking in cases of heat, with molecular vibrations, or water, with H_2O.[30] It should be noted that supervenience, at least as Kim puts it, tends to treat consciousness as epiphenomenal[31] to which Searle disagrees. For Searle, bottom-up causation, such as in consciousness with lower-level neuronal processes causing higher-level mental states, is a common theme in the natural world. A property being supervenient also does not reduce its causal efficacy. The solidity of a chair while supervenient is inconsiderably epiphenomenal.[32] Someone's pain perhaps from being stabbed by a dull knife, while supervenient, is not epiphenomenal.[33]

We have known so much about molecular physics that the concepts solidity and liquidity have become so apparent to us and less a mystery. Consciousness, meanwhile, and even with our current neuroscience, has yet still so much to uncover. With so much to uncover, Thomas Henry Huxley's famous question haunts us until today: "How is it that anything so remarkable as a state of consciousness comes about as a result of irritating nervous tissue is just as unaccountable as the appearance of Djinn when Aladdin rubbed his lamp?"[34]

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[29] Kim, Philosophy of Mind, 302.
[30] Ibid., 308.
[31] Kim, "Causality, Identity, and Supervenience in the Mind-Body Problem," 47.
[32] A secondary phenomenon that occurs alongside or in parallel to a primary phenomenon wherein secondary phenomenon is implied to be dangling.
[33] Searle, The Rediscovery of Mind, 126.
[34] Huxley, Lessons in Elementary Physiology, 193.

a. Discourse of Science

Our window to understanding reality is science. We have understood that the blue color of the sky is not inherent to it but only a reflection from the seas and oceans. We have understood that there is no paradise or pot of gold at the end of a rainbow; and we even understood how such a rainbow is just light passing through a transparent prism of some sort. We have understood so many things not by mere guesses or meditation but by actual observation, that is, by science. This making sense of reality through science implies the use of inductive reasoning. In inductive reasoning, observations which serve as premises are viewed to supply some evidence for a general truth.

> Imagine five wooden boxes in which all of them have a plant inside. These five wooden boxes have a single hole positioned differently throughout except the bottom. Hence, each plant has a single source of air and light at different positions. Let the plants grow for a few days and realize that each plant "bends" towards the hole. The observation is the same for all five plants. This observation could then be extrapolated that perhaps for every plant that is kept in a box with a single hole in it, such plant would "follow" that hole. Let those plants with such behavior be plant A. There could be counterexamples such that a certain plant veers away from the hole, say a plant B. With such counterexamples, it can be said that not all plants follow the hole, but all plant A's do. But inductive reasoning only supplies "some" evidence for a general truth. It could be that in another moment, plant A would not have such behavior. Even with extrapolation or with a million setups to see whether such behavior will persist, a millionth and one setup may just do otherwise.

As David Hume stated, "From the mere repetition of any past impression, even to infinity, there never will arise any new original idea, such as that of a necessary connection; and the number of impressions has in this case no more effect than if we confined ourselves to one only."[35] It is more truthful then to only claim that, "all plant A probably do it."

From such observations and since there really is no necessary connection derivable from inductive inference, thinkers and scientists must make their own conclusion from such observations; and thus, because each has to make their own, it is just a matter of which conclusion makes more sense leading perhaps to what Thomas Kuhn has said about science being that its history is composed of paradigms.[36] Theophrastus, for one, said that such plant behavior was caused by the removal of fluid from the side of the plant stem that is illuminated. Such a dominant answer persisted for

[35] Hume, A Treatise of Human Nature, 148.
[36] Kuhn, The Structure of Scientific Revolutions, 11.

centuries until Francis Bacon later postulated that it was due to wilting. Robert Sharrock thought that the plants are seeking "fresh air" while John Ray thought that plants are seeking "cooler temperature." Only when Charles Darwin made a modification to the experiment, such as covering the whole plant and uncovering some parts by the tip, that he concluded that there may be a certain substance which causes the plant's bending behavior; that which we know today as auxin. From Theophrastus to Charles Darwin, this describes the Kuhnian paradigmatic nature of science.

Science is not exempted from the murky effect of widely differing conclusions being diffused into a single discourse. While widely differing narratives are present in any scientific discourse imaginable, science through history has learned to discard out conclusions that may be pseudo-scientific or considerably "fringe science." This is simply by way of providing counterexamples or presenting evidence for non-correlation or ineffectiveness, and more so if a certain theory *looks absurd*. Since inductive reasoning is giving a sense of probability for an event to happen, to consider ideas as pseudo-scientific or fringe in nature is to present evidence to disvalue such probability. Since science lives through discourse, of testing, validating, or falsifying known conclusions, its door is not entirely closed to accept the fringe or the absurd. There are certain scientific ideas that we know and believe today that are considered fringe before, such as the heliocentric nature of the then known universe reaching to Neptune and Pluto, the Big Bang theory, and the Plate Tectonics theory. As it stands, science grows through discourse as it grows through time.

Qualia as a subject of scientific inquiry, compared to other objects of scientific inquiry, is new. It was first introduced as quale by C.S. Peirce and used it in a monadic sense as the idea of *such*, thus the quality of *suchness* referring to a "ground."[37] He described it as that distinct sort of sensation from perceiving something; not the conscious perceiving of something but only the bare awareness of it. He distinguished quale-consciousness from the other kind of consciousness which is intensified by attention.[38] Quale-consciousness then is assumed as the basic building block of intellect and the unity of such is considered metaphysical and not physiological.[39] Peirce's conception of quale could be said to be inspired by G.W. Leibniz and incidentally, Leibniz did already recognize that these qualia, or generally these phenomenal aspects of the mind, are very much

[37] Peirce, "Description of a Notation for the Logic of Relatives…," 332.
[38] Peirce, Collected Papers of Charles Sanders Peirce, 222.
[39] Houser, "Peirce's General Taxonomy of Consciousness," 335.

removed from the closed physical scientific interpretation of the world. Leibniz states in Monadology:

> "Moreover, we are obliged to admit that perception and that which depends on it cannot be explained mechanically, that is, by means of shapes and motions. And if we suppose that there was a machine whose structure makes it think, feel, and have perception, we could imagine it increased in size while keeping the same proportions, so that one could enter it as one does with a mill. If we were then to go around inside it, we would see only parts pushing one another, and never anything which would explain a perception. This must therefore be sought in the simple substance, and not in the compound or machine. Moreover, this is the only thing that can be found in the simple substance, that is, perceptions and their changes. It is also in this alone that all the internal actions of simple substances can consist."[40]

Leibniz veered away from the physicalist explanation of how the mind works and deemed it as just impossible. For him, the interaction of mind and body is just an appearance, a probable result of a pre-established harmony. It could be that God arranged things in a way that the mind and body will always keep in step, as if two trains are running on separate rails.[41] It could be thought that for Leibniz, the mind and body do not causally interact; they are just synchronous.

The idea that qualia are unaccountable by third person makes for the attractiveness of the idea that perhaps the nature of mind is just dualistic thus free from the grasps of science. While a scientific view of the world relies on a monist and materialistic account of the world, other philosophers such as Leibniz deemed that a materialist account of reality is not enough. A materialist account of reality only relies on physical matter and its interactions. Any materialist explanation to make sense of reality will have to rely on physical mechanisms. These mechanisms are brought into our senses through scientific explanations. Meanwhile, a dualist account of reality is not limited to relying only on physical matter but may also resort to something else. Leibniz, for example, relied on a notion he called monad.[42]

Some more theories also pop up to add justifications for dualism. Some of which are the possibility of a zombie and Frank Jackson's knowledge argument.

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[40] Strickland, Leibniz' Monadology, 17
[41] Papineau and Selina, Introducing Consciousness, 77.
[42] Strickland, Leibniz' Monadology, 14.

b. Arguments for Dualism

The zombie argument raises the point that if there are philosophical zombies, hence p-zombies, it should be that the consciousness we do have is something distinct from our physical and empirical body. Such zombies should not be thought of as the zombies that we typically see in the movies—rather, the zombies pertained in this sense are very similar, almost a mirror-copy, to us. They move like us, behave like us, only that they have no consciousness. If such beings do exist, then it is justified to claim that the consciousness that we do have is distinct and independent from the body that we do have. Pain as we know it in a sense is not to be equated with C-fibers in the brain since pain is conscious. Chalmers named this as the Conceivability Argument. As Chalmers described it:

> "…it is conceivable that there be a system that is physically identical to a conscious being but that lacks at least some of that being's conscious states. Such a system might be a zombie: a system that is physically identical to a conscious being but that lacks consciousness entirely. It might also be an invert, with some of the original being's experiences replaced by different experiences, or a partial zombie, with some experiences absent, or a combination thereof. These systems will look identical to a normal conscious being from the third-person perspective. In particular, their brain processes will be molecule-for-molecule identical with the original, and their behavior will be indistinguishable."[43]

It should be noted that Chalmers broadened the zombie concept to include invert and partial zombie. Invert and partial zombies pertain to other variations of the theory other philosophers may come up with. From such conceivability of zombies, supporters of this theory infer metaphysical possibility, and thus consciousness being non-physical. As Chalmers[44] summarized:

1. It is conceivable that there are zombies.
2. If it is conceivable that there are zombies, it is metaphysically possible that there are zombies.
3. If it is metaphysically possible that there are zombies, then consciousness is nonphysical.
4. Thus, consciousness is nonphysical.

This is weak however since it only relies on conceivability. As Kim pointed out "…the fact that a situation is conceivable or imaginable does

[43] Chalmers, The Conscious Mind, 106
[44] Ibid., 107.

not entail that it is genuinely possible."[45] Mere conceivability concluding into something that is possible or is not possible is a huge jump, apparently; more so if it intends to jump into something that is or is not.

Meanwhile, the thought experiment about *Mary* dealt a bigger blow to the idea that consciousness can be scrutinized by modern science. *Mary* the super scientist is a thought experiment presented by Frank Jackson to work against physicalism. Physicalism assumes that everything is material and therefore physical. Science thus far only relies on such closed entirely physical interpretation of the world since it has so far only relied on empiricism, direct or indirect. For Jackson, following such physicalist assumption that the world is entirely physical, it should also follow that complete physical knowledge is complete knowledge, simpliciter.[46] For if it is not, then our world must differ from such world with complete physical knowledge as complete knowledge simpliciter—and the only difference such world and ours would have is the presence of non-physical facts in our world rendering physicalism as false.

Jackson presented a thought experiment featuring *Mary* to discard the assumption that complete physical knowledge is complete knowledge, simpliciter. As he described:

> "Mary is a brilliant scientist who is, for whatever reason, forced to investigate the world from a black and white room via a black and white television monitor. She specializes in the neurophysiology of vision and acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes, or the sky, and use terms like 'red,' 'blue,' and so on. She discovers, for example, just which wave-length combinations from the sky stimulate the retina, and exactly how this produces via the central nervous system the contraction of the vocal cords and expulsion of air from the lungs that results in the uttering of the sentence 'The sky is blue'."[47]

Mary has never seen other colors, except for black and white, all her life. However, she is very much familiar with all those colors including the neuroscientific aspects of seeing it. She just has not seen any of it. Imagine that the time has come that *Mary* will be able to see colors for the first time, perhaps she will be let out of the room, or perhaps she will be given a colored television; will she be able to learn something new? For Jackson, that thing is obvious: *Mary* learned something new thereby rendering physicalism as false. *Mary*, having learned all that is physical knowledge

[45] Kim, Philosophy of Mind, 120.
[46] Jackson, "What Mary Didn't Know," 291.
[47] Jackson, "Epiphenomenal Qualia," 130.

while still locked inside the room, seemed to still lack some knowledge before getting the "new" experience.

Chalmers'[48] argument states:

1. There are truths about consciousness that are not deducible from physical truths.
2. If there are truths about consciousness that are not deducible from physical truths, then materialism (physicalism) is false.
3. Thus, materialism (physicalism) is false.

Paul Churchland[49] presented a physicalist reply to this Knowledge Argument. One objection was the apparent fallacy of equivocation as he pointed out, there was a mistake in treating the phrase "knows about" univocally in the two premises in the following:

1. Mary knows everything there is to know about brain states and their properties.
2. It is not the case that Mary knows everything there is to know about sensations and their properties.
3. Thus, sensations and their properties ≠ brain states and their properties.

"Knows about" in (1) is about the knowledge from the mastery of propositions specifically those found in neuroscience texts, while "knows about" in (2) is just a matter of having a representation of redness in some sort of prelinguistic medium or sublinguistic medium of representation for sensory variables.[50] To avoid non-sequitur, he rephrased the argument as:

1. Mary has mastered the complete set of true propositions about people's brain state.
2. Mary does not have a representation of redness in her prelinguistic medium of representation for sensory variables.
3. Thus, the redness sensation ≠ any brain state.

In this regard, Churchland wants to point out that obtaining knowledge of the physical world is not exclusive to learning about it through texts or generally from having mastered a set of statements but learning through physical science has other modes.

Bill Vallicella[51] however finds the restructuring of the argument Churchland made was simply a straw man and thus the fallacy only came

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[48] The Conscious Mind, 108.
[49] "Reduction, Qualia, and the Direct Introspection of Brain States," 22.
[50] Churchland, "Reduction, Qualia, and the Direct Introspection of Brain States," 23.
[51] "On Paul Churchland's 'Refutation' of the Knowledge Argument," 1.

from such straw man. Jackson, in his reply, described it as conveniently put but inaccurate, rather he rephrased his own argument:

1. Mary (before her release) knows everything physical there is to know about other people.
2. Mary (before her release) does not know everything there is to know about other people (because she learns something about them on her release).
3. Thus, there are truths about other people (and herself) which escape the physicalist story (Jackson 1986:293).

Churchland's objection seemed only to stem from his misconception about *Mary*'s new "knowledge." His attempt to describe a scenario wherein *Mary* making sense of qualia through introspective grounds is mistreating qualia as epistemic. As Vallicella explains, "these qualia are not mere appearances. For a quale, to be is to be perceived."[52] *Mary*'s new knowledge, independent of all physical facts she had previously known, is a phenomenal one. It becomes epistemic, or so, it becomes a part of access consciousness when she starts to make sense of her new knowledge.

Jackson's main argument at the time when he introduced *Mary* to us was that qualia are epiphenomenal, or that it is causally impotent with respect to the physical world. Its possession or its absence do not make a difference, generally, the mental is totally causally inefficacious.[53] One reason is that the correlation between qualia and behavior does not necessitate their causal connection. This makes for the conclusion that qualia are just dangling; an accessory that are always there but have no use whatsoever.

The question that we must take into consideration then is whether qualia, hence consciousness, can causally affect the physical, or the physical can causally affect consciousness. Coming from the knowledge argument, Jackson would have to answer that qualia do not causally affect the physical. For Tyler Burge, however, epiphenomenalism should not take the higher ground when answering questions about mental-physical causality. It is only better seen as an instrument, like scepticism for clarifying deeply held beliefs; more so, when it comes to this mental-physical causality, scepticism about agency, will, or responsibility is a better fit.[54]

The idea that qualia as dangling was strengthened by Kim's causal exclusion argument stating that "If a physical event has a cause

[52] Ibid.
[53] Jackson, "Epiphenomenal Qualia,"133
[54] Burge, Foundations of Mind, 362.

(occurring) at time t, it has a sufficient physical cause at t."[55] While this does not specifically say that non-physical causes can cause physical events, it only shows that for our search of a cause for a certain physical event, causes that are found in the physical domain are sufficient. While Searle may have pointed out the epiphenomenological nature of Kim's overall theory,[56] Kim still maintains that there is still a causal connection between the phenomenal and the physical. This is in the form of a "top-down causation," as Kim points out, "the only way to cause an emergent property to be instantiated is by causing its emergence base property to be instantiated. And this means that the "same-level" causation of an emergent property presupposes the downward causation of its emergent base."[57]

The causal connection between the mental and the physical is a combination of "downward causation," that is from consciousness to the physical, and "upward determination," since consciousness is a supervenient property. Searle maintains that it is rather a "bottom-up causation," from the lower level biological, and thus physical phenomena to higher level mental phenomena.

For the physicalist philosophers, this causal connection comes with their reduction of the phenomenal. If the phenomenal, the qualia, are successfully reduced into the physical, thus accepting it within the realm of science—it will be obvious then to think that they, the mental and the physical, then are causally connected. That is in lieu of Kim's causal exclusion argument. One example is Roger Penrose and Stuart Hameroff's reduction of consciousness into a quantum level phenomenon inside the neurons. Atypical of the usual physicalist interpretation that consciousness comes from the interaction of neurons, or in between neurons, Penrose and Hameroff postulates that consciousness arises from within neurons, in a process they called objective reduction orchestrated by microtubules.[58] With that sort of reduction, they can easily claim that there is a causal connection between the mental and the physical since they have reduced consciousness into a quantum level phenomenon within neurons. That however is also subject to another problem inherent to quantum physics—that is, quantum indeterminacy. Quantum laws, or processes, do not really explain completely what happens physically.

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[55] Kim, Philosophy of Mind, 214.
[56] Searle, The Rediscovery of Mind, 126.
[57] Kim, "Downward Causation" in Emergentism and Nonreductive Physicalism," 136.
[58] Penrose and Hameroff, "Reply to seven commentaries on "Consciousness in the universe: Review of the 'Orch OR' theory," 94.

Interestingly, Jackson would later reject his knowledge argument, resorting to believing that understanding qualia, and thus understanding *Mary*'s knowledge of redness, is a matter of understanding qualia as representation. As he said, "perceptual experience represents."[59] He seemed to be persuaded by Churchland, his physicalist opponent previously. Let us look back at Churchland's answer to *Mary*'s experience.

For Churchland, the difference is with *Mary* having two different knowledge of a concept. It is not about the difference in the nature of things known, or about a new physical fact that *Mary* failed to know about before going out of the black and white room. The fact that *Mary* got knowledge from a set of propositions pertaining to a color red and *Mary* not having any representation of redness in prelinguistic medium are compossible.[60] This should only entail that knowledge, accounting complete physical knowledge as complete knowledge simpliciter, is not only exclusive to knowledge as simple storage of sentences. As he said:

> "In short, the difference between a person who knows all about the visual cortex but has never enjoyed a sensation of red, and a person who knows no neuroscience but knows well the sensation of red, may reside not in what is respectively known by each (brain states by the former, qualia by the latter), but rather in the different type of knowledge each has of exactly the same thing."[61]

Later, Jackson sort of agrees with that eventually claiming that there is no such property of redness that *Mary* was ignorant about before getting outside the black and white room; for supposing that there is such property is to mistake an intensional property for an instantiated one. In a physicalist picture of the world, people are sometimes in states that represent things having non-physical property. This is a physicalist explanation on why some people believe in fairies, unicorns, such and such. Such properties are only intensional, and not instantiated. In this representationalist-cum-intensionalist approach, as he called it, the dualist conviction that redness is non-physical can be debunked and thus resolved.[62] Jackson's change of heart can be tied up in this quote:

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[59] Jackson, "Mind and Illusion," 259.
[60] Churchland, "Reduction, Qualia, and the Direct Introspection of Brain States," 24.
[61] Ibid.
[62] Jackson, "Mind and Illusion," 262

> "Most contemporary philosophers given a choice between going with science and going with intuitions, go with science. Although I once dissented from the majority, I have capitulated and now see the interesting issue as being where the arguments from the intuitions against physicalism—the arguments that seem so compelling—go wrong."[63]

Jackson has apparently conformed to the "majority;" the majority that is materialism/physicalism. As James Garvey puts it, Jackson has become a "latter day physicalist."[64]

c. Physicalism

Jeffrey Poland defined physicalism as, "a program for metaphysical and epistemological system building guided by the view that everything is a manifestation of the physical aspects of existence."[65] It is important to note how Poland used the term manifestation. This should give the idea that Poland is not an extreme or an eliminative physicalist. Physicalism, in general, regards reality as entirely physical—but what is physical? This is a question that, if not wholly answered, will dismantle the whole idea of elimination in physicalism or materialism. Is physical just the tangible, or that which is observable? In that sense, questions about observability could arise, alongside questions about instrumentability since observations beyond human perception solely relies on instruments. In this regard, observations on a quantum level can be really put into question—does that count as physical? One physicalist fault is that it starts with the assumption that everything is physical, and it adjusts interpretations to reality according to that assumption.

With all these questions about the definitions of physical or material, at least it all ties up in a single discourse, physics, or in general, science. Of course, it is still hasty to eliminate in the sense of eliminative materialism because at this point, the definition of physical will rely on science; and science, as a defining entity, is itself still a discourse. It still grows on its own and the physical definition may change. There is at least a criterion to discriminate between such things that are "physical" and such things that are not. At the very least, if something is functionally definable, it can then be subject to science and therefore be branded as physical. However, this is inductive. It is only dependent on what we have or what we can functionally define. The possibility that we, as species, are missing a way to functionally define something is not nil.

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[63] Ibid., 251.
[64] Garvey, "-Frank Jackson. Latter Day Physicalist," 1.
[65] Poland, Physicalism, 1