

THE BRAIN-BRAHMAN DICHOTOMY AND THE HARD PROBLEM OF FOURTH CONSCIOUSNESS

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Abstract

In this paper, we aim to contrast the contemporary notion of phenomenal consciousness with the *chatushpad* or four-foot doctrine of consciousness discussed in the Mandukya Upanishad and further developed by Gaudpada in his Mandukya Karika and Shankara in his Advaita Vedanta. We aim to show that the phenomenal consciousness is subsumed under the first three states of consciousness of the Self, mentioned in the *chatushpad* doctrine. The hard problem of consciousness is accounting for the fourth consciousness or *Turiya* with respect to the Brain-Brahman dichotomy: how the Cosmic, Universal, Brahman-Consciousness is related to experienced individual, particular Brain-Consciousness.

Keywords: Phenomenal consciousness, *Turiya*, Brain-Brahman dichotomy

1. Introduction: The Hard Problem of Consciousness (HPC)

On a winter evening in Shimla, you enter a coffee house drawn by the aroma of freshly brewed coffee. You order your coffee and settle in the chair, noticing the temperature difference. Your coffee has arrived, and you hold the hotcup to warm up your cold fingers. As you take a sip carefully from the coffee cup, trying not to burn your mouth, you get the taste of the hot coffee. You have never paid attention before, but suddenly, you start wondering about these myriad experiences you are having. How do you feel the smell, the taste and the temperature of the coffee? How do these different sensations

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arise consistently and synchronously, making up your coherent world of experience? Not only do you have different sensations through various sense modalities, but you find that you are the subject of experience, enjoying all those distinct sensory experiences. The smell and the taste of hot coffee are the defining quality of your experiences and are called “qualia” by the philosophers. These qualia actually constitute “what it is like to be” for you. In other words, being conscious generally means having such phenomenally rich experiences. It is hard to imagine that someone is conscious but lacks phenomenal experiences of the kind mentioned above. By and large, and more often than not, our consciousness is phenomenal as compared to intentional consciousness or self-consciousness.

What is more, these phenomenal experiences that you own are subjective. The aroma and the taste of the coffee you so fondly relish are nowhere to be seen, like the coffee up and the coffee in it, including the vapours rising from it. This subjective phenomenal experience constitutes the unique perspective from which you view the world. Your subjective phenomenal experience is unique because you and only you view the world from your phenomenally rich conscious experience. No physical entity has this unique perspective, and even any person cannot really share your view (Nagel, 1974, 1986). This subjective, perspectival phenomenal consciousness poses a serious question to the view that we live in an apparently physical world. The question is, how can this consciousness, having no physical qualities and seeming to exist only in our mental space, be part of the physical world like other material entities? To be more precise, how does our physical brain generate phenomenal consciousness? This is the Hard Problem of Consciousness (HPC).¹

The contemporary attempts to solve the hard problem of consciousness aim at discovering the link between individual consciousness and crassly material compositions (say, brain). The philosophers are more keen to address the problem of how consciousness can be explained as a natural phenomenon within the confines of physical laws. Their common strategy is to offer a reductionist explanation of consciousness. For instance, some philosophers seek to explain it as a supervenient property of the physical (Jaegwan Kim, 2005); others try to see it as a representational property of the mental states which is not reducible directly to the physical (Armstrong 1968; Churchland 1984, Dennett 1991; Dretske 1995; Tye 1995; Levine 2001; Metzinger 2003; Rosenthal 2005; Kriegel 2009; Gennaro 2011). Those who agree that consciousness is not reducible to neurobiological processes do not believe it is entirely unconnected to physical processes (Block 2007; Chalmers 1996;

Nagel 1974, 1986; Searle 1992). These thinkers argue for a kind of property dualism: mental and physical are two distinct properties and the former is supervenient on the latter. They consider reality to be fundamentally physical and its description by physics as complete. Some have resorted to the most successful scientific theory of the present day, viz., quantum mechanics, hoping to solve the mystery of consciousness (Penrose, 1989; Staff, 1996, 2007). Many have pinned their hopes on the complete theory connecting the micro and the macro, viz., a theory of quantumgravity.

Still, the core of the HPC remains unresolved. There is no way to explain the generation of phenomenal consciousness from the physical. The problem is so intractable that many believe consciousness to be an illusion. Illusionism about consciousness is the thesis that phenomenal experience is an illusion. All our phenomenal experiences, the feeling of pain, the taste of tea, and the quale of the brown colour of tea are not real. In short, there is “nothing that is like to be” *for* a conscious organism. Hence, there is no hard problem of consciousness. If the subjective phenomenal experiences mentioned above are not real, then we do not have to explain how the brain generates these experiences. Rather, the problem to be solved is how the brain generates the illusion of phenomenal experience, which is so convincing (Frankish, 2016; Kammerer, 2022).

So, the answer lies in the brain for those who believe the fundamental reality to be physical. Either the brain successfully generates the illusion of phenomenal consciousness convincingly, or it somehow generates phenomenal consciousness despite being fundamentally physical. But these approaches work only when the reality is actually fundamentally physical. What if it is not? We find just the opposite of the physicalism in the Advaita Vedanta of Shankara, drawing its inspiration from the oldest intellectual tradition of the Vedic-Upanishadic literature. The Advaita view declares that all reality is essentially non-dual, pure, absolute consciousness: Brahman. All the mental and physical reality we see is not true but just a manifestation of Brahman: Pure Consciousness.

Postulating fundamental reality to be consciousness, the conceptual issue of the hard problem of consciousness, that is, how the physical brain generates consciousness, does not arise for the Advaita. From this perspective, both phenomenal consciousness and matter are expressions of the same fundamental reality and are equally unreal. The question for them is not how phenomenal consciousness arises out of matter but why we do not see the ultimate reality: the Brahman. This is the Brain-Brahman Dichotomy, which

we shall discuss in detail below and argue that there might not be any dichotomy regarding the phenomenal consciousness. Still, there is undoubtedly a problem regarding the fourth consciousness.

The fourth consciousness or *Turiya* is one of four states of consciousness in *chatushpad* or four-foot doctrine of consciousness discussed in the Mandukya Upanishad and further developed by Gaudpada in his Mandukya Karika and Shankar's Advaita Vedanta. We aim to show that the phenomenal consciousness is subsumed under the first three states of consciousness of the Self, mentioned in the *chatushpad* doctrine. The hard problem of consciousness is accounting for the fourth consciousness or *Turiya* with respect to the Brain-Brahman dichotomy: how the Cosmic, Universal, Brahman-Consciousness is related to experienced individual, particular Brain-Consciousness. That is to say, the problem of consciousness is the hard problem of phenomenal consciousness only when we try to locate it in the brain. However, when we view it from the *Advaitic* perspective that reality is nothing but pure, absolute and non-dual consciousness, the hard problem of consciousness is no longer the problem of locating phenomenal consciousness in the brain. Instead, it is the problem of reconciling the observed fact of daily life that consciousness is tethered to the individual brain, which has multiple instances with the *Advaita* view that plurality is an illusion and that reality is non-dual, pure consciousness without the other, called *Brahman*. So, the hard problem of consciousness is not to explain the origin of consciousness from the physical brain but the origin of multiple consciousness and plurality of material entities from *Brahman*, the pure, undifferentiated, non-dual, absolute consciousness. In other words, the hard problem of consciousness is explaining the Brain-Brahman dichotomy. It is undoubtedly a challenge for the followers of the *Advaita* (non-dualistic) Vedanta. The paper concludes with suggestions on some possible approaches to its solution and future work.

2. The Brain-Brahman Dichotomy

Many philosophers and scientists believe that our brain holds the key when it comes to HPC. Our knowledge about the brain is increasing, but certainly, it is not complete. Many believe that once we have sufficiently necessary knowledge of the workings of our brain, we will also solve the problem of consciousness. The problem, however, is not just that we have to wait for the discipline of neuroscience to become mature enough to solve the HPC. The problem is that there seems to be an "ontological gap" (Levine 1987) between the

explanandum and the explanans. If consciousness is nothing like what physical stuff is made of, then it cannot be explained by any amount of knowledge about our physical brain (Jackson 1982, 1986). Thus, those betting on neuroscience might find filling the gap between the phenomenal and the physical challenging.

However, what goes in favor of physicalism is that phenomenal consciousness seems to be unmistakably tied to the brain. The occurrence of our phenomenal experiences is correlated with neural events. The coherent, unified, and phenomenal world of individual self that we pretty well enjoy is generated by our brain. This belief is supported by the observation of the contrary in cases of brain damage due to physical trauma or neurodegenerative disorders. The massively parallel distributed processes that run on the architecture of interconnected billions of neurons have given rise to hope that phenomenal consciousness results from the integration of information being processed by the brain.²

Notwithstanding the evidence to support the connection between neurobiological processes and phenomenal states, the nature of this connection is still debated. For the belief in brain as the source of phenomenal consciousness to be true, this connection must be necessary. However, as Chalmers (1996) has argued, the connection is contingent at best. There is no reason to believe that the neurophysiological process must accompany our phenomenally rich conscious states. It is conceivable that neurophysiological processes go on without subjective phenomenally conscious experiences. Or even the feeling of being someone or being a self is coterminous with the brain processes. In addition, as argued by Mark Solms (2019; 2022), consciousness is not necessarily located in the cortical structures but subcortical structures, most likely in the brain stem. In other words, all those who treat consciousness merely as a cortical phenomenon (for instance, those associated with the neural-correlates of consciousness project) may be looking for consciousness in the wrong place.³

Nonetheless, the view discussed above on consciousness we can call Brain-Consciousness. From the Brain-Consciousness view, individuality and phenomenal consciousness are closely connected. The boundary between an individual phenomenal self and the not-self lies between the individual's brain-body and the environment. The champions of the view believe in material pluralism and that, ultimately, everything is constituted of the fundamental physical reality that Physics describes.

Brahman, however, as discussed in the Upanishads and Shankar's

Brahma-Sutra Bhasya, is the *pr̥tayagatma* (universal Self). The Self is always the subject, never the object of consciousness and both are mutually exclusive, like light and darkness. Brahman is “From which the origination of creation etc. (comes about)” (Apte, 1960, p. 7). “The Scriptural passages “That from which all these things are born” (Tait. 3.1) etc. and “Desire to know that, that is Brahma” (Tait. 3.1) actually indicate that Brahma is the object indicated by the ‘Karmanī’ genitive and that alone will be in consonance with the Sūtra” (Apte, 1960, p. 8). Further, “Knowledge is the only means comprehending Brahma, and the complete knowledge of Brahma is the highest aim of (man) through the destruction of the evil of Nescience which is the root-cause (lit., the seed) of all transmigratory existence. Therefore, the knowledge of Brahma should be desired” (Apte, 1960, p. 8).

Shanker describes the characteristics of Brahman in response to the opponent’s objection that to be the ultimate object of desire, the “Brahman must either be well known or not known at all. If [the Brahman] is well known, it need not be desired to be known. If it is not known at all, it would not be possible to desire to know it” (Apte, 1960, p.8).⁴ According to Shankar, Brahman is omniscient, all-powerful, and of the nature of eternal purity, intelligence and freedom (Apte, 1960, p.8).⁵ Shankar argues that Brahman is real and well known because it is the Self of everyone⁶ and that “Every one experiences the existence of the Self, and does not experience that he is not”^{7,8}. In other words, Shanker is claiming already that Brahman is the Self of everyone and that the Self-awareness everyone has of their Self proves the existence of Brahman. For, anticipating a Cartesian Cogito-like argument, no one can have Self-knowledge or awareness of their non-existent Self.⁹ And then he declares that “The Self of course is the Brahma” (आत्माचब्रह्म).¹⁰ Shankar also claims that Brahman is the only reality and ultimate substratum of the phenomenal world. There is much discussion among post-Shankar Advaitins regarding the relationship between the phenomenal world and Brahman the ultimate or absolute reality.¹¹ However, our purpose in this paper is not to discuss the issues regarding this problematic relationship. It is sufficient to point out that Shankar, following Upanishadic philosophy, commits to an identity between individual consciousness, pure consciousness and reality (Indich, 1980, p. 22).¹² “This identification of subjective and objective reality with each other and with pure consciousness is affirmed time and again throughout the Vedic literature. For example, we read in the *Bṛhadāraṇyaka Upaniṣad* that transcendental, infinite and limitless

Brahman is “a solid mass of knowledge” (*vijñānaghana eva*), i.e., a mass of homogeneous, pure intelligence or consciousness. Further, this same *Upaniṣad* identifies Brahman with Ātman, the innermost essence of all forms that transforms itself in accordance with the likeness of all forms. Thus Brahman, the utterly distinctionless and transcendental reality, is identical with the immanent essence of all things” (Indich, 1980, pp. 22-23).¹³

Now, we can define the Brain-Brahman dichotomy thus. Either reality is physical and the brain is the source of differentiated individual consciousness, which are many, or reality is pure, unindividuated, undifferentiated consciousness, Brahman. In the context of the brain-brahman dichotomy, this simply means that Brahman-Consciousness and Brain-Consciousness are, by their very nature and definition, inconsistent and mutually exclusive contradictory realities. If the former is real, then the latter cannot be and vice-versa. Thus, the problem for the Advaita is not how the physical brain generates phenomenal consciousness but how the unindividuated Brahman-Consciousness can be the substratum of individual consciousness located in the brain. Or as Miri Albahari puts it: “In its absolute form, this universal consciousness does not belong to any subject or the cosmos; it is beyond subject/object duality, and grounds all manifestation. As any contents that might arise within it are not presented as objects to a grand subjective perspective, incoherence of content (with its epistemic and perspective problems) is avoided. Indeed, insofar as it is not framed as a puzzle about how a universal *subject* could entail smaller subjects, the decombination problem does not arise. But the Perennialist is left with the formidable task of explaining just how such non-dual consciousness could coherently ground our individual conscious perspectives and their contents – as well as the objects that we take to be our mind-independent environment” (Albahari, 2020, p. 124). Since this non-dual consciousness or Brahman-consciousness is equated with the *Turiya* or the fourth state of the consciousness of the Self, we call the problem of explaining the relation between perspectival individual, Brain-Consciousness and Brahman-consciousness the hard problem of fourth consciousness. Now, to understand the hard problem of fourth consciousness, we need to discuss the *catuṣṣpad* doctrine of *Māndukya Upaniṣad* where it clearly appears.

3. The *Chatuṣṣpad* Doctrine of Consciousness

Even before entering into the debate on the Hard Problem of Consciousness (HPC henceforth), we need to be clear about the

nature of consciousness at the centre of the debate. This clarification is important with regard to the understanding and solution of the HPC in the context of the Brain-Brahman dichotomy. The HPC with respect to the brain, is generally associated with phenomenal consciousness. Thus, the problem of explaining how the phenomenal consciousness arises from the neurophysiological processes of the brain is the most popular form of HPC. Let's call this version of HPC the Hard Problem of Phenomenal Consciousness (HPPC) to avoid unnecessary confusion and conflation. However, some might argue the need to separate the problems if there is only one type of consciousness, phenomenal consciousness. But this is not true. We argue that phenomenal character is present in the different states of consciousness described in the *Chatushpad* doctrine of consciousness. Therefore, we first need to see the doctrine in detail to validate the argument.

The four-foot doctrine of consciousness has different states of consciousness, each with its own peculiar character and realm. The Advaita, especially Shamkara, follows *Māndūkya Upaniṣad* (*MāU*) in admitting four-fold/foot doctrine of states of consciousness. The four-foot or chatushpada doctrine divides consciousness into waking (*jagrit*), dreaming (*swapna*), deepsleep (*sushupti*) and the fourth (*Turiya*) (Fort, 1990, p. 1). In the *MāU*, these are said to be the four states of the Self. However, the second verse of the *MāU* declares that all is Brahman and identifies the Self with Brahman.¹⁴ “For all this is *brahman*, this self (*atman*) is *brahman*, and this self is fourfold (chatushpad) (Fort 1990, p. 28; *Mandukya Upanishad* 2). There are different names for the Self in the different states of consciousness. In the waking consciousness the self is called *Vaishvanar* (the Universal One) (Aurobindo translates it as Universal Male¹⁵), in the dream state, *taijas* (the Brilliant One), in the deep-sleep, *prājña* (the Intelligent One).

In the waking state, the Self is aware of the gross external world. The consciousness is mostly outward. This is the state in which most of our perceptual experience takes place. The second is the dream state. While in dream, the Self is still experiencing but what goes inside. The dream world feels very much like the world of waking experience. However, in contrast to the waking state where there are external sources of light or rather external sources causing various experiences in consciousness, during the dream state there is inner light of consciousness so to say. In the third state of consciousness, in deep sleep the self apparently lacks any awareness of either external or internal experiences. Here there is absence of desires and dreams. There is unity in some sense such that there is “single

mass of perception” (सुषुप्तस्थानएकीभूतःप्रज्ञानघन) as opposed to the plurality of perceptions during dream and waking states. This “single mass of perception” is said to consist of bliss. Here the Self is supposed to enjoy only bliss unlike the mixed experiences of pleasure and pain during waking and dream state (*MāU* 3, 4, 5; Olivelle, 1998, p. 475).

The state of consciousness beyond the three familiar states is the *Turiya*, literally the fourth. “The fourth is without measure, not active, the cessation of phenomenal manifestation auspicious, and non-dual. This Om is indeed the self. He merges his self with the Self—who knows this, knows this” (Fort 1990, p. 29; *Mandukya Upanishad* 12). “Finally, the fourth goes far beyond the first three quarters. A series of negations is the only appropriate description. The fourth is the ground of existence and awareness, but in the *MāU*, this does not entail positive attributes—they are left behind in deep sleep” (Fort, 1990, p.29). This fourth state or *Turiya* is Brahman. It is the substratum of all other states of consciousness. “*Turiya*”, in the view of Shamkara and Gaudapada, “designates the undifferentiated substratum of the conditioned states of consciousness and is identical with the ultimate non-dual reality, Brahman” (Fort, 1990, p. 1).

It is in the *Turiya* that the duality between the knower and the known disappears and thus conditions of ordinary cognition too do not apply. Although, the self-revealing character of consciousness must still be present without which no conscious cognition is possible. Yet, the state of *Turiya* is beyond any description. Unlike the first three states of consciousness which represent the three phonemes of the sound OM, viz., ‘a’, ‘u’, ‘m’, this last one is called *amātra*. Hence, skepticism regarding *Turiya* is obvious.¹⁶ But perhaps the following analogy with space might be helpful. The description of fourth being beyond our ordinary, known forms of consciousness such as waking, dreaming and deep sleep, does not mean it is not here with us. When we compare consciousness with space, we can see just like space it can remain contentless. As we can imagine empty space without objects, so we can imagine consciousness being “empty” without content, without an empirical object or sensation etc. what is more, as the space very easily can be conceived to be infinite without boundaries, so consciousness too can be unlimited. This means that our conception of the spatiotemporal world could easily be turned into a boundaryless existence. And so, our consciousness might be without physical, spatiotemporal limitations, conditions or boundaries. In other words, it is not impossible to imagine consciousness beyond all conditions and limitations: a formless, contentless, pure, infinite, transcendental consciousness.

This transcendental consciousness is different from our ordinary

consciousness we are familiar with, viz. waking, dreaming, and sleep. But to assert that transcendental consciousness is beyond all worldly states of consciousness experienced by us all, is not to say that it is outside our world our located somewhere else. The analogy with space would suggest that consciousness is very much here and now like the empty space intangible everywhere. The Turiya or the fourth is real. It is in us and around us. Just as Chhandogya Upanishad describes Brahman as space thus,

यद्वैतद्ब्रह्मेतीदं वावतद्योयंबहिर्धा
 पुरुषादाकाशोयोवैसबहिर्धापुरुषादाकाशः॥३.१२.७॥
 अयंवावसयोऽयमन्तःपुरुषअकाशोयोवैसोऽन्तः
 पुरुषआकाशः॥३.१२.८॥
 अयंवावसयोऽयमन्तर्हृदयआकाशस्तदेतत्पूर्णमप्रवर्ति
 पूर्णमप्रवर्तिनी श्रियंलभतेयएवंवेदा॥३.१२.९॥

“And take what people call “*brahman*”—clearly, it is nothing but this space here outside a person. And this space here outside a person—clearly, it is the same as this space here within a person. And this space here within a person—clearly, it is the same as this space here within the heart; it is full and nondepleting. Any one who knows this obtains full and nondepleting prosperity” (Chhandogya 3.12.7-9 Olivelle, 1998, p. 207).

There is another reason for identifying Brahman-Consciousness with space. It is logically necessary that the origin of anything must coincide with the existence and expansion of space. But if Brahman-Consciousness is the absolute ultimate reality as the Advaitins claim. In that case, space and Brahman-Consciousness must coexist from the beginningless eternity or be identical. The nearest analogy to the formless Brahman-Consciousness of which we are only aware in its manifested forms, is the consciousness of the limited forms of space that is formless. Despite the difficulty in giving a positive account of the *Turiya* state, such an unchanging consciousness may underlie all three states of consciousness. Perhaps it is the state of our Self that underlies all our conscious experiences, from waking to dreaming. It is like the water on which the bubbles appear. Once we are ready to wrap our heads around such a consciousness, we can discuss the hard problem of *Turiya* or the fourth consciousness.

4. The Hard Problem of Fourth Consciousness

As far as the first three states are concerned, viz., waking, dreaming and deep sleep, they present HPPC (see above) version of HPC to physicalism and Brain-Consciousness of the world. The reason is

that all three states have phenomenal experiences. However, the phenomenal experience is not so obvious during deep sleep as it is experienced in waking and dream states. Nonetheless, deep sleep might be characterized as the absence of any phenomenal experience we remember when we wake up. In other words, to give a transcendental argument, in deep sleep, too, there must be some form of consciousness that enables us to connect with the experiences before and after waking from the deep sleep. As T.M.P. Mahadevan puts it:

“In [sleep] the self sees and yet does not see. There is no seeing of objects but *sight* remains. The ‘sight’ of the seer is never lost because it is imperishable. Just as the presence of objects is revealed by the self, their absence too is revealed by it. When it is said that in sleep there is loss of consciousness, what is meant is loss of objective consciousness. Consciousness *per se* neither rises nor sets. It is ever self-luminous. That the self is non-dual consciousness is different from the experience of sleep. There is then no other besides it which it could see” (Mahadevan, 1954, p. 94).

Thus, as far as the first three states of consciousness are concerned, HPPC is the problem for the physicalist who believes the brain to be the source of consciousness. However, HPPC is not the problem for the *Advaita* view as there is no real distinction between consciousness and matter. The HPC, however, is more complicated by the addition of the fourth state which is transcendental, undifferentiated ultimate reality called Brahman. Because now we don’t just need to explain HPC of waking consciousness or consciousness at the level of phenomenal reality but the ontological relation between the ultimate reality and the phenomenal reality of the brain. The question now is not how the brain is the basis of phenomenal consciousness where both brain and the phenomenal consciousness belong to the same phenomenal/empirical level of reality. Rather, how does the brain generate, if at all, brahman or Turiya consciousness which is transcendental reality. In other words, then, the brain-brahman dichotomy is precisely due to this seemingly “ontological discontinuity” between levels of empirical and transcendental consciousness. In other words, the problem is to explain why do we see different individual consciousness when there is only one universal consciousness. The brain-brahman dichotomy apparently might seem to be glaring/challenging with respect to the “ontological discontinuity” (Indich 1980) between the waking and Turiya states of consciousness. This is the Hard Problem of Fourth Consciousness (HPFC).

Certainly, there will be and should be questions about the reality of

undifferentiated/Turiya consciousness. But then can we understand the higher fourth state of consciousness by waking consciousness? Since they belong to different levels of reality like the beings living in different dimensions of space-time, is it even possible for the beings with lower levels of consciousness to comprehend higher forms of consciousness. Just like it is not possible for the beings in the three-dimensional world to access four-dimensional one. “Perhaps the most “pernicious” assumption is that waking state is the norm and the highest manifestation of consciousness; a related belief is that we can evaluate other states by the standard of waking state” (Fort, 1990, p. 3)

For instance, McGinn’s(1991) argument that we might be cognitively closed to ever finding a solution to the problem of consciousness is also relevant here in this case. McGinn argues that to solve the problem of consciousness, we need to see a common “contact point” between brain states and consciousness. However, our mode of access to the brain and conscious states is different. We perceive brain states but introspect our conscious states. Therefore, it is difficult to see what possible mode could lead us to the connection point between first-personal introspectively accessible phenomenal consciousness and third-personal extrospectively accessible brain states. From what we know, we might be cognitively closed forever to the solution to the problem of consciousness, just as bats might be cognitively closed to the understanding of quantum mechanics. This cognitive closure argument also applies to the relation between waking and transcendental consciousness (*Turiya*). Just as we are cognitively closed to the possibility of knowing the connection between the brain and consciousness because both require different ways of access, we might also be cognitively closed to comprehending transcendental consciousness from an empirical waking consciousness level.

The cognitive closure argument about the problem of consciousness sounds convincing because there is an ontological gap between the brain and consciousness. Like the explanatory gap between the material brain and the qualia (Levine 1983), the gap between the waking and transcendental consciousness is equally baffling, if not more. Perhaps one could bridge the explanatory gap between the matter and mind, but the bridge between the first and the fourth states of consciousness seems hard to build. And for excellent reasons. Unlike waking consciousness, the transcendental consciousness is by nature non-dualistic and undifferentiated. There is no dearth of samples of waking consciousness; however, instances

of transcendental consciousness seem rare. And again, whereas the waking experience has intersubjectivity despite its subjectivity, the transcendental experience is almost exclusively subjective or perhaps beyond the binaries of subjectivity and objectivity.

The HPFC goes beyond the HPPC which assumes mind-matter dichotomy. The HPFC is about our relationship with the fundamental reality, which from the Advaita perspective is consciousness. To solve the HPFC we need to show why the identity between individual and universal consciousness is real but not experienced. In the following last section, we discuss some of the approaches to solve the problem.

5. Conclusion: Some Approaches to the Possible Solution of the HPFC and Future Work

We began with the hard problem of consciousness, which is how to explain the origin of phenomenal experience in a prima facie physical universe. It is really perplexing and hard to admit that something like consciousness, with all its perspectival, subjective phenomenal character, could be grounded in a fundamentally physical reality. The two possible but radially opposed to each other answers are to assert that reality is fundamentally physical and the closest structure giving rise to consciousness is our neurophysiological brain. This approach, however, leaves the explanatory gap unbridged. The other radical approach is the Advaita view that reality is in fact fundamentally consciousness. This avoids the explanatory gap but is entangled in a problem of its own. How does the fundamentally conscious reality give rise to the multitude of individual consciousness so intimately tied to the brain. More importantly, if the ultimate reality or Brahman is the fourth consciousness or *Turiya*, which is the substratum of the first three states of consciousness, viz. waking, dreaming and sleep, experienced by all, then why don't we experience it, and how can the individual empirical consciousness apparently grounded in the brain can realize this transcendental consciousness.

The difference between contemporary theories of consciousness and the Advaita view, according to C. Ram-Parasad (2001) is, "classical Indian theories of consciousness generally evolved within a soteriological context in which the ultimate goal was some transcendental spiritual state. Contemporary consciousness studies, apart from where it is approached from the specifically religious concerns of Christianity (and, increasingly, Buddhism), is generally oriented to scientific goals that allow no place for transcendental concerns" (p. 378). It might be the reason why the first reaction to the

HPFC of Advaita supporters would be that our ordinary experience of the world with the plurality of objects and other individual selves from the perspective of the individual, Brain-Consciousness, is an illusion. It is akin to a cognitive illusion due to ignorance of our ultimate truth and, by extension, reality. However, the question is why this cognitive illusion manifests in the way it does. Shankar's justification for the need to enquire about Brahman is, despite the fact that "this Self is Brahman", the knowledge of the false identity that ordinary people possess about themselves. According to Shankara, people wrongly identify themselves with not-self in various ways. The cause of this false identity is the superimposition of characteristics of not-self on Self and vice versa. Fundamentally, superimposition is nothing but an "unreal assumption about the attributes of one thing as being the attributes of some other thing" (Apte, 1960, p. 2). "... superimposition is the notion of *that* in something which is *not that*" (Apte, 1960, p. 4). We superimpose external attributes to the Self, "I am the President's Friend". We superimpose attributes of the body to the Self, "I am tall", "I am fat". We superimpose attributes of the sense-organs to the Self, "I am blind", "I am deaf," etc., "... or when he superimposes on his Self the attributes of his internal sense organ (Antahkarana), i.e. the mind, viz., desire, intention, doubt, determination etc. In this manner, he superimposes that which experiences the 'I' or 'Ego' viz., the mind, on the Universal Self which is a witness of all the processes of the mind, and conversely superimposes the Universal Self on the internal sense-organ i.e., the mind" (Apte, 1960, p. 4). "It is in this manner, that there is this beginningless and endless natural process of superimposition, which is of the nature of erroneous conception and which promotes the notion of the Self as being an agent and experiencer, which is perceived by all. It is with a view to destroy this cause of all evil, and for acquiring the knowledge of the unity of the Self, that all Vedānta is begun" (Apte, 1960, p. 4).

This approach, however, does not take us very far and leaves the HPFC unaddressed. The erroneous misconception regarding self, to take the most common example, is its identification with the body. But this identification is based on the experiences during waking, dream, and even sleep states of consciousness. Why do we not see the Self, an unchanging reality during the first three states of consciousness and identical to the fourth? The bigger cognitive illusion than the misidentification of the Self with the body is the nonidentification of the Self underlying all conscious experience. Above all, the jump from the first three empirical states of consciousness grounded in

the brain to the transcendental fourth consciousness, which is the ground of all.

Another related approach argues that the world of plurality we experience is an illusion or product of universal nescience, *Māyā*. Late Prof. Srinivasa Rao (2012) has pointed out an interesting problem regarding the origin of Advaita thesis of *Māyā*. In the Upanishads, enquiries into the innermost essence of man and the fundamental source of the world are separate. The Atman is discovered as the innermost essence of man and the Brahman as the fundamental source of the world. However, the identification of both in the Advaita is fraught with difficulties. The problem begins when the Atman is differentiated from the Anatman, which is the whole world except the Atman. However, the problem is reconciling the Atman-Brahman Identity with the Upanishadic declarations that Brahman is the source of the whole world, including *Atman* and *Anatman*. But then this means that if *Atman=Brahman* and *Brahman=Anatman* (World), the distinction between *Ataman* and *Anatman* or *Ashmad-Yushmad* cannot be maintained. Thus, the need to claim that the world is *Maya* (pp. 150-157).

Another approach is to look for a problem analogous to the one at hand and try to glean from the answer proposed to that. The problem most akin to the HPFC is the problem of reconciling our experience of the macro world described by Newtonian mechanics with the quantum mechanical description of the micro world. If our macro world which we experience is constituted of the fundamental particles whose behavior quantum mechanical laws govern, why don't we see the quantum effects in the interactions of the large objects. Moreover, what is the satisfactory interpretation of the quantum mechanics which could reconcile the perceived world of macro-objects with the invisible micro world of fundamental particles. This is where David Bohm's ideas of wholeness, implicate and explicate order and unfolding and enfolding become significant (Bohm, 1990; 2005). To put it crudely and at the risk of oversimplification, Bohm's solution to the problem of mind and matter dichotomy could be translated into a solution for the Brain-Brahman dichotomy or the HPFC. The underlying reality or Brahman is the whole and is the implicate order not directly experienced by us and the individual consciousness is the explicate order that we experience. The Brahman-consciousness enfolds individual consciousness within it. No two individual consciousness or Selves are spatiotemporally separated. Seen from the individual perspective, the Brahman-Consciousness unfolds in the form of plurality. Moreover, it might

be possible that both Brahman and Brain consciousness could be projections of some more fundamental order.

For future work, we will look for a more viable approach to the Brain-Brahman Dichotomy with respect to the hard problem of fourth consciousness. Another related problem is the “decombination problem” (Goff, 2017). The problem is to explain how the fundamental, universal, cosmic consciousness, such as Brahman, can appear in the form of so many individual selves with their unique perspective on the world. A more technically challenging approach is to see how self-organizing conscious systems such as individual brains function on thermodynamic principles and maintain self-hood following Friston’s (2013) free energy minimization principle. And being a thermodynamically active system, how individual brains are spatiotemporally connected to other such systems in the environment and other material, non-living but self-organizing systems. The free energy principle is an overarching, ambitious theory which can bridge the gap between mind and matter because everything in this universe is governed by the laws of thermodynamics. Similarly, it might explain the connection between individual and universal consciousness.

Acknowledgment

The author would like to acknowledge the opportunity, funding and hospitality accorded during the first one-month long spell of Associateship under UGC-IUC Humanities and Social Science at India Institute of Advanced Study Shimla to work on the topic when the present paper was written.

Notes

1. According to Chalmers, the hard problem of consciousness is contrasted with the relatively “easy” problems of consciousness which are mainly explaining the cognitive functions such as information processing involved in perception, memory and speech etc. in terms of neurophysiological terms. However, the hard problem is why does the neural processing accompany with subjective feeling.
2. For instance, see Tononi (2004)
3. For example in the cases of Hydranencephaly
4. तत्पुनर्ब्रह्मप्रसिद्धमप्रसिद्धंवास्यात्यदिप्रसिद्धंनजिज्ञासितव्यम्।अथाप्रसिद्धंनैवशक्यंजिज्ञासितुमिति। (Brahma-Sutra Shankar Bhashya 1.1.1)
5. उच्यतेअस्तित्तावद्ब्रह्मनित्यशुद्धबुद्धमुक्तस्वभावंसर्वज्ञंसर्वशक्तिसमन्वितम्।
6. सर्वस्यात्मत्वाच्चब्रह्मास्तित्वप्रसिद्धिः।
7. सर्वोह्यात्मास्तित्वंप्रत्येतिननाहमस्मिइति।
8. Shankar also points out that “Etymologically, from the root ‘Briha’ we

understand such things as eternal purity etc. (ब्रह्मशब्दस्य हि व्युत्पाद्यमानस्य नित्यशुद्धत्वाद्योऽर्थाः प्रतीयन्ते ब्रूहेतेर्धातोरर्थानुगमात्।)

9. "If the well-known existence of the Self were not be so in fact, every one would experience that he does not exist". यदहिनात्मास्तत्तव परसदिधिः स्यात्सर्वलोकाः नाहमस्मद्वितीयात्।
10. Shankar goes on to clarify the opponents objection as to why a well known object like Brahman should be discussed by pointing out that "because there is a conflict of opinion as to its special nature. Unsophisticated persons and the Lokāyatikās understand that the mere body as such endowed with intelligence is the Self. Others that the sense-organs which are intelligent are the Self. Some say that the mind is Ātmā, some say that it is mere momentary knowledge. Some others say that the Self is merely a vacuum (Shūnya). Others again say that an entity different from the body which is an agent and experienter, and a transmigratory being is in fact in existence. Some others say that the Self is an experienter only and but not an agent. Some other think that there is a Lord who is omniscient and all-powerful, and is different from the Self. Others that the ātmā is the Self of the experiencing Jiva. In this manner there are many who have resorted to fallacious reasoning or the Scriptures as an authority and have differed amongst themselves in their view (as to what the Self i.e. Brahma is). (Apte, 1960, pp. 8-9) यदितर्हि लोके ब्रह्म आत्मत्वेन प्रसिद्धमस्ति ततो ज्ञातमेवेत्यजिज्ञास्यत्वं पुनरापन्नमनतद्विशेषप्रतिविपरितपत्तेः देहमात्रं चैतन्यविशिष्टमात्मेति प्राकृताजनालौकायतिकाश्च प्रतिपन्नाः। इन्द्रियाण्येव चेतनान्यात्मेत्यपरे। मन इत्यन्ये। विज्ञानमात्रं क्षणिकमित्येके। शून्यमित्यपरे। अस्तित्वेहादिव्यतिरिक्तः संसारीकर्ता भोक्तव्यपरे। भोक्तैव केवलं न कर्तव्येके। अस्तित्वद्व्यतिरिक्त ईश्वरः सर्वज्ञः सर्वशक्तिरितिकेचित्। आत्मासभोक्तुरित्यपरे। एवं बहवो विप्रतिपन्ना युक्तिवाक्यतदाभासमाश्रयाः सन्तः। (Shankar Brahma-Sutra Bhashya 1.1.1)
11. As Ramamurty (1996) points out, Brahman cannot be the explanation of anything other than itself. "If Brahman is absolute and perfect it cannot be an explanation of the world, and if the reality of the world is to be accepted and derived from the reality of the Brahman, the nature of the latter is to be conceived and defined in relative terms" (Ramamurty, 1996, p. 6).
12. In fact, all Vedantins agree that the essence of Vedic wisdom can be summarized by four great sayings (mahāvākya), each of which expresses the fundamental identification (tādātmya) of individual consciousness with pure consciousness and with reality. The four statements are: Brahman is consciousness (prajñānam Brahma); I am Brahman (aham Brahmāsmi); Thou Art That (tat tvam asi); and this Atman is Brahman (ayam ātma Brahma).
13. "He [Īśvara] is above everything, outside everything, beyond everything, yet also within everything." In this sense the Upaniṣadic doctrine of absolute consciousness establishes at once the transcendence and immanence of consciousness with respect to the world. Moreover, while this doctrine appears too frequently in the Vedic literature for Advaitins to deny it, the theist, dualist or pluralist interpretations of reality which could logically follow from this doctrine certainly present a challenge to the consistency of the Advaitic vision of the non-duality of reality" (Indich, 1980, pp. 22-23).
14. सर्वह्येतदब्रह्म। अयमात्मा ब्रह्म। सोऽयमात्मा चतुष्पादा।
15. Aurobindo, Sri. (2001) *The Upanishads – II: Kena and Other Upanishads* (Complete Works of Sri Aurobindo Volume 18), Pondicherry: Sri Aurobindo Ashram Press, p. 194.
16. "For while consciousness transcends the duality between the knower and the objects of knowledge which characterizes cognitive activity, the essential nature of consciousness itself is self-revelation. And the Advaitin argues that it is precisely because conscious consciousness is essentially self-revealing that its nature

can be directly and immediately known (but not indirectly cognized) to be the identity of existence (*satyam*), knowledge (*jñānam*) and infinity (*anantam*)” (Indich, 1980, p. 24).

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