Can Scientists Help Philosophers Regarding the Nature of Phenomenal Experience?

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Abstract In response to Putnam's computational hypothesis on the question of the nature of the mind, Searle and Churchland argue that the nature of mental states essentially consists of neurophysiological processes in an organic brain. However, this seems to imply that mental states are products of the brain and thus, contra Putnam, that an adequate account of mental states which excludes an implementing organic structure is impossible. To this extent, an attempt is made in the paper to structure a biological-organic program. By this structure, it is identified that mental state is a process of the whole organism which necessarily produces phenomenal experience. However, if phenomenal experience is a product of mental states, which consists in neural firings in the brain, then it appears the problem is reducible to a question of how; i.e. how does the brain do it? In turn, this may direct our attention to neuroscientists. However, the paper argues that even perceptual internalism, which is the theoretical basis of contemporary neuroscience, may not really be of help in this case. It is argued that the experimentation and observation which foreground scientific enquiry may not be able to sufficiently account for the how question without leaving some other questions unanswered. As a result, a seemingly implied otherworldly reality or principle is explored. It is submitted that our natural tendency and apparatus (what else do we have) do not appear to lead us forward. Again, withdrawing back to our natural system, our deficient human nature requires us to tread with caution but hopefully, perhaps, we may eventually make progress in this regard.

Keywords biological-organic computation; computational hypothesis; mental states; neural process; phenomenal experience

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Introduction

Functionalism, which describes the nature of a system only by its abstract functional roles, rests on the assumption of natural principles. These principles include mass, energy, and other physical and chemical properties accepted by the scientific community (Chalmers 1996, xii). This is true "Since physical systems operate via physical properties, and since functions and numbers are abstract mathematical concepts ..." (Hardcastle 1995, 308). Empowered by Turing's article (Turing 1950, 433–60), Putnam (Putnam 1975b) shifted to the task of adapting the nature of a digital computer machine to account for the nature of mental states. The presumptive push may be that "the standard approach in philosophy to account for what computationalism means in the cognitive sciences relies heavily on the Church-Turing thesis" (Hardcastle 1995, 304). Putnam's conclusion in "The Nature of Mental States" is that the nature of mental states are synonymous with that of machine states. Both are susceptible to computational description.

If we maintain Putnam's computational functionalism, invariably we are committed to the position that mental states are computational states *simpliciter*. The dominant assumption of computational functionalism is that abstract computational description accounts sufficiently for a purely functional nature for mental phenomenon, one independent of their biological character. Putnam, however, reviewed this position in *Representation and Reality*. Nonetheless, it is argued by Nagel (1979), Priest (1993), Block (1997, 819–31), Kelly and Michael (2004, 204–09), Churchland Patricia (1993), Jackson (1995, 187–97; 2004, 51–6), McGinn (1997, 529–42), Collier (2011, 53–62), etc., that abstract computation alone is insufficient to capture and describe phenomenal experience, a necessary property of mental states. In other words, the question of the nature of phenomenal experience is not answered by Putnam's hypothesis. It is argued that any account incapable of describing this property is *ipso facto* an insufficient account for mental states. The point maintained by these philosophers (who may be termed biological naturalists) is that at least some natural property is not susceptible to computational description. This paper attempts to demonstrate, contra the biological naturalists, the possibility of an account of phenomenal experience in a manner that seems to harmonize both Putnam's computational view and biological naturalism.

However, this paper argues that if phenomenal experience (Platchias 2011), is produced by mental states, and mental states, as whole process of an organism involves neural firing in the brain, as biological naturalists argue, then the whole question of the nature of mental states may be reduced to a *how* question; how does the brain do it? This, apparently, should direct our research towards neuroscience for some insights. However, the paper argues that phenomenal internalism, which is the theoretical basis of contemporary neuroscience may not really help in this regard. This is in view of Russell's (Russell 1973, 622–8), position that perception is internal and not external. It is contended that the neuroscientist may not be able to successfully account for the how question without leaving at least one issue unaddressed. An attempt to seek out a potential explanation through an otherworldly reality or principle also stalls. This is because relying upon our present system of reasoning to conjecture upon an otherworldly reality or principle does not appear to lead us forward. Withdrawing to our natural cave requires us to tread with caution.

A Brief Presentation of Putnam's Computational Naturalism

Putnam established an analogy between the individuation conditions of mental states and those of Turing machine states, (Putnam 1975b). He argued that the states of Turing machines are individuated in terms of the way they affect and are affected by other Turing machine states, stimulus inputs, and motor outputs. By the same process, he thought, mental states are individuated by the way they affect and are affected by other mental states, stimuli, and behavior (Piccinini 2010). Correspondingly, for Putnam, both minds and machines manipulate complex combinatorial structures. Minds produce natural language sentences and other complex sequences of actions. Levine asserts that machine functionalism is the position that mentality depends on programming, while physiology depends on its structure. For him,

> In terms of the computer metaphor, which is behind many functionalist views, our mentality is a matter of the way we are "programmed," our "software," whereas our physiology is a matter of our "hardware." (Levine 2002)

This may not be saying more than the fact that the nature of the mental states is nothing over and above the way it is programmed, excluding its implementing physical structure. It might follow that a sufficient account of the nature of the mental states is contained in the program.

Computing mechanisms manipulate complex strings of digits (Putnam 1975b, 365). The structures and processes in question are complex in the sense that in the interesting cases, there are rules and instructions describing the structure of the inputs and outputs. There are also the rules which describe the causal relationship between inputs and outputs. It implies that properties which make up the description of machine state such as

Machine Table, Description of a State, Algorithm, etc., are also thought to be necessarily and sufficiently applicable to the description of mental state. The typical point noted is that both digital and human computers are rule following machines.

For Putnam, a machine table accounts for the functioning of a machine. That is why it is opined that the machine table describes any Turing machine state, (Putnam 1975b, 365). It instructs the machine on what to do when a particular input is received. For instance, if the instruction says, "if you read or scan 1 as input, print 11, proceed to scan the next square to your left, then shift to state B," the machine is constrained by this instruction and cannot function otherwise. A typical interpretation of a machine table instruction is given by Putnam.

> These instruction are read as follows: "s_5LA" means "print the symbol s_5 on the square you are now scanning (after erasing whatever symbol it now contains), and proceed to scan the square immediately to the left of the one you have just been scanning; also, shift into state *A*." (Putnam 1975b, 365)

This is an example of an instruction which is contained in the machine table. Possible machine table instructions include; S_1LA, S_2LB, S_3RA, or S_4LD. Each of these has its appropriate instruction. A machine table may also be called a program. For instance, in Putnam's computational hypothesis, S_3LB reads as follows; print S_3 on the square you are now scanning (after erasing whatever symbol it now contains) and proceed to scan the square immediately to the left of the one you have just been scanning, also shift into state B, (Copeland 2010). This is the program which this machine is to implement.

> The "machine table" describes a machine if the machine has internal states corresponding to the columns of the table, and if it "obeys" the instruction in the table in the following sense: when it is scanning a square on which a symbol s_1 appears and it is in, say, state B, that it carries out the "instruction" in the appropriate row and column of the table (in this case, column B and row s_1). Any machine that is described by a machine table of sort just exemplified is a Turing machine. (Putnam 1975b, 365)

The idea of rows and columns may be appreciated in the sample machine table below: (Putnam 1975b, 365)

	A	B	C	D
(S_1) I	s_1*RA*	s_1*LB*	s_3*LD*	s_1*CD*
(S_2) +	s_1*LD*	s_2*CD*	s_2*LD*	s_2*CD*
(S_3) blank Space	s_3*CD*	s_3*RC*	s_3*LD*	s_3*CD*

Table 1. Machine Table

This is an example of a machine table. In this table, the row of the table corresponds to the letters of the alphabet. The null letter is the space before the letter A and that is a blank space, while the columns correspond to states A, B, C, and so on. In each square, there appears an instruction of what the machine must do, (Putnam 1975b, 365). For the machine to carry out the instruction on the instruction table, some conditions must hold. The machine must have internal states. These internal states must correspond to the column, and it must be in a suitable condition to carry out the instruction on the appropriate row and column of the machine table. It must again be stated that any abstract machine described in this way is a deterministic automaton.

However, to allow for the complexity of the nature of human beings, Putnam clarified that the causal relationship between the machine table and the functional organization is not a deterministic one but rather probabilistic (Putnam 2002, 75). That is, the relationship between the input, the output and the corresponding states is not deterministic but probabilistic. This leads to the conclusion that, unlike a digital computer, a human computer machine is a probabilistic automaton and not deterministic. The inadequacy of this hypothesis concerning the question of phenomenal experience has strengthened biological naturalism.

Some of the Inadequacies of Putnam's Hypothesis

Also on the nature of mental states, and opposing Putnam's popular computational naturalism, is the variant of biological naturalism advanced by Block (Block 1993, 824–5) and supported by Searle (1993). It holds that there are inherently irreducible natural properties. For them, mental state consists of an irreducibly qualitative, subjective, first-personal phenomenon property in nature. It is argued that this is a property of and realized by the neural process running in the brain. Searle asserted that; "Also we know that all these mental stuff is caused by and realized in the neurophysiology" (Searle 1993, 834). Further, Searle maintained that;

> We know that the specific neurobiological processes in the brain are sufficient to cause consciousness, intentionality, and all the rest of our mental life by form of "bottom-up" causation. Lower level neuronal processes, presumable at the level of synapses, cause higher-level features of the brain such as consciousness and intentionality. (Searle 2008, 70)

By "neurophysiology" it simply means a biological characterization of the nervous system. This includes the function, activation, and firing of the neurons in the brain. This submission raises the question of how the brain causally produces what it does. Searle is unwilling to give any ground concerning the biological nature of mental states, although it is not yet clear how this is actualized. In terms of the question of how the brain produces mental states,

> The short answer to that question is that we just do not know at present. Since we do not know how the brain does it, we do not know what sorts of chemical devices are necessary for its production (Searle 2008, 61).

This establishes what Patricia Churchland opined that, "If we can figure out how the brains do it, we might figure out how to get a computer to mimic how brains do it ..." (Churchland 1993, 745). From this, one thing is clear, namely that the issue is traced to the question of how the brain does it. Searle shows his unpreparedness to entertain any skepticism on the point. He argues,

> It is no use being told that it is "counter-intuitive" that a kilogram and a half of this gray and white gook in my skull should cause consciousness, because we know in fact that it does. (Searle 2008, 70)

Consequently, mental properties which are realized in and are products of neural processes in the brain are referred to as biological properties. For biological naturalists, the theory which holds that every property in nature is computationally describable must be insufficient. Mental properties are properties, some of which, seriously speaking, cannot be successfully and completely reduced to and described in strict computational terms. For this, Block (1993) and Searle (1993), asserted that the computational model only deals with and manipulates symbols and codes. Symbols and codes are abstract and taxonomic description of a state of affairs. It does not deal with the semantic (Collier 2011). Thus, its account is inadequate for the nature of mental states.

Block argues that there is a distinction between the symbols and what the symbols denote. According to Block,

> it is important to see the difference between the number 1 and the symbol (in this case a numeral or digit)…. Certainly, the difference between the city, Boston, and the word *Boston* is clear enough. The former has bad drivers in it; the latter has no people or cars at all but does have six letters. (Block 1993, 827–8)

The biological naturalists do not deny that biological properties are natural properties in the world. All that they assert is that these natural properties cannot be accounted for in purely computational terms. For them, such a computational construal would fail to capture the essence of the biological properties in the world. Mental states are a phenomenon which can be identified with a biological property. Phenomenal experience contain the necessary property of mental states and mental states are biological in nature. This property is incapable of being completely reduced to computational structures. On the basis that a biological property is irreducible to strict computational terms, the computational hypothesis is incapable of providing an adequate account of phenomenal experience and then mental states. However, is it impossible to structure a biological-computational program which may be plausible for implementation by any possible organic system? The next section intends to present a neural representation of biological naturalism.

Biological-Organic Computational Structure (Organic Machine Table)

This section presents biological-organic computational structure showing an account of phenomenal experience as a causal product of a mental state, where the latter is conceived as a process in an organic system. This advances Putnam's hypothesis in an attempt to reconcile the two perspectives. The table of instruction (machine table) which is implementable by the organic system shows that phenomenal experience is produced when mental states are implemented. This organic computational structure is important since it avoids attributing a phenomenal experience to a silicon doppelganger "whose cognitive causal structure matches human causal structure, down to a fine level of details," (Papineau 2002, 188). This account does not exclude the possibility of a *silicomena* experience by adapting computational model to a silicon-based automata. This is because whereas the doppelganger consists of a silicon-based compound, biological systems are made of electro-carbon based compounds. Whereas a silicon based doppelganger may be captured under a computational functionalist model, the problem of an account of the phenomenal experience of an electro-carbon based organism as a necessary property of mental states is the concern of the organic computational structure. The point here is that a biological organic structure may be structured. Below is an implementable organic computational table.

		A	B	C	D
(s_1)	I	$\frac{s_1RA^{+X}}{RN(o)}$	$\frac{s_1LB^{+Y}}{RN(o)}$	$\frac{s_3LD^{+Z}}{RN(o)}$	$\frac{s_1CD^{+Y}}{RN(o)}$
(s_2)	+	$\frac{s_1LB^{+Z}}{RN(o)}$	$\frac{s_2CD^{+S}}{RN(o)}$	$\frac{s_2SD^{+R}}{RN(o)}$	$\frac{s_2CD^{+I}}{RN(o)}$
(s_3)	blank Space	$\frac{s_3CD^{+R}}{RN(o)}$	$\frac{s_3RC^{+S}}{RN(o)}$	$\frac{s_3LD^{+L}}{RN(o)}$	$\frac{s_3CD^{+F}}{RN(o)}$

Table 2. Organic Machine Table

Let us select some examples of this organic machine table for some further analysis;

$$\frac{s_1LB^{+Z}}{RN(o),} \qquad \frac{s_2CD^{+S}}{RN(o),} \qquad \frac{s_2SD^{+R}}{RN(o),} \qquad \frac{s_2CD^{+I}}{RN(o),}$$

An example of a carbon-based computational structure;

$$\frac{s_1LB^{+Z}}{RN(o)\,|}$$

{This entire process is regarded in this paper as mental state}

Note that this structure is an adapted organic-based one. This could be interpreted as follows; given an appropriate stimulus input (such as pinch, or cut), as an appropriate stimulus initiating a process called a mental state; the instruction says overwrite the initial mental state with pain state (S_1), shift to state B or C or D or B and F or C and D (subsequent states), and then produce an appropriate behavioral output. This whole process automatically produces _+R_. The _+R_ in the table stipulates the phenomenal experience which is a product of the mental states construed as a causal process. This must be causally produced by the whole organic process. "*RN(o)*" indicates that this program or instruction is implemented by the category of carbon-based organic system. This means that only organic based systems are able to realize phenomenal experience having implemented the instruction. Again, this view reduces mental states to a causal process in an organic based system.

Technically speaking, it means that only organisms within the category of organic-based system are capable of implementing this computational description and of possessing mental states. This is because only S_1LB in the sort of system RN(o) can yield either +Y, or +S, or +X. By the same token, only an organism with a silicon-based system could implement the silicon-based computational instruction, produce *silicomena* experience, and then possess silicon states. It is instructive to note that it is the whole functional structure that yields the phenomenal experience. It is then impossible to have +Y, or +S, or +X, ... +N without the causal process. This, again, affirms that mental states are a function of the whole biological organism, (Putnam 1975c, 433). Whatever phenomenal experience produces depends on the sort of causal relationship between the stimulus input and the systematic causal process engendered by the stimulus input.

Once again, as it is impossible to have phenomenal experience without mental states, it is also impossible for mental states to occur without its consequent phenomenal experience. Once the process of a mental state has run its full course, it must causally produce phenomenal states. It means whenever there is

$$\frac{s_1 LB}{RN(o)}$$

necessarily, we must have +Y, or +Z, + X, etc, as the case may require. This further implies that it is impossible to have +Y, +Z, +X, etc, without any of the above instructional process having been implemented. A point, strongly noted, is that mental states are incomplete without the phenomenal experience in an organic system. For instance, the existence of a mental state of color is not ascertained without its phenomenal experience (Berkeley 1996). Or how would I know that I have a sweet sensation without the sweetness of my experience? I regard a pain state without its necessary raw feelings to be a non-existent one. There is no other means of ascertaining its existence and this means that phenomenal experience is a necessary property for mental states. The whole event is akin to thunder and lightning which just occur together. This phenomenon then appears to be more of the identity of a neural process and phenomenal experience than supervenience.

However, whereas every phenomenal experience is a causal product of mental states, it is argued, for instance, that not every mental state possesses the phenomenal character (Kim 1996). What is important here concerns the phenomenal character of mental states. The essential point is that a mental process does not produce a pain state if it does not produce its phenomenal experience. Consider this instance, a properly anaesthetized patient does not have the expected mental states of pain, even though there may be a sufficient input for it. What happens is that the mental process is obstructed. A chemical introduction into the organic system of the patient obstructs the whole process, and an obstructed process cannot produce the appropriate mental states. Whenever mental states are sufficiently implemented, phenomenal experience must result and even an unconscious experience is still an experience. However, we must allow that human cognition is able to improve its learning methods by modifying its own programs (Copeland 2010, 492).

One issue of note is that while Putnam's table of instruction is abstractly universal and capable of being multiply realized by different physical substrates, this organic program can only accommodate the category of electro-carbon organisms. This means that while it is also capable of being multiply realized, such an accommodation is restricted to organic systems and therefore excludes non biological systems. One of the necessary qualities of such an organism is that neural activation is possible given appropriate stimuli. It is only in this category of organism that a mental state is necessary for the production of phenomenal experience. What is done is intended to demonstrate that mental states, as a property of organic systems, are capable of some relevant computational description.

Could Neuroscientists Help Philosophers?

As already opined, if phenomenal experience is causally produced by mental states, then it becomes necessary to inquire precisely how the brain does it. Philosophers, by the very nature of their discipline, may not be able to help themselves in this case. The pertinent question therefore is, can neuroscientists help philosophers? Neuroscientists are not only useful because the scientific understanding of the nature and functioning of the brain is one of their main areas of expertise but also that, by virtue of their training, they are able to subject it to experimentation and investigation which may elicit some reliable observational reports and results. So, if the claim is true, then it is assumed that neuroscientists would be vital in this regard.

However, could neuroscientists actually help philosophers on this issue? To understand how phenomenal experience is likely produced by the neural process, scientists rely on scientific methodology and observational experiments. However, the task at hand seems challenging even in view of the very recent shift of attention to what appears as "perceptual internalism" by neuroscientists. This recent shift of attention notwithstanding, some researchers working on visual perception and brain processes still rely on the assumption of realism or what is called perceptual externalism. An example is (Wang et al. 2020, 145).

Bertrand Russell (1973) popularized a view which has become a contemporary theoretical framework in neuroscience about the problem of perception. Instances of the adoption and development of neuroscience over Russell's view may be found in the works of Pautz (2014), Hilbert and Klein (2014, 299–306), and Buszaki (2019). Buszaki's "inside-out" framework of vision against the traditional realist "outside-in" framework enables him to push for "action-perception" instead of "perception action" procedure. However, this "inside-out" framework, seen as a new-found bride for neuroscience, especially in Buszaki's iteration, tend to hover around (a) "innatism," the belief that the mind possesses some ideas from birth, or Plato's popular "knowledge by recollection." Locke has actually dealt with this area with some arguments against innatism. (b) the point that meaning is in the head. Well, this assumption only has to be strengthened against Quine's position in Quine (1960, 1961), and Putnam (Putnam 1991, 1975a). Another main challenge is that it is not yet clear how Buszaki "inside-out" hypothesis will sufficiently account for the phenomenal experience. That is, how his neuronal action will explain the sweetness or raw experience of drinking Fanta or something of the sort.

The relevant instrumental point is contained in the following excerpt from Russell:

> The observer, now, is supposed to be a physiologist, observing, say, what goes on in the eye when light falls upon it. His means of knowing are, in principle, exactly the same as in the observation of dead matter. An event in an eye

> upon which light is falling causes light waves to travel in a certain manner until they reach the eye of the physiologist. They there cause a process in the physiologist's eye and optic nerve and brain, which ends in what he calls "seeing what happens in the eye he is observing." But this event, which happens in the physiologist, is not what happened in the eye he was observing; it is only connected with this by a complicated causal chain. Thus, our knowledge of physiology is no more direct or intimate than our knowledge of processes in dead matter; we do not know any more about our eyes than about the trees and fields and clouds that we see by means of them. The event which happens when a physiologist observes an eye is an event in him, not on the eye that he is observing. (Russell 1973, 623)

What appears to be the relevant issue here is whether or not a scientific experiment into the human brain or central nervous system may reveal anything. This is because scientists largely rely on computer experiments and investigation which also involves careful visualization and study of the neural mechanisms and actions in the brain. How else do we go about that except by mere speculation? Now, the contemporary hypothesis is that perception is internal and that perceptual experience occurs inside in the brain. Buszaki (2019), hinted extensively at this as a foundation for his "inside-out" framework of perception. Despite some objections towards it, the account is a persuasive one since otherwise the optic nerve and lobe, and impulsive and neural transmission, would have become irrelevant in the brain. Correspondingly, as characteristic of any philosophical position, this Russell's view on perception has been seriously criticized, for example, by Nagel (1966), and Oguejiofor (1994).

The point which arises out of this is that internalism appears insufficient as a background theory to understand how mental state causally produce phenomenal experience. Yet let us consider this model from perceptual internalism. Suppose P1 is the principal investigator, experimenting and investigating the nature of mental states, the movement and firings of the neurons in a typical live organic brain. Suppose further that P1 at T1 reports his findings about how the brain does it. Given that P1 is a human being whose organic system functions perfectly. The question is can P2, another human investigator, understand P1's reports without P2 subjecting P1's brain to a similar experiment at T1 to find out how P1's brain does what it does? Our model suggests the affirmative and this is because perception occurs inside the brain. In other words, at the time of the investigation, P1's brain and perhaps P2, P3, P4 … Pn's brain actually becomes the subject of the study. Buszaki's framework appears to confirm this hypothesis.

However, here is the problem; there must be Pn-1 who also must perform a similar experiment on Pn.

The claim is that, since a neuroscientific experiment involves perception and perception occurs in the brain, the question of how the brain produces phenomenal experience cannot be sufficiently answered. This is because experimentation is unable to provide a sufficient means of addressing the question without leaving a question unattended to. Experimentation is done by subjecting the respective brain to investigative observation. Inductive inference is irrelevant here because of the possibility of peculiarities in the neural mechanisms in every brain. If this is the case, then each investigator's brain would have to be studied. A vicious regress ultimately ensues, and eventually there will always remain some unexperimented brain, Pn-1. The British Neuroscience Association Book identified this problem, but provided no alternative which excluded observation. For instance, for Morris and Filenz, "Second, even if an image on the retina were to send an image into the brain, "seeing" this next image would then need another person to look at it—a person inside the brain! To avoid an infinite regression, with nothing really explained along the way, we confront the really big problem that the visual brain has to solve—how it uses coded messages from the eyes to interpret and make decisions about the visual world" (Morris and Fillenz 2003, 14). However, the pertinent question here is; excluding observation, how do we ascertain the neural mechanism by which a coded message is passed across neurons in a brain? Hence, there will always remain some question unresolved concerning the nature of mental states. Resorting to an inductive description of brain activity will be inadequate given the potential inaccuracy, over or under generalization and then unprofitable speculation. Consequently, this is in line with what Godel's Incompleteness Theory (Buechner 2008), attempts to claim concerning our scientific system.

However, it may be objected that it is not impossible that there is a non-human system, (a computer machine), which may do the study and emerge with an adequate and problem-free account. At that point, it may be assumed that there will be no need to question the perception of a digital computer. To answer, (1) how do we suppose that the result of a digital computer's study of a human brain may adequately answer our question, if at all? However, (2) this may be a sufficient possibility if there is a self-created or self-programmed computer. It is even unclear whether what a self-programmed silicon automaton will find out may not be at variance with what an electro-chemical organism expected. Moreover, (3) computer is a programmed machine and it is expected of a computer to perform what it is programmed and then its result may not be the sort we can adequately rely upon. Rather, the brain of the programmer should be the subject of such a study.

Looking Beyond the Natural System

This conclusion, that some truth must remain unjustified if our scientific system, is to be consistent, perhaps portends a limitation on human cognitive capacity and reason. This, as it stands, extends and affects all of our specific systems. If the entire cosmos is also considered as a system, then it faces a similar limitation; namely, there must be a statement of belief or reality unjustified by the principles of our system. This appears to imply that there is/are some principles and or truths beyond our system. How do we attempt to study what is beyond our cognitive system? This invariably commits us to a domain which is beyond our system. We then face some problem of how to conjecture upon such a principle or reality. It may not be safe to conjecture as to this reality or principle beyond our natural universe. Judging it to be unnatural is even more challenging. How do we make a sense of an unnatural principle or reality by justifying it through the natural? This, obviously, appears to push some scholars to withdrawing from such an otherworldly enquiry. While this may seem to be both convenient and safe, it only puts us squarely between the devil and the deep blue sea.

Let us agree to withdraw from the pursuit of the otherworldly on the grounds that it looks like a methodological disparity. Stenger's arguments thoroughly point to this fact, that we are more at home seeking adequate scientific/empirical explanations and or accounts as ways out (Stenger 2006). But, (1) advancement in science and technology has established some issues. For instance, at present, there has not yet been a self-programmed or self--created computer/ digital machine. Computers are only able to self-improve. Each computer, to this extent, is carefully, accurately and specifically programmed to perform some specified tasks. Consequently, it follows that there cannot be a system without an antecedent program which the system properly and accurately implements. By extension, the physical parts of nature, the cosmos, appear to implement some programs. Natural phenomena such as the weather, natural uniformity, natural processes such as growth, dying, breathing, and others, are accurate and physical implementations of some carefully structured program, as it is questionable to think that they are product of arbitrariness. If Nature could not have programmed itself as a system, then this, again, points to an external programmer.

Stenger's overdependence on scientific and empirical judgment, as the only basis upon which he rejected God's existence, is highly suspicious. For instance, consider, "A God who provides humans with important knowledge that they cannot obtain by material means should have produced testable evidence for his existence by now. He has not. The evidence points to the opposite conclusion. We can say with some confidence that such a God does not exist" (Stenger 2006, 173). For one, science, even scientific verdicts, have had to be altered given stronger evidence(s) over time. This assumption that science has confirmed all information and data there is to know about our universe is also disturbing. In philosophical reasoning, however persuasive and conclusive a position seems at a time, it does not foreclose the potential for a superior or more viable argument. How much information or data have we yet to learn about the universe to enable a conclusive verdict! The universe is still here, and research is ongoing. For the other, over-romanticizing empirical confirmation or disconfirmation as the only yardstick for judging reality and truth may only blur and or preclude ones sense of enquiry from actually conjecturing and searching for another methodology that may be available. This statement on (p 180) is challenging. "The few mention of 'Christus' in the pagan literature, decades after Jesus's death, do not provide the needed confirmation." I ask, "needed confirmation" to who? Is it to Stenger, who has constricted his enquiry to empirical science alone or to the body of open-minded and advancing researchers? Nature is so complex and the state of our knowledge so advanced that, coupled with a very, very complex entity called the "human brain", such that it may be possible for two researchers to generate enough data to uphold a conflicting, and in fact, contradictory, positions. This is reminiscent of "Kantian Antinomy" and is a part of the power which the human brain is endowed with.

(2) Moreover, what is referred to as empirical fact, evidence, and judgments are the best that human brains have been able to cobble together at present. However, who tells us that we are absolutely or even correct at all in the labelling? In the meantime, arguing that convenience and simplicity compels us to accept those is itself questionable. Whether "convenience" is convenient or "simplicity" simple in this sense is another critical issue! The point is that there is a need to tread with caution. Besides, human frailty and limitations may subtly dissuade us from placing too much trust in our absolute judgment, which after all is only a product of the human brain. Our brain is subject to something like irrational rationality. That is, we are rational in holding a persuasive belief which is supported by the strong argument that something is the case at a particular time, only to discover a moment later that there is a point we actually fail to take note or adequately consider. Another pressing question is whether there

is natural but unempirical evidence or data in nature (that is, which may not be understood by the present scientific methodology)? Are there other scientific approaches to natural issues besides the present and favored one? These, again, are metaphysical questions tailored to challenging our subtle dogmatism. Any judgment on this, however, must be done cautiously.

However, let us now grant that there is an otherworldly reality, principle or what have you. (1) Whatever can influence a system is also expected to possess some properties of a system and this is true of the relation between man and digital computer. The otherworldly reality or principle is also expected to possess the properties of a system. If this is correct, then such system (reality and or principle) must also rely upon external means of justification for it to be consistent since it cannot be self-justified. But, how can such a justification be sufficiently explained? (2) A question which is particularly relevant is the following: how can phenomenal experience, (which is natural), be influenced by an otherworldly non-natural reality? No otherworldly reality may be able to control my phenomenal experience except he, necessarily, possesses my nature. It appears inconsistent to argue that an otherworldly reality, beyond the universe, possesses natural property. Defining an otherworldly reality in terms of religious properties such as "Omnis," does not seem to help the problem. The safest conclusion here, perhaps, is that there may be some hidden secrets yet to be discovered in the universe.

CONCLUSION

This article has advanced the possibility of a biologically implementable program which accounts for phenomenal experience as a necessary property of a mental state. The paper notes that since the complete nature of the brain is yet to be understood, an insistence that phenomenal experience is an irreducible element in the brain will certainly appeal to ignorance and beg the question. The research has shown that the question of the nature of phenomenal experience is aptly reduced to a how question. A question which remains is how the brain actually does what it does. What this research makes clear, consistent with both variants of naturalism, is that phenomenal experience is a function of mental states, where a mental state is a functional process of the whole organic system. Further, the paper has argued that neuroscientists are relevant in addressing the how question. However, it has been opined that the phenomenal internalism which is the theoretical basis of contemporary neuroscience may not really help. This is in view of Russell's position that perception is internal and not external. It is contended that the neuroscientist may not be able to successfully account for the how question without leaving at least one issue unaddressed. This invariably raises the issue of an otherworldly reality or principle. It is submitted that relying upon our present system of reasoning, (for what else do we have?), conjectures an otherworldly reality which does not appear to lead us forward. Withdrawing to our cosmos requires us to tread with caution but in the hope that it will eventually lead us forward.

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