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A Rylean revision to biological naturalism

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ABSTRACT

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by Timothy E. Kunke

This essay is a contrasting of John Searle's biological naturalist view of the mind with Gilbert Ryle's deconstruction of the problem of mind-body interaction. These two positions are most uniquely suited for this purpose since, together they constitute the best positive theory and criticism of the same problem. It will be argued that consciousness - a feature of human experience which proves to be one of the most difficult to account for, from the perspective of the naturalist can be regarded as a dispositional attribute of a complex biological organism. Considered as such, it is what Searle would term a causally-emergent-system-feature. This thesis will focus on a single modification that needs to be made to make John Searle's theory consistent with his own criticism of the traditional mind-body problem and sensitive to the devastating criticism that Ryle formulated in the first half of the twentieth century. The biological naturalist's explanation for the occurrence of conscious states must assume a post-Rylean perspective on the problem of interaction and must be consistent with the notion of "conscious awareness" as a dispositional attribute.

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Introduction

The "Hard" Problem

The problem of mind-body interaction has been chiseled away and boiled down by a battery of arguments and criticisms throughout its tenure in philosophy. For the contemporary philosopher it has taken on a more refined formulation. C. D. Broad, one of the early materialists to begin framing the problem in its new fashion observes:

> It is clear that in no case could the behavior of a whole composed of certain constituents be predicted merely from a knowledge of the properties of these constituents, taken separately, and of their proportions and arrangements in the particular complex under consideration. (1925)

David Chalmers puts the problem in terms of *experience*. For Chalmers, the problem is explaining why we have *experiences* in the first place. He says,

> It is widely agreed that experience arises from a physical basis, but we have no good explanation of why and how it so arises. Why should physical processing give rise to a rich inner life at all? It seems objectively unreasonable that it should, and yet it does. (1995)

The problem Chalmers and Broad are speaking of has evolved into what is known as the "hard" problem of consciousness; it is the problem of explaining *why* we have conscious experiences. However, the problem of consciousness

under its current formulation is by no means new or unique to the world of analytic philosophy. Consider the following quote from Nietzsche:

> The problem of consciousness (more precisely, of becoming conscious of something) confronts us only when we begin to comprehend how we could dispense with it; and now physiology and the history of animals place us at the beginning of such comprehension (it took them two centuries to catch up with Leibniz's suspicion which soared ahead). For we could think, feel, will, and remember, and we could also "act" in every sense of that word, and yet none of all this would have to "enter our consciousness" (as one says metaphorically). The whole of life would be possible without, as it were, seeing itself in a mirror. Even now, for that matter, by far the greatest portion of our life actually takes place without this mirror effect; and this is true even of our thinking, feeling and willing life, however offensive this may sound to older philosophers. For what purpose, then, any consciousness at all when it is in the main superfluous? (The Gay Science, Book V, Section 354)

Nietzsche, a philosopher most of us might least expect to talk about the "hard" problem, finds exactly the same problem with consciousness. His question is about what purpose consciousness could possibly serve if it is not even necessary for the daily activities of animal life. As we can see the "hard" problem is recognized as a problem not only by materialists and analytic philosophers.

Even though the problem of explaining consciousness has been known and addressed by many philosophers for quite some time, in contemporary debates it is the formulation that David Chalmers has given to the problem that has gained prominence. It is both fortunate and unfortunate that a single formulation for this complex problem has virtually been adopted by everyone, but it does have its uses. Chalmers identifies several problems that seem to be related in one way or another to consciousness and classifies them into the "easy" and "hard" problems. For Chalmers, the easy problems include: the ability to discriminate, categorize, and react to environmental stimuli; the integration of information by a cognitive system; the reportability of mental states; the focus of attention; the deliberate control of behavior, et alia. These are the "easy" problems because we can, in principle, provide a functional explanation or describe the specific mechanism(s) for these types of conscious states.[1] The "hard" problem, as mentioned above, is explaining *why* any of these acts are accompanied by or constitute an *experience.*

Chalmers (1995) asks the question as such: "Why is it that when electromagnetic waveforms impinge on a retina and are discriminated and categorized by a visual system, this discrimination and categorization is experienced as a sensation of vivid red?" However, a careful reader might ask

[1] Classifying these functions as "easy" is not intended to imply that there is not a formidable challenge in actually providing the causal explanation, or finding the mechanism at work. In fact, it is debatable whether or not we can, in principle, provide such explanations for some of the "easy" problems of consciousness.

what exactly is meant here by "red." He certainly cannot mean, without complete circularity, those specific electromagnetic waveforms, or those waveforms actually impinging on a retina. Since, if he meant by "red" simply "those electromagnetic waveforms that impinge on a retina," the question would not make any sense. Thus, when Chalmers asks this question it seems he is assuming that there is something more; there is something other than the waveforms and their interaction with a retina. What he must mean is whatever else there is that is not *that*.

Chalmers is referring to the fact that there is "something it is like" for a subject to be in that state. In other words, there is something it is like for someone to have their retinas impinged upon by specific electromagnetic waveforms. We can call this having the *experience* of red. This is not just a case of blind physical events occurring. Rather, the opposite is often the case. Assume that the red is coming from a stoplight in this case and you are fast approaching it. If all that were happening were certain physical events, such as electromagnetic waveforms impinging on retinas, then why would you stop? Is there something about certain electromagnetic waveforms hitting a retina that necessitates stopping the vehicle? The answer is, no. The reason why one stops is because one experiences it as "red" and red means stop. This can only be possible if there is "something it is like" when certain electromagnetic waveforms impinge on one's retinas. That is to say, it is only possible if there are

experiences of red. The "hard" problem of consciousness is thus, explaining *why* there is something it is like to have such sensations.

One objection to consider here is that there is no reason to suppose that there is anything left to explain after we have explained all of the physiological processes required for a given *conscious* state. In other words, one could be an eliminitavist about qualia (i.e., that "something it is like" quality) and ultimately hold that there is no real "hard" problem of consciousness. Rather, there are just a series of very challenging neurophysiologic problems.[2] However, the qualia of a *conscious* experience cannot be strictly determined by physiological states alone. I would challenge the eliminitavist position with the following example.

Consider the dentist who performs oral surgery without offering any anesthetics, but only hypnotic suggestion.[3] Imagine having a root canal surgery performed on you while merely being hypnotized and told that what you are feeling is not painful! In this case the patient is told that the sensations he is feeling are just dull proddings by the dentist with his tongue depressor and that the noise of the drill he hears is really coming from some electronic devices in the background, perhaps on the other side of the room. Here we have a case where what normally would be an excruciatingly painful sensation is not perceived as being painful at all. And the patient is conscious of his bodily sensations while

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[2] See Dennett, *Consciousness Explained*, Part III, Chapter 12.

[3] Such dental practice actually exists. In fact, USC has recently incorporated a course on the role of hypnosis in dentistry.

the surgery is being performed. Had the patient not been hypnotized nor anesthetized that very same sensation would have been perceived as awful pain. What this at least shows, and perhaps constitutes empirical evidence for is the fact that there is an asymmetry between mental phenomena (i.e. the felt pain, or non-pain sensations) and the physiological states that also occur. Thus, mental phenomena cannot be strictly determined by correlating physiological processes of the body.

Of course, the eliminitavist could reply that there still really is nothing over and above the physiological processes; we simply do not have adequate knowledge of the chemistry or neurology of the brain to explain why such qualitative features accompany certain processes. In other words, we cannot rule out a priori the possibility that mental phenomena causally supervene upon certain physiological processes. The fact that we do not currently have an explanation certainly does not imply that there is no explanation.

However, even if this objection is valid and there is a causal explanation for the occurrence of mental phenomena, this still does not explain *why* they occur. Even granting the optimistic claim that we will one day discover the mechanisms behind the generation of pain sensations, we still do not have a physiological reason for why they even occur. We at least acknowledge that our experiences are qualified for us as *our* experiences, and that there is something it is like to have such experiences for each of us. So, even if our physiology can

explain the mechanism behind every thought, we still do not have an explanation as to *why* they are even physiologically important.

Biological Naturalism and the Rylean Criticism

John Searle's theory of biological naturalism states that mental phenomena are features of the brain, specifically, higher level neurophysiologic features. For the biological naturalist consciousness is a property of neurons, or systems of them. The theory attempts to be a completely physicalist picture of the world, holding that our entire mental lives are simply exotic, emergent features of ordinary matter. To be more specific, it is the unique causal powers that systems of neurons have that are solely responsible for the emergence of conscious states, or mental phenomena in general. Searle holds that consciousness and the qualia of conscious experiences are just as real as the neurons that give rise to them; they are simply higher level or emergent properties of them.[4]

In terms of explanatory seduction, this theory is very attractive. For the biological naturalist, an explanation for mental phenomena can, in principle, be provided. Holding that mental phenomena are perfectly natural, yet emergent

[4] Emergent properties can be thought of as any property of an object or system of objects that is not properly attributed to the parts of that object or system. An example is something like the "wetness" of water or the shape of a wine bottle. The molecules of water themselves are not "wet" in any sense of the word, nor are the molecules of a wine bottle "shaped" like the bottle itself; these features are emergent upon the microstructure of the objects.

features of the brain, they can claim that we simply do not have the causal explanation worked out yet. However, the explanation exists and will eventually be found. We just don't have it yet. And why not hold this view? There are plenty of cases in the history of science where our predictions have actually turned out to be true. We don't need to be overly skeptical here. We understand fairly well how other emergent properties, such as *wetness* and *solidity* arise from the microstructure of the substances that have them. How water can be "wet" or an ice cube can have a certain shape is perfectly understandable in terms of the causal interactions of water molecules. So, why should consciousness pose such a peculiar problem?

Biological naturalism is a theory that attempts to answer the "hard" problem of consciousness. To answer the problem of consciousness is essentially to answer a refined version of the traditional mind-body problem of interaction. Thus, the criticisms that applied to the traditional mind-body problem, apply in this case. It is my contention that any account of consciousness and thus, an account of the mind-body problem of interaction, must be mindful of Gilbert Ryle's criticism of the problem. Searle himself is mindful of this criticism and even makes many of the same points as Ryle on several occasions.[5] They are both extremely critical of the traditional concepts in the philosophy of mind, specifically those corresponding to the terms "mental" and "physical." They are

[5] See Searle, *The Rediscovery of the Mind*, Chapter 2.

suspicious of the traditional framing of the problem of interaction as well. For both Searle and Ryle, the term 'mental' does not necessarily refer to something "non-physical." It is this criticism that allows Searle to make the claim he wants to make, namely, that mental phenomena are perfectly natural biological phenomena. They are just higher level features of the neurological system of the brain, which does not imply that they are not real features of the physical world.

Ryle's central criticism of the mind-body problem was that at bottom both dualism and materialism make the same category mistake in their ontological classification of the mental. Ryle argued that the error was based on the misconception that, "Minds are things, but different sorts of things from bodies; mental processes are causes and effects, but different sorts of causes and effects from bodily movements."(1949) Minds and mental entities are construed as being something necessarily non-mechanical or non-physical. Ryle often referred to this view as the "para-mechanical hypothesis." (1949)

For Ryle, mental states or occurrences should be described in terms of the behavior or dispositions to behave of the person whose mental states one is describing. Thus, to say that one believes that it is raining outside is not to reference some "mental occurrence" or something non-physical about the person. Rather, it is simply to claim that if that person is about to go for a walk, they will take their umbrella with them; or, that they will shut the window to keep the rain from pouring in, et cetera. Our "mental" terminology refers to

specific ways we engage the world - but *this* particular, physical world. Though we do not need to be motivated by Ryle's criticism all the way to a completely behaviorist theory of the mind, we should accept his criticisms and take them as seriously as possible.

Since there are improper ontological classifications for the mental, as Ryle has pointed out, this implies that there are proper classifications. If we take the Rylean criticism seriously, then we must abandon antiquated concepts and adopt new ontological categories for describing and analyzing the relevant mental phenomena. The first thesis that comes as a direct result of Ryle's analysis is that the relevant mental phenomena must not be considered ontologically, in substantival terms. As such, we should regard the "mental" as something relational, processoral or functional in nature and never as "entity-like" or substantival. If we use the term 'mind' in a substantival way, it is for the purposes of colloquial speech.

The second thesis that needs to be understood as imposing a kind of conceptual constraint upon our theorizing is that, since much of our terminology for discussions on the mind is based on antiquated concepts, much terminological revision is required. John Searle makes this exact point, which amounts to a Rylean criticism on the orthodoxy of the mind-body problem. He states:

> It is customary to think of dualism as coming in two flavors, substance dualism and property dualism; but to these I want to add a third, which I will call *conceptual dualism*. This view consists in taking the dualistic concepts very seriously, that is, it consists in the view that in some important sense *physical* implies *nonmenta*l and *mental* implies *nonphysical*. Both traditional dualism and materialism presuppose conceptual dualism, so defined. It is the form of dualism that begins by accepting the Cartesian categories. (1992)

The basic point here is that we cannot admit as adequate, concepts that do not reflect our general knowledge of the world. The contemporary philosopher knows that there are problems with the traditional concepts of "physical" and "mental," as he knows that there are problems with the old epistemologist's concept of an "idea." Therefore, we must revise these concepts; we must allow room for modification and revision within our general conceptual framework.

It is held by many that the problem with biological naturalism is that Searle proceeds to ultimately make the same mistake that he and Ryle are critical of by basically espousing a form of property dualism, since it is just a simple fact for Searle, that there are irreducible "mental" phenomena. Unfortunately, this requires what Ryle termed the "para-mechanical" hypothesis to explain how mental phenomena occur or come about, which poses the problem of interaction all over again.

Since both Ryle and Searle seem to approach the problem from the same perspective and critical standpoint of the traditional concepts involved, we can hold the following. There are two theses that both Ryle and Searle hold in the background. Firstly, they both hold that conceptual dualism is false. Both philosophers' critique of the traditional terminology and conceptualizations assures us that they hold this thesis. Secondly, they jointly hold that the para-mechanical hypothesis is false. In other words, there is no non-physical entity or mechanism that accounts for the occurrence of mental phenomena. Thus, if we are to offer a revised version of the biological naturalist account of consciousness, we should offer a more honest and accurate *Rylean* revision of the theory.

If we want to be certain to avoid the charge of property dualism in biological naturalism, we must adhere to the conceptual modifications we have made to the problem of consciousness that both Searle and Ryle have suggested. The biological naturalist must be more sensitive to the original criticism that he makes to the traditional mind-body problem of interaction and thus to the "hard" problem of consciousness. The goal of this paper will be to sketch out a possible revision to biological naturalism that adheres more stringently to the Rylean-Searlean criticism.

Statement of the Thesis

The central thesis for this paper will be the following. If we recognize the Rylean criticism as generating certain conceptual constraints and terminological revisions for any treatment of the problem of interaction, then there is one essential modification that can be made to biological naturalism that will allow us to frame the "hard" problem of consciousness more accurately. Contrary to the popular view, if we accept the Rylean criticism, we do not end up with a behaviorist theory of mind. I hope this paper might show, as an ancillary point, that the correct theoretical outcome of the Rylean criticism is a specific version of *biological naturalism*.

I will argue for a very specific modification of a key problematic claim in Searle's theory. The argument will show that dispositional attributes of a complex biological organism, such as human beings, can be regarded as causally-emergent-system-features (CESF). Conscious awareness is a dispositional attribute and thus can be regarded as a CESF. I will show that, as the neurological features of the brain are inadequate for the emergence of conscious awareness, the entire biological organism while in sensory contact with its environment is sufficient. As such, any level of sensory awareness that can be attributed to such an organism can be considered as a CESF. Consciousness,

considered as a heightened level of sensory awareness satisfies the necessary conditions for being a CESF of the organism as a whole.

At the end of the essay there is an appendix in which I offer a conjecture on the generation of what I call the "phenomenal self" and the role that qualia might play in enabling specific cognitive capacities for an organism. It will be suggested that this notion of the phenomenal self is absolutely critical to any theory of consciousness and its origin must be considered before an accurate account can be given. Furthermore, I submit to the reader that considering qualia as a necessary condition for the possibility of specific forms of cognition intimates a possible functional explanation for consciousness and thus a potential solution to the "hard" problem of consciousness

Problem: Is Consciousness Realized in the Brain?

One of, if not the main, tenet of biological naturalism is that consciousness is an emergent feature *of* and is realized *in* the brain. In fact, the theory is centered on this very claim, and it is precisely this claim that Searle thinks makes his theory specifically, a *biological* naturalistic account. Consciousness is a perfectly natural biological phenomenon, the result of a complex neurological system of a highly developed brain. He is careful to explain that conscious states are not identical to neurological states, but are higher level features or emergent

properties of the neurological features of the brain. Stated as such, this claim constitutes the central problem with Searle's theory.

That Searle thinks that consciousness is a natural biological phenomenon is obvious from his comparison of it to digestion and mitosis. He claims that it is a perfectly normal physiological process no different fundamentally than any other process of the body. This process, consciousness, happens to be realized in the brain. Just as digestion is realized in the digestive system, respiration in the respiratory system, reproduction in the reproductive system, consciousness is realized in the neurological system of the brain.

What specifically differentiates biological naturalism from other forms of materialism according to Searle is that it is perfectly acceptable to hold that mental phenomena are physical characteristics of our world. They are higher level features of the neurological system of the brain. The brain is what *has* the feature of consciousness. Searle states:

> Feeling thirsty, having visual experiences, having desires, fears, and expectations, are all as much a part of a person's biological life history as breathing, digesting, and sleeping...all of these are conscious experiences that everyone has as a normal part of their lives. (1984)

He claims that, "Intrinsic intentional phenomena [conscious phenomena] are caused by neurophysiological processes going on in the brain, and they occur in and are realized in the structure of the brain." (1984) He further adds that,

> We do not know much about the details of how such things as neuron firings at synapses cause visual experiences and sensations of thirst; but we are not totally ignorant, and in the cases of these two intentional phenomena we even have pretty good evidence about their locations in the brain. (1984)

We must challenge this claim for two very good reasons. First, it is not clear how he can avoid the homunculus fallacy, that is, that there must be *someone* for whom consciousness exists, and if it is realized in a brain, then it isn't necessarily realized for anyone, unless there is *someone* in the brain somewhere. Secondly, claiming that the brain is what has consciousness simply does not match up with our ordinary language treatment of the concept of consciousness, nor does it match our common intuitions about what things actually have conscious awareness. There seems to be a basic mereological error in stating that consciousness is a property of a brain and not exclusively of a person.

Non-Neurological Components of Consciousness

Searle's claim, that consciousness is realized in the brain, amounts to claiming that the brain is sufficient for the emergence of consciousness.[6] I will be

[6] In all fairness, Searle would not assert this exact claim. Just because a creature has a brain it does not follow that the creature is conscious. Searle could simply claim that the brain alone is not sufficient, but the entire central nervous system is required. However, even if we extend the meaning of the claim to include the entire central nervous system, the objection being raised here still stands, since, as it will be shown, even the entire central nervous system is not sufficient for consciousness.

concerned here to show that this is false, that consciousness is not realized in the brain, nor can it be regarded as an emergent property of it. The argument will trade on the fact that whatever objects or system of objects a property or feature is realized in must at least be sufficient to bring about or give rise to such a feature. If it were not sufficient, then the feature could not be justifiably predicated of that object or system.[7] Thus, to show that the brain or any complex neurological system is not sufficient for the emergence of consciousness is to show that consciousness is not realized in the brain.

The specific tactic I will employ here will be to show that if qualia, or the subjectively-qualified-features that are essential for every conscious state are not exclusively determined by the brain, but by other factors instead, then the brain cannot be sufficient for consciousness. Stated differently, if mental phenomena (thoughts, feelings, desires, etc.) are realized in the brain, then the brain must be able to account exhaustively for such phenomena, since we cannot justifiably attribute a property or feature to something unless it can exhaustively account for it. If there are other factors however, that can account for such phenomena, then the brain cannot be said to exhaustively account for them.[8]

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[7] This is true even if we hold that the brain or central nervous system is sufficiently complex and has all of the appropriate neurological features and is actually functioning properly.

[8] That something must be able to exhaustively account for some property, in order for that property to be attributed to it is a presupposition of the notion of emergence that Searle subscribes to. The shape of an ice cube, itself an emergent property, is exhaustively accounted for by the specific underlying microstructure of its molecules. Searle's own examples of emergent properties of microsystems are of just this type. See *The Rediscovery of the Mind*, 1992.

If consciousness, or mental phenomena in general, are directly caused by the central nervous system of humans, and other animals such as chimpanzees are conscious, then it stands to reason that the central nervous system causes their conscious experience as well. Thus, the qualitative difference between human conscious experience and chimpanzee conscious experience is due to the unique neurology of the two species' brains or central nervous systems.[9] Clearly we have different brains, and no doubt there are neurological properties of the human brain that chimpanzee brains do not have. However, it is just false that the differences between the brains of these two animals can account for the qualitative differences of each animal's conscious experience.

We might suspect that the difference between the two animals' conscious experiences is specifically due to the brains of each because firstly, we have discovered strong correlations between what occurs at the neurological level and what occurs at the conscious level. Secondly, we know that human brains are physiologically different than chimp brains. But why should we assume that those are the only relevant differences? There are a great number of important physiological differences between the two animals that might play a role in determining the qualitative features of their experiences. How did these get ruled out so quickly? For example, some important differences might be the fact

[9] This is, of course, an assumption, but if any animals other than humans are conscious, chimps rank amongst the most likely candidates.

that humans always walk upright; or, the fact that humans have a greater range of vocalization; or, that chimpanzees have opposable digits on their feet. We simply cannot ignore the obvious fact that being able to grasp a tree branch with one's foot, vocalizing words of English, and running a marathon are qualitatively unique kinds of experiences. Chimps will never know the last two and humans will never know the first.

To add to this point, let us consider further that there are non-physiological differences that might come to bear on the quality of conscious experiences, such as environmental differences. Imagine a case where identical twins are separated at birth, one being raised in Manhattan and the other raised in the wild with a troop of chimpanzees. Are we going to say that what it is like to experience vivid red is not even slightly qualitatively different for the two of them? Searle must answer this in the negative. He states that:

> To take the famous brain-in-the-vat example, if you had two brains that were type-identical down to the last molecule, then the causal basis of the mental would guarantee that they would have the same mental phenomena. On this characterization of the supervenience relation, the supervenience of the mental on the physical is marked by the fact that physical states are causally sufficient, though not necessarily causally necessary, for the corresponding mental states. (1992)

For Searle, the qualia of each child's conscious experience of vivid red must essentially be the same. However, this completely ignores the fact that experiencing it may have come to mean radically different things for both, such that, there could be completely different behavioral responses, and even cognitive or neurological differences associated with the same stimuli for each child. In the most relevant sense of the phrase, for these two children, *what it is like* to experience vivid red is quite different indeed.

The biological naturalist should, in fact, hold the direct opposite of the claims quoted above. He should hold that *physiological* states are causally *necessary* - which is what makes this a *biological* account, and that they are not causally *sufficient* - which is what avoids the problem of property dualism. I will elaborate more on this last point later in the essay.

The biological naturalist must admit, at least as plausible, that the qualia of an experience, which is the defining characteristic of consciousness, might just be different for the human isolated in the chimp world. Furthermore, the qualitative difference in a chimpanzee's or even a bat's experience, as compared to an adult human's is directly due in some part to physiological differences other than the brain; for the bat, the sensory faculty of echo-location is such a factor, for the chimp an opposable digit on the foot. We simply cannot conclude that the brain *causes* mental phenomena, if we mean by "mental phenomena" the *qualia* of conscious experiences.

As the examples above indicate qualia are quite often determined by specific macro-physiological features of the organism along with the peculiarities of the organism's immediate environment. Thus, the brain, in many conscious experiences, does not account for such phenomena. In fact, it is not even plausible that it should, in the cases mentioned above. Clearly, the qualitative difference between being able to grasp a tree branch with one's foot and not being able to do so is due to the presence of an opposable digit on the foot. The specific neurology of the brain seems almost completely irrelevant or at best gratuitous in this case.

There are possibly many different types of factors that determine the qualia of a given conscious experience, only part of which are the neurological properties of the brain. In recognizing this point, we can see the prematurity of Searle's claim that mental phenomena are *caused* by the brain. Brains, like other physiological features of an animal and the specific features of the animal's environment are only, by themselves, components of conscious experiences and should not be taken to be sufficient in-themselves, for its emergence.

Searle's claim that mental phenomena are higher level features of the brain essentially states that the relation between the brain and conscious states is a supervenience relation. More specifically, it is a *causal* supervenience relation, where any modification in the mental phenomena necessitates a modification in the underlying physical phenomena. Many criticisms of biological naturalism

focus on this very point.[10] Searle emphatically holds that consciousness is *causally* reducible, since it is the causal powers of complex systems of neurons that *cause* the emergence of conscious phenomena.

Some think that Searle's notion of supervenience is untenable and that the relevant form of supervenience involved here is not *causal*, but perhaps *constitutive*. (Kim 1995) Searle very quickly dismisses this type of supervenience since he is so certain that consciousness is a perfectly natural biological phenomenon, and apparently for him the only way this can be is if conscious states are directly caused by underlying neurological processes. While I believe this debate[11] will eventually be fruitful, Searle's position fails independently of it, since we are simply not warranted by any empirical evidence or on any a priori grounds to claim that neurological properties of the brain alone are sufficient for the emergence of consciousness.

Consciousness simply is not ascribed to brains, and whatever we do actually attribute consciousness to, had better be something that can do all the things we normally think of as being done consciously. Brains do not fill this need. The brain alone is not sufficient for conscious awareness or any level of awareness at all. Brains simply are not aware of anything. To make this claim is ultimately to make a mereological error in the attribution of conscious

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[10] See Jaegwon Kim, 1995.
[11] For detailed discussions of this debate see Kim, 1995; Garrett, 1995; and Senchuk, 1991.

awareness. Searle's claim is one which Ryle would adamantly oppose. To make such an ascription would simply be to misspeak or misunderstand the concepts involved. As Ryle puts it, "It would be similarly absurd to speak of 'my head remembering', 'my brain doing long division', or 'my body battling with fatigue'." (1949) We are essentially making a mereological error in claiming that consciousness, that is, mental phenomena in general, are emergent properties of the brain. A simple analogy will help elucidate the idea further.

Consider an automobile as a complex system for a moment. Obviously there are major differences between an automobile and a human being, but for the sake of simplicity we can consider them analogous for the simple fact that they are both systems of a certain degree of complexity. Let us consider that "driving" is a property or feature of the automobile, and that there are many elements that must be present and many events that must transpire in order for the property of "driving" to be attributed to the automobile.[12] For example, there must be spark plugs in the engine (obviously were talking about a gasoline, internal combustion engine here). Without the presence and proper functioning of the spark plugs the automobile will not drive. We could in this case, consider further that "driving" is an *emergent* property of the automobile, and that there is

[12] To be more specific, by driving I mean at least the "directed locomotion of the car, under normal conditions by a driver." One might initially resist this definition by saying that it is the *driver* that is "driving" and not the automobile. However, the *driver* is not just "driving", he is "driving the car." And for the purpose of clarity we shall make the distinction between the car, simply moving under the influence of some force not due to the driver as not being a case of "driving," and being under the influence of a force due to the driver's actions as being a legitimate case of "driving".

a series of causal events that occurs which ultimately leads to the emergence of "driving". The functioning of the spark plugs is one of these events and as such it is a necessary condition for "driving".

However, it would be fallacious to conclude that the presence and functioning of the spark plugs were sufficient for the emergence of the property "driving", since there are a multitude of other elements and events that are required for the automobile to drive. We would also be mistaken if we thought that the property of "driving" somehow was an emergent feature of the spark plugs, or any other component of the automobile for that matter. Even if, the only necessary condition for "driving" to emerge was the presence and proper functioning of the spark plugs it still would not follow that "driving" is an emergent feature of the spark plugs.

Dispositional Attributes are Causally Emergent System Features

The question we are left with is: What are the sufficient conditions for conscious awareness if the neurological properties of the brain are only a component and by themselves are insufficient? To answer this question let us begin with Searle's technical definition of consciousness. Searle refers to consciousness, or any mental phenomenon, as a causally-emergent-system-feature (CESF). What he means by this is that conscious phenomena, such as the

painful feeling of a toothache, or the excitement one gets from hearing that they have won the lottery are really features of the complex system of neurons in the brain. The term to focus on here is 'emergent', and it should be understood that while conscious phenomena are features of the brain, they are "higher level" features of the neurological system of the brain.

I will argue here that Searle's claim is correct, that consciousness is a CESF. However, if the brain or the neurological system of the brain is insufficient for the emergence of consciousness, we must ask what system is consciousness a feature of? I stated earlier that Searle's supervenience claim is problematic. It is not warranted by any empirical evidence. At best we have only a set of correlations between specific neurological data and psychological data. And correlations are not explanations. What is warranted by empirical evidence is the fact that nothing short of the entire organism and its contact with its environment must be considered to account for conscious experience.

The motivation for claiming that consciousness is causally reducible to the microstructure of the brain is the same motivation for holding that consciousness is a completely natural biological phenomenon. We want to show that consciousness is reproducible, in principle, and that it has a perfectly normal physical-causal history. Consciousness is not the result of some spirit or ghostly-immaterial substance. Rather, there is a straightforward causal history that leads up to each specific conscious experience. In other words, there is a naturalistic

explanation for the occurrence of consciousness. I believe most of us who are inclined to give a scientific explanation of most phenomena tend to believe this in one way or another. This belief is perfectly understandable but we should not be led to believe that a causal reduction of consciousness will yield anything simpler than what is being reduced. More than often it is the case that a surface simplicity only masks the true inner complexity of a phenomenon. We may have to admit that in the case of conscious awareness we have a serious case of inner complexity being masked.

It should be fairly clear, that since we cannot attribute consciousness to neurological systems themselves, but only to the entire organism, more specifically a person, we must mean by this that conscious awareness is a CESF of the whole organism. From the Rylean perspective it makes sense to claim that consciousness is a CESF, since consciousness is a level of awareness, and awareness is a dispositional attribute for Ryle. In turn, a dispositional attribute, of an incredibly complex biological system, such as a human being, more than adequately satisfies the conditions for being a CESF. Thus, dispositional attributes of the organism can be regarded as causally, emergent features. Thus far, this is perfectly acceptable in Rylean terms.

An immediate objection should be fairly obvious at this point however. A crucial component for Searle's theory is that consciousness is a *causally* emergent feature, that is, it is *caused* by the underlying physiological phenomena. For Ryle,

there is no such causal relation. In fact, speaking this way about the relation between the mental and the physical is precisely the category mistake that Ryle would like us to avoid. So, how can we claim that conscious awareness is a *causally* emergent feature without asserting the para-mechanical hypothesis or some problematic supervenience relation? We can make this claim because we do not mean by claiming that conscious awareness is a causally emergent feature that there must be a *sufficient* cause for every mental phenomenon.

We have already abandoned that line of reasoning by asserting that the para-mechanical hypothesis is false. What we mean is that there are a series of events that are causally related to one another that precedes the emergence of any specific conscious state. Simply because there is no sufficient cause that we can point to as being the causal link between some blind physical phenomenon and a specific mental phenomenon does not mean there isn't a series of specific causal events without which that specific conscious state would not emerge. There is no incompatibility between the emergence of mental phenomena and the lack of a sufficient cause for those phenomena. Conscious awareness can be a causally emergent feature and have no sufficient cause for its emergence, since dispositional attributes have no sufficient causes, and consciousness, considered as a level or degree of awareness is a dispositional attribute.[13]

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[13] Even philosophers such as Daniel Dennett, himself a former student of Ryle's, have suggested something similar to this approach. See *Consciousness Explained*, pg. 388.

Qualia are the Features of the World Itself

It is often claimed that an important and essential feature of consciousness is that it is always qualitative. Conscious states always have a unique quality to them that identifies them as that particular conscious state and only that state. For example, there is a unique qualitative aspect to "seeing a bright red light" and "tasting a fresh-picked apple"; and we do not confuse the two with each other. We do not have the *experience* of "tasting a fresh-picked apple" when we look at a bright red light. To claim that conscious states are always qualitative necessarily involves the notion of subjectivity and often enough, philosophers will hold the claim that conscious states are by necessity subjectively, qualified states.

In light of this virtually ubiquitous claim about consciousness let us pose the following question. Is a given conscious state subjectively qualified in virtue of just being a *conscious* state? Or, is a specific cognitive act or sensation a *conscious state* in virtue of being subjectively qualified? Which is the result of which? The typical position on this is to claim that qualia are essential to consciousness, and that is at least one way to differentiate between conscious and non-conscious states; there are qualia present in the former and not in the latter. This may be the case, but it does not follow that the qualitative characteristics of a given mental state are simply due to the fact that it is a conscious state.

Simply claiming that since a state is a *conscious* state, it must have some qualitatively unique features that define it does not tell us anything about the origin of those features or why they are necessarily involved in consciousness. If qualia are not strictly determined by the neurological features of the brain, but are determined by many other factors, such as environmental and other macro-physiological features of the body it is plausible that a conscious state is subjectively qualified simply because the sensations involved in that state are qualitative. There is a specific quality to each sensory stimulus that arrives at our sense organs, since this is required to even differentiate the particulars of experience. In fact, sensation could not fail to be qualitative, since this would imply that there are no qualities in the world to sense. So, why would we hold that conscious states are inherently qualitative, and mean by this, that this is something uniquely characteristic of consciousness alone, if any given sensation itself is always qualitative, and every act of cognition is always subjective? Clearly, the qualitative features of a given conscious state must at least in part come from the qualities actually sensed in that state, and the subjective feature must be due, at least in part, to the fact that thinking is always done in the first-person. What does claiming that *consciousness* itself is always subjectively qualified add to the picture that is not already present?

It is entirely plausible to claim that conscious states are qualitative not because they are *conscious*. Rather, the case is that some states are *conscious*

specifically because they are qualitative in the first place. It seems the contention that one unique and essential feature of consciousness is that it is always qualified in some way is simply the result of the fact that sensation delivers to us the qualities of the world itself, of which we may or may not be consciously aware. Thus, the qualia of a conscious experience are the qualities sensed in that experience. In other words, qualia are the features of the world itself. How qualia are generated or the fact that consciousness is qualitative is no more or less mysterious than how the world itself has unique characteristics.

Conclusion

It might be objected that after the revision offered above that it is not even appropriate to regard our modified theory as a version of biological naturalism. Do we have a variation on biological naturalism or a new theory altogether different and subject to its own problems and objections, independent of any raised against John Searle's theory? After all the main tenet of Searle's theory, namely that mental phenomena in general are properties of and are realized in the brain has been replaced with something much more complex and less appeasing. If we change a fundamental principle in any theory aren't we thereby creating a new theory?

It is fair to say that what we have now is a variation of Searle's theory and it is also accurate to call it a biological naturalism; for the theory is much greater than any one of its claims, and more importantly it is much more than the set of all of its claims. It is an approach to the mind-body problem. Even though we have modified which system conscious awareness is an emergent feature of, we still hold that consciousness is a perfectly normal biological phenomenon. We no longer hold that conscious awareness is a property of brains, but we still hold that it is at least only found in the biological world. There is no room for any form of dualism, vitalism or panpsychist claims in our theory.

The biological naturalistic approach to these problems is our best and most sensible approach, with the caveat that we hold that consciousness is not a feature of brains, but of persons or selves. The answer to how consciousness comes about is approachable for the biological naturalist, but it must be based on the notion that there need not be a sufficient cause or mechanism that determines a given conscious state. That is to say, consciousness supervenes upon the *macro-system* of the *organism-in-sensory-contact-with-its-environment*.[14] Conscious awareness emerges as a feature of a larger system than the neurological system of the brain, of which the brain itself is actually an essential component and plays a critical role. That system is the entire complex biological organism itself. The advantage of the biological naturalist position is conveyed in the following

[14] Just what kind of supervenience relation this is remains to be seen.

statement. Despite the fact that there is no specific causal mechanism responsible for the occurrence of any mental phenomena, it is still plausible to claim that consciousness is a causally-emergent-system-feature, since it is a dispositional attribute of the biological organism, considered as a whole while in sensory contact with its immediate environment.

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Appendix: Qualia and the Phenomenal Self

Any explanation for why consciousness emerges must start by at least acknowledging that qualia are absolutely necessary for certain forms of cognition. We can do this by minimally accepting that consciousness is that level of awareness (which is generated by sensation) that enables specific types of cognitive capacities for the organism. If we hold that what consciousness refers to is, in a sense, our *awareness*, then we can suggest a tentative definition of consciousness which ultimately will amount to a functional explanation for qualia. Generically, we will define awareness as that function of sensation that serves to enable any kind of cognitive response by an organism to some stimulus from its environment. By cognitive, we simply mean any response beyond a mere deferential response, where some minimal element of choice is factored in.

Searle sketches out a conjecture on the possible selectional advantage that consciousness has for a creature with respect to its evolutionary role in the biological world. In doing so, he touches on this very notion of consciousness playing a crucial functional role. Although his treatment of it is rough the basic idea is there. He says, "...consciousness serves to organize a certain set of relationships between the organism and both its environment and its own states." (1992) He further adds, "...consciousness enables the organism to act on the world, to produce effects in the world." (1992)

So functionally speaking sensation provides the organism with an awareness that enables cognition in general. A state of readiness to act upon and react to the environment is generated by the direct contact of the sense organs with the environment. This state of awareness is absolutely necessary for any organism to be able to cognitively engage itself with its environment, and subsequently itself. The biological naturalist ought to exploit this enabling role of consciousness in his theory, since we can provide a rough sketch of a possible solution to the "hard" problem of consciousness if conscious awareness were considered functionally. Considered in this manner we can, at least tentatively account for the presence of conscious awareness, that is, for the presence of qualia in general. Simply put, it is required for specific types of cognitive acts.

What is meant here by "considering consciousness functionally" trades essentially on the notion of consciousness being that *awareness* that accompanies most of our waking mental states. What is meant is strictly the claim that consciousness, as a degree or type of awareness, is responsible for *enabling*, or making-ready-for specific types of cognitive acts. There are cognitive acts that only beings that are consciously aware can perform, such as, imagining, mocking, wishing, hoping, lying and maybe even believing. Who knows? Without conscious awareness imagining something is an utter impossibility. Without conscious awareness it is impossible to mock someone or lie to them.

There are many cognitive acts whose performance entails a state of conscious awareness.

To elaborate on this point let's look at one type of cognitive act specifically, imagination. And when I say that conscious awareness is required for these types of cognitive acts, I mean specifically that there must be some qualia present or available to the one performing these acts, since we have already established that qualia and subjectivity are the essential aspects of consciousness. So, the intention here is to show that qualia are a necessary condition for the possibility of certain types of cognitive acts, such as imagining; since to imagine something is to imagine what it would *be like* to experience, in an approximate way, what one is imagining. In the case of hoping-for or mocking something the rules are the same, there must be some conscious awareness enabling these particular mental states for the person. But specifically, for imagining to take place there must be some qualitative aspect of some experience that is being thought of or attended to in order to call this a case of imagining.

If someone were asked to imagine that we are all just brains in vats, there may be some internal picturing involved in the act of imagining (perhaps of some tub of fluid and a brain floating in it). There may also be some internal verbalization of the statement as well. But for this to be a case of imagining and not strictly just an episode of picturing something one must create for oneself,

the feeling of what it would be like to be a brain in a vat. This example seems very difficult and perhaps it is even impossible to imagine. We think we can imagine that we are brains in vats, and certainly we can picture all sorts of images associated with this thought, but can we really imagine this? Let us take another example.

Suppose a young child is playing with her dolls and is imagining that she is at school and that she is the teacher going over the lesson for the day. The child is pretending to be a teacher and that her dolls are real people, namely her students. The dolls are attentive and understand what she is saying to them. Perhaps, if the child has a vivid enough imagination some of the dolls are actually *not* paying attention and the child needs to reprimand them for not doing so (she sends them to the imagined principal's office). All of this is being carried out to the effect that the child is creating for herself what it would be like to be the teacher. If there were nothing it is like to have such an experience (i.e. what it is like to be teaching a classroom full of young children), then what could we say about what the child is doing?

It seems any description of the child's behavior would be missing something very important. We could not say that the child is just picturing certain images in her head and saying certain things to her dolls, and perhaps even gesturing in certain ways. To say this would not convey the same meaning of the claim that she is *imagining* that she is the teacher; for she could exemplify

all of the physical behavior of imagining something, as well as carry-out all of the required mental activities, such as picturing or internally verbalizing, and still not actually be *imagining* anything. None of this necessarily constitutes a case of imagining. Thus, we must admit that what is required for it to be a case of imagining is that there is something it is like to experience whatever is being thought of. There must be some qualia to this experience for this type of cognitive act to even occur. And if we deny the reality of any qualia to conscious experience, ultimately we are denying that one can imagine anything.

Being consciously aware in the first place is a prerequisite for having the ability to imagine and pretend, or in general, perform what Ryle would call higher-order operations, such as mocking someone or criticizing someone's actions (they are higher-order operations since they are about other operations already performed). It is also a prerequisite for specific modes of thinking such as, metaphorical, analogical and symbolical thinking. The same requirement that holds for imagination, namely that some qualia accompany experience, holds as well for these modes of thinking. For, how could anyone think metaphorically without ever being consciously aware of anything, or without there being anything it is like for them to be experiencing whatever they are experiencing?

It seems that this quality of experience must be available to a person before they can begin to think, or reason about something using metaphorical expressions. How could one draw an analogy between two different situations

without ever experiencing those situations from a conscious perspective? That is to say, without ever knowing or imagining what it is like to have the experience in some way? Without any qualia to experience, metaphorical and analogical reasoning just seems implausible.

What must be shown is that, since qualia plays an essential role in enabling certain types of cognitive acts, such as imagination and metaphorical reasoning, this constitutes a functional explanation for qualia. In other words, if we do have the capacity to imagine, create metaphors, draw analogies and so forth, then it follows by necessity that some of our experiences must be subjectively qualified, that is, they must be conscious.

It is impossible to explain the existence of qualia without thereby giving an account of the phenomenal self. What is meant here by the phenomenal self, is simply the self as it appears to itself. We all have an image or sense of ourselves as being a certain way. The phenomenal aspect of this, that is the "appearing" fluctuates and evolves over time for each and every one of us. But whatever that "appearing" is in any particular case, is what I am referring to by the phenomenal self. Qualia are inseparable from the phenomenal self, since these two phenomenal aspects of experience logically imply one another. That is to say, it is inconceivable and metaphysically impossible that qualia should exist impersonally, or without a self, and likewise it is equally impossible for a self to exist without any qualitative features whatsoever. This is only a semi-

controversial claim, as many philosophers and scientists[15] hold this view of qualia and the self. However it is a fact that cannot be ignored and should be emphasized in any explanation.

The fact that this mutual implication between the notions of qualia and the self is missing from Searle's theory is a serious oversight. He gives no account as to how qualia and the phenomenal self are related. In fact, he addresses one particular notion of the term 'self-conscious' and quickly concludes that it is for the most part irrelevant and that we can virtually disregard this phenomenon. The problem however, is that his treatment of self-consciousness while merely a cursory analysis in the theory is misguided and based on the wrong concept. What he is ultimately dismissing is based on an irrelevant notion of self-consciousness.

Often self-consciousness is regarded as a form or state of consciousness, in some ways fundamentally different from other forms of consciousness. But philosophers, as is often the case do not come to much of a consensus on the matter. What self-consciousness is, what its function is, how it arises are all answered with a discouraging variety of theoretical accounts. In fact, in ordinary language there are several definitions and meanings for this term and philosophically, to no surprise it is no less confusing or complex a term.

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[15] V. S. Ramachandran is an example of a scientist that holds this view.

The notion of self-consciousness that Searle dismisses as inconsequential is only one specific sense of the term 'self-consciousness' and by no means a critical one for our purposes. It is true, as Searle claims that taken in one sense, conscious states are not always self-conscious. But the sense meant here is one in which we are merely attending to ourselves. My becoming suddenly aware of the fact that I forgot to put pants on this morning, while I am eating at a restaurant (Searle 1992), is definitely a case of being self-conscious, but is essentially just an act of shifting my attention to myself. This is not the important or relevant sense of self-conscious however. It is true that not all conscious states are self-conscious in this sense, but it is also true that all conscious states logically and metaphysically imply a *self*, and consequently imply *self-awareness*. What is the difference then, between self-consciousness and self-awareness?

By the former we can mean exactly what Searle is referring to, simply taking our bodies as an object of our attention. Of course, there are many other senses in which we use the term self-conscious. For example, one can be self-conscious in the sense that they are concerned with their own actions and how they are viewed by other people. But this is not the relevant sense either. What we mean by self-consciousness, that is, the sense of this term that is important here is that no conscious being is *unaware* of itself. There is always the sense of oneself as being distinct from everything else in the environment in the background of every cognitive act.

Human babies make this distinction at an early age. And it is plausible that many other creatures are aware of themselves in this sense.[16] Being aware of oneself as being distinct from one's environment is fundamental to any organism that interacts with its environment; though the complexity of this state of awareness varies in great degree, probably in proportion to the intrinsic complexity of the organism itself and the complexity of its environment.

So, why is it important to consider this notion of self-awareness, and how does it help us understand human consciousness if it is practically ubiquitous throughout the animal kingdom, perhaps even down to the cellular level? It is important because the phenomenal self must start somewhere. The existence of qualia implies the existence of some phenomenal self, and that self must have its genesis in some form of self-awareness. Since it is a person that is conscious and not a brain, and since a person, roughly speaking is a self, we simply cannot give an accurate picture of how consciousness comes about without discussing how the phenomenal self is generated.

Searle's theory glosses over this problem, when it should be treated as a central topic. Moreover, one would think that since self-awareness, to one degree or another is fairly common in the biological world, that this is another example of a perfectly natural biological phenomenon; and one which the

[16] In fact, this distinction is made at the cellular level in some immune systems, since to be able to identify a potential invader to the body, the cells of the immune system need to be able to identify what are *not* cells of the body.

biological naturalist would be more than happy to accommodate in his theory. Not only should Searle acknowledge the phenomenal self as a development or evolutionary result of the biological phenomenon, self-awareness, he should by all rights place it right at the heart of the theory. The concept of the phenomenal self must play a central role in our revised version of biological naturalism, since there must be someone for whom a conscious state is qualified. This self, which is a perfectly natural phenomenon, must have its roots in sensation, and the awareness generated by it. Based on this premise, the following is a loose conjecture as to how a biological organism might be able to generate a phenomenal self.

The phenomenal self, or self as it appears to itself, might be the result of the fact that some animals are able to actually sense themselves, sensing themselves. An organism that does this generates for itself a whole new domain of awareness, for which it can now know that which can only be known subjectively. Once the organism is able to think of itself as itself, in some way or another, that state of awareness is conscious. Consider the following scenario.

Let us assume for the sake of argument that salmon do not have consciousness. If consciousness refers to a specific level of sensory awareness, then what about the sensory system of the fish prohibits it from ever attaining that level of awareness? The salmon, can see, hear, smell, feel et cetera. Let us just assume that it has identical sensory faculties to a human's. Why should the

sensory system produce a conscious level of awareness for the human but not for the fish? We have already ruled out the neurological properties of the central nervous system as being solely responsible for the emergence of consciousness. So, what is responsible for allowing the human to generate a phenomenal self, while not allowing the salmon to do the same?

One difference that immediately jumps out at us is that the fish cannot sense itself, actually sensing itself. Whereas the human by the very mobility of its bodily structure can "see" itself "touching" itself, the fish cannot. When a human touches its knee, for example, with an index finger, it senses the contact in both the knee and the index finger. In this respect, it is literally sensing *itself.* Additionally, it can also "see" this act of sensing itself via another sensation. It has a double sensation of itself in one experience. The salmon on the other hand, does not have this ability, and as a consequence cannot have this double sensation of itself in one experience. It is this double sensation, or the biological system sensing itself, sensing itself that might be the cause of the phenomenal self; that is, the self "appearing" to itself.