Commentary

The Study of Consciousness Is Mired in Complexities and Difficulties: Can They Be Resolved?

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This paper explores several etymological, semantic, sociolinguistic, and methodological issues that have, in my opinion, impeded the progress of consciousness research and discourse; and I offer some suggestions that are hopefully worthy of consideration and further discussion.
I review the historical and extant conflation of terms in the literature; a plethora of published definitions and types of consciousness; and I call for greater "semantic lucidity". I critique the rationale underpinning the search for the neural correlates of consciousness; advocate for greater adherence to the requirements of an operational definition in research; and discuss the notion of consciousness as a 'process' versus the premise of consciousness as a tangible 'thing' that can somehow be found in a particular locus within the material substrate of the nervous system.

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Note: when the term 'consciousness' is used in this paper, it refers exclusively to human consciousness.

Introduction

> *'What is consciousness?' is a singularly intractable question. It is difficult to know how to engage with it.* [1]

Currently, there are over 30 different theories of consciousness[2][3] and over 20 different 'types' of consciousness (see p.9) cited in the literature, yet an operational definition worthy of consensus remains elusive. This paper is not intended as a review and commentary of these various views and

theories. Rather, it was written from the perspective of a dissatisfied consumer who has been frustrated for decades by the lack of clarity emanating from this field of study. Therefore, this paper focuses primarily on issues of presentation that have contributed to this unfortunate situation. I explore several etymological, semantic, sociolinguistic, and methodological factors that have, in my opinion, impeded the progress of consciousness research and discourse; and I offer some suggestions for consideration. I discuss the theory of consciousness as a 'process', as opposed to consciousness as a tangible 'thing' that can somehow be found in a particular locus within the material substrate of the nervous system. I also recognize that constraints imposed on scientific endeavors do not necessarily apply to scholars and authors engaged in philosophical discourse, and I leave aside questions that are exclusively the purview of philosophy.

I begin with a confession. On the whole, many of the publications in this field have been in conflict with two of my closely held standards of research and academic authorship, and to be transparent, these biases are central to this project:

- I give credence to the scientific method and have particular interest in how it is applied by those disciplines engaged in researching the human condition. As such, I abide by the fundamental requirements imposed on any scientific research project: a clearly stated hypothesis, a cogent and measurable operational definition of the target of investigation, and methods and findings that are replicable.
- I believe in the value of shared meaning and mutual understanding; that authors of scholarly publications should strive to convey their ideas with clarity and unambiguous use of terminology and diction; and not assume that, in the absence of a clear definition, everyone innately understands what it is you are writing about e.g. the meaning of consciousness. I call this criterion "semantic lucidity"[4] (see p.12 #4).

It is common knowledge that hundreds of years of thought and discourse among Western scholars and scientists have failed to produce a functional definition, worthy of consensus, which specifies exactly what is (and what is not) this ineffable notion we call 'consciousness'[5]. This quandary is reminiscent of the ongoing struggle to promulgate a cogent definition and taxonomy of meditation – another challenging enigma that Dr. Newberg and I have attempted to unravel[6][4]. I apply some of the ideas/theses that we advanced in those papers to the task at hand in this paper.

Many scientists and philosophers have expressed skepticism about our ability to reach a cogent definition of consciousness. Here are three representative examples:

Bodovitz[7] lamented that: "localizing the neural correlate of consciousness is difficult because of the lack of a functional definition of consciousness. We are not sure what we are looking for."; a frustrated Sutherland[8] declared that: "The term is impossible to define except in terms that are unintelligible without a grasp of what consciousness means. Many fall into the trap of equating consciousness with self-consciousness—to be conscious it is only necessary to be aware of the external world. Consciousness is a fascinating but elusive phenomenon: it is impossible to specify what it is, what it does, or why it has evolved. Nothing worth reading has been written on it."; and Hacker[9] proclaimed: "If we attend carefully, we may well hear the ancients in the Elysian fields laughing at us moderns, wondering how we can possibly hope to make sense of human nature and of the nature of the human mind with the knotted tangle of misconceptions that we have woven into reflections on consciousness".

Based on comments such as these, one might conclude that the task of defining consciousness is a hopeless cause, condemned to be the subject of endless acrimonious debate. This paper attempts to explore the root causes of this impasse, and offers some suggestions that are hopefully useful and worthy of consideration.

Etymology, definition and related semantic issues

Conscious and Consciousness

The words 'conscious' and 'consciousness' have been closely intertwined for centuries. They are recorded by the Oxford English Dictionary as first occurring at the beginning of the seventeenth century. These words come from the Latin term *conscĭentĭa* which means "knowledge shared with others", or being a witness to something. and stems from the combination of two words: *scio* (I know) and *cum* (with).

In its early usage, 'conscious' occurred in phrases such as 'being conscious to another' and 'being conscious to something'. But this concept of sharing knowledge evolved into being privy to unshared knowledge, either about others or about oneself. 'To be conscious to' became a cousin to the much older expression - 'to be aware of'. Some common modern synonyms of 'conscious' are: alive, awake, aware, cognizant, and sensible (i.e. awareness in the waking state). While all these terms mean having

knowledge of something, ‘conscious’ implies that one is focusing one's attention on something or is preoccupied by it. It was not until the middle of the nineteenth century that ‘consciousness’ came to be used to signify wakefulness (as opposed to being unconscious), which enabled discussion of losing or regaining consciousness[10].

Consciousness as a philosophical concept was “a latecomer upon the stage of Western philosophy and was not popularized in Western society until the 1600’s. The ancients had no such term, although they did raise questions about the nature of our knowledge of our own perceptions and thought, and introduced the idea of an inner sense. Aristotelians conceived of the mind as the array of powers that distinguish humanity from the rest of animate nature - the powers of the intellect, of reason, and of rational will. Medieval scholars and philosophers followed suit and likewise lacked any term for consciousness.”[9]. The oft repeated, and generally accepted historical account, credits Rene Descartes with first mentioning this notion of consciousness in his 1641 treatise “Meditations”. This was notably followed by John Locke in the late 17th century, who defined the word in his “Essay Concerning Human Understanding” in 1690: consciousness is "the perception of what passes in a man's own mind". It is commonly accepted that this essay strongly influenced 18th-century British philosophy, and in 1756 Locke's definition appeared in Samuel Johnson's famous A Dictionary of the English Language.

It is unfortunate, as I demonstrate below, that this shared etymology and similarity of the words ‘conscious’ and ‘consciousness’ eventually penetrated the scientific, psychological, and philosophical domains resulting in a commonly seen conflation of these two terms within consciousness research and discourse. In addition, modern disciplines of psychology, psychiatry, philosophy, and neuroscience have promulgated several other related terms e.g. preconscious, subconscious, and nonconscious. The semantic nuances of these other terms pose another level of complexity and a further challenge to mutual understanding[1][9][11]. These terms are considered tangential for the purposes of this paper which focuses primarily on elucidating a clear distinction between being ‘conscious’ (awake) and the notion of ‘consciousness’.

Conflation between these two terms in modern-day usage is common (see pp. 6-7) and is particularly well-exemplified by the following quote by John Searle from his very public and contentious debate with Daniel Dennett in The New York Review of Books, 1995. (bold highlights inserted by me)[12]:

- “About **consciousness**, I must say that if someone persistently denies the existence of **consciousness** itself, traditional arguments, with premises and conclusions, may never convince him. All I can do is remind the readers of the facts of their own experiences. Here is the paradox of this exchange: I am a **conscious** reviewer **consciously** answering the objections of an author who gives every indication of being **consciously** and puzzlingly angry. I do this for a readership that I assume is **conscious**. How then can I take seriously his claim that **consciousness** does not really exist?”

By freely mingling these two words in this manner it is unclear to me whether Searle is saying that there is no distinction between consciousness and being conscious i.e. that they are synonymous; or that simply being conscious is the sole requisite for consciousness?

This is a prime example of the conflation that arises when two different concepts e.g. ‘conscious’ and ‘consciousness’ are treated as if they are the same simply because they happen to have been designated with the same name or a similar name – aka the "jingle fallacy", coined by the philosopher and psychologist Carl Hempel[13]. He emphasized the importance of distinguishing between ideas based on their characteristics rather than their names, and the importance of precise definitions instead of ambiguous terminology. Otherwise, logically awkward and semantically challenging statements are possible and will persist, such as, in this case: “consciousness during a state of unconsciousness”.

For the sake of ‘semantic lucidity’ and the facilitation of cogent discourse, I am proposing a simple bipartite typology - a non-controversial method based on physiological criteria to parse conscious, consciousness, and unconsciousness when these terms are used in discussions such as this:

- A: when the term consciousness is used in a biological context e.g. by medical professionals in reference to their patients, or clinical researchers with regard to their subjects.

From a medical perspective, there is no doubt that it is of critical importance to clearly determine if, and when, a patient has lost or regained physiological consciousness. To this end, medical professionals (and clinical researchers) rely on widely accepted criteria and tests with which to make this diagnostic determination e.g. the original Glaskow Coma Scale[14], updated versions[15], etc. These tests/scores determine different levels of unconsciousness/consciousness according to the responsiveness of the subject to various clinical parameters such as eye, verbal, and motor responses, and brain scans.

When the term consciousness is used in this rather straightforward context, I am advocating that it falls into the category of ‘medical/physiological consciousness’, denoted in its typical lower-case format simply as 'consciousness', and abbreviated as ('c').

- B: when the term consciousness is used to refer to the more esoteric notion of human mentation, as is featured in this paper (and which has been the subject of much speculation and debate for centuries).

When the term is used in this context, I call this ‘mental/psychological consciousness’ denoted in its capitalized form as 'Consciousness', and abbreviated as ('C'); and it will appear as such in the remainder of this paper (except if it is used in the lower case within a quotation by another author). There is a strong precedence for this technique of denotation within the scientific, philosophy of mind, and philosophy of religions literature e.g. comparing the mundane “self” vs the supramundane/supreme "Self"[16][17][18][19]. Capitalization also permits a simple and useful way to differentiate this notion of Consciousness from other mundane usages of the term e.g. ‘collective consciousness’, ‘group consciousness’, and the legal notion of ‘consciousness of guilt’.

Of course, this bipartite typology is based on the understanding that there is a common sense, useful distinction between the disciplines of psychology and physiology. For example, it is well-accepted that in general terms physiology emphasizes biological processes at the cellular, tissue, organ, and system levels, and examines how these bodily systems function and interact by measuring various parameters such as heart rate, hormone levels, and neural activity; whereas psychology focuses on individual and social behavior and mental processes (cognition and affect), and examines how individuals think, feel, and behave in various contexts.

In this scheme, it’s rather obvious that if one adheres to accepted physiological criteria and norms as mentioned above, the tangible notion of medical/physiological consciousness is much simpler to define and is far less controversial than mental/psychological Consciousness. The latter poses a far greater challenge, the discussion of which I have deferred to the final sections of this paper (see pp. 10-13) in favor of a preliminary examination of various obstacles and impediments that impact this difficult task.

A Multitude of Definitions for Consciousness

(bold highlights inserted by the author)

The Consciousness challenge is made even more difficult by the plethora of definitions that have been promulgated in various public-facing venues.

Dictionaries/Online resources

Please note that within the following standard English language definitions, the term ‘awareness’ is commonly used as a synonym for ‘C’, but this cannot be done as freely in many other languages (see sociolinguistics on pp.8-9).

- Webster's College Dictionary
    1. the state of being **conscious**; **awareness**.
    2. the thoughts and feelings, collectively, of an individual or of an aggregate of people.
    3. full activity of the mind and senses, as in **waking life**: to regain consciousness.
    4. **awareness** of something for what it is; internal knowledge: consciousness of wrongdoing.
    5. concern, interest, or **awareness**: class consciousness.
    6. the mental activity of which a person is **aware**, contrasted with unconscious thought.
- Wikipedia
    - Consciousness is the state or quality of **awareness**, or, of being aware of an external object or something within oneself. It has been defined variously in terms of sentience, **awareness**, qualia, **subjectivity**, the ability **to experience** or to feel, **wakefulness**, having a **sense of selfhood** or soul, the fact that there is something "that it is like" to "have" or "be" it, and the executive control system of the mind.
- Collins Online Dictionary
    1. the state of being **conscious**; **awareness** of one's own feelings, existence, sensations, thoughts, surroundings; what is happening around one, etc.
    2. the totality of one's thoughts, feelings, and impressions; **conscious** mind
- APA Dictionary of Psychology
    1. the state of being **conscious**.
    2. an organism’s **awareness** of something either internal or external to itself.
    3. **the waking state** (see wakefulness).
    4. in medicine and brain science, the distinctive electrical activity of the waking brain, as recorded via scalp electroencephalogram, that is commonly used to identify **conscious** states and their pathologies.
- Chatbot AI (listed here due to the recent popularity of AI, not necessarily for its veracity)

1. the state or quality of **awareness**, or of being aware of an external object or something within oneself.
2. the ability to experience **thoughts, feelings, and sensations**, and to be **aware** of one's existence and surroundings.
3. the state of being awake and **aware** of one's surroundings, thoughts, and emotions.
4. the **subjective experience** of being aware of oneself and one's environment, including thoughts, sensations, perceptions, and emotions.

Within the Consciousness Literature

The following quotes about Consciousness demonstrate that even some well-respected pundits use words such as ‘conscious’, ‘awareness’, ‘consciousness’, ‘thought/thinking’, ‘subjective experience’, etc. as if they were synonymous: (bold highlights inserted)

Alan Watts[20]: “Because what **consciousness** is, is a rather specialized form of **awareness**. When you look around the room, you are **conscious** of as much as you can notice, and you see an enormous number of things which you do not notice.”

Antonio Damasio[21]: “Consciousness is defined as “an organisms’ **awareness** of its own self and surroundings”

Bernard Baars[22]: “You are **conscious** and so am I. This much we can tell pretty easily, since when we are not **conscious** our bodies wilt, our eyes roll up in their orbits, our brain waves become large, slow, and regular, and we cannot read a sentence like this one. While the outer signs of **consciousness** are pretty clear, it is our inner life that counts for most of us.”

Giulio Tononi[23]: “Consciousness is **subjective experience**, the “what it is like” to perceive a scene, recognize a face, hear a sound, or reflect on the experience itself. “

William James[24]: “In talking of it hereafter, let us call it the stream of **thought**, of consciousness, or of **subjective** life.”

Within the Peer Review Community

To further exemplify this diversity of terminology and definition in the ‘C’ literature, below is a summary of an informal content meta-analysis that I conducted in March, 2024. Earlier this year I was one of 30 peer reviewers for an article on animal consciousness by Dr. Louis Irwin[25] on the Qeios

online platform. At that time, I volunteered to analyze and construct a compendium of the full range of definitions, terms, synonyms, and properties of 'C' gleaned from the entire online commentary from all 30 reviewers. Here are my findings of the total number of mentions of six different categories of various terms/notions that the reviewers equated or associated with 'C', in descending order of frequency:

1. 'subjective experience', 'phenomenology', 'qualia': 65 times in 19 reviews
2. 'awareness' and 'conscious': 56 times in 19 reviews
3. various types, stages, and levels of 'C': 34 times in 14 reviews
4. 'cognition' in general, and various cognitive processes: 33 times in 12 reviews
5. 'witness', 'agent', 'monitoring mechanism': 21 times in 11 reviews
6. 'self', 'unified self', 'sense of self': 17 times in 11 reviews

Given the obvious diversity of opinions and definitions it is difficult to see a clear path toward consensus. Christoff Koch's attempt to simplify the definition of 'C' coincidentally aligns with the first two categories above. He says: "Consciousness is experience. That's it. Consciousness is any experience, from the most mundane to the most exalted. Some add subjective or phenomenal to the definition. For my purposes, these adjectives are redundant. Some distinguish awareness from consciousness. For reasons I've given elsewhere, I don't find this distinction helpful and so I use these two words interchangeably"[26]. In other words, according to Koch: Consciousness = experience = awareness.

For those who offer 'conscious awareness' as a definition of 'C', I assert that if we limit our definition strictly to mental functions in the waking state, then we have not addressed 'C' during various states of physiological unconsciousness e.g. dream sleep and deep sleep, general anesthesia and sedation, coma and other disorders of consciousness, etc.

Certainly, there needs to be an account for circumstances such as the following:

- 'connected consciousness' during general anesthesia where some patients can recall details of their surgery and conversations between doctors and staff while they were intubated and monitored during surgery and thought to be completely unconscious[27]
- communication by researchers with patients in various stages of coma who were thought to be unconscious and incapable of responsiveness; using recent innovations in neuroimaging and electrophysiologic techniques to detect elements of Consciousness not readily discernible by

bedside examination. Such instances have been labeled ‘covert consciousness’ or ‘cognitive motor dissociation’[28][29]

- the experiences of trained practitioners in the discipline of dream Yoga who can cultivate awareness during the dream state and during dreamless sleep, and even use their intention to meditate in those states[30].

Clinging to the assumption that ‘C’ is limited to the waking state of conscious awareness in the face of contrary empirical evidence as detailed above (as well as other compelling research e.g. Fingelkurts and Fingelkurts[11], Gosseries et al.[31]) makes possible the untenable corollary that ‘C’ is not present, or ceases to exist, during physiological unconscious states!

It stands to reason that any definition of ‘C’ that strives toward a consensual standard needs to account for its presence/manifestation in both physiologically conscious and physiologically unconscious states[32].

Sociolinguistic factors regarding the English language

As exemplified above, English-speaking pundits typically use a few favored words when attempting to describe or define their conception of ‘C’. Koch’s assertion that ‘consciousness’ and ‘awareness’ are essentially the same evokes a not oft mentioned consideration - the role that sociolinguistics plays in enabling or restricting the terminology we employ to discuss this topic, or to even think about it. If you are a native speaker of English, and monolingual like me, you might be surprised to learn that several of these favored words do not translate distinctly in many other languages. For example, here is how one would say “consciousness is conscious awareness” (as declared by many authors) when translated into six other languages which do not permit the same differentiation of terms (per Google Translate):

French: “la conscience est une conscience consciente”

Chinese: “yìshí shì yǒu yìshí de yìshí”

Latin: “conscientia, conscientia, conscientia”

Swedish: “medvetenhet är medveten medvetenhet”

Hawaiian: “O ka ʻike ka ʻike ʻike”

Vietnamese: “Ý thức là nhận thức có ý thức”

It seems plausible, therefore, to ponder whether, in this instance, the English language presents a greater semantic challenge when compared to other languages. Regarding the Western notion of 'C', Throop and Laughlin[33] suggest that: "few peoples on the planet would explicitly recognize the concept as it has been developed in the context of Western philosophy and science, and their languages would have no words that neatly gloss with the English term". This evokes the provocative topic of the relationship of language and thought, such as the theory of "linguistic determinism", and the 'softer' version known as "linguistic relativity"[34]. Others have promoted the idea that "language and thought can be considered to be identical from an epistemological point of view"[35], and "the way people learn to speak about things influences how they are conditioned to think about things"[33]. Lindquist[36] points out that it is well established that different languages encapsulate unique worldviews and cognitive frameworks. Such consideration is magnified with regard to an ineffable and complex notion such as Consciousness, which is so deeply intertwined with culture and thought. It is reasonable to hypothesize therefore, that the structure and vocabulary of a particular language may influence not only how 'C' is conceptualized, but also how it is experienced.[36].

These considerations strengthen the argument that certain peculiarities of language may have contributed to something akin to the "Tower of Babel" effect that has impeded the path toward a widely accepted world view of Consciousness. Even if English speakers were to agree on some future definition, difficulties in attaining a shared meaning may persist for those that speak a different language. I suggest that we would do well to consider these limitations as we continue to collaborate with our colleagues from around the world.

Nomenclature and related issues of semantics

Within the body of Western 'C' literature there is a plethora of attempts to elucidate and define this ineffable notion by modifying the noun with prefixes, suffixes, and/or alluring adjectives. These various types, stages, or states purport to convey the essence of 'C', Here are some notable examples:

- Rational consciousness[24]
- Consciousness-as-such[37]
- Consciousness-itself[38]
- Pure consciousness[39]
- Phenomenal consciousness[40]

- Phenomenal consciousness vs access consciousness[41]
- Creature consciousness and background consciousness[42]
- Cosmic consciousness[43][20]
- Intransitive, transitive, perceptual, somatic, kinesthetic, affective, reflective, and self-consciousness[10]
- State consciousness vs transitive consciousness[44]
- Basic consciousness, witness consciousness, and store consciousness[35][45]
- Luminous consciousness[46]
- And other popularized terms such as altered states of consciousness and higher states of consciousness

What are we to do with this potpourri of terms – each with its own 'claim of veracity'? How does this exercise of clever wordsmithing bring us any closer to a cogent explanandum, or does this simply muddy the waters by creating an excess of terminology?

Conceptual, semantic, and methodological issues in research

The search for the Neural Correlates of Consciousness (NCC)

The current fascination with the neural correlates of consciousness project was made possible by technological advancements in brain mapping such as the use of EEG technology to study meditation in the early 1950's. "EEG was the primary technology for brain function investigation for almost 40 years, with over 100 published studies, until the introduction of magnetic resonance imaging (MRI) technology offered an attractive alternative. Beginning with the first brain mapping/scanning study of meditators by Herzog et al. in 1990 (using PET technology), neural imaging would soon become the dominant research modality for the nascent field of contemplative neuroscience. The invention of BOLD (blood-oxygen-level dependent) contrast technology by Ogawa et al. in 1990 and the functional MRI (fMRI), permitted researchers to avoid the intravenous injection of contrasting dyes and the exposure to ionizing radiation required by the PET and SPECT procedures."[47]. A parallel interest in the neuroscience of Consciousness heralded the birth of the NCC project, a term first attributed to Crick and Koch[48], which would become a major research initiative.

I contend that the fundamental difficulty with this NCC enterprise is the lack of an operational/functional definition of 'C' that could inspire consensus among researchers. Hence, neuroscientists are pursuing diverse theories in the absence of this essential component of the scientific method. This is an important methodological problem. Bodovitz's quote from earlier in this paper warrants repeating: "Localizing the neural correlate of consciousness is difficult because of the lack of a functional definition of consciousness. We are not sure what we are looking for". This critical impediment is exacerbated by uncertainty and debate about what is meant by "neural", and what is meant by a "correlate"[42][48][49][50][51].

There is also the issue of whether 'C' should be considered a 'thing' or a 'process'. I would argue that NCC researchers' pursuit to define 'C' as a specific tangible thing/faculty that can somehow be reduced to activity from a specific neural complex/pathway or locus, has not been fruitful because the 'thing' has not been (and perhaps cannot be, and will never be) specified in operational terms. By contrast, theses based on the notion of 'C' as 'process' avoid this conundrum, and thus seem to offer a greater opportunity for progress. As stated by Chalmers almost 25 years ago – "it is most likely that there is not a 'one-and-only' NCC responsible for the manifestation of consciousness as a singular phenomenon", but rather "there may be multiple NCCs in multiple modalities", what he calls NCCC (neural correlates of the contents of consciousness)[42].

According to this approach, 'C' is viewed as a dynamic, multifaceted functional process arising from the material substrate of the nervous system[52][25][26][53][54][55] which enables human beings to interact with their internal and external environment. This notion is inclusive, but not limited to, the interaction and interdependence of various mental functions which can be considered as properties/functions or 'contents' of the 'C' phenomenon[42]. For example, here is a laundry list of various elements of mentation that authors typically associate with, or equate to, the notion of 'C': intention, volition, attention, sensory perception, processing subjective experience and phenomenal content, cognition, affect, awareness, memory, imagination, dreaming, hallucinations, reasoning and decision-making, self-monitoring (witnessing, metacognition), perception of time and space, etc.[33]. Others have also highlighted an overarching sense of self/selfhood based on our innate capacity for reflection, introspection, and internal dialogue[56][11], which is rendered highly personal and unique by experience, memory, and bias regardless of whether this notion is considered a delusional fabrication[45], or not. I argue that if such a broad-based notion of 'C' is pursued, it must also account for the presence of 'C' in the full range of mental states and conditions, including:

- during various states of meditation e.g. an enhanced cognitive state (ECS), an enhanced affective state (EAS), and the "Null state" which is devoid of phenomenological content[6][4], (aka 'pure consciousness'[39])
- sensory deprivation, and hallucinogenic, hypnotic, and various trance states.
- general anesthesia and sedation[27]
- patients suffering from disorders of consciousness (DoC) who exhibit varying unexpected mental capacities[57][11][28][29]

It seems most plausible that, within the constraints of the scientific method, each of these aforementioned elements of mentation (the contents of 'C') offers a more tangible, specific, and definable target for neuroscientific research as opposed to the nebulous premise of 'C' as a thing. I would also assert that any attempt to formulate a cogent definition of 'C' worthy of consensus must account for all aspects of mentation, not just a select few.

Summary and Conclusion

In this paper, I have attempted to shine a light on several factors that, in my estimation, have impeded the progress of Consciousness research and discourse. I believe that these obstacles can be ameliorated; and to that end I have proposed several suggestions for consideration:

1. I have made the case for a simple, non-controversial way to differentiate between the notion of consciousness when used in a medical/physiological context (e.g. physiologically conscious and physiologically unconscious states) on the one hand, and the mental/psychological context of consciousness on the other. I have proposed that we continue to use the lower-case 'consciousness' for the former, and we agree to capitalize Consciousness for the latter. As previously mentioned, there is a strong precedence for this type of denotation in other related discussions e.g. 'self' vs 'Self'. Why can't we do this here?
2. Given compelling empirical evidence, it stands to reason that any attempt to proffer a consensual definition of 'C' needs to account for its presence in both physiologically conscious and physiologically unconscious states.
3. In research and discourse, pundits would do well to avoid conflating the terms 'conscious' and 'consciousness'.

4. Most of us who are writing in this field can probably relate to the age-old adage that "a philosopher or researcher would rather use your toothbrush than your terminology". This is more than just a joke - it's a problem. The Consciousness literature is replete with a potpourri of various terms, many of which have been fabricated in the quest for the most insightful and meaningful definition of 'C'. I have taken the position that embellishing the noun with adjectives, hyphenating the noun, attaching prefixes and suffixes, or devising new terminology will just perpetuate the bickering and endless debate instead of advancing understanding. Creative wordsmithing (as tempting as it may be) is simply not an adequate substitute for a clear definition of the noun itself. This is a plea to curtail the proliferation of new terminology, avoid the 'jingle fallacy', and to strive for 'semantic lucidity' by "using clear and unambiguous terminology (instead of) ineffable/vague designations and neologisms which ... are difficult, if not impossible, for researchers to operationalize, measure, and validate"[4].
5. With regard to research, I have argued that NCC researchers who pursue the thesis that 'C' is a 'thing', that can somehow be found in a single locus of the brain, are engaged in a fruitless enterprise. Given the lack of a consensual operational definition of 'C', NCC researchers should consider abandoning this quest in favor of a multifactorial approach of 'C' as 'process'. From a Western perspective (more on this below), Chalmers' proposal to investigate specific and definable neurophysiological correlates of the "contents of Consciousness" (NCCC) seems to be the most reasonable path forward[42].
6. For all of us using English to formulate and communicate our ideas about 'C', I have suggested that our language poses some limitations in our thinking and choice of terminology which may, or may not, be the case with other languages. At the very least, we should consider the possibility that it is not without problems when English is used as a vehicle of discourse for this particular subject, especially when communicating with colleagues who usually speak and write in a different tongue.

At this point, I would like to exercise author discretion to digress and share some personal thoughts on these matters. To me, it seems reasonable to presume that mostly everyone reading this paper possesses an innate sense of their own Consciousness that they find difficult or near impossible to adequately describe. Is it a sense of a "lived reality... the feeling of life itself."[26], or is it something else?

I have often speculated - what would it be like if there were no such things as calendars, birth certificates, and birthdays? It would certainly be challenging to figure out how old we were. We could notice that our body was changing over time; but we might also notice that something inside had remained unchanged – that same ageless inner voice that has been with us for as long as we could remember.

It is most curious that this ineffable phenomenon that we all share is difficult, if not impossible, to define in simple terms that others can readily accept as true. It is a quandary that has eluded the most brilliant minds in Western culture for hundreds of years. We can only speculate why this has been the case. Perhaps it is due to our misplaced and unbridled hubris – a confidence that the intellect is capable of comprehending and solving all the great mysteries in nature and the universe? Perhaps we should humbly accede that there are certain non-physical, non-empirical abstractions related to spiritual/metaphysical aspects of human existence which are beyond the grasp of language, thought, and comprehension at this stage of our evolution as human beings. As stated by Chalmers: "There may be an ultimate explanation for consciousness, but we might not have the intellectual tools to find it."[58].

Ancient Eastern philosophy and religion may provide some additional insight here. The famous Hindu Vedanta foundational texts, the Upanishads[59], circa 800-300 BCE, are widely credited with the first written mentions of 'C'[60]. According to these teachings, 'C' manifests in the mind of all living human beings, and is immutable – that is, not subject to change or diminishment by any external or internal factors[61]. In her treatise on the subject of *cit* Consciousness as found within these Upanishads, Gupta notes that the Rishi Masters of that period proclaimed that *cit* "lies beyond the plurality of names and forms"; "is not accessible through empirical modes of knowing"; "is the ultimate subject that can never become an object of knowledge"; and "no description of it is possible except the denial of all empirical attributes"[62]. In other words, Consciousness is just a word that humans assigned to an aspect of human mentation that is imponderable. In this context, the terms "consciousness-itself" and "consciousness-as-such" are redundant. Consciousness is quite simply ... Consciousness.

If the Rishis were right about this, it stands to reason that our Western penchant for attempting to define Consciousness, and to classify this notion by assigning adjectives, prefixes, and suffixes, has been, and will continue to be, an exercise in futility. Perhaps complete insight into this ineffable phenomenon is only available to the enlightened minds of a select few, and the best the rest of us can

do is to nibble away at the fringes of this age-old mystery. In the meantime, I think we can do a better job of ‘nibbling’ if we recognize and address existing obstacles and limitations in a constructive and collaborative manner.

Finally, I feel it is important to clearly state that the goal of this paper was not intended to advance the audacious claim of a definitive solution to the Consciousness enigma. Rather, my intention was to offer suggestions that are hopefully worthy of consideration, and a perspective that could contribute to the efficacy and clarity of future research and scholarly discourse.

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