

# A FRAMEWORK FOR STUDYING CONSCIOUSNESS

Jeremy Horne

[mindsurgeon@hotmail.com](mailto:mindsurgeon@hotmail.com)

## Abstract

*Scholars have wrestled with "consciousness", one writer calling it the "hard problem". Some thirty-plus years after the *Towards a Science of Consciousness*, we do not seem to be any closer to an answer to "What is consciousness?". Seemingly irresolvable metaphysical problems are addressed by bootstrapping, provisional assumptions, not unlike those used by logicians and mathematicians. I bootstrap with the same ontology and epistemology applicable to everything we apprehend. Here, I argue for a version of the unity of opposites, a form of neutral monism. Something exists because of what it is not; nothing can exist by itself, singularities (analogous to monads), expressing the relationship. Applying this most fundamental law to the consciousness problem, the physical (movement) comes into being simultaneously as the mental (stasis), each displayed by a field that is variegated (ranging from creative to entropic processes). Such is in keeping with how the singularity emerged as our universe, the same form that may account for sub-Planck-scale phenomena. Overall, like the most fundamental law, deep structures are imminent in our universe, both as objects and processes.*

## The problem of "consciousness"

### Introduction

Partly why academicians are stymied in understanding "consciousness" are how they frame the problem, inherent inexactness and misuse of language, hubris, artificial constraints, and preconceived ideas. Here, I set aside many conventions - conceptual, linguistic, and other formalities - to present a framework to study "consciousness". After a lead-up about the important of context (including some vital history and biographical notes shaping my discourse), I state the problem, some modern background and context, and possible ways of resolving it. Then, by correspondence, I'd like to learn your thinking on the matter.

Please do not allow my not following some conventions to interfere with the content. (Yes, I have my own punctuation style, in keeping with logic, rather than custom.) Then, I hope my failing vision has not allowed too many errors to creep in, so those wishing to ensure punctuation marks are placed correctly according to APA 7 style (which IS an excellent reference format), be my guest and correct accordingly. Now, let's get on to what really matters, content.

If we knew what consciousness is, there would not be so many papers, books, and conferences still asking, "What is consciousness?". We allegedly know what "physical" things are, at least at the macroscopic level. Physicists say so, although I think many deep down inside know they are lying to themselves. All these - "physical", "mental", "experience", and, especially, "consciousness", among others, deserve quotes, because we really do not know what they are. Thus, I will omit the distracting punctuation, save for directly-referenced words (meta-linguistic use).

My audience is general, hence some tutorial material. However, I do not even pretend to have given an adequate discussion of all that is relevant. For example, I have omitted Giulio Tononi's [2016] integrated information theory of consciousness, my old acquaintance from Tuscon Christof Koch of the Allen Institute of Brain Science, and many others. Neither have I adequately covered important sidebars like "notion" and "concept", ubiquitous in Kant and Hegel's works. As a

logician, I have failed to include how intuitionist, various modal, and paraconsistent logics relate to my ontology (supported by the epistemology). Indeed, this article easily can be expanded to a book, and if I live long enough, such will emerge.

### ***The context***

We live in a web - worldwide (W.W.W.), language (semantic web), physical (the world of things and their processes), and mental (ideas, memory, etc.). Start with a compromised node and the journey in that web will be perilous, though one with integrity will not guarantee a successful destination. In this paper, I will call attention to a node but return to it from a different viewpoint, not just a repetition of an idea. Each node is embedded in a context, or field.

Our very being - consciousness included - has a becoming, a context, etymology case in point. The present embodies the past. Too, everything is dependent upon what it is not for its existence, a view explored in depth later. Everything is integrated, amply described by chaos theory [Gleick, 1987]. A *Portland (Maine) Press Herald* reporter at our Kennebunk (Maine) High School assembly in 1963 told us how seemingly insignificant events could have a knock-on effect of major wars and other disasters (e.g., WW I), another version of "For the want of a nail, the shoe was lost" and ultimately the country. One of my colleagues said that describing the context of one's presentations makes them more complete. Hegel in *Philosophy of History* wrote of that becoming; ideas work themselves out in history. Ignore context and you will not know what anything is, consciousness included. What in one's background gave rise to her/his ideas? While academicians may attempt to depersonalize their work, second-order cybernetics [Horne, 2021] recognizes the seeming inability of an observer to escape her/himself. The observer becomes part of the observed. I'll return to this shortly in another context.

Studying consciousness includes mentation - ideas, emotions, intelligence (John Gardner's "multiple intelligences" included [Gardner, 1983]), thought, ideas, psyche, and any other non-tangible essence typically attributed to the brain, supporting nervous system, and even its other bodily systems. We also have a "philosophy of mind", imploring us to develop ways of thinking about it, a meta-thinking. Equally perplexing are awareness, sentience, and experience. How and why does the physical support the mental? More crassly put, if you completely lose consciousness (e.g., Rio Rancho Glasgow coma scales), you die. Along with mentation goes the physical ... and vice-versa. Now, I go to my personal context, my history.

A recurring childhood nightmare began with my being enveloped in a soft black environment. Slowly, I became aware of a tiny unfocused movement evolving into a focal point, culminating in a red vibrating dot, becoming larger, vibrating even more violently until it subsumed the blackness with an explosion. I often woke up crying or screaming, my mother running frantically into the room. I often have reflected upon this dream ultimately inspiring my logic, cosmology, and this consciousness project. I seriously doubt my dream is unique, and those who have had it perhaps will empathize with the following.

Over the years, I sympathized with Plato's idealism for many personal reasons, not all satisfied with the physical, although painfully aware of its existence. Yet, does "physical even exist? How do I know? Why was the dream's focal point bothering me? Now, to that "point" (in the dream) ... literally.

After Classical Greece, we have primarily Rene Descartes (1637/1912) to thank (or curse) for our modern ability to miniaturize information, a reductionism often loathed by philosophers enchanted by phenomenology. To understand anything, we need "...to divide each of the difficulties under examination into as many parts as possible, and as might be necessary for its adequate solution. [Descartes., p. 15]... by showing we cannot conceive body unless as divisible"[Ibid., p. 76]. I used

to say to my logic students, "carry forth this process until ...". We reach sub-Planck space, the smallest of the smallest, where particles flick in and out of existence (cf: Casimir Effect, "virtual particles").

Jean Piaget, a child psychologist, caught my attention with:

There exist outline structures which are precursors of logical structures, ... It is not inconceivable that a general theory of structures will...be worked out, which will permit the comparative analysis of structures characterizing the outline structures to the logical structures characteristic of the higher stages of development. The use of the logical calculus in the description of neural networks on the one hand, and in cybernetic models on the other, shows that such a programme is not out of the question. (emphasis included). [Piaget 1958, p. 48].

Physicist John Archibald Wheeler reinforced Piaget by saying physicists see the arrangement of the universe according to a "pregeometry as the calculus of propositions" such that "...a machinery for the combination of yes-no or true-false elements does not have to be invented. It already exists [Misner, Thorne, and Wheeler, 1973, p. 1208 et seq.]". Digital physics affirms this view.

How would I reach out to others interested in consciousness and our binary-based universe?

While teaching logic during the latter 1980s in Tucson, Arizona, and researching binary structures [Horne, 1997], I entered the consciousness field via Stuart Hameroff's [2022] papers on orchestrated reduction (OR), fascinated with the apparent binary character of microtubules. I requested and received from him a set of photocopied articles (which I still have) explaining OR. Could 0/1 expressions be those of "something" attempting to communicate to us about the nature of our world?

Dr. William Wheeler, a colleague of mine at Science Applications International (SAIC), knowing my interest in consciousness studies and philosophy of mind, suggested I see Gordon Olson, MD, a Sierra Vista, Arizona internist, also interested in the subject. After driving to his house on a very country road one dark night (though, not stormy :-), he told me about his daughter, Maria, who "...one frightful day in February 1981 ... (was) suddenly thrown into a coma [Olson, circa 1994]". In her "persistent vegetative state", she died in 1988. During that time, Olson was obsessed with the thought she was "always there". She had to be "conscious", because, at one point, Olson said to Maria something like, "It is OK; you can leave if you want", whereupon she died. I suggested starting a consciousness conference, and he shouted, "That's a great idea!". He and I discussed Hameroff's work on microtubules. Olson said he knew and would contact Stu, and I would talk to Wheeler and others. I do not recall the mechanical details, but the planning was done and the agenda set.

On 18 August 1991, the *Towards a Science of Consciousness* conference series was born. Known then as "The Fantastic Conscious Mind Conference", the original auspicious assemblage at the Sierra Vista, Ramada Inn Ballroom that day had great hopes there would be future conferences to bring together the world's experts in consciousness to answer Olson's question. Olson, true to his dictum "Think Positive" (on his fliers advertising this "pre-conference") had his dreams at least partially fulfilled.

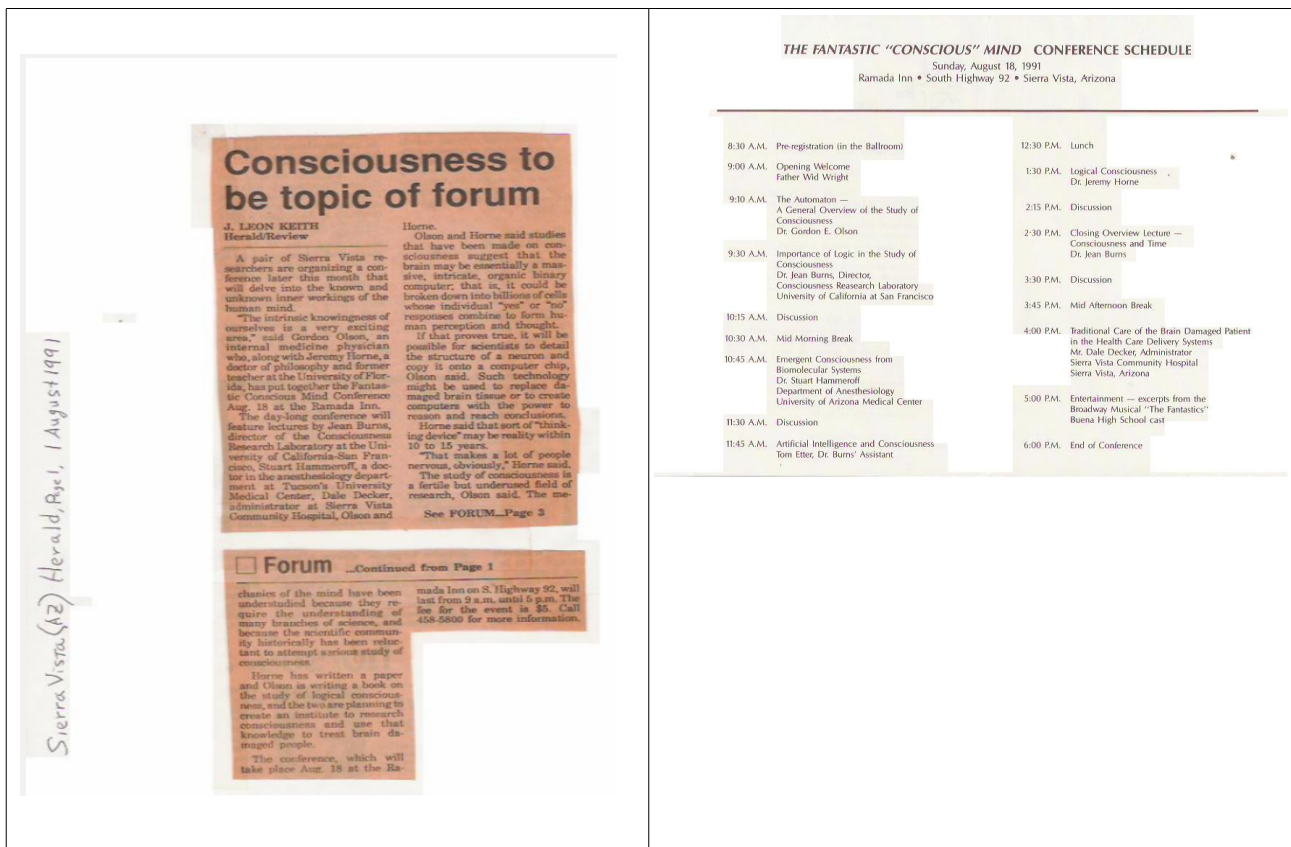


Figure 1. First TSC conference (provided by Horne)

From its inception, TSC has been beset by the fringe and "woo woo", David Chalmers, neural science and philosophy professor at New York University, an original organizer but later withdrawing as a co-organizer, allegedly saying, "It got far enough out there that I no longer felt comfortable with it being my product." [Bartlett, 2018] and joining with other academicians to form the Association for the Scientific Study of Consciousness. Yet, such has not prevented famous peer-reviewed academics presenting their work, including Nobel Laureates Roger Penrose and Brian Josephson.

## What is the problem?

### The historical context of mind-body

The mind-body dichotomy extends back to Hindu philosophy (perhaps earlier) as *sāṅkhya*, eloquently expressed by Wikipedia as, "puruṣa ('consciousness' or spirit); and prakṛti (cognition, mind and emotions, and nature or matter)". We have the well-known mind-body distinction appearing in René Descartes' 1641 *Meditations on First Philosophy* [Descartes, 1637/1912]. "Father of Neurology", Thomas Willis, in his 1664 *Cerebri anatome*, argued the cerebral cortex is responsible for thinking. A neurologist recounted in a 5 June 2022 email to me a story I think fascinating and worth repeating here in its entirety:

The idea (physiological structures producing consciousness) caught on because the British East India Company, the first global corporation, needed to invent an amoral theological framework to inflict colonization, genocide, and enslavement on the rest of the world. For them to invade, conquer, colonize, and – if necessary - eradicate indigenous populations across the globe, they needed to overcome traditional Christian theology's moral imperatives. In their place came a metaphysics that allowed the unbridled, unrestricted

pursuit of commercial wealth. The core idea was the universe was dead and consciousness was an illusion.

Beginning in 1650, Thomas Willis demonstrated this by dissecting the brains of living animals and conducting gruesome experiments of pain and sensation on local villagers. The fanciest experiments were public displays conducted in front of Oxford elites. Willis would receive the still-warm corpses of freshly hung witches and saw off their skulls to map the structures of their brains. From this – especially the famous case of Anne Green – he determined that consciousness is a product of brain activity.

This remark was prompted by my initial and following history of mind-body research.

Even a cup of coffee can affect mood, a fact not lost on Emil Wilhelm Georg Magnus Kraepelin (15 February 1856 – 7 October 1926), a German psychiatrist explaining the biological and genetic foundation of human behavior in his 1883 *Compendium der Psychiatrie: Zum Gebrauche für Studirende und Aerzte* (*Compendium of Psychiatry: For the Use of Students and Physicians*). How could one ignore the likes of Phineas P. Gage (1823–1860), a U.S. railroad construction foreman suffering but surviving a large gunpowder tamping iron rammed through his head, obliterating a large section of his brain's left frontal lobe? Gage's resulting personality changes surely caused notice, especially by doctors interested in psychology. Yet, gross anatomy is only the patina of whom we are.

As the world became increasingly complex and contentious (e.g., wars and their technology - Crimea, 1853, the U.S. Civil War, and World War I), scholars and decision-makers increasingly realized the importance of intelligence, Alfred Binet (8 July 1857 – 18 October 1911) leading with his Binet–Simon test. U.S. WW I soldiers took the Army General Classification Test (AGCT). Psychologists now realize I.Q. tests may only be achievement tests, ignoring a broader intelligence or mental capability (e.g., John Gardner's *Multiple Intelligences*). Enter the context of mental deviancy.

What of social misfits/outcasts? For decades, human mentation problems were met by behavioral therapy (Think B.F. Skinner.), modern formal cataloging in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and the *International Classification of Diseases - 11* (ICD). The DSM is based on The *Minnesota Multiphasic Personality Inventory* (MMPI). Behavioral assessment is flawed by: a) its subjective self-reports, and b) the evaluation only a single snapshot (opposed to a series of evaluations over time, my term "dynamic evaluation").

The American Psychological Association says a mental disorder is:

any condition characterized by cognitive and emotional disturbances, abnormal behaviors, impaired functioning, or any combination of these. Such disorders cannot be accounted for solely by environmental circumstances and may involve physiological, genetic, chemical, social, and other factors. Specific classifications of mental disorders are elaborated in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (see DSM–IV–TR; DSM–5) and the World Health Organization's *International Classification of Diseases*. Also called mental illness; psychiatric disorder; psychiatric illness; psychological disorder [American Psychological Association, 2022].

Behaviorism was met in the mid-1950s by pharmacology, mainly chlorpromazine and lithium.

Are dissenting philosophers mentally disordered or socially dysfunctional, especially if not mainstream, disagreeing with their peers? Oppressive political regimes incarcerate opponents in mental institutions or other confinement facilities.

How about the complexity of social/cultural and scientific investigation norms? Much as I appreciate scientific methods, having been past president of the American Association for the Advancement of Science Southwest (U.S.) division, I sometimes chafe at those "rationalists", logical positivists, and radical skeptics freely tossing about terms like "pseudoscience" and quickly dismissive of anomalous phenomena. I appreciate the controversy over "scientism".

From biological insults of a tamping iron removing part of the brain to one having unpopular ideas, we refer to "consciousness", "mind", and mentation in general, but our standard methodologies and thinking do not appear adequate for investigation. Even our language does not seem sufficient to communicate our findings. I say frequently, "I hate that word, but I cannot think of any other."

### ***Enter the researchers***

The TSC was born and has continued since as The Science of Consciousness (TSC) conferences. Other conferences have emerged (e.g., <https://conferenceindex.org/conferences/consciousness>), represented by the International Conference on Artificial General Intelligence and Consciousness, and the Society for Consciousness Studies annual conferences, along with possibly thousands of publications on the subject. No one has solved the problem.

Perhaps echoing Kraepelin. through a joint resolution passed by the United States Congress on 8 March 1989, the "Decade of the Brain" was born. Out of this grew efforts to explore the neural basis of mentation, as in the National Institute of Mental Health (NIMH) [Research Domain Criteria](#) (RDOC). NIMH includes genetics, opening the door to all physiological correlates. That is,

RDoC is a research framework for new ways of studying mental disorders. It integrates many levels of information (from genomics to self-report) to better understand basic dimensions of functioning underlying the full range of human behavior from normal to abnormal. ... RDoC is not meant to serve as a diagnostic guide, nor is it intended to replace current diagnostic systems. [The goal is to understand the nature of mental health and illness in terms of varying degrees of dysfunctions in general psychological/biological systems.](#)

Overall, "*The Brain Research Through Advancing Innovative Neurotechnologies*® (BRAIN) Initiative is aimed at revolutionizing our understanding of the human brain [Brain Initiative, 2022]" .

To develop an artificial (including hydrocarbon) brain, we have:

- Riken Center for Brain Science [2022]
- IBM -Systems of Neuromorphic Adaptive Plastic Scalable Electronics [SyNAPSE, 2022]. ;
- Human Brain Project [2022].

... among others.

Worthy of note is the bifurcation of natural and artificial intelligence, intelligence not inclusive of all mentation (e.g., emotion). Then, add animal consciousness. Animism, itself, gets attention below.

### ***The nub of the problem***

As I have with the dream, I suspect others personally wrestle with mind-body duality. Wrestling can be hard. Indeed, Chalmers say consciousness is the "hard problem" (especially properties, "qualia", and phenomenal experiences). No, it is not easy, but we can create our own difficulties by ignoring frameworks.

Tinfoil hats and academicians rolling their eyes aside, we need to address Chalmers' concerns, i.e.,

- No position on the mind–body problem is plausible.
- Materialism: implausible. Dualism: implausible. Idealism: implausible. Neutral monism: implausible. None of the above: implausible. [Seager, 2020, p. 28]

If no position is plausible, does it even make any sense to talk about consciousness existing?

Around 1996, Chalmers [1996, *passim*] toyed with neutral monism [Stubenberg, 2018].

Then, what about this from the *Essentia* website:

For over forty years now, we've known from repeatedly refined and confirmed laboratory experiments that the physical properties of the basic building blocks of the material world—think of the mass, charge, spin, speed and direction of movement of elementary particles—do *not* exist prior to being measured [2-19]. [Kastrup, 2022]

*Essentia* represents the view that "...materialism is false ... metaphysical materialism is fundamentally flawed". Is this the "Copenhagen interpretation" of reality, that we create it? We need to know what "material" is before refuting it, and I contend the barriers to this are just as high as they are to the "mental". It is a grand step to deny existence, not the least object of which would be ourselves, thus returning us to Descartes' "evil genius". Aside, the fundamental narcissism residing in all of us justifiably makes Nick Bostrom's proposition we may be a simulation [Bostrom, 2003] exceedingly uncomfortable. More down to earth, what prompts measurement in the first place, i.e., something to be measured, implying it already existing?

## Jumping the metaphysical barrier

### ***The boundary***

Cartesian reductionism to sub-Planck scale reveals a critical barrier to ultimate explanations and metaphysics. For example, is a line six or seven meters long? Ultimately, we never can locate the dividing line and must establish the limit, like calculus. Each individual perspective is unique (biased) in spacetime, there being no absolute exact measurement. Consensus is by induction, sampling, a type of statistics. Our metaphysical barrier is literal. Other metaphysical conundrums are the nature of the singularity (with the associated wave-particle duality problems), creation, causality, and, yes, consciousness. Use the mnemonic, "S+3C".

### ***Selves***

"Self" is controversial, but requires mentation. Sentient beings have feelings and sensations, and authors like Peter Singer [1975/2001] and Tom Regan [1975/1975/2002] include many animals. Where life ends/begins is axial to the animism debate. Add the complication of machine thinking.

We see ourselves through ourselves, both individually and collectively, as the subspecies *Homo sapiens sapiens*. Escaping John Horgan's "solipsism problem" does not appear likely [Horgan, 2020]. Otherwise expressed, we cannot get outside ourselves to see ourselves, this requiring a dual consciousness somehow merging to produce the "absolute" one. I recall mirror gazing [Deleniv, 2018; Preston et al., 2015], one often experiencing third-party existence. Even if a god or other "absolute" appeared, we'd still interfere with ourselves (cf: second-order cybernetics [Horne, The philosophy of cybernetics, 2021]). Second Order Cybernetics says the experimenter/observer is self-observed/ in the experiment, Copenhagen interpretation and Heisenberg, notwithstanding,

although - as mentioned above - not implying we create reality. Perhaps reality is multi-faceted, each facet an individual perspective.

## Dimension

We live in a fishbowl. Edwin Abbott's 1884 satirical novelette *Flatland*, describes two-dimensional persons unable to explain a raindrop (or other object) descending from above.

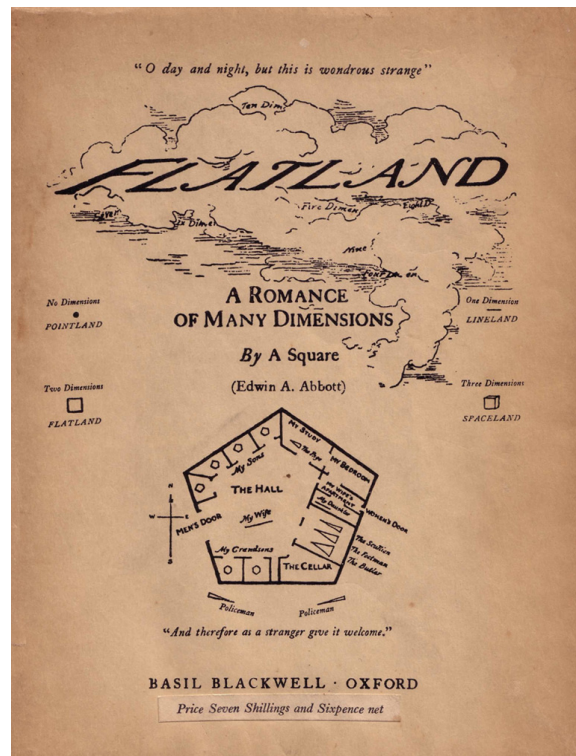


Figure 2. Cover of *Flatland* - first edition

Perhaps Jolij's [2022] consciousness as a dimension falls into the same category. We are stuck in a similar situation, apprehending phenomena, seemingly unable to explain the underpinnings (at present). For example, our acceptance often depends upon testability (Popper - *The Logic of Scientific Discovery*), but we can't test cosmic inflation, string theory, parallel universes, and dimensionality, itself.

## Towards a solution

Metaphysical problems are mitigated by our provisional acceptance (not faith) on a day-to-day basis. Otherwise, we will remain perpetually frustrated, anxious of never being satisfied by certainty, every problem being "hard". Mathematicians and logicians use such bootstrapping with their definitions, rules, axioms, and other assumptions in creating (or perhaps discovering) their systems, their becoming models instantiated with events and simulated to test concepts. Think of Ptolemy, Newton, and scientific revolutions (e.g., Thomas: Kuhn's *The Structure of Scientific Revolutions*). Most scientific explorations fail [Barwich, 2019]; yet, most people go forward. Why not in consciousness studies? Negative results of parapsychological research have not have demonstrated "paranormal" phenomena to be non-existent. only not evident. Perhaps investigatory methods and their assumptions need revision. If patients report "healing" methods (e.g., Ayurveda, and traditional Chinese medicine) effective, rather than dismissing them as "pseudoscience"



because standard validation methods are inadequate, let's explore (not hand waving with "placebo effect") why.

My framework proposes consistency in explaining unknown phenomena and how something could occur. It might explain my dream. It might account for malevolent and constructive mentation, including the emotionally-charged good and evil. However, explanation does not imply existence.

Now, what generates my framework?

## **Existents - the reality**

### ***The most fundamental law***

Phenomenologically, apprehension requires difference. Even abstractions require difference. Stubenberg captures my view:

... the mentality and physicality are features of complex structures of neutral entities. But the entities themselves are free of mental or physical aspects/sides/properties. Therein consists their neutrality.

Much will turn on how the details of the *Both View* are articulated. It must not, for example, be understood as proposing the identification of mental and physical properties. For the dual-aspect theory insists that the two aspects are fundamental and irreducible to each other.

*Both* as well as on the *Neither View*, is understood in terms of mental and physical properties. [Stubenberg, 2018]

Consider at taxonomy of difference types, such as:

mind - body

mental - physical

abstract - concrete

logical - empirical

ethereal - material

timelessness - time

zero - number

stasis - movement

... all heuristics in a typical consciousness discourse.

Each entity of a difference pair has only half an existence, "half an ontology" (here the first time I ever have used the term).

Some fine company throughout history has supported this view.

Samkhya (also spelled "Sankhya") philosophy, with basic ideas 3500 years old, says consciousness is embodied in Purua (person) and is bonded to prakṛ ti (matter), each existing because of the other.. From this fusion comes *buddhi* ("intellect") and *ahañkāra* (ego consciousness). Samkhya is a way of looking at the world that is non-religious, thus allowing no clutter of gods and theistic mythologies [Ruzsa, 2018; Samkhya, 2018]".

The familiar Chinese Yin-Yang relates the unity of opposites in Lao Tse's 6<sup>th</sup> century B.C.E. *Tao Te Ching*. Very similar to modern cosmologists' description of the singularity is "Tao looks like a void. Yet, It is omnipotent! It is in the Depths. It is the Origin of everything" [Antonov, 2007, p. 6].

- "When people know beauty, they also understand what is ugly. When people learn what is good, they also realize what is evil. In this way, existence and non-existence, hard and easy, long and short, high and low allow knowing each other" [Ibid., #2, p. 5].
- "They come out from Tao manifesting Their Individualities, then come back to the state without individual manifestations in It." [ibid., #14, p. 10].
- "The interaction of opposites is the sphere of Tao's activity" [Ibid., #40, p. 22].

Many will recognize this common East Asian "unity of opposites", but do not forget 6th century B.C.E. Milesian philosophers like Heraclitus [McGill and Parry, 1948, pp. 418-444].

Heraclitus observed [Patrick, G.T.W., 1880]:

The unlike is joined together, and from differences results the most beautiful harmony and all things take place by strife.

Into the same river you cannot step twice <and still other> waters are flowing [XLI].

For men to have whatever they wish would not be well. Sickness makes health pleasant and good hunger, satiety, weariness rest [Ibid., CIV, p. 109].

The harmony of the world is a harmony of oppositions ....[Ibid., LVI, p. 98]

...both are and are not [Ibid., LXXXI, p. 104]

For human nature does not possess understanding [understanding resulting from how contradictions operate to present anything to us for that understanding], but the divine does [Ibid., XCVI, p. 107].

God is day and night, winter and summer, war and peace, plenty and want [Ibid., XXXVI, p. 93]

Heraclitus is not a unipolar thinker, writing, "The harmony of the world is a harmony of oppositions ....[Ibid., LVI, p. 98] and "...both are and are not " [Ibid., LXXXI, p. 104]

Opposite change is permanence. Parmenides (c. 544-450 BCE) said:

One path only is left for us to speak of, namely, that it is. In it are very many tokens that what is, is uncreated and indestructible, alone, complete, immovable and without end. Nor was it ever, nor will it be; for now it is, all at once, a continuous one. For what kind of origin for it. will you look for? In what way and from what source could it have drawn its increase? I shall not let thee say nor think that it came from what is not; for it can neither be thought nor uttered that what is not is. And, if it came from nothing, what need could have made it arise later rather than sooner? Therefore must it either be altogether or be not at all. Nor will the force of truth suffer aught to arise besides itself from that which in any way is.

Wherefore, Justice does not loose her fetters and let anything come into being or pass away, but holds it fast. ... And there is not, and never shall be, any time other, than that which is present, since fate has chained it so as to be whole and immovable.

[Parmenides (544 - 450 BCE), 1951]

Parmenides does not allow change at all, including his thinking. He might be comfortable with Newton's absolute, unchanging, independent, and eternal space.

Plato (*Theatetus*) refers to dualistic philosophers, "give the name of 'being' to both of them together? ... 'the answer is plainly that the two will still be resolved into one.' " In *The Sophist*, [1755] a stranger refers to "reciprocation of opposites", that is, contradictory.

Aristotle [1984] said, "Everything, therefore, that comes to be by a natural process is either a contrary " contrary, the privation", [Ibid., 191a13-191a21, p. 453/15] "or a product of contraries." [Aristotle, Physics, 188b21-188b26, p. 449/10]. He says it is not the former, concluding, "...our principles must be contraries." [Ibid., 188b36-189a9, p. 450/11].

Binary nature of things: "it is impossible that there should be more than one primary contrariety" [Ibid., 189b19-189b27, p. 450/11]. "...Clearly then also to come to be so-and-so from what is not means 'what is not'." [Ibid., 191a35-191b9, p. 454/16]. "...a thing comes to be from the privation, which in its own nature is *something which is not*—this not surviving as a constituent of the result" (emphasis added) [Ibid., 191b13-191b17, p. 454/16].

Aristotle said, "Whether the form or what underlies is the substance is not yet clear." [Ibid., 191a13-191a21, p. 453/15].

Pairs of opposites which fall under the category of relation are explained by reference of the one to the other, the reference being indicated by the preposition "of" or by some other preposition. Thus, 'double' is a relative term, for that which is double is explained as the 'double of something'" Ibid., Categories 10 – 11b22-33; 192a25-192a34, p. 455/18)[Note the Bekker references.]. Such is "...the underlying nature to substance, i.e. the 'this' or existent". [Ibid., 191a9-191a12, p. 453/15].

Come modern times. Cosmological research suggests of the unity of difference, i.e.,

the Universe after the big bang is the CPT [(charge, parity, and time symmetry)] image of the Universe before it, both classically and quantum mechanically. The pre- and postbang epochs comprise a universe-antiuniverse pair, emerging from nothing directly into a hot, radiation-dominated era. [Boyle et al, 2018]

...

The spacetime is (C)PT symmetric in the sense that the tetrad geometry according to an observer who moves forward along the  $\xi = \text{const}$  thread is identical to the tetrad geometry according to an observer who moves backward along the thread and reverses the spatial one forms  $e_i \rightarrow -e_i$ . ... This is precisely the boundary condition responsible for producing the famous oscillations seen in the CMB power spectrum, with the correct phases. [Ibid.]

Key phrases are "symmetry between past and future", "contracting half of our Universe" (contrasted to our expanding half - as the antiverse contracts, this one expands in compensation), and "matter-antimatter asymmetry on one side of the bang is the opposite of the asymmetry on the other side" [Ibid.]. I think this article supports the above discussion on dimension, the first and subsequent ones following the same innate process "emerging from nothing".

Hegel said:

true and positive meaning of the antinomies is this: that every actual thing involves a coexistence of opposed elements. Consequently to know, or, in other words, to comprehend an object is equivalent to being conscious of it as a concrete unity of opposed

determinations. The old metaphysic, as we have already seen, when it studied the objects of which it sought a metaphysical knowledge, went to work by applying categories abstractly and to the exclusion of their opposites. [Hegel, 1830]

My colleague and friend wrote about distinguishing "polar opposites" from "contradiction", recalling Hegel's "antinomies ... coexistence of opposed elements". "Polar opposites" reveals Hegel's essence, a globe coming to mind. The globe needs two poles; they don't cancel each other but complement, affirm, and, of course, co-exist.". Given the most fundamental law, what about existence because of its negation (nothingness, cancellation, or contradiction - P and not P)? Paraconsistent logic (an interesting side trip outside the scope of this paper) may help shape the answer.

Regarding Bertrand Russell:

The basic constituents of the world of Russellian monism are the fundamental entities of physics (not the insubstantial events of Russell's world). But the most fundamental properties of these fundamental entities are not their physical properties, but the intrinsic properties in virtue of which they have those physical properties. And these same intrinsic properties do, when arranged appropriately, give rise to conscious experience. Therein consists the monism of this view: at the bottom there are fundamental entities with certain intrinsic properties; all else is grounded in this fact. [Alter, 2019]

John Archibald Wheeler:

...every 'it'—every particle, every field of force, even the space-time continuum itself—derives its function, its meaning, its very existence entirely—even if in some contexts indirectly—from the apparatus-elicited answers to yes-or-no questions, binary choices, bits. 'It from bit' symbolizes the idea that every item of the physical world has at bottom—a very deep bottom, in most instances—an immaterial source and explanation; that which we call reality arises in the last analysis from the posing of yes–no questions and the registering of equipment- evoked responses; in short, that all things physical are information-theoretic in origin and that this is a participatory universe. [Wheeler, 1990]

I now can set forth the most fundamental law:

### **Something exists because of what it is not.**

That is my bootstrap, or "axiom", my Abbot-constrained ontology, this law, whose further rationale I have written about before [Horne, *The Philosophy of Cybernetics*, 2021]. In all difference types (up-down, infinite-infinitesimal, synthesis-analysis, etc.) not only does one of a pair require the other to exist, both exist simultaneously.

The popular unity of opposites (e.g. positive-negative, yes-no, left-right, is-is not, being-nothingness, etc.) is a subset of difference. For example, black does not imply white, only another color. Left differs from right, both an opposite and a difference. Our senses obey this most fundamental law. Abstractions depend upon sensory data; accordingly, the law applies. From where did this law emerge, and what are its implications?

### ***The substratum and reality***

Immanent in the singularity birthing our universe was the most fundamental law, primal order embodying and expressing that law, every emanating entity needing something which it is not to exist, each "half ontology" bound to another as one, emerging simultaneously in the same spacetime. Herein is the substratum, the singularity underpinning all, bivalent logic the language

expressing it. Everything in the environment carries with it and obeys the laws imminent in the singularity, including the most fundamental law. Democritus, Leibniz, and Chalmers are correct about "monads", but they are not "things", or objects. Process is just as much of an object as object, itself.

**Singularity = monad = substratum = existent = reality.**

Aristotle was looking for the substratum, that which underpins everything. Recollect from above, Aristotle's, "Pairs of opposites ... are explained by reference of the one to the other ..." [Aristotle, 191a9-191a12, p. 453/15].

Such is "... the underlying nature to substance, i.e. the 'this' or existent". [Ibid., 191a9-191a12, p. 453/15]. Respecting time,

The 'now' in one sense is the same, in another it is not the same. In so far as it is in succession, it is different (which is just what its being now was supposed to mean), but its substratum is the same; for motion, as was said, goes with magnitude, and time, as we maintain, with motion. [Ibid., 219b13-219b34]

Immanuel Kant was prescient of wave-particle duality in his 1787 Critique of Pure Reason

All our representations are, it is true, referred by the understanding to some object; and since appearances are nothing but representations, the understanding refers them to a something, as the object of sensible intuition. But this something, thus conceived, is only the transcendental object; and by that is meant a something = X, of which we know, and with the present constitution of our understanding can know, nothing whatsoever, but which, as a correlate of the unity of apperception, can serve only for the unity of the manifold in sensible intuition. By means of this unity the understanding combines the manifold into the concept of an object. This transcendental object cannot be separated from the sense data, for nothing is then left through which it might be thought. Consequently it is not in itself an object of knowledge, but only the representation of appearances under the concept of an object in general a concept which is determinable through the manifold of these appearances" [Ibid., A250, A 251 p. 268; cf. pp. 266 et seq.]

We experience an object in one moment after another (appearing, or appearance), but reality means object persistence, manifesting itself through those appearances, or instances (the statistician's samples). More about Kant's appearances is discussed below under the subheading "Experience".

Hegel said, "But we can say, too, that it has been the conviction of every age that what is substantial [substratum] is only reached through the reworking of the immediate by our thinking about it." [Hegel, 1830, p.54]. At the core of experience is how we see ourselves and our environment through ourselves. Hegel says everything contains its own contradiction, his "ground" (*Logic*) capture the essence of the singularity, that substratum.

The singularity's "halves", those with half an ontology are analogous to notions, more like heuristics, whereas the singularity is analogous to the concept, the formal, or constructed mentation. Reality? Neither is it physical or mental but each in terms of the other, each containing its own contradiction and affirmation, together the reality.

What occurs when the differences meet? Stuart Kauffman may be at least partially correct in his 1993 *The Origins of Order* about the boundary of chaos generating order. Perhaps autopoiesis (self-organization) and autodestruction originate in a metaphorical Lagrange area/boundary/balancing area, where laws are carried out. If our universe is discrete, it is also continuous simultaneously, "particles" in terms of vacuum space (maybe nothingness), obeying the most fundamental law.

Neither "physical" nor "mental" (heuristics, neither describing our reality) are necessary to explain the most fundamental law. We need only stasis (point) and movement (point's domain) and the dimension within which it finds itself. "Spacetime" (as opposed to just space or time) rubberstamps the most fundamental law.

Why the law works, as do all others is an Abbot problem.

## **How reality appears**

### ***The character of fields and their activity***

Oxford [Oxford-field, 2022] says a field is, "...the region in which a particular condition prevails, especially one in which a force or influence is effective regardless of the presence or absence of a material medium". Tensors and sets of vectors describe field events. Recording devices or techniques detect sensory phenomena - sound, light, smell, taste, and touch - the empirical.

A field is an area, zone, space, or anything exhibiting the effect or influence of something we not knowing its essence. My framework provides for analogs in the mental domain.

In three Newtonian dimensions, picture a two-dimensional plane as a slice in a cube, the whole plane (field) moving unidirectionally. On that plane, the point is stationary, different from others minimally by location. Yet, this plane "moves forward" in time, carrying with it the point, itself moving simultaneously in all directions ("vibrating").

Overall, a field and the most fundamental law governing it makes the most sense for my framework, since we do not know what a "particle" really is nor the "units" or smallest in mentation.

Now, we come to specific fields.

### ***What is "physical"?***

The word "physical" is a heuristic referring to a condition of our existence we cannot explain, and may not have any intrinsic explanatory value. From the 17th century and 18th century view that there is a collection of solid particles comprising the Universe through the 19th century view of Priestly, Faraday, and Maxwell to the famous  $E=MC^2$  [McMullin, 2002], we now arrive at physicists using fields, preferring words like, "any physical quantity which takes on different values at different points in space. [Feynman, 1970, 1-2]". Physicists like Horst Beyer state, "practically nobody believes in the existence of point particles", but, "physics is unlikely going to move beyond the point particle concept, since all fundamental theories of physics, quantum field theory and the theory of general relativity, are based on this concept and are in perfect agreement with experiment and observation" [Beyer, 2014.].

The physical field evidences displacement, perturbation, or movement, colors, temperatures, and other measured properties aspects of the former. We do not know what gives rise to movement/perturbation, and physicists settle for what "works" [Ibid.]. The perceived smallest of all - "leptons", "quarks", and "gluons" - may be composites of something else, and such is why physicists revert to fields. Electromagnetic, thermal, gravitational, and electromagnetic effects display themselves in this field, all reducible to movement as movement, perturbations, or displacement, each field category of difference bleeding into the other, Heisenberg uncertainty - the inability to measure position and momentum at the same time. - preventing us knowing its essence. That and Planck-scale particles appearing and disappearing (cf: Casimir Effect, "virtual particles") suggests the absence of these particles occupying a single point in space-time.

Describing consciousness as an electromagnetic field, as does McFadden, is intractable, again, because we don't know what perturbs the field. McFadden says:

... nearly all examples of so-called 'integrated information', including neuronal information processing and conventional computing, are only temporally integrated in the sense that outputs are correlated with multiple inputs: the information integration is implemented in time, rather than space, and thereby cannot correspond to physically integrated information. I point out that only energy fields are capable of integrating information in space. I describe the conscious electromagnetic information (cemi) field theory which has proposed that consciousness is physically integrated, and causally active, information encoded in the brain's global electromagnetic (EM) field. [McFadden, 2020]

Sheldrake's "morphic field" ([www.sheldrake.org](http://www.sheldrake.org)) may be an analog in the static field, a subject suggested for research.

### **What is "mental"?**

Explaining the mental by the physical carries the the problem of knowing what "physical" is. Our diagnostic knowledge and classification schemes - again, through reductionism - have allowed better identification of diseases and better treatments. Description and prediction plague mentation research, suggesting the need for discovery methods. At least, physicists with their fields recognize the limits of "particle". We need similar development for the mental.

Obeying the most fundamental law, mental exists because of physical; occurrences in the physical field having their analogs in the mental one. Because the physical/dynamic field is variegated, so, too, it is expected the mental field would be. Each has conditions or events that create (emerge) or destroy (entropy). In the mental, it is learning and forgetting. Illustrative of this is our universe expanding towards entropy (heat death) but contained within it are creative areas. Autopoiesis (self-organization) exists because of autodestruction (entropy), and vice versa - in both fields.

Consciousness does not exist alone; we need both fields to yield reality.

### **Experience**

I always have been perplexed about John Dewey's 1916 *Democracy and Education*, that education depends upon experience.

Immanuel Kant said,

*There can be no doubt that all our knowledge begins with experience. For how should our faculty of knowledge be awakened into action did not objects affecting our senses partly of themselves produce representations, partly arouse the activity of our understanding to compare these representations, and, by combining or separating them, work up the raw material of the sensible impressions into that knowledge of objects which is entitled experience?"*

*Reason is never in immediate relation to an object, but only to the understanding; and it is only through the understanding that it has its own [specific] empirical employment. It does not, therefore, create concepts (of objects) but only orders them, and gives them that unity which they can have only if they be employed in their widest possible application, that is, with a view to obtaining totality in the various series. The understanding does not concern itself with this totality [of reason], but only with that connection through which, in accordance with concepts, such a series of conditions come into being. Reason has, therefore, as its sole object, the understanding and its effective application. Just as the*

understanding unifies the manifold in the object by means of concepts, so reason unifies the manifold of concepts by means of ideas, positing a certain collective unity as the goal of the activities of the understanding. [Kant, 1787/1929, B1: and B 671-672: (emphasis mine)]

Further,

We demand in every concept, first, the logical form of a concept (of thought) in general, and secondly, the possibility of giving it an object to which it may be applied. In the absence of such object, it has no meaning and is completely lacking in content, ... empirical intuition of which it is the mere form. Therefore all concepts, and with them all principles, even such as are possible a priori, relate to empirical intuitions, that is, to the data for a possible experience. [A 239]

However scholars may explain the very controversial topic of transcendental knowledge, categories, and so forth, Kant still does maintain, "This transcendental object cannot be separated from the sense data, ..." [Ibid., A250, A 251 p. 268].

... that "the appearances are not things in themselves" [A 190].

When, therefore, we say that the senses represent objects as they appear, and the understanding objects as they are, the latter statement is to be taken, not in the transcendental, but in the merely empirical meaning of the terms, namely as meaning that the objects must be represented as objects of experience, that is, as appearances in thoroughgoing interconnection with one another, and not as they may be apart from their relation to possible experience (and consequently to any senses), as objects of the pure understanding [Ibid., A258 p. 274].

Piaget observed, "Experience relies on data, or events [Piaget, 1953– Origins, p. 360]" .

The mind then proceeds from pure phenomenalism whose presentations remain halfway between the body and the external environment, to active experimentation which alone penetrates inside things. What does this mean if not that the child does not undergo simple external pressure from the environment but tries, on the contrary, to adapt himself to it? Experience, accordingly, is not reception but progressive action and construction: This is the fundamental fact.

[Ibid., p. 365]

"Concrete reality is the ensemble of the mutual relationships of the environment and the organism, that is to say, the system of interactions which unify them." [Piaget, Ibid., p. 376]

How does all this occur? From a biological standpoint,

... representations of space, time, and number are systematically interrelated at the start of postnatal life, before acquisition of language and cultural metaphors, and before extensive experience with the natural correlations between these dimensions. [de Hevia et al., 2014]

Regarding application, we detect Kant's sense data in a "unit for" (an object), memorize it, recall it, and repeatedly apply the unit object to another (comparison) to measure or compare it.

We experience numbers this way. Piaget demonstrated that both logic and numbers have a physical and correspondingly abstract foundation [Piaget, *Fondation*, 2022], and scientists have discovered neurocorrelates responsible for the human ability to quantify, as noted above. Our perception of time is serial and measured. Moments in time and number are events having the same generative source.



Experience is an effect of a singularity emanating from two half ontologies - the mental (rationalism, idealism, abstraction, non-material, etc.) and the physical (empiricism), the ultimate source of both which we know not what.

Hence, I suspend any use of the word "experience", pending a viable framework within which it can fit. Yet, I do like Creighton's [1903] words:

The direct view of experience, it is said, shows us subject and object together in fundamental or organic unity [p. 608]. ...Functions, as we have already maintained, imply a central unity which is something more than the mere togetherness of parts. Or, to put the same thing in a different form, the fact of functional relationship implies the existence of an inner pervading identity running through the parts. In experience this principle of identity comes to consciousness of itself by distinguishing itself from the objects in which its nature is expressed and embodied. [p. 610].

While his meta-view of experience and consciousness are idealist, it's an excellent capstone to the above.

## **Problems and prospects**

### ***Problems***

My framework to describe consciousness (mentation) says generation and entropy in the physical field have analogs in the mental field, like constructive and destructive ideas, mindful we are observing only the effects, not their actuality or cause.

In both fields, if a point pulsates or vibrates in all directions simultaneously, where are time, boundary, and direction? Does it go backward in time by that vibratory direction? String theory and dimensions remain only computational bootstraps.

If movement occurs in both fields (recording "mediums"), movement of thought may be different than physical field perturbations. If so, we have to re-visit measurement and quantification.

What is the mental analog to the physical particle, the remaining problem their essence?

Does future resembles the past and replication apply in the mental field? Then, what is the granularity of precision in the comparison?

What of non-conventional research methods, intuition, and Feyerabend's admonitions against method? Is intuition an epistemology? Better still, what is it? How about the unavoidable bias and subjectivity, even in double-blind research? What are the criteria for judging "what works"? Pragmatism always has bothered me because of its anarchy, and such can lead down dark corridors.

Value judgements, like "good", "evil", etc., sully exploration.

### ***Prospects and research directions***

The framework provides for non-explainable mental phenomena. Would one claiming precognition reach out into a timeless static field for a "unit" of thought in a timeless, block, or deterministic universe (the event already having happened) [McTaggart, 1908]? Psychokinesis ostensibly bridges the mental-physical field boundary. Telepathy would suggest an analog to the electromagnetic spectrum. All these await evidence. Could Sheldrake's "morphic fields" be made viable?

My framework allows finding the analogs of physical laws, like like  $E=MC^2$  and relativity theory (Feynman, *The Character of Physical Law*) in the mental field. If a Lagrange area exists between the physical and mental fields, we may have discovered where creative and destructive processes reside.

I finally am arriving at the animism (the physical having mentation ) discussion promised above. Both the physical and mental are gradiated, like a color palette. Mentation arises between life (which has not been unambiguously identified) and non-life, and I suggest the metaphorical Lagrange area would determine sentience, just as it does creation and destruction.

It also should be apparent by now that we should better understand consciousness, itself, before saying what is artificial.

And, yes, my framework, itself probably will evolve.

### **Methodological considerations**

Conventional scientific methods, dependent upon the principle of induction - the future resembles the past, and independent replication of research findings may need re-visiting, or be inadequate for mentation investigation. Recalling Feyerabend's *Against Method*, we may have to entertain intuition an auxiliary epistemology. We need to be open to taking non-conventional exploratory paths. For example, physicians, like Richard Gallagher in his admittedly controversial *Demonic Foes*, now ask if destructively-oriented beings exist. A Thomas Kuhn scientific revolution may be necessary to open the door to discovering these lurking in consciousness. A whole corpus of literature comes to mind, such as *Hermetica*, "ancient wisdom", and the vast unknown of Eastern, African, and Latin American philosophies.

Up until recently, most persons rejected the existence of unexplained aerial phenomena (UAP), but finally, the U.S. government admitted their possible existence. A 25 June 2021 report, "Preliminary Assessment: Unidentified Aerial Phenomena", issued by the U.S. Office Of The Director Of National Intelligence [DNI], suggests how we may approach consciousness. The DNI lists the categories into which UAPs might fall, four standard, the fifth, "Other":

Although most of the UAP described in our dataset probably remain unidentified due to limited data or challenges to collection processing or analysis, we may require additional scientific knowledge to successfully collect on, analyze and characterize some of them.

A careful reading shows that the DNI, to its credit, has offered only a framework for study - contrary to popular acclaim that it admits flying saucers do exist. While current research in the physical arena (ICD-11, neurocorrelates, etc.) may be revealing, the "other" category of non-conventional methods requires attention. Physicist David Scharf's (in a recent email to me) "subtle fields", the non-conventional "energy" healing, and dichotomies like meditation - anger/sleep - awake, come to mind.

Continue to be interdisciplinary [Horne, *The rigor of interdisciplinary*, 2020], avoiding the siloed thinking of both the physicalists and idealists, their ignoring the most fundamental law.

Consciousness research concerns knowing more about ourselves but affirming our identity by seeking the generative aspects of the mental field, like those in the physical. It is a religious quest, seeking that which coheres or binds, housed by the monasteries of conferences, universities, and the like.

Physicists rely on mathematics to draw conclusions about the physical world. Could the same or similar conclusions be reached using logic, arranging in proper form the central ideas arrived at by

the mathematical physicists? Arithmetics (from which mathematics emerges) and logic converge as one, a core generating my framework. I present my "koan" with all the logical operators, as well as binary arithmetics following Peano's rules. Both the competent mathematician and logician will know what I am talking about.

p	q	f <sub>0</sub>	f <sub>1</sub>	f <sub>2</sub>	f <sub>3</sub>	f <sub>4</sub>	f <sub>5</sub>	f <sub>6</sub>	f <sub>7</sub>	f <sub>8</sub>	f <sub>9</sub>	f <sub>10</sub>	f <sub>11</sub>	f <sub>12</sub>	f <sub>13</sub>	f <sub>14</sub>	f <sub>15</sub>
0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
0	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1

[Horne, 2017]

## Prospects

Artificial intelligence has been a main impetus behind modern consciousness research. Logically, one should know what intelligence is before s/he can create it artificially. Attempting to operationalize it goes back to ancient times with the moving owl of Ktesibios through Babbage's engine to ENIAC, and now quantum computers. While these devices replicate some effects of mentation (incorporating human bias) they do not necessarily contain it. As with life, you need to know what it is to re-create it.

As the world's population ages and as our environment becomes more complex (and degrades), we will continue to look more to devices that replicate mentation but at an ever-increasing pace. Social problems, in particular, may be too complex for humans to solve, and it would behoove this human subspecies to identify and come to terms with our mentation and how and why it gives rise to our current crisis/conflict-ridden world if we are to avoid the Holocene (Sixth Great) Extinction.

Within my framework can be taxonomies of mental phenomena and processes, analogs to the periodic table of elements, the electromagnetic spectrum, and biological classification systems (Linnaean, cladistic methodology, and molecular phylogenies). We should look for analogous processes, like entropy, and physical laws.

Taxonomies would have to incorporate the concepts tagged by non-conventional practitioners and dismissed by conventional ones, like "meridians", "qui", biophotons, and "aura". We cannot dismiss experiences people have (especially repetitive ones) if they are not explained by conventional means, Gallagher a prime example. Panpsychism and panpsychism deserve attention, as well in these taxonomies.

Tied to the consciousness problem is identifying the object of consciousness, perhaps Piaget's and Wheeler's "outline structures"/"pregeometry", and "calculus of propositions" (as did my logic courses), the language of innate order in the Universe.

Again, expect the framework and its contents to change. This includes seeing how other logics and their rulesets may have a role - tense, paraconsistent, intuitionist, and so forth.

Let us also re-visit ancient wisdom, like Buddhist philosophy of the two truths, the one we think we know, provisional, and the metaphysical, or ultimate. The *Hermetica*, "sacred geometry", and pre-historic/paleolithic views, rather than being dismissed out of hand, may provide useful perspectives in approaching the consciousness problem.

## Summary and conclusions

I agree with Chalmers; consciousness is a "hard problem", if you have only half an ontology, the other half provided by the most fundamental law, consciousness (mental) balanced by the equally important material, or empirical (physical), neither existing alone. Hence, Chalmers' problem is re-framed, once you accept the law. Such does not mean there is not a consciousness problem, but the larger one of metaphysics.

In summary, Cartesianism of the physical has taken us to sub-Planck level, but we still are ignorant about what a field "records", the "ultimate physical reality". Its mental counterpart is equally perplexing. The "hard problem" is Abbott's Flatland dilemma - dimensional constraint, the essence of the most fundamental law. "Half an ontology" fails. Both together simultaneously assume full existence with the law, each pole embracing analogously the metaphorical Lagrange point balancing or connecting the two, a boundary condition allowing a singularity, with creation and entropy adding and subtracting from each domain. Both Heraclitus and Parmenides, the former observing the process of difference, the latter the eternal, cheer the most fundamental law, Hegel's "ground" describing it.

Chalmers' "... qualitative feel—an associated quality of experience. These qualitative feels are also known as phenomenal qualities, or qualia for short." [Chalmers, 1996, p. 4] is at best an empirical effect having no explanatory (of essence) value, just like the electronic perturbations registered by an oscilloscope. Chalmers' pet word, "qualia" says nothing and is subjective, value-laden, at best; it is a perceived effect of something, given a label by our very inadequate language.

East Asian thinking (Hinduism, Taoism, Buddhism, etc.) centers on escaping this world of *maya*, or illusion, our so deeply meditating that we become at one with the universe. Here, "illusion" does not refer to our world about us not existing, but - at least to me - the physical part in its most reduced form - sub-Planck space - permeated by or always in a constant state of flux. By the time you perceive anything ("perceptual lag"), it has changed.

Applying the most fundamental law to complex living things (including animals), consider:

The body is the same life as the soul, and yet the two can be named independently. A soul without a body would not be a living thing, and vice versa. Thus the visible existence of the conception is its body, just as the body obeys the soul which produced it. Seeds contain the tree and its whole power, though they are not the tree itself; the tree corresponds accurately to the simple structure of the seed. If the body does not correspond to the soul, it is defective. The unity of visible existence and conception, of body and soul, is the idea. It is not a mere harmony of the two, but their complete interpenetration.

[Hegel, 1883/1896/2002, p. 21]

On a grander scale, including societies, everything has a deep structure, and I see "organism" a viable appellation. Overall, the Universe, itself, is an organism having consciousness. Menas Kafatos did in his 2000 *The Conscious Universe*.

For us? Is it self-deflating to see our bodies with a complex consciousness, but after death, the body breaking down, along with it the consciousness, each of the elements of the consciousness going the way of the perturbations giving rise to the particles. We blend back into the soup of existents giving rise to us in the first place.

So what is the upshot, including all assertions with their analyses appearing in gazillions of scholarly works on every subject? Though authors and institutions usually do not state explicitly,

they are merely putting on their boots, hauling themselves up on a platform, vying for recognition in this dimension's best fashion show. I am putting on mine, obeying "the most fundamental law" (as "ignorance of the law is no excuse"), and arresting the suspect, charging it with being in mental field. Yet, who am I, self-appointed judge, jury, and executioner?

I like Shakespeare's line from *Macbeth*:

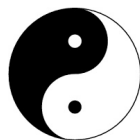
Life's but a walking shadow, a poor player, that struts and frets his hour upon the stage, and then is heard no more; it is a tale told by an idiot, full of sound and fury, signifying nothing.  
— [*Macbeth*, Act 5, scene 5, lines 16–27]

Perhaps you all have seen or heard my argument elsewhere, and, if you have, consider mine an independently-arrived at set of conclusions. In the perhaps hundreds of thousands of books and papers, all of which I doubt anyone has read, I could have (and probably have) missed many, including those by the legions of critics. Suffice it to say, though, if there is that paper or set of them, I do not think academicians would still asking about consciousness. Maybe mine is the one that charms.

Our appearance of correctness, neutrality, and all that is through ourselves to be judged, perhaps, by the quality control department creating this universe in the first place. Do we have any choice, not so much out of faith but sanity, to accept our dimension as it is? I doubt if I am the only philosopher uttering this mundane truth. I never really was a fan of his, but Kierkegaard comes to mind. Yet, if we are to be his existential religionist, it is by internalizing the Latin "to cohere", or bind, coming to terms with some form of monism, singularity, or "whatchamacallit" (whatever else one may call it.).

I leave you with a thought perhaps uttered by Charon, himself, the middleperson ferrying us across the river Styx, perhaps escaping the clutches of our self-contradictory world. Our half an ontology hides the ultimate of anything, including life is. I think you know where I am headed, both physically and mentally, as I am not too far distant from knowing the other half but content with the Bodhisattva's nirvikalpa samadhi state [Nirvikalpa samadhi yoga, 2022].

Before I start pushing up the daisies, I'm going outside to have fun with my cats. See ya'll on the other side!



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