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Consciousness Calling: Quantum
Agency of a Universe in the
Making

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Abstract: While the current evolution of society is marked by a feverish march into artificial systems which gradually amounts to virtualize all facets of society, this paper focuses on theories of/for consciousness with quantum signature.

Keywords: Consciousness, Mind-body problem, Materialism, Supramental

I. SPOTTING A CONSCIOUSNESS PHENOMENON

"There is no coming to consciousness without pain."
Carl Jung

"It helps if remember that everyone is doing their best from their level of consciousness."

Deepak Chopra

What is the ground of being? In the year 869 AC, the Fourth Council of Constantinople¹ condemns trichotomy — man composed of a body, a soul, and a spirit — in favor of dichotomy, that is man composed of a body and a soul. Around the year 1900, Materialism further trims man's constitution by leaving aside soul. The result amounted to a surprising intertwined religion-science dogmatic move ending up in present day fragmentation of the Western mind subjected to myriads of artificial external stimuli.

For the post-modern acceleration of lifestyle pushed individuals into user mode, subjecting them to software interfaces and algo- rithms, to programmed intermediation agents in charge of any social processes, to networked interrelations with people and information indistinctively. But a behavioral/cognitive approach can enhance only what's external to just being. And societies tend to work this way in politics as in scientific views, and elsewhere by the same universal token.

In a 1926's Western Europe, the term photon gets invented, Erwin Shrödinger develops the wave equation and the core total energy quantum mechanics operator. This is highest time for a host of quantum physicists, among whom Max Born, Pascual Jordan, Niels Bohr, Werner Heisenberg, Enrico Fermi, Paul Dirac and quite many others, all thriving to fruition the foundational work elaborated by Max Planck's 1900 quantization conjecture of light. A promise in a radically novel science shapes up. That very same year, a 54 Aurobindo Ghose self-initiates at Pondichéry a retreat to devote exclusively to "the earthly manifestation of the Consciousness of truth... through which the Divine knows not only its own essence and being, but also its manifestation" through capturing India's spiritual heritage in depth as well, inclusive of the concept of unity in nature and in life. A journey into man's inner unknown starts up. Together³ with Mirra Alfassa, they develop an evolutive laboratory ashram collaboration with "man in transition" as the subject topic towards a new species attentively recorded from 1958 to 1973. As a singular posture not found elsewhere in evolutionist thinkers, they adopt a genuine design innovation approach with a view to transcend the mental plane through practicing in the body (footnote¹).

While the mental was long been used as a cognitive add-on apparatus to the physical and the vital bodies. here it is today the advoca- ted reference on the planet, the dominating force backing society's structures and technological innovation. A de facto supremacy deni- grating presupposed abilities already built into the human constitution and that only a few mystics or eccentrics could foresee and operate on their own. Today, the mental plane is the operating system of an anthropomorphized planet. Three stepwise societal drivers are currently at play: the automatization of society with ubiquitous automata and processes; followed by the artificialization of society with AI, robots without form; leading to the virtualization of society through augmentation and virtualization of objects and beings, themselves seen as object. The 3 R's have been progressively captured, respectively: mental arithmetic by informatics which came first as computing; writing by the generative prompts-based production of scripted texts with LLMs; reading by clipping videos. Despite a huge philosophical and mystical heritage born in the Western world, this is both the most recent legacy and the salient contribution of the Western civilization. Could ancient Eastern heritage risk being overlayed by these drivers?

But the time has come. To reunite science and spirituality, to join dense Eastern legacies with Western philosophies and science as they each need both in complementary understandings. To face human evolution factually in responsible action, not in compliant attitude but in creative autonomy, the lack of such complementing union would expose to human's decay. Until now in the West, a period favored human consciousness entrenched in the objectification of an observable world — "what you see is what you can mea- sure" — prevails. And what you can measure forcibly points to time and space focus. Yet, people reckon their feelings (Leonardo da Vinci: "Our every cognition starts with feelings and emotions"), have wake, sleep, and lucid dreams as well as intuitions. experience remote viewing or telepathic knowledge, etc, are eager to share them in confidence. Yet, the scientist motto seems to dismiss those experience as deriving from matter, the brain.

And today, the overwhelming majority of theories of consciousness are based on neurobiology at large in the wake of 1962 Nobel Prize Francis Crick² and play with brains and complexity sciences. By more

precisely viewing consciousness as a fundamental proper- ty of complex nervous networks. Where the canvassing of consciousness means the exclusive primacy of signal-based cause and ef- fect, thus singling out a quantitative nature. For instance, the consciousness-accompanying Integrated Information Theory (IIT) by Giulio and others⁴,5,6 (cf footnote³) identifies axioms of experience, postulates essential properties of conscious physical systems and qualifies experience by unfolding cause-effect power from measuring information consistent with the postulates derived from those essential properties, the axioms.

II. AXIOMS FOR CONSCIOUSNESS THAT READ THEMSELVES

"Life is a state of consciousness" **Emmet Fox**

For just anybody, consciousness is a subject topic experienced without the necessity to reason about it in the daily. However, con-sciousness studies are not new by far. Long considered as an upper bound to knowledge making (René Descartes, Baruch Spinoza), more recent research reveals a profound hiatus between what David Chalmers 7,8,9,10 plots as the 'easy' problem (scientifically correla-ting a brain areas activity with the experience of conscious states) and the 'hard' one (scientifically understanding why the subjective experience of consciousness accompanies these brain movements). This ontological divide entails declaring an axiom for conscious- ness existence with a causal nature, from which to derive postulates. Let's first note it transcends the Shannon-like qualitative type of information which remains oblivious of meaning. For traditional science has confused the internality with the externality, plus the passage in between, reducing a consciousness-making process to an emergent property from the brain, that is from matter.

At the happy light of most advanced physics, a new interpretation is wanted and possible. Quantum physicist Amit Goswami has resolutely blazed the trail of the quantum phenomenon nature of consciousness ("Consciousness is the ground of all being"11) and, more recently, long-time inventor of the microprocessor Federico Faggin radically shows12 the irreducible gap between two realities, the quantum-founded consciousness and the confined symbolic interpretative works of AI and modern technology. Gapping the two realities would

resume to fusing the particle and wave representations into one!

However, an anthropic scan shows this isn't a putative phenomenon at all as it boasts a unique set of peculiar phenomenological prop- erties. Let's review them briefly.

- 1. Private (inner) intrinsic presence. In a moving stillness mode, consciousness serves to own an own experience, and learn form it, in coherent observability and 'experienciability'. Alice's consciousness does not depend on Bob's consciousness, each individual experience is not cross-accessible. An other way to say that it is both private and not sharable or that it only refers to the conscious indi- vidual, a conscious unit. Nevertheless, it always delivers a meaning to each. The information it provides to the individual is intrinsic, that is exists for one only. David Chalmers 13 uses a straight projective ex- pression: "Right now, you have a movie playing inside your head" reminding Plato's cave animated shadows or an ancestor of the photo- graphic chamber Leonardo da Vinci, with his "camera oscura", and to stress, "the voice over narrative in your stream of conscious think- ing."
- 2. Unbounded bandwidth. With consciousness, a human subject enjoys freedom in any type of action. Karl Marx: "Necessity is blind until it becomes conscious. Freedom is the consciousness of necessity." Or Georg Hegel: "The history of the world is none other than the progress of the consciousness of freedom." This curious property of necessary non limitation is manifest as we not only imagine (because this would still be mental) but sense a light always lighting (a quale), metaphorically illuminating an inner cave of which the walls don't exist, or a bottomless pit. Human free will derives from it, can access all what could exist. For Spinoza, it is thought that spans wider than consciousness which is only viewed as a reactive agent (cf. also footnote²).
- 3. Reflexive mirroring. Consciousness knows, knows what? Nothing really, it knows *itself*, knows it *is*, nothing less and nothing more, voilà the conundrum: it is turned in on itself "like trapped" in between what produces it and a resulting manifestation. Looking at itself in pure reflection is the favorite feature tool of thinkers and philosophers of all ages and tenures.

¹ Only around 2000, was a genuine mathematical theory of design innovation conceived in the West (see below C-K theory). It has been implemented with striking success in industry and institutions at large since.

1. Indivisible agenting. Consciousness acts as one unbreakable integrated agency and delivers an integrated feel. Both elusive and impenetrable from a space/time observer, it remains inescapable and strikingly unreproducible. It has a final, irrevocable status meaning two things. First, as we are absolutely inseparable from it, it cannot be removed from the conscious equation. Faggin says¹¹: "If we believe that the inanimate matter can explain all of reality, we will support an assumption already falsified by the fact that we are conscious." Second, being a whole experience it cannot be decomposed. The proof is self-evident by reasoning from the absurd: remove consciousness in experiencing and you

immediately obtain emptiness and nothingness, a meaningless, abstract, and impossi- ble nonsensical vacuum. Wholeness is the conglobation of all qualia fields while Self would be the generic abstraction.

2. Overwhelmingly compelling status.

Consciousness irrorates our entire being and every III. POSTULATING QUANTUM CONSCIOUSNESS constituting cell — not only a brain re- sponse as when responding to a fight/flight situations. It compels to acknowledge a feel, possibly engage into an action, a thinking, expressing, or emoting. And this does not cease. Even if John Searle once said, "The correct conception is to see mind and consciousness as processes occurring in the brain. All conscious and mental life occurs in human and animal brains. The processes are caused by neurobiological mechanisms and are realized in neurobiological structures. There is nothing like the soul and when the brain is destroyed, the mind is destroyed with it", he acknowledged that there can be no study of mind that leaves out consciousness¹⁵.

Minimalist completeness. Consciousness is natively taking the path of least action (a principle founding all physics including quan- tum), which simple awareness isn't. Surprisingly, only certain spoken languages clearly distinguish awareness from consciousness. The Italian semiotics decouples these two knowledge notions into the classical dichotomic design of human knowing. Indeed, con- sapevolezza, which originates from Latin sapere meaning to have sensibility, sensory perception, or mental flavor, is formed with the relational prefix con, the concept sapere, plus an enabling suffix evole. This is awareness referring a an external reality.

By distinction, coscienza comes from Latin scire which is intellectual and meditative knowing, deriving into conscious. Astonishingly, the word science rather comes from sapere while modern times grant it an absolute value. The French language still respectively keeps savoir and connaître, although in somewhat drifting conceptual spheres. François Rabelais' famous quote in 1532 "Science with- out conscience is but the ruin of the soul" long evoked the corroding character that results from wiring the two concepts. Has this basic distinction been lost due to the Christian contraposition between mind and body?

Synthesizing the above axioms in one short linear prose sentence seems an impossible task. Consciousness looks like a frequency register which authenticates a given individual with 360° spectrum. Hence Amit Goswami's assertion "consciousness is the ground of all being." Imagine living in a most evolved society, couldn't this frequency constitute, an individual reference within the universe. Argua- bly quantum?

OPERABILITY

"Our consciousness is constitutive of the very void of this illusory reality: a gigantically informed and perfectly organized void in which our reality originates and from which it draws a vitality responsible for all the order existing in the universe."

Philippe Guillemant

Assuming a self-evident status for the above six properties, they can be taken as axioms or first principles which can found theories for and of consciousness. By capturing the essence of each, we can deepen them and postulate statements with a view to accommodate consciousness with building blocks enabling later scientific or technological developments.

1. Of course, the **privacy** property can be built materially in perceptive devices like cameras or recorders, more generally via sensory registration device. However, the meaning associated with the perception must be procured to match with a direction. The question arises: where does meaning come from? It should be provided by another match, that is another meaning-making direction. We thus obtain a table look-up that doesn't close on itself, a never ending quest through

² Deleuze citing Nietzche¹⁴: "Consciousness only expresses the relationship between certain reactive forces and the active forces that dominate them. Consciousness is essentially reactive; that's why we don't know what a body can do, what activity it is capable of."

an infinite transitive search for meaning match- es. The deduction: the private experience of consciousness needs to jump into a non space/time domain.

This property opens the way to the entire sphere of communication, material and non. For it can look around at external objects (perceive then as reality) and draw information, and the brain is able to designate those thanks to an a priori acquired memory. The psychological phenomenon of reinforcement accrues stronger adherence to the designation and Goswami & Miller 16 obtained a differential integrated measure of the reinforcement capability.

Yet, consciousness can identifies itself as separate from the perceived objects. D'Ariano & Faggin¹⁷ see in the private enclosure of what is experienced one of the reasons why consciousness *content* is of a quantum nature. Despite this privacy, we cannot quite say that we own an own consciousness, although we benefit from a permanent usufruct. Bernardo Kastrup's¹⁸ intrinsicality aspect of consciousness is that it is beyond the mind, thus irrevocably retains no essential dependency whatsoever with the three lower bod-

2. That consciousness has unbounded bandwidth enables consciousness to travel at least through the four dimensions, in particular dive in an infinite temporal elongation reach and, at the same time, make sense of the Now in Eckart Tolle's 19 way. Not of the lin- early observed presence-to-theinstant that passes by, but the lived Now. We can view the Instant as the collapsed measure of the Now quantum state, within a progressive continuum, while noting Serge Haroche^{20,21} 2012 Nobel Prize proof of the progressive decoherence process "providing a direct insight into a process at the heart of quantum measurement." Consciousness is constantly roaming in the space/time domain of experience but with unbounded bandwidth which is foreignness to space/time.

Dean Radin and his collaborators investigated the possibility of the consciousness collapse hypothesis in depth and concluded for its role in the formation of physical reality (reference²² contains a wide coverage of scientific approaches to consciousness both theoretical and experimental).

3. Reflexivity is a reentrance property that surprisingly entails and liberates free will. Faggin says that free will reflects the way to interpret the wave function collapse, a non algorithmic process, yet with how many dimensions a representation this we think is still debatable. Here is the rupture point where algorithmic mechanisms fail and creativity begins. But the angle for reentrance can be varied at will, thus denoting a principal holographic situation (Figure 1).



Figure 1 — Marcel Duchamp playing the observer:

« C'est le regardeur qui fait l'oeuvre » (The viewer makes the work). Consciousness is both that gaze and that appearance window.

From (c) https://lemetropolitain.com/marcel-duchamp-un-pionnier-de-lart-contemporain/ and https://finestresuartecinemaemusica.blogspot.-com/2018/11/cest-le-regardeur-qui-fait-loeu- vre.html

The property even suggests that evolution in the universe happens everywhere, each point contributing to the evolution of the whole. Which logically stifles the notion of a linear time, of a past locked backwards, and of an inaccessible future as well. James Cooke²³ asserts that "a conscious physical system must exert cause-effect power on itself", thus abiding with Integrated Information Theory, even if he dismisses the implication of Shannon information. More subtly, reflexivity also signifies that perception can be non local. It derives from it the quantum correlation property named en- tanglement. Non locality in space is already acknowledged by quantum science, but Philippe Guillemant24,25 scientifically extends it to time after H.G. Wells: "There is no difference between Time and any of the three dimensions of Space except that our consciousness moves along it.". Whereby consciousness can thus scan future and past with free will, probabilistically choosing from possibilities, observations, and intuitions in a decision act founded by intention. We will see below that consciousness involves multiple notions of time, hence operates beyond the simple here&now ego. As such, it clearly transcends the law of energy conservation in space/time.

4. Indivisibility is the nature of a sane mind.
Schizophrenia could be seen as an alteration provoked by a break in the bioenergetics of the

brain. This property looks like an exclusion axiom but shouldn't as the wholeness aspect can also be derived from the holo- graphic aspect whereby any part contains the whole. In mere space/time, indivisibility would indeed denote the impossible interfer- ence of two conscious experiences at the same time (no Wigner's friend equivalent). Indivisibility is a monadic concept that has the properties of one. Out of space-time, it means that potentiality can be accessed from any part! A bit like epigenetics manifesting an externality that has the potentiality of the whole. Most importantly, this property gives way to qualia, the feel of sensations and feelings, a comprehensive non mental grasp in one swoop of qualities around and inside us. Qualia is global information based on meaning.

Another aspect is the absolute interrelatedness of everything with everything — a signpost of quantum physics, especially according to Carlo Rovelli²⁶ which destroys determinism given that "everything moves." It is chaos beyond chaos, the structural impossibility to determine a future state given known initial conditions. Chaos theory (and René Thom's 3D theory of catastrophes) seems rather asymptotic to such quantum state.

- 5. The **forceful overwhelm** is a fundamental qualia of consciousness which denotes a *field* nature. As evident for the very young child wholly bathing in it, we as adults tend to mentalize consciousness. But it is non knowledge, rests beyond knowledge. The unmiss- able feel that we experience is that of an original field substance that just is whole and is not even subject to change *per se*, besides its evolving focus. The nature of that field is non local with respect to time/space and seems to be grasping all which the physical, vital, mental, and other superior bodies can acquire as information from external events, energies, or potentialities.
- 6. The last property completed minimalism curiously signals an ontological agent medium rooting life. Nature uses everything which is natural and wastes nothing, it seems to ignore even this concept. Consciousness is the periscope of the universe, the one emanated tool to know Itself. Brahman Is Watching. And consciousness, Its mercurial dedicated agency-in-charge needs experienc- ing the cooking of the universe throughout the universe through spatio-temporal dressings. There is formally no reason why only one space/time fabrics would have been created, galaxies may contain myriads of different space/times having their own distinct

values "in parallel." And even ever more of them as further needed, indefinitely. Completeness of reporting up requires such. But still, why minimalist?

Enter Kurt Gödel's two 1939 foundational theorems of mathematical logic (cf. footnote³) about, roughly expressed, the impossibility of knowing everything in any given coherent sphere of knowing. Existence is the result of an agenting ontological consciousness but how is knowledge obtained? Not ontologically at all, but through interacting with other knowledge. The knowledge sphere points to itself and accrues itself by so doing. Knowledge cannot point to the unknowable, this extra knowledge requires a jump from a decidable space populated with known objects to the infinite space of undecidable objects with no known status. We ex- plained this phenomenon from extensive implementation experience of the Concepts-Knowledge theory from Mines Paris for 12 years for many corporations, large and small, and institutions. The theory founders²⁷ strikingly acknowledged the ontological ne- cessity of plotting an imaginary universe to confront with the domain of the current moving reality. by assuming two fundamental worlds of information: a K domain, the qualifiable and quantifiable knowledge types, and a much vaster, qualitative type with a C domain. While K is subject to the entropy of science and mundane operations, C remains subject to potentiality, a dream land that mind can occupy logically. It is this logic that precisely leads to minimality in manifestations. We opened the way to the quantum interpretation of that theory 28,29, enabling a practitioner to make process stages more mindful of the fundamental properties of quantum physics at stake therein.

For Bernardo Kastrup's analytical idealism "Life is the extrinsic appearance of a dissociative process in a universal consciousness." For him, inner experience prevents the outer world to grow into what he calls "an entropic soup." A bit as if the mind would create a semantic dashboard that organizes the outer world perceptions. Which entails the hard question of transforming the quantitative physicalities out there into qualitative experiences, an inability to explicate the latter subjectivity. Kastrup says reality is therefore fundamentally mental, it depends on consciousness. Our direction of thought is that, if reality is so subjective, it also depends on layers above the mental plane. Aurobindo's Supramental body has the capacity to make fundamentally different perception of reality and it bypasses

analysis. We could perhaps call it synthetic idealism. Teilhard de Chardin wrote that things that go up converge: analytical mind should vanish as evolution ramps up the scale of evolution.

As of now we can see how inter-related the above properties become. From this list, we sense how quite inappropriate and awkwardly arduous it would be to try to build software programs which would embed these qualities individually. The conflating computable programs with consciousness seems a sterile direction. When Charles Simonyi, the original co-designer of the Microsoft Word processor attempted at making software programs conscious through his concept of Intentional programming 30, we all missed a key point. Programs can make up a simulated artificial consciousness and can be embedded in organic structures: "The notion of directness [in

programming] is also related to abstraction, in that if something is not done directly one should be able to abstract it to become direct. IP's —inten-tions are such universal abstractions." And "By programmer's intention we mean a desire that something be accomplished." For him, "Computa-tional intent and implementation details are intermingled" even if "The idea here is to provide parameters ... to declarations or operations which determine how the intentions should be implemented." But we can agree that the consciousness of these structures will ever remain an artificial design.

The above list may look like a psycho-physical language, yet the above axioms are taken to be common to all humans — at least. The manifestations that result from that language cannot be copied, only measured via reduction. This evokes the difference between a compiled program and a software interpreter. It is a language that registers the changes, the deformations in the structure on-the-fly. That language of an ab original unknown doesn't designate — this would be a space-time objectification, it rather insignates, that is shows in potentiality only without sign, a signal-less possibility. It flows, contains the alpha and the omega, that is the path and the purpose, the looker and the window, the map and the territory, the question and the answer, the beginning and the end. It is a whirling, spinning language, a vortex, it can come as a quale.

An intuitive synthesis shows that a new cosmology is showing its face that tends to indicate that a) consciousness has unbounded reach, being the baseline of living forms, b) non locality is the fundamental quality of consciousness, and c) the

sheer, potentially infinite diversity of life forms, of situations in specific space/time locations reveals the unfolding of the One into the multiple.

IV. SPACE, TIME, AND CONSCIOUSNESS

"Consciousness is the theater, and precisely the only theater on which everything that takes place in the Universe is represented, the vessel that contains everything, absolutely everything, and outside which nothing exists."

Erwin Schrödinger

All our life buildups are sandcastles waiting their dissolving in the next high tides of dreams and deaths. What remains unaltered is the loval and faithful reporting of consciousness, denoting the passage from ego consciousness to non local consciousness. Yaqui shaman Don Juan evocatively calls this process "feeding the eagle" 31. We take our builds for certain, so we can satisfactorily operate in space/time, and then we resist change. We have obscured the light so to take up our own shadows on the reduced walls of experience, nevertheless feel a void deep within and aspire to return to light, the divine life. In the meantime, we have passed on our ballast, meaning that delivered our message, to Above. Which is another way to say that one can only explain consciousness beyond space/ time realities.

Many consciousness theories

Whitehead called his process philosophy a philosophy of organism recognizing that a conscious organism is much more than a me- chanical fabrication. Today, neuroscientific theories of consciousness either identify consciousness with causal brain structures, or either computational, biological, or cognitive processes. Many are satisfied with a consciousness mediated by sensory areas and con- sider perceptual organization as the key function. And yet, the absolute overwhelming majority of recent consciousness theories take the position of biologically (brain-based for most) inferred mechanisms.

"The first incompleteness theorem states that in any consistent formal system F within which a certain amount of arithmetic can be carried out, there are statements of the language of F which can neither be proved nor disproved in F. According to the second incompleteness theorem, such a formal system cannot prove that the system itself is consistent (assuming it is indeed consistent)." [Raatikainen, Panu, "Gödel's Incompleteness Theorems", The Stanford Encyclopedia of Philosophy (Spring 2022 Edition), Edward N. Zalta (ed.), URL = https://plato.stanford.edu/archives/spr2022/entries/goedel-

<nttps://piato.stanford.edu/archives/spr2u22/entries/goedel incompleteness/>] (accessed July 31st, 2024) At least 42 theories of consciousness were counted for the present article, plus some mathematical formulation to support them. A current daunting compendium collecting and classifying them was made³² by Robert Kuhn who lists about 210 known theories of consciousness from available publications into categories (materialist, non reductive physicalist, quantum, integrated information theory, panpsychist, monist, dualist, idealist, anomalous and altered states, challenge), even if the collating may fall short in compar- ing their merits comprehensively, which would presumably amount to an endless and inexhaustible task. Other credible quantum physicist authors could be added, e.g. the extensive Philippe Guillemant's works. Out of the whole, about two tens of quantumorient- ed. -based, or -centered theories of consciousness are listed. Overall. Kuhn notes: "There seems a sharp division: those striving to develop purely physicalist explanations (however complex), and those taking consciousness as in some sense fundamental (whether motivated by religion. para- psychology or philosophy)."

In the compendium, none seems to explain the unconscious, individual or collective. Often hidden in the background is a Darwinian survival postulate for species. We do not support the view that biological systems are exclusively inferential systems, only in part. For the other part, phenomena are quantum in nature. And epigenetics does have a role. Yet, those theories consider consciousness as an emerging property from biological systems and there are quite many views on how this could happen.

Markovian monism³³ sees consciousness emerge gradually throughout evolution from dynamics of farfrom-equilibrium steady state systems. The inference-based Living Mirror theory 34, taking that consciousness arises from the computational interaction between a living system and its environment even holds a framework of beliefs in qualities about the world as an equivalent description of con-sciousness. Consciousness becomes a describable inferential process. Then biopsychic theories take the view that consciousness is coextensive with life and place a discontinuity divide between the conscious and the non-conscious. Biophysics seems nevertheless a promising alternative approach compared to biochemistry as for taking the process of life more relevantly. Mathematical Conscious- ness Science is a growing field³⁵, also supported by associative structure, with one goal to obtain a model of consciousness, also to back the advent of responsible artificial intelligence.

Problems are, that the many theories of this kind tend to support themselves, for instance consciousnessas-inference leads to vague, sometimes intuitive, descriptions of consciousness while our direct experience is nothing but sharp perceptions. The gap between empirical studies and a unified theory is extensive. Furthermore, as perceptual, they do not seem to hold a dominant place for inten-tion, that is motivation. Overall, they seem to "simulate" consciousness mechanisms that can map consciousness itself but do not address the hard problem directly. And inference appears to be a strongly reductive mechanism for a phenomenon as vast as con-sciousness. Hundreds of tests are performed and the ConTraSt database³⁶ analyses and compares empirical studies for these theories. Let's take dreams as a proxy for some type of

consciousness. After dreaming and upon awakening, the density of the dream experien- ce diminishes with time: the dream gradually becomes invisible to consciousness, probably exponentially in minutes and hours. The dream state catches the potential more easily that the wake consciousness and connects to our past indigenous, aka collective, cultures which have been much less affected by the outer developments, technological or social.

The current scattering divergence in orientations denotes, not the lack of respective understandings, but of any unifying first principles, which quantum physics is better able to bring about. A few dominant clusters — populated by Stapp-Goswami-Faggin, Rovelli- Guillemant, and Penrose-Hameroff — may be proposed to emerge out of the lot. However, quantum physic approaches would transcend the notion of a closed model of consciousness or awareness. We believe they are suited to the study of consciousness for the reason of dealing with the infinitely small, which evokes the inner workings of feelings.

From this preliminary analysis, we see that the classical physics of Newton (force and momentum denoting space/time and mass) and of Maxwell (charge) fall short of accounting for consciousness. We dismiss here the incidence of the two relativity theories as pertain- ing to physical time and not accounting for experiential time and take on quantum interpretations. For instance, that the quantum state of consciousness is a quantum position that responds to impulsions, what we genuinely call intentions.

Supramental calling

All theories of consciousness have so far involved

three "bodies", the physical, the vital (with feelings), and the mental (with thoughts and emotions). Despite several of them having the concept of oneness in one or another form, to our knowledge, none dared to ven- ture into a supramental possibility with the exception of Goswami's "Consciousness is the ground of all being" theory. We believe this may be the missing element for seeking to converge in the de Chardin sense. For Kastrup, the psychic condition that diagnoses disso-ciative identity disorders can also be diagnosed at mental level, for instance when a person entertains two alternating semantic world-views. His notion of *impingement* (the setting aside a conflictual view) seems general, it's like is no matter our efforts to compartmen- talize stress aside, everything conspires to encroach and unite the conditions, this being facilitated and enhanced via psychedelics. This is frequent with competing theories, for instance in physics as Quantum Field and General Relativity theories do not (yet) converge and are continued separately as such in education worldwide. And as Einstein said, one could not resolve the dissociation by remain- ing at its level, one needs to level up or will go round and round.

Perhaps the supramental will in turn revel further dissociations? Healing work will presumably need the supramental revelation as mental dissociations need be resolved. One needs to first expand the horizon of consciousness, sensing that studying consciousness or attempting to understand the supramental resorts by and large a a same quest. This result wasn't obvious so far. As species emerged from water and began to breathe in the air, humanity is learning a new amphibian step: from the mind to an overmind. Through this process would consciousness follow a transactional process? With intention added, the domain of potentialities gets "excited" and its process shall become transformational. In it, openness is necessary as intention can limit the quest.

Thought in consciousness

What is thought? It appears to consciousness as a densified, dynamic, and moving percept that can be considered by the mind, hooked by attention over time, deepened by concentration, detached from it by contemplation. Thoughts too are internal, that is private to the thinker, so are feelings. And hence, emotions, the result of thoughts and feelings are also private and internal. Yet, they seem to travel as ideas that people can witness and often pretend they are their own (inventions, like patents, are notoriously not rarely made syn- chronically by two or more

individuals at about the same time). Thoughts are "on air", build a bridge with the external world through physical expressions which in turn, can be observed by third persons, that is shared. According to Bohm, thoughts have content and direction, two aspects obeying an indetermination principle: they've either a propensity to occur in space-time positions or a directio- nal dynamics. Which reminds the position (from the state of a quantum system) and the impulsion quantum mechanics operators.

Thoughts, feelings, and emotions are formed in local consciousness. What is sharable is the describable expression of an internal ex- perience. And this expression becomes interpreted by other persons through a language made of symbols, that is meaning. And for materialist research, consciousness would be the result from thought added to awareness. In post-modern large language models (e.g. the series of ChatGPT programs and the other embodiments of Large Language Models or LLM), the output is still to be interpreted by a conscious living being in order to derive a meaning out of it.

Bohm made the distinction between thought and thinking. Thinking is different from thought: capturing and contemplating a level of non manifestation (the non manifested potential). The thinking way is the state of mind. Thinking can go on outside of thought be- cause thinking doesn't have to sense thoughts necessarily. So thinking belongs to an open system grasping futures and can help grasping a reality independently of thought, which is a constrained mode, hence subordinated to the past.

What if thought was a vortex of energy passing by the mind? By vortex, we mean a whirling energy impression impacting our con-sciousness. We recognize a thought meaning thanks to our memory, that is previous thoughts having imprinted our mind. An associa- tive mechanism thus backs the thinking process. The capacity to think is like operating a nest capturing and compressing a gravitatio- nal wind of something. A thought may be a scalar wave, i.e. a longitudinal compression wave. Could thoughts be represented by a state vector with a spin? To think is to actuate a pressure differential "in the air", what the Ancient called the Ether. Chris Essonne seems to demonstrate³⁷ the existence of energy from the moving vacuum or ether, an exchanging structure pervading the universe, a quantum space offering the universal metabolism, somewhat like Pythagorus who considered the space between musical notes and not the notes themselves as the better information.

We don't create thoughts, they come to us. But where do thoughts come from? Rudolf Steiner said that the processes of walking pre- pare the nervous pathways of language, which in turn prepare the nervous pathways of thought, enhancing an integrated view which *de facto* opposes the religious body-mind dogmatic duality.

V.ATTEMPTING AT AN ORIGINAL PROPERTY OF THE UNIVERSE

"Human consciousness and universal consciousness are in reality one and the same."

Muata Ashby (author of the Egyptian Book of the Dead)

On language and consciousness

What is consciousness supposed to do for a human? Consciousness experience happens with qualities - qualia - in a space, both our space/time and in our inner space. But where does it come from? Energy, information, another stuff?

A first duality appears between state and content: a consciousness state is represented by a state vector, which acts non locally.

a consciousness content, to be manifestable, will require feelings and thoughts to come into play, hence emotions. Although thoughts have direction as said, consciousness has no direction although it "moves".

What is its language? It's a language that resolves all dualities, paradoxes, and speaks of a state, the wavy language of quantum states. A Hilbert space has the effective mathematical concepts (complex numbers...) to offer a suitable representation and Schrödinger equation seems the adequate representation. Bohr could approach a new language through his atomic model and today we see how limited it was; today we can map qualia in such a space. But where do the laws of physics come from?

We discussed that the universe stays in a becoming status. As a consequence, the agent named consciousness is ontologically "refres- hed" about the potentialities it deals with. Which translates into landing an interesting property in space-time reality: consciousness *veers* on the future. Not futures per se, but the *generic* future. Being conscious is the art of becoming. And so consciousness appears to deal with time. But wait, future-in-potentialities translates into both pasts and futures within our space-time. And as and if we remain at this latter level, we stage everything "in the future", a displacement that puts us in the waiting mode, passively waiting for tomor-

row. This stifles the creative power.

The 60 years old discipline of Futures studies continue to consider futures "ahead of the now", projects scenarios and images of the future constraining decisions — a typical masculine push view. As we learn to balance the process with a more feminine posture, we instead create a new unsought space which regenerates the present. The deep present instant is not foreign to and must be joined with the potential offered by futures and pasts. This is the reintegration sourcing the reunification of the outer with the inner, liquidating dualities. In therapies domains, here lies a signature potentially reversing a present condition. In social relations, the rapports will loos the identification with the persona. In politics, the balance would re-harmonize conflicts between entrenched partisan views that op-pose each other. When innovating, the dominant designs of sedimented industrial and economics habits loose their authority.

From Brahman to Self with love of One

Human consciousness apprehends a *something* beyond itself. The author experienced inner perception during a short period around the age of fifteen, along with a sense of profound recognition, deference, even awe, giving a self-evidence from a deep inside without need for further proof, which unavoidably would be based on externality, matter and brain. How does that something operate? And why?

Brahman wants to experience/know itself explain Vedic scriptures. In Hindu Advaita vedanta metaphysics, the reality state of Turyia underpins all human states too like wake and sleep. And Rigveda's Atman, the true Self of same nature, "knows" through the permanency of Turyia. This resembles Chalmer's hard problem but is it duality? No, Brahman isn't an observer, it metaphorically "soaks up" the many infused Atman experiences permanently, a subtle osmosis between witness and witnessed, like a filtering resonance between planes. Reasoning from the absurd: to close the infinite chain that is produced for ensuring meaning to a given code requires a level above the new codes generated, a subtleness that is beyond mere informational computations. Bottom line, to get decided chai- ned computations resort to an infinite chain of tables look up containing symbols, while meaning actually calls for a subtler agency. After John Searle in the seventies, Roger Penrose perfected this with the help of Kurt Gödel's theorems. Such knowing propensity denotes an ontological need, an urge to manifest. Here lies the mystery of creation,

which a linear Big Bang event cannot account for. Creation is a co-creation as the created creates as well in fractal modalities. The fractal model is technically apt to describe how universes can and may unfold other branched universes indefinitely, because the whole system still holds as one. And it "knows" itself for the same reason of structural continuity path amongst all branches together, which in fact denotes a sustai- nability property: Brahman sustains the ever unfolding which sustains Itself back. Isn't this a processual causation lineage?

Parmenides' monism³⁸ is telling is that pluralism cannot be conceived without the One. Moreover, Plotinus took the same view, alt- hough reversed: the multiple cannot exist without the simple. He exposed three fundamental principles: the One which reunites thin- king subject and object in Indian monism vein and can be experienced leading to union with the Divine (the *henosis* comparable to samadhis), the Intellect, and the Soul, in a minimalist view disregarding all matter in post-Platonic stance. Happiness (called eudai- monia) being attained only within consciousness. monia) being

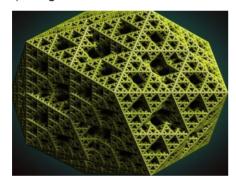


Figure 2 — A universe in expansion through fractal objects invariant by change of scale. Here, a Waclaw Sierpinski (1882-1969) volume shows an original pattern (here, a 3D equilateral triangle subdivided recursively into smaller equilateral triangles. To the limit it would completely fill the same unit volume but this is actually never reached.

© https://mathinfo.alwaysdata.net/2016/11/les-fractals-sierpinski/

Note that the Vedanta phrase doesn't contain any temporal reference, while by saying "the universe is in perpetual creati- on", we do introduce an unnecessary artificial temporal factor. The universe is a becoming thing, it becomes unto itself, which is its ontological nature where time has no absolute role. Another term for such becoming is evolution, still a progression, not cyclic but always different,

without return back to a previous state. Traditional physics says the universe is in constant expansion, which structurally means that tangent divergences are happening without ceasing. From this image, it is easy to ima- gine the fractal development of the kind of Sierpinski's constructions (Figure 2). Wherever there is vacuum in the interstices between the fractal branches, creation has not reached yet (cf. footnote4). The idea of fractal branches seems to give credit to one alternative interpretation of quantum mechanics, the multiworlds, yet with a mistaken notion of expansion.

Consciousness can interface with a number of other things: archetypes as a stirring impulsion, living beings as third conscious entities, etc. Intermediaries can be used as hooks or transponders (cf. footnote⁵). Thinking, speaking taken as expressing thoughts, and acting are the three articulated levels of the human manifestation mechanism. They underpin the articulation between archetypes and daily life. Being aligned in consonance with the archetypes in the daily is therefore a basic hygiene of the mind. In particular,

the ideas, the concepts, and the words we routinely employ "vibrate" according to the purity of the alignment. In their purer form, archetypes call for our non-local mind. Yet, would consciousness be part of the vacuum of the void? This remains a mystery, it would be a semantics without the syntax.

Archetypes should be considered as very high frequency concepts. For instance, expressing gratitude viz another individual or situati- on unlocks a high vibration that resonates with the category of Goodness. Famed Dr Emoto³⁹ experiments, followed by many other researchers (see e.g. the stunning images obtained by Veda Austin⁴⁰ which tend to show a resonance effect between water and con- sciousness by means of thought, have shown the capacity to re-form structures in matter. Intention is primary in calling archetypes and categories of archetypes. Given that resonance effect, it could be possible to analyze consciousness and thought via a quantum analysis of water.

A Descending Mechanism into Spaces and Times

There is no reason why consciousness cannot navigate through time, which is only an apparent disposition in our space/time. By changing space/time, other such dispositions become available, hence the "travel." Past lives incarnations can be future lives in ano- ther orientation and all

mesh into an Atmanic web of experiences, with consciousness as the quantum "travelling" agent. Same for space, which can be the Earth or any suitable planet in any stellar formation, galaxies included.

Saint Augustine wrote⁴²: "As long as we do not leave the realm of consciousness, the notion of time is relatively clear." Opposing Aristoteles and furthering Saint Augustine, a discerning metaphysical Henri Bergson intuited⁴³ a non quantitative essence of the experience of Ti- me³⁶. He pointed at an internal memory that allows us to see the constant movement of time not as a perpetual renewal but rather as a push. And that intuition is founded on movement (consciousness of duration is duration of consciousness), acknowledging con-sciousness being coextensive with life. All perception in the present is preserved over time through an accumulative internal memory, like a rolling snowball: "I simultaneously grasp that I think in duration and that I am in duration." It's the time of consciousness.



Figure 3 — A timeline can be viewed as depending on VI. PRACTICING CONSCIOUSNESS AHEAD six factors covering the gap between a totally linear causality view to a quantum worldview.

⁴ What goes on in between the branched developments? It is a sort of vacuum, however all branches are inter-related since the origin. Quantum mecha- nics develops the idea of zero point energy as the minimum residual energy (average energy and pressure density, associated to the so-called dark energy: E = $\frac{1}{2}\hbar \omega$) in pointed contradiction to classical mechanics where the minimum energy of a system under equilibrium is zero. It minimizes Heisenberg's

indetermination principle $\Delta x \; \Delta p \geq \hbar/2$ by equating it, a bound that leads to recognize "vacuum fluctuations" (i.e. in the absence of any photons): the electromagnetic field at any point is zero on average (but of mean square error non zero). Hence the vacuum — the fundamental state of a system — is the seat of field fluctuations, not clearly explained by present day science but, as a particular case of the zero point energy, it could point to the old notion of ether in space. This is an exclusion zone since there are no bodies present. Bioengineer Gerald Pollack⁴¹ identified phase transition in cellular biology as due to water, actually a quasi-crystal gel what he called the fourth state of water³⁴, of which the resulting space is a H3O2 exclusion zone with many properties, a necessary intermediate to go through the adjacent phases. That crystals can store information with spin-like discrete values accrues to rich applicability.

At this point, we recollect the three Ancient Greek denominations for Time, in descending order of manifestation: Kronos, the chro-nological arrow of time in Arthur Eddington worldview⁴⁴; Kairos, the reflexive transformation of the Present unto itself; and Aïon, the universal becoming. These three concepts are a staple of the progressive change of the nature of Time. Aïon time resides in the quantum possibilities domain, a one dimensional domain of entangled possibilities. It appears that entanglement originates from non locality. Imagination at its best may reach it. Kairos time is the conversion from that domain into observable independent timelines. Intention works at this level (what you see and get is determined by what you are looking for), capable to address futures, and operating dimensionally.. The choice of a particular timeline ends up with a specific and linear — quire chimeric - Kronos time. Manife- sted events and objects are bound to it. Together, the three concepts invite to understand space and time as emerging properties of a universe in development. Knowing a Turvia-like state or experiencing the Supramental require these three levels together. Intention can be set at a conscious turning point in orienting and developing evolution. We applied such quantum process to futures studies methodologies (cf. Figure 2) with application to voting 45.

"It's from our suffering that we form consciousness."

Lisa Bonet, American actress

"Consciousness, rather than being something that we have, is something we participate in."

Grant Morrison, Scottish screenwriter

What experimenting consciousness mean

The question of experiments with consciousness poses another hard problem. That both their design and their interpretation funda- mentally requires consciousness. In design, the making an experiment objective doesn't until the reflexivity property. Obtaining quan-titative data helps to the extent of logging and interpreting quantitative analyses like through statistics but cannot reach a cause level. Data cannot replace experience. We would be inclined to believe this is precisely what led The Mother to very extensively record about decades of experimenting supramental consciousness though phrases, words, poems, expressing feelings, images, and emotions as well. But "The yogi who has conquered illness and defied death has done so for

himself alone, and that is why he cannot truly conquer" says Lionel Tardif46. What made her faithful disciple Satprem (cf. footnote⁶) to say in 1981, "Six billion Homo sapiens are in the process of learning the nullity of their means of existence, just as some fish once learned the nullity of their gills on a parched earth. If these fish improve their aquatic science, invent new fins and new philosophies, they are mistaken" and exfiltrate the set of tapes 48 (cf. footnote⁷. This is data indeed, however it can be absorbed through intuitive reading, hence a resonance phenomenon that numbers and symbols can't vehicle. Such verbatim encapsulates an original "vibration" that can be released appropriately with an intuitive mind, although with attenuation from the original moments. Today, videos carry an enhanced originality⁸. Then, evaluation should follow by being individualized, not through standardized means! Which aligns well with consciousness nature, no copy paste...

Can we develop tests for consciousness? The author developed an own experiential platform called Artisan, to collect, aggregate, and share body, vital, mental, and other findings about supramental experiences. It is an inner endeavor which doesn't attempt at convincing or teaching third persons, better by sharing some findings and improving oneself without an *a priori* model in rapport to the outside world.

Technology ahead

Think about the prowesses a science of consciousness could bring to everyone. We can anticipate new technological development that work with physicality and matter and with consciousness at the same time. According to Stephen Greer, technology doesn't have to appear as a mystification and "a new cosmology is needed if we are to understand the universe around us."49

Close to our footsteps, energy and light can source new technologies. It's not only about speed, it's the alignment with one's higher inner realm, the emotion sparked with it, the intuition that drives actions, the ethical design harmony achieved by embodying con-sciousness properties. Because that will unleash fundamental creativity. Humans shall become integrated, active, each becoming a new origin for these creations. We can create worlds by founding new companies on such premises.

Manipulation of consciousness happens in hypnosis or anesthesia. Kinesiology has long shown that the body can collapse a physical, vital, or mental condition throughout these bodies, has thus found a usable link between the outer and the inner. There lies an expec- table "Resonance Reading" technique that could be taught as to pattern the relative understanding and the memory. This technology will make consciousness operating non locally. Consciousness amplifiers, quantum fields measurers, synchronicities 'manifesters' to align ourselves with better chosen futures for humanity are possibilities which may deserve exploring. Faciliting synchronicities seems feasible and is probably one of the first applications within easier reach. In extensive list of potential application was developed by Stephen Greer⁴⁹.

Is quantum science, would a quantum field theory serve as our accessible next bastion to freedom? This requires a thinking freed from dogma, but in an age of bioengineering, thinking freely may appear out-ofscope in front of the dominant credos, and a generalized erosion of privacy may not help getting enough freedom. Nita Farahany questions⁵⁰ moral and ethical aspects by asserting that neurotechnology is poised to become a "universal controller" for interfacing any technology. "Otherwise, says Faggin¹¹, our technology will be used against humankind by those who promote the materialistic vision of the survival of the self-proclaimed fittest." Physicalist, materialist theo- ries of man in the end seem poised to one day lead humans to become either parts or a currency, dispensable means feeding a materia- list economy. Reversely, the development of value-based consciousness-based technologies will in turn contribute to understand con-sciousness deeper.

Concluding

Science analyses and spirituality synthesizes. In synthetic awareness upon his mission return, Apollo 14 astronaut Dr. Mitchell coined the term noetic sciences accounting for twinning traditional sciences with inner wisdom and intuition. Gaining an implicit understanding is a first step, then articulating that synthesis may lead to revisit traditional sciences postulates. At any rate, consciousness remains the mediating triggering agent, hence the enduring importance of developing a unified theory for and of consciousness. All this will require a degree of objective indifference to the many lifestyle, habits, routines, and beliefs and creeds, that is our sticking personal pasts, including the personal unconscious.

⁵ For instance, crystal research work of IBM scientist Marcel Vogel: http://marcelvogel.org/

At collective level, the going past Jung's collective unconscious⁵¹ will clear the way to societal transformation. Didn't he say, ""Man's task is to become conscious of the contents that press upward from the unconscious? [...] "Un-til you make the unconscious conscious, it will direct your life and you will call it fate.""

This paper has shown a number of intricacies developing Amit Goswami's motto "Consciousness is the ground of all being." It made the point that consciousness is "bliss ware" without visible software as it has all the semantics, yet without the programs which are needed to operate in space/time. Today, we do struggle when attempting at demonstrating what bliss ware could do, at explaining a supramental consciousness, it may possibly look magic. Consciousness is the primary key to unlock the evolution process for man. In the outer world, all dimensions, from legal to political, educational to economic, etc. are derived from it. The human quantum-driven evolution starts from primitives as exposed at the beginning of this paper. Primitives which would underpin a society founded on

frequency instead of space and time. While space and time put accent on differences and seek generality, the frequency domain operates as unifying causal agent and seeks genericity. Frequency is engaging and enabling, based on integrity. It can unify, foster cooperation, while time-space invites competition. Genericity fosters common languages in localized vests. In an evolving society, competition looses to emulation, and then later lends to cooperation. The paper also showed that a design approach to understanding consciousness by calling down the supramental is feasible. All these exciting advances open the way to new individual and collective developments in society.

Indeed, cultures exhibit both their aspirations and their limitations. A culture can dream but is also constrained by its dominant designs, habitudinal patterns bounding its evolution. The reality that exists is only that one which comes to consciousness. What do we know, of that we haven't experimented? To be (it) or not to be (remaining in space-time) is the question. Will this lead us to more cooperation instead of more competition?

⁶ alias Bernard Enginger (1923-2007), French writer and disciple of Sri Aurobindo and The Mother. See e.g.⁴⁷.

⁷ The set of tapes was typed and assembled into 23 volumes at recluse East End point in Cornwalls, UK .

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