



GLOBAL JOURNAL OF SCIENCE FRONTIER RESEARCH: A
PHYSICS AND SPACE SCIENCE

Volume 19 Issue 6 Version 1.0 Year 2019

Type : Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals

Online ISSN: 2249-4626 & Print ISSN: 0975-5896

The 'Computational Unified Field Theory' (CUFT)' New Universe

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Introduction- Twenty-first century Physics is undergoing a major "Paradigmatic-Shift"- i.e., from the old "Material-Causal" Paradigm underlying both Relativity Theory (RT) and Quantum Mechanics (QM) towards the new 'A-Causal Computation' (ACC) Paradigm of the 'CUFT'. This basic 'Paradigmatic Shift' alters Science's very fundamental assumptions and conception of the reality of the physical universe – i.e., its origination- sustenance- evolution- and transcendence based on the discovery of a singular (higher-ordered) 'Universal Consciousness Principle' which simultaneously computes every exhaustive spatial pixel in the universe at every minimal time-point (e.g., " $c^2/h = 1.45^{-42}$ sec!"); Hence, the scope and purpose of the current article is to delineate the basic 'Paradigmatic Shift brought about by the CUFT's new 'ACC' outline the major breakthrough advancement in 21st century Theoretical Physics brought about by this new CUFT's 'A-Causal Computation' (ACC) Paradigm, explicate the experimental means for validating this new ACC as a satisfactory "Theory of Everything" (TOE), and describe the new (exciting) emerging picture of the entire physical universe as a "transient-phenomenal" manifestation of this singular 'Universal Consciousness Reality'...

GJSFR-A Classification: FOR Code: 020399p



Strictly as per the compliance and regulations of:



The 'Computational Unified Field Theory' (CUFT)' New Universe

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I. INTRODUCTION

Twenty-first century Physics is undergoing a major "Paradigmatic-Shift"- i.e., from the old "Material-Causal" Paradigm underlying both Relativity Theory (RT) and Quantum Mechanics (QM) towards the new 'A-Causal Computation' (ACC) Paradigm of the 'CUFT'. This basic 'Paradigmatic Shift' alters Science's very fundamental assumptions and conception of the reality of the physical universe – i.e., its origination-sustenance- evolution- and transcendence based on the discovery of a singular (higher-ordered) 'Universal Consciousness Principle' which simultaneously computes every exhaustive spatial pixel in the universe at every minimal time-point (e.g., " $c^2/h = 1.45^{-42}$ sec!"); Hence, the scope and purpose of the current article is to delineate the basic 'Paradigmatic Shift brought about by the CUFT's new 'ACC' outline the major breakthrough advancement in 21st century Theoretical Physics brought about by this new CUFT's 'A-Causal Computation' (ACC) Paradigm, explicate the experimental means for validating this new ACC as a satisfactory "Theory of Everything" (TOE), and describe the new (exciting) emerging picture of the entire physical universe as a "transient-phenomenal" manifestation of this singular 'Universal Consciousness Reality'...

According to Kuhn's (1962) famous analysis of the "Structure of Scientific Revolutions" the evolution of Science may be characterized by an alternation between phases of "Standard Science" – in which the scientific inquiry (within a given scientific discipline) can be described in terms of its reliance upon a given "Scientific Paradigm"; and phases of a "Paradigmatic Shift", e.g., in which the given "Scientific Paradigm" doesn't suffice (any longer) to account in a satisfactory manner for a plethora of "unexplained scientific phenomena", in addition to the appearance of apparent "theoretical inconsistency" between the foundations or Models in that given 'Scientific Paradigm'; Indeed, according to Kuhn, this state of 'unexplained scientific phenomena' accompanied by a fundamental theoretical inconsistency found in the foundations of the given 'Scientific Paradigm' calls for a "Paradigmatic-Shift"- i.e., the search for an alternative broader (and more exhaustive) "New Paradigm" which will be able to account for those 'unexplained phenomena' and resolve

any apparent principle theoretical inconsistencies (found within the Old Scientific Paradigm).

Hence, the current shift from the Old "Material-Causal" Paradigm to the New 'A-Causal Computation' Paradigm signifies such a 'Paradigmatic-Shift' in 21st Century Theoretical Physics: this is because there exists a basic theoretical inconsistency between its two primary "pillars", e.g., Relativity Theory (RT) and Quantum Mechanics (QM) and there exists a series of unresolved physical conundrums (such as: "dark-matter" and "dark-energy" which account for up to 85% of all mass and energy in the universe but yet cannot be detected empirically). In contrast, the CUFT's new 'A-Causal Computation' (ACC) Paradigm was shown capable of resolving the principle theoretical inconsistency between RT and QM and was also able to resolve the physical conundrums of "dark-matter" and "dark-energy" (e.g., discarding them as "superfluous" instead pointing at the accelerated expansion of the physical universe as caused by the singular higher-ordered Universal Computational Principle, which is key in the CUFT's new 'ACC' Paradigm). Indeed, the scope and purpose of the current article is to elucidate the basic Paradigmatic Shift represented by the CUFT's new 'ACC' Paradigm, outline the critical empirical validation means for validating this new CUFT's 'ACC' Paradigm as a satisfactory new Paradigm for 21st Century Physics, and delineate the full theoretical significance of the CUFT's new ACC Paradigms depiction of a "new universe" which being continuously "produced"- "dissolved"- "re-produced" and "evolved" by the singular Universal Consciousness Principle (every " $c^2/h = 1.45^{-42}$ sec!")...

II. THE CUFT'S 'PARADIGMATIC SHIFT' IN 21ST CENTURY PHYSICS

We first begin by outlining the basic 'Paradigmatic-Shift' signified by the CUFT's new 'ACC' Paradigm: Basically, the (old) "Material-Causal" Paradigm underlying both RT and QM is based upon a 'material-causal' assumption wherein it is assumed that any given relativistic (space-time or energy-mass) 'phenomenon' or quantum subatomic (complimentary space-energy or mass-time) 'target' value is "caused" by the direct physical interaction between that relativistic phenomenon or subatomic target and a corresponding relativistic observer or quantum subatomic 'probe'

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element; More generally, the explanation of the origination- sustenance- and evolution- of the physical universe, e.g., and every constituent (relativistic or quantum) phenomenon, 'target' or element within it – is based on direct physical interactions between certain relativistic observers and (space-time, energy-mass) phenomena, or between particular subatomic 'probe' and 'target' elements: Thus, according to General Relativity the physical universe was created by an initial "Big-Bang" nuclear explosion which is assumed to have "caused" the creation of stars, galaxies, mass, space and energy; Subsequently, the continuous dynamical evolution of the physical cosmos is explained through RT's Einstein's Equations which describe particular "material-causal" physical interactions between "massive objects" "causing" a "curvature of space-time", and conversely the existence of a "causal" relationship between this "curved space-time" and its "causing" (or determination) of the "travelling pathways of massive objects". Likewise, the empirically observed accelerated expansion of the physical universe is explained in terms of the existence of a "material-causal" physical relationship between a purely hypothetical "dark-matter" or "dark-energy" physical entities which are assumed to "cause" this accelerated expansion of the physical universe.

In much the same manner, QM describes the determination of the 'complimentary' ('space-energy' or 'mass-time') values of any subatomic 'target' element as "caused" by its direct physical interaction with another corresponding subatomic 'probe' element, e.g., which "causes" the assumed "collapse" of the "probability wave function" into the single complimentary value); However, according to the CUFT's new 'ACC' Paradigm there cannot exist any such 'material-causal' physical interactions due to the fact that the (singular) Universal Computational/Consciousness Principle (UCP) *simultaneously* computes all exhaustive spatial pixels in the universe! Instead, the CUFT's new ACC Paradigm postulates that this singular UCP simultaneously computes all exhaustive spatial pixels comprising the entire physical universe at every minimal time-point (e.g., " $c^2/h = 1.45^{-42}$ sec!") – giving rise to the extremely rapid series of Universal Frames (UF's), which also include all exhaustive "co-occurring" pairs of subatomic 'probe' and 'target' elements. Interestingly, this new conception of the physical universe, e.g., including its subatomic "quantum" aspect completely revises QM's currently assumed "collapse of the probability wave function" assumption – instead, replacing it with a portrayal of varying degrees of computation exhaustiveness: according to this new ACC Paradigm, whenever we set to measure only a single spatial-temporal point across 'time' and 'space' we obtain a "single spatial-temporal particle" measurement; If however we set to measure at least two (or more) simultaneous points (across 'time' and 'space') we

obtain a "multi spatial-temporal wave" measurement! Indeed, one of the key theoretical breakthrough's represented by the CUFT's new ACC Paradigm is its conception of an "exhaustive computational" 'Universal Frame/s' which includes all exhaustive spatial pixels computed simultaneously by this singular UCP, e.g., comprising the entire physical cosmos at any given minimal time-point 'Universal Frame'! Viewed from this exhaustive computational perspective of the UCP's simultaneous computation of all exhaustive spatial pixels comprising the entire physical universe at every minimal time-point Universal Frame/s (UF's) – QM's currently assumed "collapse of the probability wave function" was shown to be rejected, instead being replaced by the UCP's computation of all exhaustive spatial pixels (at any given minimal time-point UF's) which include all possible (single spatial-temporal) 'particle' measurements (e.g., including any exhaustive hypothetical subatomic 'probe-target' pair/s) and '(multi spatial-temporal) 'wave' measurements, as embedded within the UCP's exhaustive UF's computation.

How does this new CUFT's ACC Paradigm alter the old 'Material-Causal' Paradigm's basic understanding of the physical universe? Well, first of all, the physical universe cannot (any longer) be viewed as being "caused" by any sort of (direct or indirect) physical interaction – e.g., at either the quantum or relativistic levels! This is (once again) due to the simultaneous computation of the UCP of each and every exhaustive spatial pixel in the universe at every consecutive minimal time-point UF's (which negates the very possibility of the existence of any such 'material-causal' physical interactions at any single or multiple UF's). Moreover, this new exhaustive computational understanding of the CUFT brought about a complete integration of 'space', 'energy', 'mass' and 'time' (as well as of RT and QM) within a singular 'Universal Computational Formula': UNIVERSAL COMPUTATIONAL FORMULA (UCF):

$$UF\{a..z\}: \left\{ \frac{c^2}{h_{Px\{1..n\}}} \right\} = \frac{s}{t} \cdot \frac{e}{m} ,$$

This complete integration of those four basic physical features not only signifies a major advancement in Physics basic understanding of the universe, i.e., as opposed to RT's only partial integration of space-time, energy-mass (e.g., " $E = Mc^2$) and the postulated curvature of space-time by mass, and QM's partial connections between Heisenberg's Uncertainty Principle's "complimentary paris" (mentioned above); it also represents a basic discovery of the UCP's underlying integrated computation of these four basic physical features, e.g., of 'space', 'energy', 'mass' and 'time' – as the degree of "consistency" or "inconsistency" pertaining to the entire 'frame' or to a particular 'object', e.g., based on the UCP's two 'Framework' and

'Consistency' Computational Dimensions; As previously described, the UCP computes the two physical features of 'space' and 'energy' based on the combination of 'frame'- 'consistent' vs. 'inconsistent' computations, and 'mass' and 'time' based on its computation of an 'object' – 'consistent' or 'inconsistent' measures (e.g., pertaining to each and every exhaustive spatial pixel/s in the universe at every minimal time-point UF's)... Viewed from this new (singular higher-ordered) exhaustive computational perspective of the UCP, the complete integration of 'space', 'energy', 'mass' and 'time' portrays an entirely new conception of those four basic physical features not as existing "independently" (or as possessing "partial-interconnectivity") but rather as representing different complimentary secondary computational features of the singular Universal Consciousness Reality's computation of the degree of 'consistency' or 'inconsistency' pertaining to each exhaustive spatial pixel's 'object' vs. 'frame' computation... Indeed, this new singular integrated conception of 'space', 'energy', 'mass' and 'time' as merely representing different complimentary computational features of the singular Universal Consciousness Principle's computation of every exhaustive spatial pixel in the universe was shown to be associated with the CUFT new 'ACC' Paradigm's new conception of the physical universe – not as existing "continuously" and "independently" – but rather as representing only a "transient-phenomenal" manifestation of the singular 'Universal Consciousness Reality' (UCR).

III. THE CUFT'S THEORETICAL POSTULATES

In order to fully appreciate (and comprehend) the CUFT's new conception of the entire merely a manifestation of the singular UCR, we need to briefly outline some of the key theoretical postulates of the CUFT:

a) *The 'Duality Principle'*

One of the first theoretical postulates of the CUFT is the computational 'Duality Principle' which identified a basic 'Self-Referential Ontological Computational System' (SROCS) structure underlying both RT's and QM's 'Material-Causal' basic Paradigm: essentially, this basic 'SROCS' structure assumes that it is possible to determine the value of a given relativistic ('space-time' or 'energy-mass') phenomenon or of any given subatomic 'target' element based on their direct physical interactions with a corresponding relativistic 'observer' or subatomic 'probe' element. But, according to this new computational 'Duality Principle' is it not possible to determine the value of any such relativistic 'phenomenon' or subatomic 'target' element solely based on their direct physical interactions with the corresponding relativistic 'observer' or subatomic 'probe' element – because the particular computational

structure of the SROCS inevitably leads to an apparent "logical inconsistency" and ensuing "computational indeterminacy", e.g., which are contradicted by the empirical capacity of both Relativistic and Quantum computational systems to determine the values of the particular given relativistic (space-time, energy-mass) 'phenomenon' or relativistic or quantum (complimentary 'space-energy' or 'time-mass') subatomic target value. Therefore, the 'Duality Principle' evinces that in order to determine the particular given value of any relativistic (space-time, energy-mass) 'phenomenon' or quantum (complimentary 'space-energy' or 'time-mass') subatomic 'target' element, it is necessary to have a singular higher-ordered 'Universal Computational Principle' which simultaneously computes all exhaustive hypothetical relativistic 'observer-phenomenon' or quantum 'probe-target' pairs...

b) *The Universal Computational/Consciousness Principle*

Hence, the 'Universal Computational/Consciousness Principle' postulates that there exists a singular (higher-ordered) 'Universal Computational/Consciousness Principle' (UCP) which simultaneously computes every exhaustive spatial pixel comprising the entire physical universe, e.g., at every consecutive "minimal time-point": " c^2/h " = 1.45^{42} sec' (which produces a series of "Universal Frames" (UF's) comprising the entire physical universe at every consecutive UF's frame/s). This 'Universal Computational Principle' was later shown to be equivalent to a (broader) 'Universal Consciousness Principle' due to the UCP's additional postulate that the entire physical universe "dissolves" "in-between" any two consecutive UF's frames – which implies that this Universal Computational Principle (UCP) also possesses certain 'Universal Consciousness' characteristics, i.e., such as its capacity to "produce", "dissolve", "retain", and "evolve" every exhaustive spatial pixel in the universe... It is indeed important to note that according to this new 'Universal Consciousness Principle' given the fact that every exhaustive spatial pixel in the universe "dissolves" 'in-between' any two consecutive UF's frames, there cannot be any "material-causal" physical interaction/s – not only within each single- or multiple- UF's frames but also across any two consecutive UF's! This leads to the (abovementioned) new 'A-Causal Computation' (ACC) Paradigm which negates any 'material-causal' physical relationships (or even interactions) at any single- or multiple- UF's, instead asserting that the UCP simultaneously computes all exhaustive spatial pixels in the universe at any single/multiple UF's. Finally, the discovery of the 'Universal Consciousness Principle' is also associated with the identification of its three 'Computational Dimensions', e.g., of 'Framework': ('frame' or 'object'), 'Consistency' ('consistent' or 'inconsistent') and 'Locus'

('global' or 'local'); Hence, according to the UCP, the four basic physical features of 'space' and 'energy' or 'mass' and 'time' – are computed based on the UCP's particular combinations of 'frame' – 'consistent' or 'inconsistent' combinations, whereas 'mass' and 'time' are computed by the UCP as the specific combinations of 'object' – 'consistent' or 'inconsistent' measures:

c) *The 'Cinematic-Film Metaphor'*

To perhaps better comprehend the UCP's computation of these four basic physical features of 'space' and 'energy', or 'mass' and 'time', the 'Cinematic-Film Metaphor' was utilized, which (somewhat) likened between the "computation" of those four basic physical features found within a "standard film" and the UCP's computation of these four physical features, e.g., for each exhaustive spatial pixel/s comprising each consecutive UF's frame/s: Thus, in the same manner in which the "energy" of a fast moving "jet" found within a standard film depiction can be computed based on the degree of that jet's "displacement" across a given series of film-frames, and the spatial measure of any given object (across a given number of film-frames) can be derived from the degree of consistency of that object's comprising spatial pixels (across the given film-frames), so it is postulated that the UCP computes the "spatial" and "energy" values of any given (relativistic or quantum) object – based on the UCP's degree of that object's "frame-consistent" ("space") or "frame-inconsistent" ("energy") computation across a series of (extremely rapid) UF's. Likewise, equivalently to a standard-film's "computation" of an object's "mass" or "time" values which can be computed based on that object's "object-consistent" ("mass") or "object-inconsistent" ("time") measures, so the UCP computes any relativistic 'phenomena's' or quantum subatomic 'target's' "mass" or "time" values based on that object's – 'consistent' or 'inconsistent' comprising spatial pixels (across the series of extremely rapid UF's frames). Obviously, there exists a series of "differences" between the 'Cinematic-Film Metaphor' and the UCP's postulated production-"dissolution"- sustenance- and evolution- of the entire physical universe, such as rate at which the UCP continuously produces the physical universe (e.g., as indicated above and previously: " $c^2/h = 1.45^{-42}$ sec", as opposed to the standard film rate of 12-24 frames per second); Another (somewhat "surprising") difference found between the 'standard-film' depiction and the UCP's continuous computation- "dissolution"- and evolution- of each and every exhaustive spatial pixel in the universe is that contrary to the standard film depiction (at least "ordinarily") every physical object would appear across all of the film frames in which it is portrayed, e.g., regardless of its relative "mass" – in the case of the UCP's computation of the relative "mass" of any given (relativistic or quantum) object (or particle) is such that relatively "more-massive" objects would

appear across a greater number of UF's than relatively "less-massive" objects! (In fact this comprises one of the CUFT's "differential-critical predictions" differentiating it from the respective predictions of both RT and QM – which will be discussed later in this article.)

d) *The 'Universal Computational Formula'*

As mentioned above (and previously), the UCP's new definition of these four basic physical features of 'space' and 'energy' or 'mass' and 'time' as integrative complimentary measures of the degree of 'frame'- 'consistent'(space) or 'inconsistent' (energy), or 'object' – 'consistent' (mass) or 'inconsistent' ('time') computation has led to the discovery of a singular 'Universal Computational Formula' which completely integrates these four basic physical features as simultaneously computed by the UCP:

Universal Computational Formula

The 'Universal Computational Formula':

$$\frac{s}{t} * \frac{e}{m} = [F_{\{t,o\}}, C_{\{c,ic\}}, L_{\{g,l\}}] \left\{ \frac{c^2}{h} \right\},$$

The uniqueness of this new 'Universal Computational Formula' (UCF) arises from its complete integration of those four basic physical features – which represents a novel discovery in Natural Science: hitherto Relativity Theory unified between 'space' and 'time' as "space-time" (e.g., a four-dimensional integrated entity), between 'energy' and 'mass' – based on their famous equivalence: " $E = Mc^2$ ", and linked between 'space-time' and its dynamic curvature by mass (e.g., and conversely the determination of the travelling pathways of massive objects based on this "curved space-time", as outlined in Einstein's Equations). Likewise, QM managed to connect between the two "complimentary-pairs" of Heisenberg's Uncertainty Principle, e.g., 'space' and 'energy', or 'mass' and 'time'. In contrast, the CUFT's new 'A-Causal Computation' Paradigm manages to completely integrate and unify between those four basic physical features – of 'space' and 'energy', 'mass' and 'time' as complimentary measures of the degree of 'consistency' (e.g., 'consistent' vs. 'inconsistent') computed for any given object (or particle) pertaining to that object's (or particle's etc.) positioning relative to the entire 'frame/s' (UF's) or relating to the composition of that 'object'! In fact, the novelty (and elegance) of this new UCF is such that it depicts not only a complete integration of these four basic physical features, but also portrays basic Relativistic and Quantum features (and laws) as constituting different integrative aspects of the Universal Computational Principle's (UCP) simultaneous computation of those four basic physical features for each exhaustive spatial pixel comprising the entire physical universe (at each minimal time-point UF's

frame/s), as represented by the UCF's "Relativistic" and "Quantum" Format.

$$I) \text{ Relativistic Derivative: } \frac{e \times \underline{s}}{t} = \frac{m \times \underline{c}^2}{h}$$

$$II) \text{ Quantum Derivative: } \frac{tm \underline{c}^2}{h} = s e$$

Indeed, as will be shown later, one of the means for validating the CUFT's new 'A-Causal Computation' Paradigm as a satisfactory New Paradigm (for 21st Century Theoretical Physics) was proposed previously through testing the "special-cases" portrayed through these two Relativistic and Quantum Formats of the UCF – i.e., of which the "standard" Relativistic "E=Mc²" and QM's "Uncertainty Principle" complimentary pairs (simultaneous accuracy measurement) hold.

e) The CUFT's 'A-Causal Computation' (ACC) Paradigm

As outlined (above and previously) the CUFT's New 'ACC' Paradigm brings about a basic "Paradigmatic-Shift" in 21st century Theoretical Physics – e.g., from the Old 'Material-Causal' Paradigm which assumes that any relativistic ('space-time' or 'energy-mass') 'phenomenon' is "caused" by its direct physical interaction with a given relativistic 'observer', or that any quantum subatomic 'target' particle (complimentary 'space-energy' or 'mass-time') value is "caused" (or determined) based on its direct physical interaction with another corresponding subatomic 'probe' element; The significant shift represented by the CUFT's new 'ACC' Paradigm revised some of the basic assumptions of both RT and QM including:

- 1) RT's basic assumption relating to the 'Big-Bang' Model which assumes that the entire physical universe was "caused" by an initial nuclear explosion which produced all "mass", "energy", stars and galaxies; since according to the CUFT's new 'ACC' Paradigm the UCP *simultaneously* computes all exhaustive spatial pixels comprising the entire physical universe (at any minimal time-point UF's) there cannot exist any such "material-causal" physical relationships between any (hypothesized) initial 'Big-Bang' nuclear explosion and the creation of any "mass", "energy", stars or galaxies (at any given single or multiple UF's frame/s). Moreover, since the entire physical universe is hypothesized to "dissolve" "in-between" any two consecutive UF's frames, and then be re-computed (and evolved) solely based on the UCP consecutive computation of each subsequent UF's, therefore the CUFT new 'ACC' Paradigm negates the 'Big-Bang' Model as "incomplete" – i.e., wherein even if the "first" UF's frame depicted an apparent 'Big-Bang' nuclear explosion this did not "cause" the origination of the physical universe (because there cannot exist any such 'material-causal' physical relationships between any such 'nuclear explosion' and the

"creation"- or "expulsion" of any exhaustive spatial pixels existing either in the first- or indeed in any subsequent- UF's frame/s). More importantly, the new 'ACC' Paradigm conceives of the entire physical universe as being continuously computed- "dissolved" ("in-between" any two consecutive UF's) - and then "re-computed- and evolved- solely by the UCP with each consecutive UF's frame!

- 2) Negation of the existence of "dark-matter" or "dark-energy": once again, due to the ACC new Paradigm's assertion that the UCP simultaneously computes all exhaustive spatial pixels in the universe – which negates the possibility of the existence of any "material-causal" physical relationships between any two (or more) exhaustive spatial pixels in any single- or multiple- UF's frame/s; therefore the CUFT's new 'ACC' Paradigm negates the existence of "dark-matter" or "dark-energy" since they are assumed to "cause" the accelerated expansion of the physical universe. Instead, the CUFT's new 'ACC' Paradigm postulates that the accelerated expansion of the physical universe is brought about solely by the UCP's accelerated addition of the number of given spatial pixels to each consecutive UF's frame/s!
- 3) Revision of RT's Einstein's Equations' "Material-Causal" Assumption:

Next, the CUFT's new 'ACC' Paradigm asserts that precisely due to the impossibility of the existence of any such 'material-causal' physical relationships between any two (or more) exhaustive spatial pixels, e.g., at any single- or multiple- UF's frames; therefore the new 'ACC' Paradigm revises Einstein's Equations' 'material-causal' basic assumption: if indeed there cannot exist any such 'material-causal' physical relationships between any two (or more) exhaustive spatial pixels at any single or multiple UF's, then Einstein's Equations assertion wherein "massive objects" "cause" a curving of space-time, which then "causes" those "massive-objects" (and other) to move in particular travelling-pathways – is challenged by this new 'ACC' Paradigm. Instead, the new 'ACC' Paradigm postulates that the singular Universal Consciousness Principle (UCP) simultaneously computes every exhaustive spatial pixel in the physical universe – giving rise to the apparent relativistic effects of the "curved space-time" associated with "massive-objects" (and its corresponding apparent determination of the travelling-pathways of massive and non-massive objects); This apparent curvature of space-time associated with the presence of massive objects was recently explained through the distribution of "high-mass, low energy" vs. "low-mass, high-energy" objects across any given series of UF's – which correspond to the UCP's computation of "high frame

consistency" (e.g., 'high-mass, low-energy') vs. "low frame-consistency" (e.g., 'low-mass, high-energy') spatial-pixels' loci (e.g., objects); Indeed, it was previously shown that such UCP's computation of high- vs. low frame-consistency (objects) distribution across a series of consecutive UF's produces and apparent "curvature of space-time" adjacent to those loci characterized by 'high frame-consistency' (e.g., corresponding to high-mass, low energy "massive objects") as well as to the apparent determination of the travelling pathways of the converse 'low-frame consistency' (high-energy-low mass) objects. We thus obtain that the evolution of the physical universe is not driven by a 'material-causal' physical interaction between "massive objects" which "cause" a "curvature of space-time" (and vice versa a 'material-causal' interaction between such "curved space-time" which "causes" massive or non-massive objects to "travel in particular travelling pathways"; But instead, the dynamical evolution of the physical universe is driven solely based on the singularity of the UCP which produces a series of UF's frames comprised of particular spatial-loci characterized as "high-frame consistency" (e.g., 'high-mass', 'low-energy') as opposed to other spatial loci characterized as "low-frame consistency" ('low-mass', 'high-energy') – which give rise to an apparent "curved space-time" which seems to be associated with "massive objects" etc.

f) *The 'Computational Invariance Principle'*

Another key theoretical postulate of the CUFT is the 'Computational Invariance Principle' which asserts that since only the 'Universal Consciousness Principle' (UCP) may be regarded as "computationally-invariant" as it remains constant both "during" its sole computation of each exhaustive spatial-pixel 's four basic physical features (of 'space' and 'energy', 'mass' and 'time') comprising the entire physical universe (for each consecutive UF's frame/s), as well as solely remains without the presence of any physical universe "in-between" any two such consecutive UF's frames; whereas those four basic physical features may only be regarded as "computationally variant", e.g., exist only temporarily "during" each consecutive UF's frame/s (solely produced by the UCP) but not "in-between" them (wherein only the UCP exists); therefore, the 'Computational Invariance Principle' asserts that only the UCP can be regarded as "constant" and "invariant" whereas the four basic physical features (of 'space' and 'energy', 'mass' and 'time') may only be regarded as "transient" and "phenomenal" ('computationally variant').

g) *The 'Universal Consciousness Reality'*

A closely related additional theoretical postulate is the 'Universal Consciousness Reality' postulate which postulates that since only the UCP can be regarded as

"computationally invariant" (e.g., exists uniformly and constantly both "during" each consecutive UF's frame/s as well as solely exists "in-between" any two consecutive UF's frames) whereas the four basic physical features comprising each exhaustive spatial pixel across the entire physical universe (of 'space' and 'energy', 'mass' and 'time') may only be regarded as "computationally-variant"), therefore the 'Universal Consciousness Reality' postulate asserts that the entire physical universe, e.g., comprised of those four 'computationally-variant' basic physical features – must be regarded only as a "phenomenal-transient" manifestation of the singular 'computationally invariant' Universal Consciousness Principle!

h) *The UCR 'Supra-Spatial-Temporal Reservoir Hypothesis' (UCR-SSTRH)*

Next, this 'Universal Consciousness Reality' is characterized by a novel 'Supra-Spatial-Temporal Reservoir Hypothesis' (UCR-SSTRH) which postulates that the singularity of the 'Universal Consciousness Reality' (UCR) also comprises a "reservoir" of all "past"- "present"- and "future/s"*- UF's of the universe! (*as described previously the CUFT's UCR-SSTRH postulates that there exists multiple potential future/s which are enacted or chosen by the UCP based on the "moral-choice/s" of any exhaustive Individual Human Consciousness, see the "UCR Dynamic-Equilibrium Principle", below):

i) *The 'UCR Inseparability Principle' & 'Omni-present, Omniscient' Postulates*

Succinctly stated, the 'UCR- Inseparability Principle' postulates that since the Universal Consciousness Principle computes every exhaustive spatial pixel comprising the entire physical universe (at every possible 'past'-'present'- and 'future/s'- UF's frame/s comprising the abovementioned 'UCR-SSTR'), therefore all exhaustive spatial pixels comprising the entire physical universe are "inseparable" from the singularity of the Universal Consciousness Reality (UCR)... This also implies that the three different states of 'Individual Human Consciousness' – e.g., its "waking"- "dream"- and deep-sleep"- states are "inseparable" from the singularity of the UCR! Next, the 'UCR Omnipresent, Omniscient' postulate asserts that since all exhaustive spatial pixels comprising the entire physical universe – e.g., at each exhaustive 'past'- 'present'- and 'future/s'* UF's frame/s is "inseparable" from the singular UCR, therefore necessarily this singular UCR "knows" and "is "present" in each such exhaustive spatial pixel/s comprising each exhaustive (past, present, future/s*) UF's!

j) *'The UCR 'Dynamic-Equilibrium Principle'*

The UCR 'Dynamic-Equilibrium Principle' postulates that since all 'Individual Human Consciousness' comprise "inseparable" elements

comprising the singular UCR (e.g., as evinced also by the above UCR-Inseparability Principle), and based on a postulated basic intrinsic property of this singular UCR which is its inherent tendency towards a "harmonious-unity"; therefore the 'UCR-Dynamic Equilibrium Principle' asserts that the UCR operates based on an inherent tendency towards maintenance of a balanced and unified consortium of Individual Human Consciousness entities: this implies that in case there exists a particular Individual Human Consciousness which chooses to inflict "pain" or "suffering" upon another given Individual Human Consciousness then the UCR "balances" this "moral-imbalance" through the 'Dynamic-Equilibrium Principle' through a delivery of the proportionate degree of 'suffering/'pain' inflicted upon the "inflicting" Individual Human Consciousness. Hence, the new CUFT 'ACC' Paradigm asserts that the evolution of the physical universe is not "caused" by the initially assumed 'Big-Bang' nuclear explosion but rather propagated by intrinsic features and tendencies of the UCR – e.g., one of which is this 'Dynamic-Equilibrium' moral principle (which sets to "balance" and "harmonize" any "moral imbalance" found between its embedded Individual Human Consciousness entities).

k) *The "Individual Human Consciousness Expansive Spectrum Hypothesis" & "UCR-Evolution of Consciousness" Theoretical Postulates*

The "Individual Human Consciousness Expansive Spectrum Hypothesis" (IHCESH) postulate hypothesizes that another inherent key property of the UCR which drives the evolution of the physical universe is its intrinsic tendency to express ever more exhaustive (or "broader") manifestations of this singular Universal Consciousness Reality: Specifically, this UCR-ECH postulates that it manifests a progressive evolution from "inanimate", then "animate": "plants", "animals" and then "humans"- and within humans: a further evolution towards the "pinnacle" of the UCR evolution which is the "Universal Consciousness State"; Once again, this new CUFT ACC Paradigm differs from the old 'Material-Causal' Paradigm's associated Darwin's "Natural Selection Principle" (NSP) which assumes that the evolution of biological (plants, animals and even humans) is "caused" by their direct physical interaction with the environment which "selects" only the most compatible with an organism's particular environment; This is because where as the old 'Material-Causal' 'NSP' assumes that evolution is "arbitrary", i.e., "caused" by "chance-mutations" in the genetic composition of particular organisms, and the direct physical interaction between the environment and those ("genetic-mutated" and "non-mutated") organisms which "causes" the "selection" of those organisms that can best survive in that given environment; the new ACC Paradigm negates the very possibility of the existence of any such 'material-causal' physical relationships between any given

organism (e.g., "genetically-mutated" or "genetically non-mutated") and its environment (due to the UCP's simultaneous computation of all exhaustive spatial pixels in the universe at every minimal time-point UF's frame/s); Instead, the whole evolution of the various 'inanimate', 'animate': 'plants', 'animals' and 'humans' forms – is driven by one singular Universal Consciousness Reality which manifests ever more expansive forms of this Universal Consciousness, i.e., expressing its fullest manifestation in the expanded Individual Human Consciousness – Universal Consciousness "expanded" state: Indeed, based on the abovementioned (and previously delineated) "Ontological Relativism" and "Universal Consciousness Reality Inseparability Principle" it was shown that just as is the Individual Human Consciousness "Deep-Sleep" state in which there exists no "separation" between the Individual Consciousness and the Universal Consciousness Reality, so it is postulated that there exists such an "expanded" Individual Human Consciousness – "Universal Consciousness State" in which the Individual Human Consciousness functions in a manner equivalent (and in fact "inseparable") from the Universal Consciousness Reality, e.g., also in its "waking state"; In fact, the "Individual Human Consciousness Expansive Spectrum Hypothesis" (IHCESH) converges with the "UCR-Evolution of Consciousness Hypothesis" in their common assertion that the evolution of the entire physical universe is aimed towards the gradual increasing manifestation ever broader and more exhaustive expression of 'inanimate', 'animate': plants, animals and humans and up to the full "expanded" Individual Human Consciousness Universal Consciousness State... Viewed in this new UCR light the entire origination, sustenance, and evolution of the physical universe is driven by the singular creative UCR and its inherent tendency towards the expression of ever broader forms of this singular UCR.

l) *The UCR 'Reversed-Time Goal Hypothesis'*

A final theoretical postulate of the UCR recently discovered is the UCR-Reversed-Time Goal Hypothesis which further hypothesizes that from the higher-ordered singular perspective of the UCR's 'Supra-Spatial-Temporal Reservoir Hypothesis' (which comprises all "past-" "present"- and "future"- UF's) the UCR organizes the series of the UF's based on the fulfillment of its general Goal of the (abovementioned) Evolution of Consciousness, i.e., based on its organization of the UF's in their "reversed-order" from that Goal (in the "future/s*") towards the "past" including the entire evolution of all inanimate, animate: plants, animals, and humans forms and including the UCR's "accelerated expansion" of the physical universe (through its accelerated addition of the number of exhaustive spatial pixels comprising the entire physical universe with each consecutive UF's).

IV. RESULTS & DISCUSSION

A comprehensive series of over thirty scientific articles delineating the CUFT's various experimental and theoretical facets, "differential-critical predictions", theoretical ramifications etc. have been published (in this "Special Issue" and previously) which substantiate and validate this CUFT's new 'ACC' Paradigm as a satisfactory new Paradigm of 21st century Physics; Thus, for instance, one of the CUFT's unique "differential-critical predictions" was given indirect empirical validation as more valid than the predictions of both RT and QM – as indicated by the empirical findings of the "Proton-Radius Puzzle": this was indicated by the CUFT's 'differential-critical prediction' wherein relatively "more massive" particles should be measured as spatially more consistent across a series of UF's frames, relative to "less-massive" particles, e.g., due to the new computation or definition of the UCP for any particle's given "mass" – as its computation of the degree of object (spatial) consistency across frames; Indeed, the 'Proton-Radius Puzzle' findings indicated precisely such findings indicating that the more massive "Muon" particle (which "sinks" into the Hydrogen Proton produces a "spatially more consistent" (smaller, more accurate) Proton radius than the Proton radius of an equivalent Hydrogen atom which is encircled by the "lighter" electron particle, thereby providing an initial empirical validation of one of the unique predictions of the CUFT as significantly different than the predictions of both RT and QM; A series of additional 'differential-critical predictions' of the CUFT were stipulated and delineated which included specific predictions pertaining to the predicted measurement of "more massive particles" across a greater number of UF's frames than "less-massive" particles, e.g., which were predicted to "not appear" in a certain percentage of the UF's frames. Likewise, contrary to the "impossibility" of "time-reversal" according to both RT and QM the CUFT's ACC Paradigm predicted that "time-reversal" may be possible: this may be accomplished via either a precise recording of the UF's frames' series of exhaustive spatial-electromagnetic pixels values constituting a given biological entity (cell, organism, etc.) and consequent application of particular electromagnetic stimulation that is necessary in order to "reverse" the (recorded) sequence of that organism's constituting exhaustive spatial-electromagnetic pixels' values (across the series of UF's frames); Or alternatively, the possibility of "time-reversal" can be affected based on an "expansion" of the Individual Human Consciousness to its "Universal-Consciousness" ('expanded-waking state) – which allows such an 'expanded' Individual Human Consciousness to operate in a manner equivalent to the functioning of the 'Universal Consciousness Reality', thereby being capable of affecting the electromagnetic value/s of any given exhaustive spatial pixel/s

comprising any given biological organism (or cell, tissue etc.), thereby allowing such an 'expanded' Individual Human Consciousness to produce a "reversed-sequence" of that biological organism (cell, tissue or organ etc.) – effectively "reversing-time" for that biological entity! As will be discussed (below) the CUFT's new conception of "time" (as well as of "space", "energy" and "mass") significantly differs from that of both RT and QM in that "time" (as well as those other three physical features) is computed solely by the 'Universal Consciousness Principle – as the degree of "change" ('inconsistency') in a given object (including: biological cell, tissue, organism) across a given number of UF's (e.g., rather than is dependent upon the direct physical interaction between a given relativistic 'observer' and (space-time, energy-mass) 'phenomenon' or between a subatomic 'probe' and 'target' element/s); therefore, one of the unique 'differential-critical predictions' of the CUFT asserted that by modulating the electromagnetic-spatial pixels' values of all exhaustive spatial pixels comprising (for instance) an 'amoeba' (across a given series of UF's) – such that the modulated exhaustive spatial-electromagnetic values comprising this 'amoeba' would produce the "reversed-sequence" of that amoeba's recorded life-development, then this would necessarily affect a "reversal of time" for that amoeba!

Indeed, the CUFT stipulated and outlined a series of particular 'differential-critical predictions' which significantly differ from the predictions of both RT and QM; those include (in addition to the predictions mentioned above): a prediction that due to the fact that the UCP computes all exhaustive spatial-pixels comprising the entirety of the physical universe with each consecutive UF's frame/s, and then "dissolves" the entire physical universe "in-between" any two such consecutive UF's frames, therefore it predicted that "in-between" any two consecutive UF's frames each given particle could not be detected (e.g., due to the "dissolution" of the physical universe 'in-between' UF's frames)! Additionally, due to the CUFT's postulated equivalence of the "expanded" Individual Human Consciousness to the Universal Consciousness Reality (UCR), and the "inseparability" of all such Individual Human Consciousness to the UCR therefore, it was predicted that Individual Human Consciousness can affect the physical universe in at least two different manners:

a) Based on its "expanded" Individual Human Consciousness' "Universal State of Consciousness" –such an "expanded" Individual Human Consciousness can affect any exhaustive spatial-pixel/s throughout the entire physical universe (e.g., including any "past", "present" or "future/s"* UF's exhaustive spatial pixels), just as the Universal Consciousness Reality (UCR) computes- "dissolves"- re-creates- and evolves- all exhaustive

spatial pixels in the universe (in the 'past', 'present' or future/s- due to the multiplicity of Individual Human Consciousness possible "future/s" based on the "moral-choices" that each such Individual Human Consciousness chooses, which is associated with the above mentioned UCR Dynamic Equilibrium moral balancing mechanism). This means that one of the 'differential-critical predictions' of the CUFT is that it should be possible for an "expanded" Individual Human Consciousness to affect change in a given Physical System, such as the abovementioned "time-reversal" in a biological organism like the 'amoeba'...

- b) Based on a "collective-focus" of multiple 'Individual Consciousness' – especially in their collective ability to affect a "responsive change" in the Universal Consciousness Reality (UCR), of which they are an "inseparable" part: the CUFT predicted that at such "special phases" in which a collective group of Individual Consciousness focuses on a particular "prayer" (such as the Jewish New Year: "Rosh Hashana") – it is predicted that at such 'special-times' (of concerted "collective-focus") there may be a "non-continuous" accelerated expansion of the physical universe; In other words, it was predicted that the currently observed accelerated expansion of the physical cosmos – may undergo "non-continuous" "bursts" of accelerated expansion (e.g., or a change in the continuous rate of accelerated expansion) at such 'special-times' associated with a "collective-focus of Individual Consciousness" (prayers) – i.e., such that at these 'special-times' a "non-continuous burst" in the accelerated expansion of the physical cosmos can be observed!

Another set of 'differential-critical predictions' of the CUFT is associated with the CUFT's Mathematical "Universal Computational Formula" derivations: as stated above (and previously), the CUFT's new 'A-Causal Computation' Paradigm manages to completely unify between the four basic physical features of the physical universe of 'space' and 'energy', 'mass' and 'time' – as secondary computational by-products of the UCP's singular computation (as well as completely integrates between RT & QM); This complete integration is represented by the CUFT's Universal Computational Formula, which can be represented by its two 'Relativistic' AND 'Quantum' Formats. As outlined previously, this Universal Computational Formula embeds within it the "special cases" of both Relativistic and Quantum Laws (marked in red) – as can clearly be seen in the Relativistic and Quantum Formats (above). Hence, another 'differential-critical prediction' of the CUFT pertains to the mathematical (and empirical) validation of the "special cases" for the manifestation of these Relativistic and Quantum Laws, i.e., in which for instance Relativity's " $E = Mc^2$ " manifests and QM's Uncertainty Principle "complimentary pairs" manifest. In

other words, a mathematical (and empirical) validation for this Universal Computational Formula would comprise of an analysis (and empirical measurement) of those particular mathematical (and empirical) conditions which lead to the manifestation of those (abovementioned Relativistic and Quantum Laws), as opposed to the empirical validation of the "standard" Relativistic and Quantum conditions which are expressed within the (Relativistic and Quantum Formats of the) Universal Computational Formula.

As mentioned earlier, an initial empirical validation of at least one 'differential-critical prediction' of the CUFT associated with the 'Proton-Radius Puzzle' findings was given, which clearly supports the CUFT as a satisfactory new 'A-Causal Computation' Paradigm, e.g., replacing the Old 'Material-Causal' Paradigm underlying both RT and QM; Further empirical (and mathematical) validation for this new CUFT's 'A-Causal Computation' Paradigm can be given through empirical testing of each of the abovementioned (and previously mentioned) particular CUFT's 'differential-critical predictions'. What follows is a succinct description of some of the (potentially far-reaching) theoretical ramifications of this CUFT's New 'A-Causal Computation' (ACC) Paradigm of Twenty-First Century Theoretical Physics: A "New Universe" is discovered which was not "caused" (or originated) by a 'Big-Bang' nuclear explosion – but rather is continuously being computed-"dissolved"- (e.g., in between any two consecutive UF's frames), "re-computed"- and "evolved" at the incredible rate of " $c^2/h = 1.45^{42}$ sec"! This "New Universe's" empirically observed accelerated rate of expansion is not "caused" by any "dark-matter" or "dark-energy" (e.g., which were negated by the CUFT) – but rather, the accelerated expansion of the physical universe is brought about by the Universal Consciousness Reality's accelerated addition of the number of exhaustive spatial pixels comprising each consecutive UF's frame/s! This "New Universe" is not (any longer) constrained by the "Speed of Light Constraint" – simply because the UCP's simultaneous computation of each exhaustive spatial pixel in the universe allows the UCP, as well as the "expanded" Individual Human Consciousness (which was shown to function equivalently to the UCP) to transcend this apparent "Speed of Light Barrier"! This 'New Universe' is also not governed by any "material-causal" laws (or even physical relationships – at either the quantum or relativistic levels) – due to the simultaneity of the UCP's computation of each exhaustive spatial pixel/s in the physical universe (at each consecutive UF's frame/s): Therefore, General Relativity's 'Einstein's Equations' were challenged – evincing that there cannot exist any such "material-causal" physical relationship/s between "massive objects" and their (assumed) "curvature of space-time" (or vice versa the determination of the "movement pathways" of such massive objects as "caused" by

"curved space-time"); rather according to the CUFT's New 'ACC' Paradigm, the evolution of the physical universe is solely produced through the UCP's simultaneous computation of each exhaustive spatial pixel in the universe (as computed by the UCP for each consecutive UF's frame/s). Moreover, according to the abovementioned CUFT's "Computational Invariance Principle" and "Universal Consciousness Reality" theoretical postulates, the entire physical cosmos, e.g., and every exhaustive spatial pixel comprising it only represents "computationally-variant" "transient" and "phenomenal" manifestation of the only singular "computationally-invariant" Universal Consciousness Reality, which constitutes the only "solid" and "constant" reality underlying the continuous manifestation- and "dissolution" of the physical cosmos, e.g., "in-between" any two consecutive UF's frames (every " $c^2/h = 1.45^{-42}$ sec")! Therefore, perhaps most significantly, is the realization that this singular Universal Consciousness Reality (UCR) solely determines this continuous computation- "dissolution"- and evolution- of each exhaustive spatial pixel in the universe; and that even though this singular UCR possesses a "Free-Will" (hypothesis) so that it is not bound by any of its manifested (quantum, relativistic or even UCR features), it still may be characterized through its intrinsic features (outlined above and previously), which include (among others): the 'Dynamic-Equilibrium' (moral principle), an inherent tendency towards manifesting ever more exhaustive manifestations of "inanimate", then "animate": "plants", "animals" and then "humans" – leading up to the full manifestation of the "Universal Consciousness" ("expanded" Individual Human Consciousness State). Finally, it was hypothesized that this singular Universal Consciousness Reality is driven by a "Reversed-Time Goal Hypothesis" (RTGH) which aims at the evolution of the entire universe towards a manifestation of the most exhaustive Universal Consciousness Reality (as expressed by the Universal Consciousness State in Humans).

Dedication

This article is dedicated to my beloved wife Shulamit Bentwich who makes all the difference in my life and to my two beloved sons, Shoham and Nethanel, and to all of the great Seers (that beheld this singular Universal Reality) such as the great Maimonides, Alter-Rabbe Shneur Zalman; Rabbi Shimon Ben Yochai, and the Rabbi Milubavitch; and to all of Humanity – may it grow and expand its comprehension and realization of the basic underlying singular Universal Consciousness Reality which is governed by Goodness and Giving, Morality and Unity of which we are all but "integral" and "inseparable" parts...

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