THEORY OF EVERYTHING = PHILOSOPHY OF EVERYTHING + PHYSICS OF EVERYTHING: PART 2

UNIFYING RELATIVITY, QUANTUM MECHANICS, METAPHYSICS, EXTRA DIMENSIONS AND CONSCIOUSNESS

Abed Peerally, Former Pro-Vice Chancellor, University of Mauritius

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SUMMARY

This article precedes the author's second book: Origin of Our Universe: Theory of Everything*. The Final Answers to the Mystery of Existence.* It proposes that science on its own, in its traditional nature, cannot explain the ultimate nature of physical realities, and therefore the ultimate nature of quantum reality, Einstein's relativity laws, and the integration of relativity with quantum mechanics. In principle, a Theory of Everything of our universe, according to many physicists. ought to be a possible ultimate concept of physics, capable to explain all scientific and natural realities, but nature appears to be perpetually mysterious and elusive. However, in the finality of our existence, there should exist an ultimate scientific Theory of Everything capable of explaining our laws of nature and our realities, which requires integrating relativity and quantum theory, embodying a higher level multi-dimensional Metaphysics, that would underpin quantum theory, relativity and spacetime, as the author will lay out in his next book. This is an area where String Theory's expertise in mathematics could be useful in attempts to unite spacetime and extra-dimensions. Metaphysics, integrated with our laws of nature, could provide the final arguments and interpretations that can tell us why we have an existence, where we appear to be an impossibility in an impossible universe. Therefore, the current status quo in terms of the elucidation of what existence in our universe entails, looks like an expectation that science and metaphysics could soon lead us to the goal of knowing why and how we are here in our extraordinary realities.

INTRODUCTION

The science of cosmology experienced a dramatic boost with Einstein's theory of general relativity which, together with Hubble's astronomical observations of the expansion of our universe, led George Lemaitre to formulate his cosmic ovum or egg hypothesis of the origin of our universe, now known as the Big Bang concept. Lemaitre's cosmic egg hypothesis was, basically, an outline one, since Einstein general relativity shows our universe must be one that could be expanding, meaning in the past it was smaller, leading Lemaitre to conclude, that ultimately, it must have been, in the earliest stage of its creation microscopic, like a cosmic egg. This view of Lemaitre subsequently led Penrose to formulate the singularity concept that subsequently developed into the Hawking and Penrose singularity theorem, which projected the possibility that our universe probably was initially, at birth, a singularity of infinitely minute size, containing the entire mass of our universe. Since the singularity theorem of Hawking and Penrose is a reality of the smallest size, in theory, it naturally forms part of the science of quantum mechanics, while Einstein's General Relativity deals with the macrostructure of the universe (6,10). Because we really need to understand what is our universe, ultimately, we must understand both the smallest and the largest scales of our universe, and more importantly how the smallest realities, across the history of the universe, led to the large-scale structure. Technically, we mean that the macroscale, basically gravitation and space, too must be having quantum structure, whereby it could be possible to integrate quantum mechanics with Einstein's general relativity. This is where we are today, in relation to elucidating what is our universe, scientifically and philosophically, showing the challenge that intellectually confronts us in the query of how and why we exist. We can understand why, an intellectual atheist, Ray Bradbury was inspired to say: *"We are an impossibility in an impossible universe".*

We show that a concept of the supernatural origin of our universe can be explained only by a higher level of explanation which underpins our science. That higher level of knowledge is metaphysics, probably an elaborate supernatural knowledge, but at our level, we can initially see it as basically, the ultimate science of the integration of relativity, quantum mechanics, with multidimensional spacetime, and consciousness, which only a Super intellect could have designed. Therefore, the Theory of Everything is the combination of the Physics of Everything with the Philosophy of Everything, and

is largely a metaphysical concept. Strangely, the mathematical multidimensional String Theory has been regarded as a natural theory of the origin of universes, where it is assumed that a Super intellect is not needed. Interestingly, our TOE seems to suggest that a concept of the origin of our universe cannot be explained without incorporating a multidimensional fractal spacetime necessary to create the phenomenon of consciousness. which we believe is possible only by bringing in supernatural intervention. The metaphysical design of our universe cannot exist without a creation architect that engineered a multi extradimensional fractal spacetime and consciousness. The metaphysics of the creation mechanism of our universe has mathematically intricate phenomena, and one can speculate that String theorists are likely to have the kind of expertise to unravel their complexities, if they are presented with an appropriate hypothesis.

String and M theories have been mathematically quite successful in formulating how multidimensional universes arise, based on ingenious mathematics and graphics. but they have not tried to use the same approach to model consciousness, for instance. There appears to exist, in nature, coherent signals of the manner the Mind behind the universe went about to design our universe and its laws of nature. Clearly, the universe, the laws of nature and our total existence are so unbelievably extraordinary that in their absence, there would, to our mind, have been nothing at all, except the Supernatural Mind behind existence. Instead of this imaginary state of absolute physical nothingness, we have an apparently metaphysical universe with incredibly ingenious laws of nature, and the belief that a Super intellect is behind existence. We want to understand as scientifically as possible what is the science/metaphysics that underpins quantum theory and special and general relativity, in other words how the Mind or Super Intellect went about to conceive us all. We want to understand the ultimate scientific explanation of quantum gravity, acceleration, spacetime, consciousness and the extra-dimensions.

We instinctively tend to think that the supernatural or metaphysical plan, behind our universe, reveals itself in the form of the extraordinary harmony and order in existence. The occurrence of harmony largely emphasizes the universe as philosophical, mathematical and metaphysical constructions harbouring principles of symmetry. This means that our laws of nature and of our existence, are the products of metaphysical reasoning, so that all of them, if arranged with arrows pointing towards a certain direction to understand how they originated and are now related, tend to focus towards

a common central invisible mind, theme or a deliberate design. At least two millennia back, the early Greeks philosophers saw supernatural explanations in the existence of symmetry in our realities: the Platonic solids, the cube, the triangular pyramid, the octahedron, the dodecahedron and the icosahedron. The Greeks believed these represent the five basic elements of nature, earth, water, fire, air, and the fifth one: ether, quintessence or a universal consciousness, which they saw as the ultimate foundations of the universe. This Greek concept provides, roughly, the earliest theory of everything to explain the occurrence of universal harmony in existence. In our current history, the two giant concepts of the universe are relativity and quantum theory, both of which are associated to Einstein's name, and are founded on symmetries (4,6). The discovery of the particle reality of light (5) was the first quantum particle predicted to exist in nature for which Einstein was awarded the Nobel Prize, but Einstein is more famous for devising the relativity theories, in unique flashes of inspiration and ingenuity.

While the scientific principles of our laws of nature have now reached a high level of comprehension, the toughest realities like consciousness, can remain enigmatic for decades and even centuries to come. Our universe, under the Big Bang concept, is believed to have started with the explosion of a kind of Pandora's Box, something which Lemaitre (15) called the "*cosmic ovum or egg*". This ultimate cosmic initial, if it did exist, occurred just prior to the so-called Big Bang explosion or whatever it was, and the Pandora's Box released the fundamental creation formula, in which everything we have in the universe, initially existed in general principles and forms which, soon after the Big Bang, started to develop so as to eventually produce our universe as we know it.

In the enormous scientific drive of the last century until the current decade, the greatest scientific challenge has been the unification of the smallest realities of our existence, the quantum realities of waves, particles and forces with Einstein's general relativity's gravitation, acceleration, curved space time, a feat that appears to be intractable. Since the 1960's an enormous amount of research, particularly in quantum physics, has advanced our understanding of the nature of forces and of particles; but what is the real nature of space, time, matter, waves and particles, in their ultimate explanation, and how they differentiated in the creation mechanism to be what they are and do what they do, appears intractable. Therefore, It is possible that our realities of existence, to some significant extent, have metaphysical properties that we do not quite realise,

which could be the reason why aspects of our laws of nature seem not possible of integration, despite the enormous scientific progress achieved so far. We, for instance, know practically everything, based on mathematics, that our classical physics knowledge expects from us, but there does not appear to be much more dramatic knowledge coming out directly from quantum theory, because our concepts are not comprehensive enough, and mathematics cannot operate in a vacuum. That may indicate that there is an intractable bottle neck along our paths of scientific reasoning. For instance, while Einstein found space-time to be curved, others, particularly first Nottale (18, 19), and later several workers, for example Ben Adda and Porchon (2), among others, regard an expanding space time to be both curved and fractal, with the possibility of harbouring infinities. If space-time could be fractal with infinities. at its ultimate quantum structure, it will be difficult, in our current period of existence, to see experimental evidence at this level of quantum reality, bordering on metaphysics. The cosmic ovum of Lemaitre (15) and the singularity of Hawking and Penrose (11), are so abstract that they have been incomprehensible, in terms of their physical nature, under current quantum theory. This kind of nagging difficulty has naturally led to a cascade of hypotheses of the accidental origin of universes, where a Supernatural Designer is deemed irrelevant. Einstein's vision of the realities of our universe bordered on metaphysics, as his pantheist belief of our universe shows, and his opposition to the uncertainties of quantum theory (7) proves it, although uncertainties are a ubiquitous property of our universe. However, perhaps the proposition of the existence of metaphysical variables in the ultimate nature of quantum theory, in fact, are fundamentally equivalent to the hidden variables of Einstein, Podolsky and Rosen (7), and shows the deeply insightful mind of Einstein. This new way of looking at quantum theory will be detailed out in the author's next book: Origin of our Universe: The Final Answers of the Mystery of Existence, where the metaphysics of space time will be an important issue.

The fractality of space-time implies an infinity of virtual geodesics, which was implied in Nottale's original concept (16), subsequently corroborated by several other authors, in the new field of scale relativity, where quantum mechanical effects appear as effects of fractal structures. Possibly the fundamental indeterminism and nonlocality of quantum mechanics could be explainable based on the fractal geometry itself. The interpretation of gravitation in general relativity and quantum effects in scale relativity are equivalent, so that if gravitation is a manifestation of space-time curvature in general relativity, quantum effects could be manifestations of a fractal space-time in

scale relativity. Therefore, quantum mechanics could find a firm new interpretation in scale relativity. The ultimate realities of fractals are possibly metaphysical realities, an area that could be challenging to substantiate, but metaphysics could be what underpins quantum theory and even gravitation, so that fractals in spacetime are scientific topics worthy of investigation, as far as possible. The first notions of fractal geometry were conceived by Mandelbrot. It subsequently led to the concept of fractal space time.

The evolution of ideas from gravitation and space, to Einstein's relativity (20-27) and later to scale relativity, has been quite natural, at least in our current period of existence on our planet, which has seen a modern period of dramatic intellectual, scientific and technological progress, following an earlier era of science/religion rivalry. The whole of existence is fundamentally influenced by scientific evolutionary trends and social factors, until we become, physically and mentally, as perfect as possible, in the distant future of human history. We can appreciate that existence has many unsolved issues, leading to contradictory interpretations (21) of nature . I will start by mentioning two of several unsolved issues: one scientific and the other philosophical. The first of these unsolved issues concerns a major research topic in Physics, the integration of all fields, practically meaning a "logical" theory of particles and the forces; for instance, Einstein frustratingly attempted in the last three decades of his life, to integrate gravitation and electromagnetism into a unified field theory of everything. The objective was interesting, but premature to solve. The objective to discover a unified theory of forces and fields being unresolved, we seem to have little likelihood the answer is within reach in contemporary physics (27). For instance, the phenomenon of consciousness can only be elucidated, perhaps, if we have a final unified theory of everything. Possibly the origin of our universe was more complex than what the current view of unified field theory could indicate, or what String and M theories tell us. The second issue I have in mind is philosophical: Is the omnipotent and compassionate quality of divine power compatible with the existence of evil? The eminent philosopher J. L. Mackie (16), was an ardent protagonist of this thesis, philosophically called *"moral skepticism"* when he concluded that religious ethics, under the theist belief that evil is a "*God given*" human quality, appear to have to be invented rather than discovered. Later, he would revise his view about the interpretation of the existence of evil and admit that Platinga's analysis of evil and a benevolent God, as being compatible, was correct.

To understand the ultimate nature of our universe demands the discovery of its scientific supernatural creation mechanism, as far as is humanly possible. The Big Bang concept was such a concept, but unfortunately it was an outline primordial one, with little potential to evolve. We need a revolutionary vision of the ultimate scientific and philosophical nature of existence, which makes sense of why we have a universe with quantum theory for the very minute, and relativity for the macro structure, where quantum laws appear to be inadequate to clearly explain phenomena like mass, gravitation, acceleration, inertia and consciousness. We can feel that all those features of realities should have one unifying concept, a Theory of Everything, capable of also explaining (25, 27) the origin of our universe. It was explained in the author's previous vixra paper (25) that distinguished philosophers and scientists, especially Kepler and Whewell, believed humans would know how the universe was created. It is true that our realities of existence show signs of supernatural intervention, if we remember the views of many eminent intellectuals and Nobel Laureates, on this issue.

This current paper is the second by the author on the topic of the *"Theory of Everything: Philosophy of Everything + Physics of Everything" (25).* Its purpose is to pre-empt the theme of the author's next book entitled *"Theory of Everything: The final answers to the mystery of existence"*, which is under preparation. The author's previous general paper on the theory of everything (25), published online, in May 2016, was meant to be an introduction to his first book, *"In Search of Consciousness and the Theory of Everything: Towards the final answers to the mystery of existence"* (27), subsequently published in April 2017. The present article emphasises that the physics of everything and its philosophical implications should constitute the broad basis of the Theory of Everything of the origin of our universe. Therefore existence, fundamentally, imbues with scientific realities tied to spiritual purposes, but as knowledge about our universe and its supernatural scientific origin gathers momentum, humanity will progressively realise that we are, in fact, a scientific and philosophical reflection of the supernatural designer's metaphysical creative power and existence. Therefore, the universe has to be a metaphysical reality, which means it must be having beautiful explanations behind its creation, that could be seen in a Theory of Everything of our Universe.

In this context, it is appropriate to acknowledge the foresight of Steven Weinberg, Nobel Laureate, in his amazing reflections (35) about the scientific drive towards discovering the final theory of the universe, in the book entitled: *Dreams of a Final Theory*. As he said in the first lines of the book:

"This book is about a great intellectual adventure, the search for the final laws of nature. The dream of a final theory inspires much of today's work in high-energy physics, and though we do not know what the final laws might be or how many years will pass before they are discovered, already in today's theories we think we are beginning to catch glimpses of the outline of a final theory."

"Dreams of a Final Theory" is a positive attempt at laying the foundation of the science behind what could be the ultimate laws of nature, which Weinberg visualises as embodying the ultimate beauty of nature. If we can find the ultimate solution, that is simply because we are part of mankind, and of mankind's science and philosophy. Some philosophers, including Emperor Marcus, two millennia back, and many of our eminent scientists have pictured the universe as one living organism, and this must surely be so, in its ultimate nature.

Weinberg's prologue to his book (35) was written in 1992. No wonder, the Theory of Everything, being a challenging intellectual Gordian Knot to unravel, the dream of discovering it in the 90's was premature, as Weinberg's book clearly realised, so much so that even today in 2017, science seems to be quite far from arriving at the final concept of our realities. The Theory of Everything if it is correct, will naturally be the beginning of a new path towards the ultimate theory of existence, in meaning and potential. An interesting reflection, one can wonder, is to determine what difference, fundamentally in the finality of realities, really could exist between different kinds of dynamic existence, say between living and non-living organised entities. Is it possible, for instance, that consciousness (27) is a basic property of everything that is physically organised, whether non-living particles, atoms and molecules, or living cells. Therefore, what we should search for is not only the final theory of the laws of physics, but the ultimate theory of existence and of the universe, which would naturally include the ultimate laws of physics and of science which hopefully could take us closer towards understanding the nature of consciousness. The efforts needed to develop the ultimate Theory of Everything are probably more complicated (27) than what one could possibly deduce from the above statements. Clearly, an initial acceptable Theory of Everything will evolve with time, perhaps over centuries.

Weinberg's *"Dreams of a Final Theory"* makes a good case about how particle physics is the area of research that can lead to the final theory of everything, when he says: *"We are paying the price of our own success: theory has advanced so far that further progress will require the study of processes at energies beyond the reach of existing*

experimental facilities." Weinberg was a strong proponent of the Superconducting Super Collider, which nevertheless attracted, as he himself admitted, strong opposition, from some politicians and scientists. However, Weinberg's main objectives in life, he says, is the pleasure of work, as is mine too. As a highly gifted physicist he manipulates mathematical expressions, and from time to time, he sees the vision of a definite final theory about particles, forces and symmetries, which tells him that nature does behave the way theory says it ought. Particles and forces of physics must be an important part of a Theory of Everything, for the ultimate concept of existence should be a complete philosophy of existence. Reading Weinberg's *Dreams of a Final Theory* and studying the data which have accrued from the world's greatest scientific experiment, the Large Hadron Collider, suggest that particles and forces of nature, need explanation for their existence as much as other realities of nature require a Theory of Everything to justify the fact they exist, though Weinberg is perfectly right to claim that particles and forces are vital towards elucidating our ultimate nature, compared to other laws of nature.

PHILOSOPHY, MODERNITY AND OUR UNIVERSE

A sound Theory of Everything is crucial towards understanding the place of humans in the universe, and to project the role of science, philosophy and spirituality in our realities of existence. Among eminent modern philosophers, Charles Taylor (34) and Alvin Plantinga (30), are particularly well known for their studies of the relationship of modern societies to religious beliefs and consciousness, as well as of the role of science and knowledge towards understanding existence. Taylor, in his monumental work, "*The Secular Age"* (28), argues that modernity, especially modern science, has made our societies, in the West, more objective in their appreciation of what constitutes existence and he finds no reason to believe that secularism is on the rise, in the sense that people are turning "*less and less religious*". No wonder that Alvin Plantinga (30), in his incomparable ways, interestingly, iterates: *"If Dawkins is right that we are the product of mindless unguided natural processes,….His biology and his belief in naturalism would therefore appear to be at war with each other in a conflict that has nothing to do at all with God."*

Modern science, engaging in capital intensive research efforts involving tens of hundreds of thousands of scientists, tries to explain how nature functions, by making its way through enormous challenges, to ultimately take us towards understanding what is behind the fundamental nature of our laws of science like Einstein's relativity,

quantum mechanics, particle physics, the science of heredity and the theory of evolution, among hundreds other major areas of science. As knowledge of our physical realities makes progress, in huge, modern laboratories, scientists and philosophers marvel at the complexity of nature, when faced with the meaning and scope of consciousness in our basic laws of existence. In fact, the concept of consciousness might well be the most difficult and important reality of existence liable to being understood, and it could in fact be even harder to unravel, than finding the ultimate theory of everything, which is meant to explain how we have our universe and its extraordinary features. However, if science does solve the mechanism of the origin of our universe, something undoubtedly replete with philosophy and belief, that will likely be favourably received by politicians and administrators, who will be happy that public money has been put to very good use. That is why we also need to think of philosophy when devising capital intensive projects, for the ultimate judge of government funded projects is the public mind.

Looking behind us in history there has been a very long period of biological and social evolution, that has sharpened our capacity of adaptation to diverse environments, challenges and opportunities (27). During those millennia, centuries and decades, until recently, we have been wondering about the why of existence and what is it that underpins our realities. There came a period of some centuries in our early and modern times, inevitably, when the intellectual rivalry between science and religion sharpened (17): Science traditionally rests on reason and evidence, while religion is founded on religious beliefs, revelation and faith (17). In those early periods, there was no possibility ever, for religion and science, of being capable to easily interpret or explain everything about the realities of existence in our universe, although different religions have professed some hints about how the universe arose under divine intervention, whereas science has stayed clear from entertaining, intellectually, the idea of the supernatural existence, for generally speaking, quite acceptable reasons. Science does not necessarily search for supernatural existence: science searches for the meaning of realities of existence, although many of our eminent scientists including Nobel Laureates, firmly believe we are of supernatural creation. However, the modern educated and objective human observer wants to see scientific evidence of our supernatural origin, as she is not prepared to remain perpetually an isolated, passive adept of nature. In fact this attitude is a nature of humanity. The search of the Ultimate Theory of Everything is part of the organised, state funded scientific exploration. For instance, state funding of particles research was an important philosophical issue to

politicians, at the time Weinberg's book "*Dreams of a final theory"* was being written. The nature of forces and particles was under intense focus and speculation, due to capital intensive high energy particles physics research, in a unique period of scientific inquiry. The issue of belief versus disbelief can be a point of silent controversy in the public and official mind.

As we can see, there is no clear straightforward explanation for the human appreciation of what is meant by our realities of existence, and some of our greatest minds like Fred Hoyle and Albert Einstein, were deeply perplexed about the origin of our realities. Fred Hoyle, an atheist, was so baffled by the systematic orderly micro and macro structures of our universe, that he openly admitted to the occurrence of supernatural influence on our universe. Einstein, who never disavowed God, said: "*I want to know how God created the universe. The rest are mere details."* Interestingly, early history traditionally produced intellectual religious scholars (27), for instance Avicenna, Averroes, Al-Ghalazi, Augustine of Hippo, Thomas Aquinas, who themselves were influenced by Aristotle, Socrates, Plato, Cicero and others. Their ancient philosophical endeavours embodied the earliest scientific reflections and revolutions. In fact, the first cosmological philosophies and arguments came from early religious scholars. The intellectual title *"scientist"* first appeared in the 19th century, with William Whewell, who proposed the term to Coleridge, and for nearly two centuries, since then, the scission that separated philosophy, theology and science as distinct academic fields, has been quite natural, with each area achieving its contributions to intellectual knowledge, as much as it could.

The segregation of science, from its original religious affinities, quickly intensified in our modern time, accentuated by the extraordinary developments in relativity and quantum theory and the biological and chemical sciences (27) of the 19th and 20th centuries. That was a natural evolutionary process in intellectual development. where theology and religion gradually assumed increased importance as academic fields of study and research under their own terms of reference. Theological thoughts have been a fascinating experience (17) in human history, socially, scientifically and intellectually, and will continue to exercise increased impact on socio-economic affairs. The academic world now has an astounding number of departments of science, philosophy and of theology and religions, for very good historical and intellectual reasons.

However, there were periods in history when religious dogmas acrimoniously clashed with the intellectual potential for scientifically understanding the laws of nature. A typical example, from ancient times, was the philosophy and astronomy of geo-centrism as opposed to helio-centrism and the concept of biological evolution (17, 27). That was a period when the clergy and the Church held a higher social and political status compared to most intellectuals, who were generally natural philosophers. Nowadays, we continue to experience intellectual controversies, particularly in the manner of appreciating the origin of our universe and the role of natural selection in human phylogeny. These issues often concern philosophy and science, but they also impinge on religious interpretations of the nature of existence.

The last ten decades culminated in the late modern scientific explosion, where in cosmology there developed an intense rivalry between belief and disbelief, in which rhetoric around the natural versus the supernatural origin of our universe, and around Darwinian evolution, called Neo-Darwinism and Intelligent Design, increases the public uncertainty about the realities of our universe (27). The Intelligent Design project, in its traditional format, has been particularly active in strengthening its hold in the public arena, including institutional bodies. The result appears to be leading to the creation of a new pantheism, where there is divine intervention in every phenomenon on a continual basis. The enormous progress made in relativity laws, quantum theories and particle physics, has reached a point where, based on theoretical reasoning, dramatic new scientific horizons are emerging, like for instance the occurrence of a fractal spacetime referred to earlier, in studies initiated by Nottale (16) that have had significant impact on other workers, thus leading to many research projects and publications.

Producing the Theory of Everything would bring scientific, philosophical and spiritual legitimacy to existence, by explaining how and why we have a universe like ours (25,27). This means that humanity now can explore science and religion to produce, in our times, a more realistic perception of Metaphysics and Natural Philosophy, by combining appropriate areas of science and philosophy. Consequently, there will exist a great deal of scope to engage in philosophical reflections about the universe and humans, on why there is something rather than nothing. Hopefully, a new phase of postmodernity in physics and philosophy might see aspects of science, particularly cosmology, and philosophy and religion fusing into the mega-discipline of

Metaphysics/Natural Philosophy, as an integrated multidisciplinary view of what existence means fundamentally.

THE THEORY OF EVERYTHING, PHILOSOPHY, CONSCIOUSNESS AND METAPHYSICS

The author's first book: "*In search of consciousness and the theory of everything",* was intended to describe the intellectual urge and the importance of science and philosophy to search for the Theory of Everything, as an attractive option that can elucidate our total realities of existence, from the micro and macro scale structures to the laws of nature, including cosmological, physical, chemical and biological realities, including our spiritual obligation to know what we are and why. We realise that a comprehensive Theory of Everything (25,27) is a necessary scientific concept. In this scenario, we are taken to the scientific and philosophical limits of what is intellectually possible: from our mundane life to the frontiers between our realities of existence in our universe and what lies beyond: the metaphysical existence, the demarcation between our material/spiritual universe and the beyond, the transcendent dimension where the laws of existence must be to a large extent possibly outside human scientific comprehension. For that reason, there could also exist a Philosophy of Everything that underpins the occurrence of metaphysical properties, within the nature of our realities (23,26). We could even believe, based on this metaphysical view, that we humans are a para-transcendent reality controlled by biological, chemical and physical laws, and that we might reasonably speculate that we too could have a metaphysical transcendent existence after death, in which the phenomenon of consciousness is possibly an active factor.

The nature and origin of consciousness is subject to deep reflections, philosophically and scientifically. The eminent philosopher, David Chalmers (3) regards scientific studies, focussed on biological and physical neurosensory processing in brain tissues, as the *"easy problems"* of consciousness. Chalmers proposes that consciousness is fundamental for it is accompanied by *"subjective experience",* the understanding of which, he finds, constitutes elucidating the *"hard problems"* of consciousness. For instance, the fact we know that carbon is not synonymous with diamond is an objective realisation. On the other hand, why do we believe that we cannot be alone in this universe, for there has to exist some initial act of creation: That is a subjective experience, but why should we feel such thoughts? Is existence an eternal metaphysical phenomenon? Is it possible that particles and atoms and molecules too

have a subjective urge to act? There is a universal consciousness, the most fundamental reality of existence and of the universe. It appears that consciousness is ubiquitous in all our realities, including physical realities like particles and energy, in ways not yet possible to elucidate, and one wonders whether consciousness might be a link between our existence and the beyond through a higher level of existence, the perhaps transcendent part of our realities. In other words, we need to go beyond the objective behaviour explanations level to look for ideas (32) which might appear "*crazy":* there is need to philosophically and scientifically relate consciousness, as a fundamental phenomenon, with the other fundamentals of existence such as what is life and why we exist. Interestingly, Chalmers (3) believes, as many of our eminent scientists like Heisenberg and Planck did, that consciousness might be a universal phenomenon, a fundamental property of every bit of existence: Chalmers believes for instance that photons have a kind of intelligence, amounting to a "raw subjective feeling, a precursor to consciousness".

Ray Bradbury's immortal remark, *"We are an impossibility in an impossible universe",* was highlighted (25) in the author's first book on consciousness and the theory of everything, as a philosophical and scientific challenge. The history of human existence is intimately associated with a persistent trauma to rationalise our incredible realities, a situation that led human societies to engage in a whole array of basically comparable spiritual practices (31), which fundamentally amount to the same psychological urge that pushes science to understand what we are and why. These human efforts were in fact geared towards understanding that our ultimate realities of existence, and may be comparable to what, in modern science, is a scientific and philosophical obsession to discover the widely searched ultimate secrets of nature: The Theory of Everything. This quasi universal concept could practically be equivalent to the supernatural mechanism which constituted the thinking behind the origin of our universe. It would also support the view that there is a force of entropy (21) behind all evolutionary processes, a universal and eternal force that pushes existence towards its eventual material demise, in the far distant future. The universe, therefore, might be a material/philosophical entity, that completes the equation "transcendence" versus "material", by being both material and spiritual. Entropy is the universal expression of the phenomenon of consciousness which makes the whole universe a conscious being.

It is not difficult to visualise that we need a final theory of philosophy and science that can underpin the realities of our universe, comprising its macro and micro properties, the physics, chemistry and biology of existence, and that can supply additional evidence for the occurrence of a cause that could have launched existence. In the absence of our universe, there would "be" a state of nothingness, and you cannot get a universe, for no apparent reason and without a super intellectual process. The notion of infinite regression, the question of what there was before existence or even prior to the existence of God or the Mind behind existence, can be shown to be unrealistic. No wonder that, with science and philosophy moving into modernity from a rather sketchy intellectual past spanning millennia of human existence, we today seem to be experimenting with all possible pathways towards elucidating our ultimate origin. The last few decades of cosmological research and literature were particularly about infinite, parallel, billions, trillions and zillions of universes, about megaverse, inflationary universes, chaotic universes. It is not surprising that a Principle of Disagreement, called the Anthropic Principle, had to emerge, in which the point is made that humans think they have been supernaturally created, because they are not able to realise that they are forced, somehow, to believe so, for no good reasons at all.

The case of Sir Fred Hoyle is a particularly outstanding one, that of a very eminent astrophysicist, who due to being so puzzled by the universe and existence, found it intellectually unacceptable to have to live as a bright scientist, without the slightest clue why we should exist at all. It is not easy to criticize his stand, because his mind was tormented by the mere fact, quite rightly, of being kept, so to say, in the dark about the meaning and nature of existence, an obsession that made him revolt against the idea of God, that he really believed there was one behind our existence. The various statements he made about life and the nature of the universe and of the physico-chemical transformation of matter, about which he was very knowledgeable, and his doubts about God's existence, made him quite a unique intellectual. Some of Fred Hoyle's statements are listed below and compared with a few of other equally great scientific minds of the past century, including Kepler who lived much earlier.

Fred Hoyle:

- *Once we see, however, that the probability of life originating at random is so utterly minuscule as to make it absurd, it becomes sensible to think that the favorable properties of physics, on which life depends, are in every respect*

deliberate.... It is, therefore, almost inevitable that our own measure of intelligence must reflect higher intelligence -even to the limit of God.

- *There is a coherent plan to the universe, though I don't know what it's a plan for.*
- *I have always thought it curious that, while most scientists claim to eschew religion, it actually dominates their thoughts more than it does the clergy.*
- *Some super-calculating intellect must have designed the properties of the carbon atom, otherwise the chance of my finding such an atom through the blind forces of nature would be utterly minuscule.*
- *Religion is but a desperate attempt to find an escape from the truly dreadful situation in which we find ourselves. Here we are in this wholly fantastic universe with scarcely a clue as to whether our existence has any real significance. No wonder then that many people feel the need for some belief that gives them a sense of security, and no wonder that they become very angry with people like me who say that this is illusory.*
- *The big bang theory requires a recent origin of the Universe that openly invites the concept of creation.*

Arno Allan Penzias

- *Astronomy leads us to a unique event, a universe which was created out of nothing, and delicately balanced to provide exactly the conditions required to support life. In the absence of an absurdly improbable accident, the observations of modern science seem to suggest an underlying, one might say, supernatural plan.*

Edwin Powell Hubble

- *All nature is a vast symbolism: Every material fact has sheathed within it a spiritual truth.*

Johannes Kepler

- *The chief aim of all investigations of the external world should be to discover the rational order and harmony which has been imposed on it by God and which He revealed to us in the language of mathematics.*
- *My greatest desire is that I may perceive the God whom I find everywhere in the external world, in like manner also within and inside myself.*
- *When things are in order, if the cause of the orderliness cannot be deduced from the motion of the elements or from the composition of matter, it is quite possibly a cause possessing a mind.*

Fred Hoyle's philosophy towards life and existence gives a lot of food for thought. Many intellectuals accept the impossibility of finding an explanation for supernatural existence, but do not find it hard to attributing our realities to a supernatural intellect. Clearly, one can see, that there is a profound problem of attempting to rationalise our time-conditioned physical existence, with the transcendent dimension of our ultimate explanation. There must be a good reason why our realities are impregnated with spiritual and religious beliefs, a phenomenon which has always been in the mind of humans, in one way or another, probably since millions of years. The Theory of Everything has been postulated by some of our most eminent intellectuals as the formula that would indicate the manner our universe was conceived, and to most scientists, this means it is the beginning of the final explanation towards understanding our supernatural origin. In fact, the manner the universe has been evolving since its initial Big Bang explosion, 13.8 billion years back, appears to be consistent, time-wise, with the fact that soon, in our human history, it will be about time we know how and why we exist. The supernatural lag period, which perhaps is practically nothing much to a Supernatural Mind, can look like millions of years to us humans, during which period, evolutionary processes, cosmological, spiritual, intellectual, scientific, social and philosophical proceed along a predetermined path, with its usual indeterminism, in our human astronomical calendar.

THE THEORY OF EVERYTHING AND THE SUPERNATUAL ORIGIN OF OUR UNIVERSE MYSTERY

The history of humanity, philosophy and of science shows that an explanation of what is nature ultimately, has been an earnest objective/subjective sensation of humans for several million years, ever since they engaged in spiritual thoughts and ceremonies, for the instinctive human thought must have been: We are not alone in existence. Humans have continuously been searching for their ultimate meaning of existence. This situation has led, in our modern time, to numerous ideas and theories on the nature of existence, the totality of which is a heterogeneous intellectual collection of concepts. There have been some extraordinary reflections in the last two millennia around the eternal question of the why and how of the universe and of existence, discussed in detail in the author's first book (27), *"In Search of Consciousness and the Theory of Everything"*.

The mindset needed to conceive the initial ideas of a real Theory of Everything, however, is a unique phenomenon, intellectually interesting, requiring a certain kind of basic knowledge, scientific, social, historical, philosophical and spiritual, for its realisation to trigger off. The riddle of why we have a universe demands, first and foremost, scientific explanations of the cosmic egg of Lemaitre (15) or the singularity (15) of Penrose and Hawking, about which the only clue we scientifically know, about their credibility, is that they can exist as an outcome of Einstein's general relativity. With Lemaitre's Big Bang, it is not known how the initial cosmic egg or singularity scientifically originated, but since it was formed at a finite time in the past, there also exists the obvious implication that it could have been of supernatural origin, in contrast to the natural origin of energy and matter from nothing.

Describing philosophically and scientifically the origin of our universe is hugely challenging and requires appreciating the gist of the following issues:

- What is consciousness?
- Does the photon have consciousness?
- Do particles possess consciousness?
- Is consciousness part of our four dimensions?
- Could consciousness and existence be related to extra-dimensions?
- Do atoms have consciousness?
- What is quantum reality?
- Are there extra multidimensions?
- What are the theories of the origin of our universe?
- What is Einstein relativity concept?
- Are Einstein's theories final or do they lead to a higher level of relativity?
- What are particles?
- What is an atom?
- What is the role of matter in space and time?
- What is energy?
- What is gravity?
- What is quantum theory?
- What is quantum uncertainty?
- What are determinism and indeterminism?
- Why there should exist a supernatural architect behind existence?
- Why there is existence?

- Can the alternative be that there is no existence and no Mind or God?
- Why our universe?
- Why humans?
- Is evolutionary theory right or wrong?
- What is Intelligent Design?
- Why is the common concept of Intelligent Design basically wrong?
- Is there a soul and why?
- Is there a Mind or God behind our Universe?
- Why should there be a universe, existence and a Mind or God?
- What is the Super-Intellect, Mind or God?
- What is nothingness?
- Why nothingness cannot exist?
- Why there is something and not nothingness?
- How should science and religion relate?
- How should philosophy and science relate?
- What is the ultimate physics?
- What is the ultimate philosophy?
- Why should there exist social, philosophical, and intellectual evolution?
- What is the meaning of transcendence or transcendent dimension?
- What does Charles Taylor mean by: the greatest problem is not about God but about understanding existence?

The author's coming book will attempt to formulate an ultimate Theory of Everything that combines the Philosophy of Everything with the Physics of Everything, the gist of the principle based on which the supernatural creation of our universe occurred. The implication of the Theory of Everything is that existence must be both scientific and metaphysical/spiritual.

Humans since millions of years have been wondering about spiritual forces having strong influence over their worlds. In recorded history, the research of Rappengluck (31) has produced remarkable documented evidence of humans, at least 17 millennia back, engaging in comprehensive and elaborate cave spiritual schemes that basically were meant to appease or win over supernatural forces in efforts to counteract miseries or to improve themselves and their societies (31). These practices, to modern researchers, were an archaic approach towards putting the forces of nature into a primitive concept of everything, the objectives of which were to attempt to understand

the ultimate nature of our world, but also to use the new knowledge gained as a means towards seeking supernatural influence to improve human condition in an unpredictable world. These ancient societies knew the art of healing, whatever that was, and their most common adversity was human suffering or various kinds of superstitions, due to a variety of reasons, and we can see that appealing to a superior force, was the only power they felt they had, and their whole approach was the Theory of Everything of those ancient societies. However, in our current period, science has reached a state where scientists have been looking for a unified concept of physics, which they believe would be the Theory of Everything.

Wikipedia (36) contents have summarized the modern view of what constitutes the Theory of Everything, as follows:

"A theory of everything (TOE), final theory, ultimate theory, or master theory is a hypothetical single, all-encompassing, coherent theoretical framework of physics that fully explains and links together all physical aspects of the universe. Finding a TOE is one of the major unsolved problems in physics. Over the past few centuries, two theoretical frameworks have been developed that most closely resemble a Toe. These two theories upon which all modern physics rests are general relativity (GR) and quantum field theory (QFT)."

The emphasis in this view is that a TOE has as objective the linking of all physical aspects of the universe: The Physics of Everything. This justification, first, seems to lie in the fact that Einstein's general relativity describes the manner gravity or gravitation conditions the behaviour of large scale structures of the universe, from massive bodies that we see around us in everyday life, to the large-scale structures like our solar system, planetary systems, stars, galaxies, clusters of nebulae and galaxies, all of which seem to have an orderly behaviour of motion, attributable to the manner the force of gravity operates. The macroscale order of our universe requires that there be a microscale orderly behaviour as well, so that the whole universe, materially, exhibits order and predictability. Not only the whole universe has to surge forward into its destiny in an orderly and predictable fashion, but this universal orderliness depends on the systematic manner solar systems, nebulae, galaxies and groups of stars and heavenly bodies interact and remain coherent with respect to one another. Einstein's Theory of General Relativity (6) was formulated in early 20th century, but its discovery has been the culmination of astronomical observation and studies conducted over a period of at least two millennia, to lead to the work of Nasir Al Tusi, Galileo, Kepler,

Copernicus, Descartes, Newton, Laplace, Lorentz, Hubble, and many others, before eventually Einstein's intellectual perspicacity developed the theory of everything of the macroscale of the universe in his General Theory of Relativity (6). The scientific impact of General Relativity was dramatic, and among the earliest breakthroughs was the manner the theory led to a deep appreciation of the dynamics of the massive bodies of the universe as a predictable phenomenon, based on the work of many eminent physicists like Friedmann, Slipher and others and eventually it was Georges Lemaitre who took the physics community by surprise by putting forward a concept of the origin of our universe, that in due course became widely known and acclaimed as the Big Bang theory. The cosmic egg origin of our universe in Lemaitre's Big Bang, later evolved into the singularity concept of Penrose and Hawking and the development of quantum physics, thus making quantum theory the second pivotal concept, along with General Relativity, the two all-encompassing physical laws of nature, which some physicists believe are going to produce a final theory of the universe, as indicated by Wikipedia's description (36). of what, in their opinion, is the theory of the universe.

If quantum mechanics is extrapolated to the cosmic egg or singularity of Lemaitre's Big Bang, we must interpret the singularity/cosmic egg to be an object infinitely minute in size but containing the whole mass of the entire universe, a situation impossible to visualise. This is an obvious difficulty which creates incomprehension around the earliest stages of the origin of the universe, although it is generally accepted that there must have been a high energy early phase, which subsequently expanded to gradually enlarge to produce billions of galaxies with their solar systems and habitable planets, like our solar system and its planet Earth. The discovery of the *Cosmic Microwave Background Radiation* (28) by Penzias and Wilson, provided the crucial evidence in favour of the Big Bang, for that radiation background was predicted before it was discovered. There are currently some ideas which have been proposed as candidates for an ultimate theory of everything and this paper tries to explain a few of the most important ones, before suggesting what should be the major goals for a final Theory of Everything of our universe.

The amazing expansion of physics concepts and laws since the beginning of the 20th century has resulted in an impressive mass of data about energy, forces, particles, quantum mechanics, Einstein's relativity theories, singularities, blackholes, spacetime, symmetry in physics, and in the last few decades there have been serious claims about the existence of dark matter, dark energy, inflationary theories, chaotic inflation,

accelerating expansion of our universe, string theories, M Theory, supersymmetry, and about the origin of zillions of universes from practically nothing, and about multiverse, megaverse, parallel universes, infinite universes. Yet little has transpired about the origin of our universe, and the role that a Mind behind the universe could have exercised in a concept, which to us humans, underpins quantum mechanics, and the origin of our universe, based on some properties of quantum theory, including quantum gravity. It is true that the macroscale of the universe, under the interpretation of Einstein's general relativity theory, when associated with the rules of quantum theory, which governs the microscale of existence, leads to an apparent incompatibility and this has been interpreted as evidence we might never evolve a final Theory of Everything.

We have reached a point where we are badly stuck: the reason is that we should understand the ultimate nature of matter and of energy, that would reveal whether existence is natural or supernatural. Quantum theory, the laws of the microscale, and Einstein relativity theories, are apparently incompatible with each other. Quantum mechanics focuses on particles and energy, where they are believed to boil down to waves and particles, so much so that we have a science of forces, particles and of particle physics, which is well established and formalised in a Standard Model of Particles and Forces. We are now also in front of another reality, where particles are believed to be wave functions, that is, a wave reality that could be linked to consciousness, before turning into particles, under human observation, meaning the experimenter. That is to a large extent the belief that consciousness, a central aspect of the Copenhagen Interpretation of Niels Bohr, is responsible for the collapse of a wave function into a particle. Bohr was the first experimentor to associate consciousness to a quantum reality. There could be some genuine truth in the Copenhagen view of existence. However, the science of particle physics has advanced so much in the last few decades that there are signs that little is left to be unearthed unless more and more powerful high energy facilities are built, of which, theoretically, really has no limit. Particle physicists need particle accelerators that can operate at energies equivalent to what existed at the time of the earliest stages of the Big Bang. It is, however, realised, after you sum up all research conducted to date in particle accelerators, including the contemporary high energy Large Hadron Collider in Geneva, so far the energies attained were those of the early moments of the universe, and not those of the earliest moments of creation. That is the reason why it would be extremely difficult to speculate about the final Theory of Everything, based on data

accruing from particle accelerators, and we need a lot of new research ideas and models of particle physics to conceive new ways of knowing the ultimate explanation of the nature of matter and forces. The truth is that the cosmic egg of Lemaitre (15) and the singularity of Penrose and Hawking (11), might be incomplete or basically wrong cosmological premises, where perhaps new concepts are required.

However, particles physics research in high energy accelerators has comprehensively confirmed the Standard Model of Particles and Forces, and we now are confident that we are near to what it can ultimately offer to science, except for the Higgs boson on which there will remain several question marks. It does not appear scientifically correct to claim that a massive particle existing for an infinitesimal short period, linked to the weak force, existing throughout the cosmos, could be the physical reality responsible for imparting mass to elementary particles and the gauge bosons, w+, w- and Z. This aspect of giving mass to the w and Z particles is specifically mentioned in the Standard Model as the mass imparting property of the Higgs mechanism. In fact, in principle, even the massless photon, which bears a measurable quantum of energy, should in principle possess some minute mass. This fact about photons means that the property of mass could be linked to velocity and acceleration, for in the absence of motion you cannot say whether an object, for instance a new motionless particle, would develop mass, even if the Higgs field exists really. Because the photon is massless and capable of motion, points to mass being due to inertia, resulting from acceleration: Individual photons do not possess inertia when they move in free space, not because they have no mass, which is an abstract quality, but because they do not develop the property of inertia. They lack inertia because they travel at the same speed as gravity, and therefore photons appear to be massless. This is what the Higgs boson and field also are supposed to do: creating inertia by resisting, like glue would, the motion of particles. Photons should have exhibited mass if the Higgs existed throughout the cosmos. No explanation has been proposed except that that photons are insensitive to the Higgs field. Einstein's mass energy equation says, however, that energy is mass and mass means the presence of energy. When we visualise the real total mass of a radiating body, we mean not only the mass of all its physical stuffs, but also its total amount of radiation, at any point in time, as in the case of bodies like stars and our sun, for instance. The, naturally. troubling issue with the Higgs mechanism is that it does precisely the same function as gravitation. The confusion the Higgs has created around the significance of gravitation in relation to mass is natural, for the meaning of mass and of gravitation, could be distantly related to our current appreciation of quantum

mechanics. The hypothesis concerning the nature of quantum gravity, resulting from a few current speculations does provide food for thought and suggest that the views expressed in this article about the possible implication of extra-dimensions in the understanding of quantum mechanics and quantum general relativity might be pertinent.

All particles predicted to exist in the Standard Model of Particles have been proved to exist, although a few questions marks, as said earlier, exist about the Higgs boson. Since its apparent discovery in 2012, the Higgs boson has been seen to decay into various particles. The Higgs could be an exceptional entity whose job is to create exceptional particles involved in beta decay, whether massive or massless, but what is important is to focus on the precise explanation of why the Higgs relates to the weak force, in beta decay. The Higgs has important connections to neutrinos and the weak force, and with the interaction of the neutron with, for instance, the weak force. Although the Higgs might not be very evident in a Theory of Everything, it can however be accommodated, provided we have precise information of what it really does. It appears, so far, that it must somehow be connected to mass, by producing massive bosonic particles important in Beta decay, in a complicated mechanism, through its interaction with particles and energy. In the Glashow-Weinberg-Salam formulation of the Higgs concept, the Higgs field and boson create a sticky or gluing effect throughout the universe, that causes elementary particles to develop mass. In addition to having to solve what is mass and why it exists, we do need to fundamentally attempt to elucidate the nature of elementary particles, atoms, bosons, forces and gravitation.

METAPHYSICS AND NATURAL PHILOSOPHY

The implications of an ultimate Theory of Everything are likely to impinge on the relationship of philosophy, theology and the natural sciences, especially with respect to the manner our universe was created, the issue of the origin of mass and energy, and to the issue of the ultimate nature of natural evolutionary processes. While the natural sciences will continue to be studied, researched on and applied, they will primarily be known in their respective categories as for instance physics, chemistry, biology, astronomy, cosmology and so on. It is possible to foresee the philosophical aspects of the natural sciences becoming increasingly subject to scrutiny and research, especially in relation to what they mean for our philosophy of existence, and therefore the name “Natural Philosophy” would be appropriate for this aspect of the natural sciences. Metaphysics is meant, basically, to strengthen into a legitimate

counterpart to this definition of Natural Philosophy, but operating at a higher dimension, and connected to the association of our realities of existence, possibly to a supernatural consciousness, called the Super-Intellect, the Supernatural Creator, God/Personal Supernatural Mind to theists, and the Impersonal Supernatural Mind, an impersonal entity to atheists. Metaphysics would necessarily incorporate metaphysical science when the latter becomes understood, meaning the higher level of physics which underpins quantum theory, for that will most probably form part of the kind of reasoning that was supernaturally conceived and operated by the Supernatural Mind to set up our universe and existence, and which occurred just prior to the Big Bang of the origin of our universe, although we believe there was no cosmic egg or singularity as such. Metaphysics in our concept will be the supernatural physics which underpins quantum theory, as well as any metaphysical aspects of science, as the eminent philosopher Josef Pieper (29) has put it: *the immaterial nature of things, what exactly is the nature of things, and of the causes and how to discover it*. It will address the possible existence of a soul (9) and of the implications of what could be our realities of existence that become arguments for the existence of God or the Mind behind creation. It would possibly also address the explanations of the supernatural facets of consciousness, it ever that is an issue, and with explanations of what comes first in existence: life, awareness, soul and spirit, consciousness or matter. In the natural origin of universes, matter is all that was created and since supernatural intervention is excluded, there is no metaphysics really. It is simply all mathematics and physics. However, in the supernatural perspective of creation, we should reckon with a metaphysical plan for preparing for the creation of our universe and life, of consciousness and of a possible existence after death. Metaphysics would also deal with the creationist version of evolution, where there was a metaphysical setting up of the stage for the coming and evolution of life and human existence, which would imply the existence of a reductive-materialistic and reductive-spiritualistic natural philosophy, in which there were both a deterministic initiation of our realities, followed by their deterministic/indeterministic evolution. Searching for the true ultimate nature of existence will imply knowledge moving beyond a world interpreted based on day to day words. Ultimately metaphysics will be the branch of philosophy that explores the fundamental nature of our ultimate realities of existence. Metaphysics is expected to be intimately associated with Natural Philosophy to explain how and why we have our realities by answering: What is there in nature? Why is it that it exists? What does it tell us about supernatural creation in all its aspects as far as possible? However, there

is no likelihood it can incorporate the concept of Intelligent Design, as seen in ID concepts generally. Existence will be shown in the author's next book on the origin of our universe, to be eternally, at our level in the universe, the combination of determinism and indeterminism, in natural phenomena, as a metaphysical reality. Spiritually, there is supernatural implication both at the time the universe was created and possibly, in the existence of a soul (9) after death.

Metaphysics, as used in this article, is the branch of philosophy which explores the meaning and nature of the reality of supernatural existence in the origin of the universe and in the ultimate nature of quantum realities, and we will adopt the strong classical definition of metaphysics in which interpretations of the nature of our realities exist independently of any observer. Thus, we believe that metaphysics, the science of the beyond, which underpins our realities, is not something that only exists in the mind of the observer. We consider laws of nature to be ultimate realities and are not changed over time by metaphysical powers, so that the Mind behind the universe and our realities have ensured that our physics, cosmology, biology and chemistry deal with real entities and that our laws of science are an end to the natural "science theories" under which these realities operate. Thus, since the universe was created through a metaphysical supernatural process, there should be metaphysical explanations that underpin our scientific laws. Metaphysics is likely to be the area which underpins quantum theory and is a kind of reality where spacetime is fractal, where the fractality has unique metaphysical rules and behaviour, capable of going beyond quantum mechanics in its capabilities, which could include faster that light phenomena, consciousness and totally new super-physics that we will try to expose in the coming book: Origin of Our Universe: The Final Answers to the Mystery of Existence.

It is very interesting to notice that the analysis of nature by philosophers and scientists, and in the teachings of religions seems, in our modern times, to be reaching a fusion of thoughts to the extent we can now perceive that fundamental aspects of science, philosophy and of theology could become part of the discipline that can be best called "Metaphysics/Natural Philosophy", whose formalisation in our present times seems to be progressing through a variety of intellectual progressive processes, supported by eminent philosophers and scientists, where, admittedly, hiccups are not absent. The problems which stagnated its development were not about science, philosophy and religions, but the plans of creation of our realities. As Charles Taylor says: the philosophical obstacles, to understand our realities of existence, are not about God,

but about understanding existence. We are now not far to seeing in nature a premeditated supernatural scheme, far too extraordinary and largely outside the possibility of human imagination, until knowledge reaches a certain level of attainment and maturity, which seems to be possible in our current period of existence.

Parmenides, late sixth to early fifth century, reached the extraordinary conclusion that everyday perception of reality of the physical world is mistaken. He believed that the world is one being, unchanging, un-generated, an indestructible whole. To him change and movement are simply appearances of a changeless eternal reality. Another great reflection of Parmenides was his belief that *"being*" was only a mental phenomenon: there is duality in existence: appearance and reality. It may be said that Parmenides, one of the earliest of known Greek philosophers, was the first to realise that existence was not necessarily what was felt and seen, but something much more fundamental, that there could exist an indestructible reality, one universal being, unchanging, and un-generated, thus dividing our universe into the subjective, what we feel, and the objective, invisible, unchanging, indestructible. Other philosophers and scientists have regarded the universe as a duality as Descartes' Mind and Body, while Plato's perfect forms are the ultimate realities compared to what we see in our everyday existence. We can see how, Parmenides, Plato, Descartes and Leibniz, among others, pre-empted the notion of metaphysics, besides the occurrence of natural history or natural sciences, in emphasising the scientific realities of existence.

For over two millennia, starting with Aristotle, and up to the 19th century, the study of nature was commonly known as Natural Philosophy. Subsequently, in the 19th century William Whewell proposed the term scientist, when new titles started to emerge to give the modern appellations of biology and biologist, physics and physicist, chemistry and chemist and so on. Thus, before the 19th century, a typical appellation of Natural Philosophy for the natural science was for instance Newton's book, "*Philosophiae Naturalis Principia Mathematica*", which reflected the then current usage of "*natural philosophy"* compared to the names of modern sciences. The German tradition of *Naturphilosophie*, Philosophy of Nature, proposed a speculative unity of nature and spirit, and was associated with eminent minds like Goethe and Hegel. This philosophy regarded the universe as a giant organism, very different from the view of say Isaac Newton who saw it as a mechanical one, but he probably meant one that was under divine control, a transcendental universe, under the control of a consciousness, as Einstein also felt. Leibniz developed some deep insight about metaphysics as shown

in this quote from the interesting article by D. Burnham, Internet Encyclopaedia of Philosophy (1):

"Together with several apparently self-evident principles (such as the principle of sufficient reason, the law of contradiction, and the identity of indiscernible), Leibniz uses his predicate-in-subject theory of truth to develop a remarkable philosophical system that provides an intricate and thorough account of reality. Ultimately, Leibniz's universe contains only God and non-composite, immaterial, soul-like entities called "monads." Strictly speaking, space, time, causation, material objects, among other things, are all illusions (at least as normally conceived). However, these illusions are well-founded on and explained by the true nature of the universe at its fundamental level. For example, Leibniz argues that things seem to cause one another because God ordained a pre-established harmony among everything in the universe. Furthermore, as consequences of his metaphysics, Leibniz proposes solutions to several deep philosophical problems, such as the problem of free will, the problem of evil, and the nature of space and time. One thus finds Leibniz developing intriguing arguments for several philosophical positions—including theism, compatibilism, and idealism."

Subsequently, we saw a surge of recent work focusing on metaphysics in science. Thus A. Koyré, in *Metaphysics and Measurement* (13) says: Real progress comes not by following experiment but by outstripping experiment. Imre Lakatos (14) went much further in emphasising that all scientific theories have a metaphysical explanation, and that scientific changes relate to *"cataclysmic metaphysical revolutions".* The difference between Lamarck and Darwin theories of evolution, was the emphasis by Lamarck of possible metaphysical phenomena in evolution, while Darwin had no interest or knowledge of how metaphysics could be important in science. In our current modern times, Intelligent Design argues evolution results from the influence of a Designer, usually God, intervening continuously to push evolutionary processes across the living world. Quantum Theory finds that elementary particles like the electron obey the uncertainty principle and show indeterminism, and are often unpredictable as to their position, momentum and velocity, and it is well documented that Einstein was opposed to these views, and even proposed that Quantum Theory was incomplete and might require the occurrence of "*hidden variables"* (7). In other words, while physics believes that quantum theory postulates an indeterministic physics, until an actual measurement is made, Einstein preferred to adhere to a deterministic metaphysics, where there is continuous predetermined physical intervention until a quantum effect

must occur, and in which one must even believe that there might be hidden variables. However, the reality of indeterminism is philosophically and scientifically correct, otherwise there will no existence as we know. Indeterminism is part of the process of entropy, for it is impossible to know in advance how entropy develop will develop in its details, although generally we in know in advance its outcomes.

CONCLUSION

A final Theory of Everything must imperatively incorporate Metaphysics and Extra-dimensions, arising from the difficulty of scientific considerations to explain how our universe was supernaturally created. This ultimate TOE requires our world and realities of existence to have been masterminded by a Super-intellect at the time of creation, and because of that fact basically, there is the possibility that the laws of nature and we humans do appear to have been created in the image of a supernatural power. Therefore, there is an important role of Theology in our intellectual existence and realities, which is why the future of intellectual knowledge will have to address philosophy, science and theology, where required. As this article reaches its concluding section, it is appropriate to address some pertinent reflections of the eminent Canadian philosophy Charles Taylor (34), particularly in his book *"A Secular Age"*. We will also refer to the views of Alvin Plantinga (30) on the universe and creation.

The subject of secularisation and secularism is a widely discussed issue and often refers, in the literature, to how the state, people or societies feel towards religion or religious practices. Secularism often means specifically the separation of powers of state and of religious authorities on, for instance, the control on how religious matters are taught in schools, or about how religions or religious authorities organise their activities. To some, secularisation refers to the progressive change in societies towards religion, while secularism is looked upon as the separation of state and religion on matters of beliefs, so that religious authorities do not interfere in government matters, while the state has no control over religious belief and practice. Secularisation and secularism are sectors of human affairs which, in the last century, have been well accepted and practised in societies, around the world, with obviously some exceptions. Secularism has been successful in ensuring the rights of individuals to freedom of religious beliefs, and to freedom from religion. Therefore, atheism is a belief that is accepted in most societies.

An ingenuous analysis and conclusion of Taylor (34) is the manner he views secularisation theory, which he sees to be the ubiquitous presence of an unprecedented pluralism of outlook, religious and non-religious. He concludes: *"The interesting story is not simply one of decline but also of a new placement of the sacred or spiritual in relation to individual and social life."* Thus interestingly, Taylor disagrees that our current age is characterised, as often believed, by a decline of religion, resulting from modernity and its incompatibility with supernatural beliefs. He opposes the present theory that modernisation and market forces and the rise of science and technology, works to undermine religion. Our modernity has replaced a blind belief in divine powers by scientific laws of nature, which in many ways have not decreased the strength and appeal of religion in our modern secular age. Superstition will give up its fallacies, and turn towards scientific explanations. Our world is not governed by spirits, demons and unknown cosmic forces, but by immutable metaphysical and scientific laws of nature. The fact they are immutable is proof they were masterminded to be so, for nature must be predictable. Supernatural creation is not a subjective, but an objective perception of our future metaphysical explanations of our realities.

Furthermore, Charles Taylor (34) doubts that secularisation will lead to the disappearance of religion around the world. The analysis of D. H. Shantz (33) in his article "*The Secular Age of Taylor*" is interesting, in which he sees in Taylor's thesis a religious nova effect, in which religion has the potential to be remarkably vigorous, capable of being innovative and adaptive, and of integrating itself in new situations and context, rather than losing its momentum, particularly in the West. Taylor's studies find that inconsistencies are likely to arise in the meaning and scope of life and its meaning, in the absence of divine belief. Thus, Taylor, in his book, highlights what he personally saw from his own life, where not only beliefs find personal values, produce spiritual tendencies that encourage divine love and the realisation that God wishes humans to love their fellow beings, thus to transform human societies and existence towards a better world, more and more. Thus, even religious transformations are analysed by Taylor as objective spiritual reality, not as subjective experiences. Interestingly, Taylor finds that some centuries back it was practically impossible to become atheist: remember the burning of so-called witches in the past for no reason at all, for he finds that God exists in practically most humans and natural situations. God's providence was what caused natural phenomena, national governance was largely controlled by the clergy, and largely involved religious rituals, while life was found to be basically a world filled with spiritual forces of good and evil. We are now free to be believers or

atheists, and to engage in religious transformations. Taylor ingenuously concludes that our ancestors of a few centuries back were naïve in their belief, while we are ponderous, by engaging in our spiritual life reflectively. Such analyses of the religious context of the past and the present made Taylor (34) realise that: *"we experience and search for fullness, that I am calling the coming of a secular age".*

Science has proved we live in a world that is governed by scientific laws and a lot of natural phenomena can be explained by science, technology and knowledge. The modern world is under control and predictable. The misconception of the past has been undone and replaced by knowledge and reason: we do not in our age live in a social world interwoven with rituals and worship, for the scientific revolution of the last century has explained the religious notions of our universe, based on the scientific concepts of the cosmos, where it is a lot easier to see that our universe is too miraculous to have popped into existence out of nothing, and that a supernatural event must be behind our realities of existence. The incorporation of metaphysical notions in our scientific appreciation of life and existence, reinforces the meaning of the universe as God given to us mortals for good reasons.

The arguments of the coming of a secular age by Taylor do not contradict Alvin Plantinga's notion (30) that a world created by a supernatural reality could not exist without being accompanied by the existence of evil, thus contradicting Mackie's interpretation (16) of God, evil and belief. Plantinga argues that the existence of evil is not logically incompatible with the existence of an omnipotent God, for it might not have been possible even for an all-powerful deity to create a free world with free creatures who never choose evil. From a biological evolutionary perspective, we could argue that there would not have been struggle for existence, natural selection and survival of the fittest and the origin of humans, if in biological evolution there was no choice between choosing our survival in the face of vicious struggles with competing species where the fittest was meant to survive, which demanded the suppression of the enemies bent on trying to exterminate you, in a biological world of natural selection. The demand of the instinct of survival as a species, in a biological world of vicious competition for existence, demands the capacity to make a moral choice in favour of survival. The logical problem of evil is something that does not exist naturally as an obligation, but as an immoral choice and clearly humans are aware of the need to be compassionate and to think morally. Clearly a world which contains the potential existence of evil, as

Plantinga reasons, requires free moral human creatures, who therefore know the distinction between good and evil.

It is possible that our developing phase of postmodernity, with the evolution towards a more metaphysical, scientific and philosophical appreciation of creation and of our universe, will see aspects of science, particularly cosmology, with philosophy and religion tending towards fusing into the mega-discipline of Metaphysics/Natural Philosophy, as an integrated multidisciplinary theme of what existence means scientifically, philosophically, theologically and metaphysically and fundamentally, to show how, based on aspects of creation and religious values, together with the science of the cosmological realities of nature, we now can create a new universalism, based on sound moral values, in our philosophy of existence. The author's second book: The Theory of Everything: The final answers to the mystery of existence, will largely substantiate Alvin Plantinga's (30) philosophical theorem that *"the price for creating a world in which they produce moral good is creating one in which they also produce moral evil."* I would put it as follows: In a materialistic universe where the realities of existence are matter and life, it is impossible to have moral good, without moral evil. In his 1977 book *God, Freedom, and Evil*, Plantinga (30) argues against the formulation of Mackie (16) that the attributes of God of omnipotence, should imply that evil should not exist in our universe. Plantinga finds that an omnipotent and compassionate God create humans to have the attribute of free-will, under which they have the moral capacity to distinguish between good and evil. Eventually in his Miracle of Theism Mackie accepted Plantinga's argument in favour of a compassionate omnipotent God permitting the existence of evil, if humans possess freewill. Plantinga had argued for a credible offsetting justification that God had a morally justified reason for permitting the existence of evil.

Starting with the discussion of the philosophy of existence and of the nature of our physical realities and of our universe, since millennia by philosophers, scientists and theologians, our intellectual literature about our universe and existence will reach the crossroads of its destiny, with the author's publication of the metaphysics, science and philosophy of the origin of our universe. The result will see humans, scientists, philosophers, literary writers, theologians and ordinary people having a solid foundation on which to view life and existence for each one of us, in an extraordinary new description of what we really are, independent of whether you are a theist or an atheist. The future should be a world governed by tolerance, understanding, positive

values, and a dedication and moderation towards the protection of nature and existence, in search of fullness, in a philosophical and scientific style of life, called the *"coming of a secular age"*, by Charles Taylor (34).

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