THEORY OF EVERYTHING (TOE) = PHILOSOPHY OF EVERYTHING (PHIOE) + PHYSICS OF EVERYTHING (PHYOE): TOWARD ITS ELUCIDATION (PART 1)

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M. Planck, Nobel Prize

"I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness."

R. C. Henry, Professor of Physics, John Hopkins

"A fundamental conclusion of the new physics also acknowledges that the observer creates the reality. We are personally involved with the creation of our own reality."

E. Wigner, Physicist and Mathematician

"…it was not possible to formulate the laws of quantum mechanics in a fully consistent manner without reference to consciousness."

James Jeans, Physicist

"The stream of knowledge is heading toward a non-mechanical reality; the universe begins to look more like a great thought than like a great machine. Mind no longer appears to be an accidental intruder into the realm of matter; we ought rather hail it as the creator and governor of the realm of matter. The universe is immaterial-mental and spiritual."

Nikola Tesla, Engineer, Physicist, Futurist

"The day science begins to study non-physical phenomena, it will make more progress in one decade than in all the previous centuries of its existence."

Jorge Luis Borges, Writer and Poet

"It is clear that there is no classification of the Universe that is not arbitrary and full of conjectures. The reason for this is very simple: we do not know what kind of thing the universe is."

Steven Weinberg, Nobel Prize

"If there were anything we could discover in nature that would give us some special insight into the handiwork of God, it would have to be the final laws of nature."

INTRODUCTION

This article summarises the huge intellectual scope surrounding the author's formulation of the final Theory of Everything of the Universe to be published in two successive books, the first of which, *"In Search of Consciousness and the Theory of Everything",* is nearly ready for release, as eBook and print book. It goes without saying that writing about the final theory of the universe, or TOE, is challenging and very tedious, due to the theory's very elusive scientific and philosophical concepts, and to the fact that it has huge intellectual implications for humanity, science, philosophy and for understanding the nature of consciousness. These reflections are adequate justifications for publishing this summary paper, in advance of the books, for it presents the intellectual background needed to grasp and appreciate the ultimate vision of our realities of existence. The impact of these two books will be worldwide, impinging on the whole of humanity, for the whole nature of the universe, which has so far been fuzzy and abstract, will now be understood as far as possible, in a concept which will make a lot of sense. However, the subject matter of the books is likely to make good and exciting reading, because for the first time in human history, we can see the how and why of existence, based primarily on science and philosophy. Fundamentally, one of the startling conclusions is that the purpose of creation was not to create matter and massive objects as purely mechanical things, but consciousness in particular, the abstruse immaterial eerie property that binds the whole universe together into a living unit of creation. It is extraordinary that Planck realize this awfully difficult reality in the early 20^{th} century. That is reason why the universe is populated by humans and not by zombies. More interesting is the possibility that, through the creation process, we have qualities of mind which, to some extent, are very similar to some features of the Supernatural

Mind, which created the universe, existence and humanity. In other words humanity has been conceived to be master of its own fate, with the mental capacity to search for the ultimate meaning of its existence and with the potential to see within itself and from nature, the best it can adopt and use, for the benefit of as perfect an existence as possible, to the extent that we wish. This philosophy of existence is mirrored in the nature of matter, forces and laws of science, which are perfect interactive creations designed, under the guidance of consciousness, to produce living creatures and humans. Consciousness is a reality that appears to be also capable of connecting the material with the immaterial. It is therefore more than convincing that we humans, the most extraordinary existence that exists next to the Supernatural Mind, have no reason to trivialise themselves and, and consequently, the wonders of existence and of the universe.

LAWS OF NATURE AND THE FINAL CONCEPTS OF THE UNIVERSE

The purpose of this paper is also to highlight the research conducted by the author, to be published in these two books, subsequent to his previous work integrating Einstein's relativity theories into a single equation of relativistic effects for objects rotating in Keplerian Orbits, as a new universal law of time dilation (SAJS, 2008) and of other relativistic effects, due to motion and to gravitation. This work led to a second paper (viXra; academia.edu) which, based on Einstein's special relativity and the reality of entropy, described the most obvious elegant mechanism behind the exponential inflationary epoch in Reverend Lemaitre's cosmic egg/Big Bang concept of the origin of our universe. Then followed three more papers (academia.edu; SEAC 09, June, 2016) dealing with aspects of the origin of the universe, science and philosophy, explaining the possibility that there could be important philosophical interpretations associated with scientific and intellectual progress towards resolving the elusive Theory of Everything, the final concept of the universe, which contains the ultimate secrets of existence.

The present review summarizes the key ideas of the authors' two books, which deal entirely with the Theory of Everything and consciousness. The first book entitled "In Search of Consciousness and the Theory of Everything" focuses on the historical background of the philosophical, spiritual, intellectual and scientific evolution of ideas since the ancient cultures, the earliest records dating 15 to 17

millennia back, when human spiritual notions were immortalised in cave paintings that have been recently studied and linked to cosmological beliefs, by Rappengluck and a few other archaeoastronomical researchers. There also exists significant documented literature left by Sumerian, Babylonian, Persian and Egyptian civilizations that confirmed the enormous attachment of their spiritual ceremonies and beliefs to cosmological figures which they viewed as being part of the heavenly existence. Later, with the coming of the Abrahamic faiths, spiritual philosophies focussed on a supernatural deity, the Creator of the universe. Maya, Chinese, Hindu, and African literature have various beliefs associating our universe or infinite universes with deities. Then, in later periods leading up to our contemporary era, there has occurred significant intellectual, philosophical, astronomical and scientific evolution which clearly demonstrates the connections between existence and the laws of nature. The early modern period saw the discovery of the macrostructure of the solar system, and the late modern period discovered the macrostructure of the universe. In addition, modern and contemporary physics came up with impressive new discoveries of the laws of the macro and micro structures of the universe, which all apparently started off 13.72 billion years back as a mere cosmic corpuscle, in Lemaitre's concept of the origin of the universe, which immediately expanded, first exponentially, then progressively, to lead to our present universe. New laws of physics, including Hubble's law, the discoveries by Planck, Einstein, Bohr, Schrodinger, Dirac, Pauli and others of quantum realities, Einstein's relativity concepts, the particles which are the building blocks of matter, and of the forces, which make matter act in multitudes of ways, have given a lot of meaning to the realities of the universe including the living entities. Gradually, the question of how the universe originated focussed mainly on Lemaitre's cosmic egg which inspired the Big Bang concept of the origin of our universe. Because the Big Bang strongly suggested a supernatural origin of our universe, we were clearly confronted with a belief that, apparently, was doomed to remain totally outside the capacity of science to explain, and so naturally a series of concepts were formulated by various workers to describe the natural or mathematical origin of universes, of which ours was looked upon as a very lucky one, with the most perfect physical, chemical and biological laws which permitted humans to exist. However the issue of how really our universe came into being continued to be a divided belief, theists believing in a supernatural origin, and atheists supporting the natural origin of universes from

nothing or from some energy source which was lying idle until universes were somehow created in billions or even zillions, of which ours was a lucky one.

With basic physics having by now discovered practically all laws which govern the macro scale of the universe, and probably a lot of the micro scale of the universe, it is becoming increasingly evident that the discussion of the manner our universe originated requires new ways of interpreting the laws of nature, a fact that has no alternatives. The story of the origin of our universe is described in these two books, the first emphasising lessons drawn from the historical evolution of spiritual, philosophical and intellectual ideas across millennia of human history, and the second one making an unprecedented process of combining the Philosophy of Everything with the Physics of Everything to produce the concept the world has been waiting for, the Theory of Everything, against all intellectual odds.

We have to be quite patient about knowing how our universe originated. The ultimate explanation spans very complicated issues, because the universe and existence are deeply mysterious realities, and it is sensible not to trivialise or underestimate this view, for existence might well extend beyond what humans can ever conceive, and which might even border on a totally unknown transcendent dimension. That is the reason why, at the very outset, we want to tell all the readers of this book that we are about to embark on a difficult but very exciting intellectual journey, towards the ultimate knowledge of what we are, to the ultimate extent that we mortals can do so, at this stage of our presence on our planet. We do need two books to do justice to the complex nature of what is the universe really. The book entitled "In Search of Consciousness and the Theory of Everything", aims to use humanity's intellectual and philosophical history as indicators from which philosophical lessons are visible and useful to steer humanity towards seeing the ultimate answers to the mystery of life and existence. Scientifically this means we are near to solving nature's most complex scientific and philosophical enquiry: the Theory of Everything, in short the T-OE, that will explain the why and how of our universe. The contents of this first of the author's two books provide an essential basic preparation to grasp the technically oriented second book on the Theory of Everything, the final theory of the universe.

UNDERSTANDING THE THEORY OF EVERYTHING (TOE)

The "Theory of Everything", (TOE), comprises two sub-concepts, the Physics of Everything, in short the PHYOE, the Philosophy of Everything or the PHIOE. The first major concept that runs more or less parallel with the TOE is the Physics and Philosophy of Consciousness, the PPCONS. The women and men of our planet, in particular those who are astronomers, cosmologists, physicists, philosophers, scientists, theologians, poets and writers, are perpetually intrigued by the perennial mystery of the why and how of our existence. Within this search of oneself and of what lies behind existence, a frustrating feeling seems to permeate the whole of humanity: It appears forever impossible to understand how we originated, although the majority of humans are convinced that there was a supernatural act of creation. Within the extraordinary pursuit to unravel our ultimate realities, scientists have nearly given up hope they will ever be capable of explaining the origin of our universe, particularly on account of the fact that we seem to have discovered nearly all laws of nature, but still no sign of the Theory of Everything. This impasse is, however, quite understandable, the reason being the disconcerting realisation that, perhaps, we were ultimately created from what was probably a state of nothingness. This kind of natural feeling is quite inevitable and reasonable but not true, as we will show in the second book. There is a deep selfcontradiction in this view. Something like the universe, to any reasonable thinking person, could not have arisen from nothing. That is the basic reason why we tend to believe that in all likelihood we have come into existence through the intervention of a supernatural process, the act of a super intellect capable of anything. This view is, however, deeply flawed. Interestingly for the same reason, naturally, there are those who believe the universe arose by chance or accident, and that there was no supernatural cause, that could be justified. However, some great thinkers and minds of humanity, particularly Kepler and Whewell, believed in their deepest conviction that we, humans, would one day understand the how and why of existence and of the laws of nature, and how and why they were supernaturally created. Why Whewell and Kepler reasoned that way is very interesting. Kepler and Whewell, who were highly distinguished intellectuals, seriously believed that there is a bit of the Mind of the Creator in all of us.

Science is, similarly, also intrigued about the nature and origin of our mysterious property of consciousness, whose elucidation appears to

be inseparable from the final answers of what could be existence. Nevertheless, science remains hopeful that the why and how of our universe will be unveiled, because, according to some of our best brains, what is required is not totally new original knowledge, of which there does not appear to be much, but rather innovative ways of interpreting the realities of the universe. Thus during the Golden Period of Physics there was an explosion of new research on the laws of physics, a trend which was boosted by some of the greatest and most creative scientists who ever lived, like Einstein, Boltzmann, Planck, Lemaitre, Heisenberg, Bohr, Schrodinger, Dirac, Pauli and their colleagues, in the first half of the 20th century. The result has been the refinement of the laws of physics to such an extent that there appears little left to be discovered, at least in the science of cosmology. The latest studies by high performance space telescopes, Hubble and Planck Space Telescopes, in the last decade or so, are confirming that we have a fairly simple universe. What is more difficult to discern is the manner the simplicity of the universe functions.

To make this point clearer we quote Kepler, Whewell, Einstein and Hawking, bearing in mind that these greatest of minds were addressing the whole of humanity, not just a few scientists.

Johannes Kepler, Astronomer

"…Those laws are within the grasp of the human mind. God wanted us to recognize them by creating us after his own image so that we could share in his own thoughts… and if piety allow us to say so, our understanding is in this respect of the same kind as the divine, at least as far as we are able to grasp something of it in our mortal life."

William Whewell, Mathematician, Vice Chancellor, University of Cambridge

"Whewell's philosophy of science included the claim that through empirical observation and induction, it was possible to arrive at "necessary truths", which can be known a priori. Whewell justified the existence of necessary truths by suggesting that God created the universe in accordance with certain "Divine ideas". God created the mind of man to contain these same ideas, and intended that man have knowledge of the physical world through the exploration of ideas which resemble those used in creating the world. Once these ideas were clarified, they could be used to further man's understanding of

the universe. Scientific development was a process of "discovering" more and more of these necessary truths, progressing towards a complete understanding of the natural world and a deepening conviction in the existence of a Divine Creator".
(New World Encyclopaedia; Encyclopaedia Britannica, Eleventh Edition)

Albert Einstein, Nobel Prize

"*The most incomprehensible thing about the universe is that it is comprehensible."*

"*I want to know how God created this world… the rest are details*."

"*To know that what is impenetrable for us really exists and manifests itself as the highest wisdom and the most salient beauty, where gross forms alone are intelligible for our poor faculties, this knowledge, this feeling, that is the core of true religious sentiment."*

Stephen Hawking, Lucasian Professor of Physics

"With the success of scientific theories in describing events, most people have come to believe that God allows the universe to evolve according to a set of laws and does not intervene in the universe to break these laws. However, the laws do not tell us what the universe should have looked like when it started- it would still be up to God to wind up the clockwork and choose how to start it off. So long as the universe had a beginning, we could suppose it had a creator…."

"However, if we discover a complete theory, it should in time be understandable by everyone, not just by a few scientists. Then we shall all, philosophers, scientists and just ordinary people, be able to take part in the discussion of the question of why it is that the universe and we exist. If we find the answer to that, it would be the ultimate triumph of human reason-for then we should know the mind of God"

The Theory of Everything is looked upon, within the world of philosophy and science, as humanity's final scientific natural concept, whose elucidation is regarded as the ultimate triumph of human intellectual knowledge. Its scientific nature necessarily lies primarily in the domain of physics, the womb of all sciences. Its existence, however, has been felt, since ancient times, by our most eminent philosophers, using an intriguing analysis based on mathematical reasoning linked to an elaborate set of philosophical interpretations. You can see how, before humanity started to really understand the

laws of nature, in other words, in the period before modern natural sciences became well established, mathematics and philosophy constituted the intellectual pillars upon which philosophers attempted to understand the mysteries of the universe. What is fascinating is that thinkers like Plato and Leibniz among others, instinctively thought about the occurrence of theories of everything, using different philosophical approaches. The current situation, in a world with so much of scientific investigation, is the Theory of Everything (TOE), although, in fact, physicists, generally, are searching for the Physics of Everything, PHY-OE. The point being made is that the final theory of the universe, the T-OE, is necessarily based on both physics and philosophy: the physical universe is all about physics, while existence is a lot about philosophical meanings and interpretations. Therefore, both science and philosophy have contributions to make towards the search for our ultimate explanation.

To understand the ultimate theory of the universe or the T-OE, we have to be conversant not only with the current world literature on the origin of universe/universes, but also with a whole range of other scientific and philosophical ideas demanded by a final theory of the universe and of existence. The search for the Physics of Everything, based on laws of nature, is necessary but it is imperative to also think about how we are going to build the Philosophy of Everything, which at this stage of human history, would be based on relevant philosophical interpretations connected to physical and spiritual aspects of existence, a necessary intellectual condition, if we are really determined to elucidate the Theory of Everything. However, assuming we have actually discovered the knowledge about both the physics and the philosophy of everything, then we have to confront a major human issue. The complicated and abstruse new knowledge, accompanying these theories of everything, should not be revealed at one go, because our intention is to expose an intricate new picture of our universe to humanity, not just a new scientific concept meant only for some scientists, as Hawking so wisely remarked. There are good reasons why this should be so. Foremost, there is the obvious need to have a universal concept to explain our existence, one that has reasonable intellectual clarity to facilitate public understanding of the complicated nature of what a Theory of Everything entails.

UNDERSTANDING THE FINAL MEANING OF EXISTENCE

The exercise of understanding the universe is therefore not meant to be a downright scientific or physical enunciation, as is commonly

believed, but is meant to be the ultimate concepts of life and existence. For this reason, bearing the public good in mind, it would be intellectually incorrect to abruptly announce, to an unprepared international audience, the Physics of Everything if it is discovered, for the news about such a topic will promptly be propagated in newspaper articles all over the world, with the result, as is usually the case, of ending up with the public masses, bewildered and shocked, and liable to concoct to themselves all kinds of interpretations, a situation no one wants to witness for we would have created a traumatised public mind. This approach is likely to be seen as misguided and unreasonably controversial and would do more harm than good in terms of public consumption of scientific discoveries and intellectual research. What is preferable as a strategy is, primo, to sensitise the public mind on how the subtleties in the history of human cultural and intellectual progress, since millennia, have impacted on the human and philosophical interpretations of the cosmos and of our realities of existence, including the phenomenon of consciousness. That will help in dissipating the widespread misconception that the Physics of Everything, the basic scientific description of the origin of the universe, is what the Theory of Everything is. Such a belief, unfortunately, is not only materialist and therefore restrictive, but also intellectually one-sided, so that if it is published as *the scientific concept* behind all of existence, it would confuse not only a significant section of the scientific world, but perhaps the whole of humanity. It is well documented that many eminent scientists do not believe that our ultimate realities simply boil down to a set of laws of physics. There are numerous Nobel Laureates among this group of believers, an encouraging sign that we may be heading the right direction with our Theory of Everything.

CONSCIOUSNESS

Even if we are, in the worst case scenario, unable to understand the origin of consciousness, it will be possible to understand the ultimate origin of the universe. Consciousness is not a phenomenon that can be thoroughly unravelled by contemporary science and philosophy, although the nature and importance of consciousness, as an intriguing reality of the universe, has been on the philosophical agenda for several millennia. The main intellectual problem about the phenomenon of consciousness is the difficulty of defining what it is accurately. Currently, in the year 2016, it is fast becoming one of the most hotly debated topics in the world of science and philosophy. The huge and rich collection of papers submitted for the April 2016 Tucson

Consciousness Conference, University of Arizona, and the existence of several reputed centres of research focussing on consciousness, are clear signals that, from now on, the phenomenon of consciousness has become a major subject of investigation. It is perfectly reasonable to believe that a Theory of Everything of the Universe might reveal something pertinent about the fundamental reality of consciousness in the universe. However, while several researchers believe consciousness will turn out to be a real phenomenon of the universe, Sean Carroll, in his latest book "The Big Picture" finds consciousness to be a concept "we invent to give ourselves some useful and efficient description of the world", an illustration of what he calls the field of "poetic naturalism" which, he probably believes, lies outside core science. Robert P. Crease, writing in Nature (May, 2016) finds Carroll's comment a "disappointingly empty proposition". Consciousness, it is quite true, at least for the time being, cannot be explained based on mathematics and physics, the reason why it can be looked down as a basic issue of the whole universe.

TOWARD KNOWING THE HOW AND WHY OF EXISTENCE

Because of its likely extraordinary nature, the real Theory of Everything, when it comes, will possibly require that each one of us is equipped with a good deal of intellectual predisposition, a new mind set, one that is prepared to shake off old and outmoded ideas, thus leaving humanity the choice to look upon the universe not simply as a purely mathematical reality but a universe conceived by a Supernatural Mind. Actually there is a strong likelihood that mathematics did not exist before the origin of the universe. Possibly a final theory of the universe will not be a dry academic concept, or simply another addition to the modern cosmological cart of ideas. It will be the final comprehensive universal concept of a totally new vision of our reality, including the nature of matter, energy, forces, particles, mass and matter. It will address why we have forces and laws of nature which are so unbelievably ideal for life existence. The compendium of literature and ideas the author inserts in his two books, is designed to empower readers to really and clearly understand the nature and implications of the final theory of the universe, the topic that will be described in the second book as the logical continuation of the first one. The Theory of Everything will tell humanity how it is that the universe and each of us, which appear to be basically a practically impossible existence, yet we all do exist, as

if miraculously. Existence appears to be materialistic, but it could be deeply spiritual and metaphysical. According to the consciousness theory of Hameroff and Chopra, based on reliable medical data, following Hameroff and Penrose's theory of consciousness, humans might possibly have an eternal after-life in a metaphysical extension of our consciousness.

The theme of the Theory of Everything has been a fairly well debated issue, and all those who have engaged in such research, including the String Theory advocates, have imagined, from their vantage point of view, what a T-OE might possibly be, without, unfortunately, associating the phenomenon of consciousness within their theories. A T-OE is not only a very complicated aspect of science but it is an elusive subject, which is understandable. One can predict that it lies outside the possibility of science to produce a full and final theory of the universe at one go. Obviously a T-OE is a concept which, once the broad guidelines are presented, should eventually become a really universal concept, capable to
progressively explain, scientifically, everything about the realities of the universe, except the phenomenon of consciousness. That whole process might well take centuries. The implications of the T-OE, in terms of the realities of the universe, are understood to be allinclusive, for it is expected to provide predictions of the future of cosmology although it would explain a lot of the scientific evolution which occurred in the past as well. In fact a T-OE has to explain everything starting right from the moment the universe came into existence.

WEINBERG'S HANDIWORK OF GOD: ESSENCE OF EXISTENCE

At this juncture now, we will attempt to explain the quintessence of the essence of existence: The answers to some extent lie in the ideas of many of our most brilliant minds since Plato's belief of the existence of divine perfect forms, and this quote from Weinberg, who regards himself as an atheist, aptly illustrates the point: *"If there were anything we could discover in nature that would give us some special insight into the handiwork of God, it would have to be the final laws of nature."* Existence is a shared heritage of mankind and the occurrence of the handiwork of the Supernatural Mind behind existence becomes visible to us progressively, as knowledge about the deepest realities of the universe evolves.

However scientific knowledge has not so far taken humanity anywhere near to explaining even the semblance of a concept of the origin of the universe and of consciousness. The nearest that we have in the totality of scientific knowledge on our origin remains the first cosmological concept of the universe, in Reverend Lemaitre's original 1927 article of the cosmic egg theory of the origin of the universe. Subsequently, following Lemaitre's original suggestion, Guth dramatically extended Lemaitre's belief that there was a period of rapid exponential expansion of the universe at the earliest moment after Lemaitre's cosmic egg started to develop. This sudden exponential expansion, soon after the appearance of Lemaitre's cosmic corpuscle, has been satisfactorily explained on the basis of Einstein's special relativity in author's *academia.edu* paper of 2014. For at least seven decades nothing meaningful has

been added to Lemaitre's philosophical and scientific notion of the origin of our existence. Whatever alternatives were proposed, like the naturally produced infinite universes, megaverse, inflationary universes and other such theories in the last three or four decades, it is a fact that none of them, although interesting, actually has any scientific and philosophical relevance to why our universe is what it is. Then, recently we saw an amazing consciousness concept of the universe, in the Hameroff and Penrose's Orchestrated Objective Reduction Concept of Consciousness of 1996, and in the hypothesis of the existence of a soul in "near death experiences" (NDE) reported in Hameroff and Chopra's article *"The Quantum Soul: A Scientific Hypothesis"* published in A. Moreira-Almeida and F. S. Santos' book, *Exploring Frontiers of the Mind Brain Relationships,* 2012. In the 2016 Consciousness Conference of Tucson, Arizona University there were nearly a thousand papers presented, including one abstract of my own. The Tucson initiative and several others show the enormous world determination to get to the bottom of what constitutes existence and consciousness.

Although science, particularly quantum theory, is necessary to elucidate the laws of nature and the origin of our universe, we continue to find ourselves in the midst of a deep mystery: in fact, the whole of existence, including us humans, are scientific realities that remain impossible to understand. That is why concepts like String theories had to come, for science cannot stay inert or refrain from reflecting on how on earth we have a universe. String theories, however, confront major intellectual opposition. We and existence do

not seem to be mathematical entities or phenomena. Therefore, taking into account the unknown nature, not only of our universe, also of consciousness, we tend to believe that the explanation behind our existence is probably metaphysical, a term which implies that we are a profoundly complex physical and philosophical reality which can perhaps be best described in a scientific manner provided the explanation combines philosophy, metaphysics and science. While we and the universe are apparently just physical realities, there is no proof that in the final reality we are really so. That is not difficult to rationalise. The universe, following the pioneering discoveries of Einstein's general relativity and of Hubble's demonstration that the universe is continuously expanding, it became evident that there was a creation event of the universe 13.72 billion years ago. It all started, as far as we understand, from a cosmic initial corpuscle. The subsequent translation of Lemaitre's cosmic egg idea by Penrose, and later by Penrose and Hawking, into a singularity of infinite smallness enclosing the infinitely large mass of the whole universe, instead of pushing the Big Bang forward, turned out to have exacerbated our understanding of how the universe was scientifically and metaphysically masterminded. In fact so far, nothing more intelligible has been grafted on to Lemaitre's original idea, so that scientifically we are more or less in a situation of *status quo* on the issue of how and why we are here.

The following four points could be borne in mind until we have the final answers of what the universe represents for our existence:

- The progressive evolutionary trend of the macro-scale of the universe is probably intimately connected to its quantum micro-scale, whether we talk of the initial early evolution of the universe or of its subsequent physical, chemical or biological evolution. This is where physicists have been searching for attempts to integrate quantum mechanics and general relativity.
- Actually the situation may be even more complex. There might be a pervasive consciousness, in the whole universe, which could be influencing evolutionary trends within the universe, including the mental evolution of human societies towards higher levels of social, cultural, spiritual, political, scientific and intellectual perfection.
- In ancient human history there occurred, time and again, succeeding periods of knowledge acquisition, evolution,

stagnation, explosion, appearance and disappearance of knowledgeable societies and communities, until the periods of the ancient Sumerian, Babylonian and Greek civilizations. Then we saw the Chinese, Hindu, Christian, Mongol and Islamic eras, that finally produced the early modern era, followed by the late modern period mainly in Europe before this modernity dispersed around the world, particularly since the 19th century. The world is currently in its most modern phase, the contemporary period of science and technology and of intellectual development, a level of knowledge never seen before. There is a possibility that we have reached the highest possible stage of philosophical knowledge in cosmology, after over three millennia of intellectual reflections about existence, so that now, in the present era, we are experiencing our most profound intellectual paradox*: either we do not know enough about particles, forces and laws of nature and about the macro structure of the universe, or we know enough about what we conceivably can, and that it is perhaps possible, now, in this period of our history, to unravel the how and why of the origin of the universe based on a Theory of Everything. Kepler and Whewell had both predicted that such a time would come.*

- Our scientifically advanced era, since the mid 19th century, which has been called the "Third Culture" by John Brockman, is faced with a cosmological science which is in significant contrast with the kind of profound philosophy and scientific laws which the late modern period, the last 7-10 decades back in modern history, bequeathed mankind in the prestigious work of illustrious minds like Einstein, Dirac, Planck, Schrodinger, Bohr, Heisenberg and Pauli, amongst many others, so much so that we love to it refer to that period nostalgically as the Golden Era of Physics. It appears that the philosophical analysis of cosmological existence has gone far beyond its peak of performance and we might actually be currently going down the decline path. The most recent theories of universes are telling us that our universe is an accidental or statistical event while, actually, all we can possibly rationalise from our good sense, based on any set of realistic criteria, is that our universe is the only one we can ever be sure to exist in the infinity of existence. This reasoning behind the statistical theories of universes implies that our

universe must have been very lucky to acquire the right combination of bio friendly micro and macro properties, out of the zillions of other statistically possible universes, of which nearly all were not as fortunate as ours.

INTELLECTUAL EVOLUTION IS ABOUT TO UNRAVEL THE "HOW" AND "WHY" OF EXISTENCE

The laws of nature formulated in the golden age of physics, by Einstein, Bohr, Heisenberg, Planck, Schrodinger, Dirac, Pauli and others, have been comprehensively validated, so much so that, basing ourselves on the writings of those decades of the first half of the 20th century, we have only one likely explanation for the origin of our universe. As Einstein would have agreed, there was a super intelligent Mind behind the universe, that probably had no other choice in the creation of our universe. It had to be our universe or nothing at all.

Historically, scientific knowledge has the habit of not only increasing incrementally over long periods, but also of progressing in leaps over short periods, such as for instance the huge progress achieved during the golden age of physics of the first half of the 20th century, a feat that has not repeated itself so far. The historical review of human civilisation since the appearance of documented materials in ancient cultures, described in some chapters in the first book by the author, shows the manner intellectual developments, throughout known history, have followed cycles which seemed to reach an optimum level to then relapse, due to various causes, man-made or natural, into a period of saturation or of intellectual decline, then to be reactivated in another future intellectual cycle. There has, however, occurred a well sustained intellectual evolution over the last two millennia or so. We are currently in our Third Culture, in John Brockman's intellectual concept, which appears to be reaching a climax in some areas of knowledge, and this is particularly so in our comprehension of the laws of nature, cosmology and the science of the origin of our universe. We should not therefore expect any dramatic new ideas in the cosmology of the origin of the universe, unless we are able to unravel the origin of our universe, based on the current accumulated knowledge.

Basically, we have one of two possibilities for describing our universe. It is either an accident of nature or a supernatural creation, by a

Mind, a personal Mind to theists and perhaps an impersonal Mind, or no Mind at all, to atheists. A reliable supernatural concept of our universe has to be one in which, in an infinite fraction of a second, a metaphysical reality of energy, superficially resembling Reverend Lemaitre's cosmic corpuscle, was first created. However this model of supernatural creation concept should be a *fully scientific concept, philosophically inspired and metaphysically engineered* by a supernatural Mind such that, once the primordial supernatural cosmic entity was conceived, it progressively evolved, leading initially to energy, particles of matter, and finally to massive bodies and eventually to the realities of life and to us humans. In reality, the whole mechanism could not have been simple and straightforward and most likely it was based on a set of complicated concepts, involving the crucial implication of the factor of consciousness, which is what an ultimate theory of the universe is meant to be.

The simple reason why we need new cosmological ideas that can arouse global intellectual satisfaction and spiritual fulfilment is the fact that our basic human aspiration yearns to see evidence that we have been philosophically created by a Supernatural Mind. This sounds more natural than believing we humans are simply a materialistic accident of nature. It is inspiring to remember a quotation from Carlo Rovelli, Professor of Exceptional Class, University of the Mediterranean, France. He wrote in his essay entitled "*Science is not about certainty*", in John Brockman's "*The Uni-verse*" (2014): *"Should a scientist think about philosophy or not? It is the fashion today to discard philosophy, to say now that we have science we don't need philosophy. I find this attitude naïve, for two reasons. One is historical. Just look back. Heisenberg would have never done quantum mechanics without being full of philosophy. Einstein would have never done relativity without having read all the philosophers and having a head full of philosophy. Galileo would never have done what he did without having a head full of Plato. Newton thought of himself as a philosopher and started by discussing this with Descartes and had strong philosophical ideas".* The excitement about a philosophical cum scientific concept of the supernatural *creation* of the universe is the fabulous beauty which, we can imagine, should radiate from it not just mentally but actually in terms of what physically and philosophically it encompasses. If a philosophical concept lacks beauty, then it cannot be a good theory. The Theory of Everything of the origin of our universe that science and philosophy have been searching for, since decades, is likely to be

one of utmost beauty, one that clearly demonstrates scientific evidence of the beauty of supernatural handiwork, different from the elusive and abstract mathematics and science that we find in recent theories of the mathematical origin of universes. Beauty of conception is what makes the difference when it comes to assessing the value of philosophically and scientifically oriented theories. One outstanding criterion of what constitutes immense beauty in concepts is the inescapable fact that real beauty not only is of very rare occurrence, but it instinctively attracts attention.

Nothing makes full sense in cosmology until we uncover the fundamental scientific structure and foundation of the Theory of Everything of the Universe. It can be realised that Reverend George Lemaitre's cosmic egg corpuscle was both a philosophical and a physical entity but it has remained to this date an idea which has not evolved much, because it has never been clear how it originated, and how it can be associated with our realities of existence in which consciousness is a basic natural phenomenon.

The combination of scientific and philosophical realities probably constitutes an eternal property of our universe, and this requirement is violated by any concept of the origin of our universe that fails to propose how consciousness evolved from the cosmic corpuscle which led to the creation process.

Lemaitre's cosmic corpuscle, due to its limitations, inspired some scientists to push their personal ideas of the natural origin of universes. Thus J. Maddox, a former Chief Editor of Nature wrote an atheistic editorial in Nature entitled "Down with the Big Bang" (1989), in which he said:

"*Apart from being philosophically unacceptable, the Big Bang is an over simple view of how the Universe began, and it is unlikely to survive the decade ahead.* "

Actually, although the Big Bang is obviously an outline concept, it is nonetheless the only scientific and philosophical concept that has become widely accepted up to now as the most basic idea of how our Universe could have originated. An interesting opinion on the connection of philosophy with the physical realities of the universe is that of Lawrence Sklar taken from his book *Space, Time and Spacetime*, 1976, and the quote which follows gives a good idea of what is a beautiful concept:

"The adoption of one scientific theory rather than another, sometimes and in very crucial cases indeed, rests as much upon the philosophical presuppositions of the scientists as it does upon the hard data of the laboratory. You can't do very good philosophy unless you get your science right. But you can't do science in full self-conscious understanding, unless you realise how much it depends upon philosophical modes of reasoning as well."

More recently, George Ellis FRS, Templeton Laureate and Joe Silk, Professor of Physics at the Paris Institute of Astrophysics, France and at the John Hopkins University, USA, remarked about such theoretical astrophysics recently in Nature, 16, September, 2014:

"A lot of the cosmological concepts of the last decades have focussed on the idea of extra dimensions in different approaches which many scientists believe are not leading anywhere for they focus on the mathematical elegance of their authors. The same opinion applies in string theories."

"Chief among 'the elegance will suffice' advocates are some string theorists. Because string theory is supposedly the 'only game in town' capable of unifying the four fundamental forces, they believe that it must contain a grain of truth even though it relies on extra dimensions that we can never observe."

"As we see it, theoretical physics risks becoming a no-man's land between mathematics, physics and philosophy that does not truly meet the requirements of any."

The emphasis we devote to the historical evolution of human knowledge acquisition shows how learned and educated societies have reflected over the meaning of our universe in comparable ways. A review of humanity's intellectual history leads us to discover that there is a deliberate role of consciousness that intends humanity to eventually understand the philosophy and science of the origin of our universe, particularly in the context of The Theory of Everything of the Universe, which science is philosophically destined to unravel, at a certain stage of our intellectual maturity.

What I am suggesting is precisely what the eminent cosmologist/mathematician George Ellis (On the philosophy of cosmology, Granada Meeting, 2011) meant when he wrote:

"We are part of the universe and our life experiences are evident as to its nature. This is an instance of the deep relation between cosmos

and man which has been on the agenda in cosmology from Pythagoras and Plato onwards."

Philosophical, cosmological and archaeo-astronomical history is loaded with evidence that humanity has, throughout its known documented existence, been intimately under spiritual influences that have exteriorized in varying manners. On analysis, in the context of modern scientific and cosmological interpretations, we cannot but find these spiritual phenomena telling us that our universe is inextricably connected to a supernatural origin. We therefore believe it is important to express these thoughts and come up with the most credible concept the origin of our universe and our realities of existence, for the benefit of the whole of humanity, of science, philosophy, literature, writers, teachers, theologians and of all those who are interested to know more about the mysteries of our universe and of our existence. This is what the author has undertaken by writing these two books. It is my hope that every educated family would find the first one useful and inspiring for decades. The second one will not disappoint anybody, whether intellectually, scientifically, philosophically or spiritually.

CONCLUDING REMARKS

Therefore, in the first book, we build a general foundation based on humanity's intellectual, scientific and philosophical perception of the universe, from ancient times to our contemporary era. Subsequently, in a second book, we will present the most up to date modern intellectual views of the ultimate nature and explanation of the Physics of Everything, in a concept that realistically, logically and naturally fits, like a glove, with the Philosophy of Everything. That is the holistic approach we have adopted. The plan is to develop first the historical elements that constitute the basis of the Philosophy of Everything, in addition to explaining how humanity has progressively understood the laws of nature, since millennia of thoughts about what the universe has represented for women and men of our world. We will then, in the second book, logically bind together these two lines of thought: an account of the most modern views of the Physics of Everything with the substance of the Philosophy of Everything.

The outcome of these two books will be the long sought Theory of Everything, which will be humanity's grand unified paradigm of the universe. It will fuse cosmology, philosophy and existence in a manner appealing to the whole of humanity, irrespective of one's belief. However, the Theory of Everything imperatively demands that

there should exist a Mind, personal or impersonal, to mastermind and "wind up the clockwork" that launched the universe, 13.72 billion years ago. Hopefully we, philosophers, scientists, intellectuals, and ordinary people will be able to take part in the greatest of discussion, as felt by Hawking, of the question of how and why the universe and we exist. It is to be expected that such reflections could produce, unforeseen, social, psychological and spiritual awareness that could have enormous impacts on the human species.

That discussion will have another interesting justification. When we will present the whole picture of the origin of our universe and of its realities, there will remain a lingering reality of existence, one that will continue to be elusive, perhaps for extremely mysterious reasons: That impregnable reality is "Consciousness", and due to its yet unexplainable cause and understanding, it is to be wondered whether it is really a scientific "reality" or something belonging at least partially, to the unknown. Current research in several centres of excellence are addressing these topics, but only the future knows what the outcome will be, and it is certain that a lot of research resources needs to be mobilised towards its elucidation, if ever humanity is capable of it. The book "Origin of the Universe: The Theory of Everything", will be the second book, and will focus on both the Physics of Everything and the Philosophy of Everything, consolidated into the Theory of Everything. It is fitting to end this article with the same quote at the beginning:

M. Planck, Nobel Prize

"I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness."

At least for that reason, the two books will make a perfect association of concepts, exactly as two gloves do. Readers are advised to draw conclusions after reading the last page of the second book. Consciousness and the origin of the universe are two perfect matches, which only a lot of deep philosophy and scientific input can explain. Planck remarkable reflection is impressive: *We cannot get behind consciousness*. Everything seems to be consciousness.