"Convergence of the Cosmic Thought: Integrating Science and Spirituality"

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The classical philosophical thought and the theory of knowledge of Western culture - from Plato and Aristotle (philosophy of Being), continuing with Descartes and the first epistemology (philosophy of Noesis – ‘’I am thinking, therefore I exist’’), and ending the linguistic turn of Wittgenstein of the Vienna Circle and other positivists language (analytic(al) philosophy – linguistic analysis) - was founded on the separation Is and Not Is, Plenum and Vacuum, Cosmos and Thought, One and Multiple, Anything and Everything, namely on the separation Subject - Object. Of these ontological divisions were created epistemological separations as idealism - materialism and anthropological separation as Soul-Body e.t Philosophy, epistemology and theory of knowledge, consider that knowledge is acquired when a subject, as an external-uninvolved observer, represents in the mind of the subject, the '' Nature ''. But the ‘’Nature’’ It is a metaphysical abstraction of the wholeness of the world, is a logical construct and has named "Nature".

COMPLETE OF SEPARATION

In the late fifteenth century, the study of nature was approached, for the first time, in a truly scientific spirit and experiments were undertaken to test speculative ideas. As this development was paralleled by a growing interest in mathematics, it finally led to the formulation of proper scientific theories, based on experiment and expressed in mathematical language. Galileo was the first to combine empirical knowledge with mathematics and is therefore seen as the father of modern science.

The birth of modern science was preceded and accompanied by a development of philosophical thought which led to an extreme formulation of the spirit/matter dualism.

This formulation appeared in the seventeenth century in the philosophy of René Descartes who based his view of nature on a fundamental division into two separate and independent realms; that of mind (res cogitans), and that of matter (res extensa). The 'Cartesian' division allowed scientists to treat matter as dead and completely separate from themselves, and to see the material world as a multitude of different objects assembled into a huge machine. Such a mechanistic world view was held by Isaac Newton who constructed his mechanics on its basis and made it the foundation of classical physics. From the second half of the seventeenth to the end of the nineteenth century, the mechanistic Newtonian model .of the universe dominated all scientific thought It was paralleled by the image of a monarchical God who ruled the world from above by imposing his divine law on it. The fundamental laws of nature searched for by the scientists were thus seen as the laws of God, invariable and eternal, to which the world was subjected.

The philosophy of Descartes was not only important for the development of classical physics, but also had a tremendous influence on the general Western way of thinking up to the present day. Descartes' famous sentence 'Cogito ergo sum'-'I think, therefore I exist'-has led Western man to equate his identity with his mind, instead of with his whole organism. As a consequence of the Cartesian division , most individuals are aware of themselves as isolated egos existing inside' their bodies. The mind has been separated from the body and given the futile task of controlling it, thus causing an apparent conflict between the conscious will and the involuntary instincts .

Each individual has been split up further into a large number of separate compartments, according to his or her activities, talents, feelings, beliefs, etc, which are engaged in endless conflicts generating continuous metaphysical confusion and frustration.

This inner fragmentation of man mirrors his view of the world 'outside' which is seen as a multitude of separate objects and events. The natural environment is treated as if it consisted of separate parts to be exploited by different interest groups. The fragmented view is further extended to society which is split, into different nations, races, religious and political groups . The belief that all these fragments-in ourselves, in our environment and in our society-are really separate can be seen as the essential reason for the present series of social, ecological and cultural crises. It has alienated us from nature and from our fellow human beings. It has brought a grossly unjust distribution of natural resources creating economic and political disorder; an ever rising wave of violence, both spontaneous and institutionalized,and an ugly, polluted environment in which life has often become physically and mentally unhealthy.

The Cartesian division and the mechanistic world view have thus been beneficial and detrimental at the same time. They were extremely successful in the development of classical physics and technology, but had many adverse consequences for our civilization. It is fascinating to see that twentieth-century science, which originated in the Cartesian split and in the mechanistic world view, and which indeed only became possible because of such a view, now overcomes this fragmentation and leads back to the idea of unity expressed in the early Greek and Eastern philosophies.

THE NEWTONIAN MECHANICS

The Newtonian mechanics was the model of classical science. In the classical science all the natural laws had an absolutely deterministic and descriptive character and defined the course and development of every phenomenon. The knowledge of these laws assured the human – observer the ability to understand not only the present but also the past and the future. In a deterministic and timeless universe, the arrow of time is nothing but a human illusion. Only the vision of the universe from the perspective of eternity ensures the truth of physical theories.

In the deterministic universe of the classical science, the order always creates disorder and never vice versa! The scientific dream of a united (applying on the microcosm as well as on the macrocosm) and objective (i.e. independent of the observer) description of the natural world, would become the nightmare of the contemporary physics in the beginning of the 20th century. The quantum description and interpretation of the microcosm, which is regarded as the fundamental level in which all the natural phenomena are raised and explained, requires a radical review of not only the classical description but also of the metaphysical preconditions of classical science.

The classical ideal in physics was to be able to predict with certainty the future development of a physical system. Newton's mechanics led to the triumph of the deterministic vision of the natural processes: if we know the initial conditions of a dynamical system, then the solution of the differential motion equations would allow us to know in certainty not only the past but also the future of that system.

This, however, is not feasible for two reasons: a) it is not possible to have the initial conditions of the system in absolute accuracy and b) the analytical solution is not feasible for the great majority of the systems. As far as the first reason is concerned, we have to mention that after the discovery of the unstable systems, it became clear that very neighboring orbits (which, namely correspond to initial conditions and whose values may differ slightly) after a certain period of time are removed exponentially. In this notion, the orbit is actually an idealization, since it is never possible to know the initial conditions in "infinite" accuracy.

According to Heisenberg's uncertainty principle and Bohr's principle of correspondence, the neutral and deterministic description of the microcosm is impossible: discontinuity and indeterminacy are inherent characteristics of microphysical phenomena and in order to describe them we have to integrate the observer within his own observations!

BEYOND THE SEPARATION: THE NEW COSOMOLOGICAL PARADIGM

Science evolves through alternating phases of 'normal' science and radical shifts that create scientific revolutions. We saw this at the turn of the 20th century, when science shifted from a Newtonian worldview to Einstein's relativity paradigm, and again with the shift to the quantum paradigm. Now, as we recognize the non-local interconnection of all things in space and time, we find our scientific worldview shifting once again. The insight now emerging in the physical sciences, especially but not exclusively in quantum physics, highlights the role of interaction and interconnection in the diverse spheres of observation and experiment. He insight now emerging in the physical sciences, especially but not exclusively in quantum physics, highlights the role of interaction and interconnection in the diverse spheres of observation and experiment. The quantum theory holds that we live in a participatory universe - which is what we consider as an independent, external reality is linked to the way we observe. When making observations and measurements, the quanta which are everything in the universe, changing. It makes no sense to talk about the properties of quanta without an observer. The universe is connected by conscious observation instruments from the most elementary particles up to huge galaxies. Moreover, quantum theory gives prominence to the quantum vacuum, the vacuum that is prior to observable phenomena, such as atoms and molecules. Unlike the common sense notion of empty space, the quantum vacuum is full of potential prospects. The quantum vacuum is essential in all aspects of physics, the quantum vacuum is an infinite set of "space-time foam" beyond which time, space - and physical - come to an end itself. Quantum theory has reached the point where the source of all matter and energy is a vacuum, a nothingness that contains all the possibilities of everything that has ever existed or could exist.

These possibilities then emerge as probabilities before “collapsing” into localized quanta, manifesting as the particles in space and time that are the building blocks of atoms and molecules. The transcendental field of Cosmos is the total of all the possibilities that can occur in any part of the universal space-time.

The quantum vacuum underlies the level of quanta and is a virtual-energy filled substrate rather than empty space) is the cosmic matrix in which the particles and systems that constitute the materials of the world arise. The quantum vacuum is an integration of what we used to think of as energy and information. It is a field of informed energy.

The particles that appear as the material of the universe are entangled excitations of the ground state of this cosmic matrix. The systems that appear as objects composed of material particles are locally manifest yet intrinsically entangled configurations of excitations in that matrix. The particles and systems we observe emerged in the course of evolution in the cosmos. Following the Big Bang (which appears to have been a Big Bounce, a phase-change in the sequence of local universes in the multiverse) the first entities to emerge were photons, protons, neutrons and electrons, and other, more short-lived exchange particles. In processes

of galactic and stellar evolution the higher-order configurations we know as the atoms of the elements had emerged.

The current material of spacetime are superordinate configurations of the excitations of the cosmic matrix. Galaxies are composed of stars and stellar systems, and stars are composed of atoms and particles. All these systems are composed of particles, and particles are entangled excitations of the matrix. Atoms, molecules, cells, organisms—and on the macroscale planets, stars, stellar systems and galaxies—are in the final count superordinate quantum systems: various-level configurations of informed energy.

On suitable planetary surfaces higher-order configurations of informed energy made their appearance. We call the self-maintaining and self-reproducing variety of these configurations living organisms. Life is not accidental or extraneous phenomena in the universe: the latest observations in astrophysics show that the basic building elements of life, including glycine (which is an amino acid), and ethylene gycol (a compound associated with the formation of sugars in organisms) are synthesized in the course of the physicochemical evolution of stars. The surface of planets associated with active stars are templates for the further complexification of these elements, building sequentially higher order configurations of informed-energy.

Information is a paramount factor in the emergence and persistence of informed-energy configurations. In the absence of information the energies present in the universe would be a random concourse of excitations of its ground state. Information structures the energy-sea of the cosmic matrix, and coordinates interaction among the structures.

QUANTUM THEORY

Quantum theory arose from the scientific attempt to describe the behavior of atoms and their components. Therefore, it concerns primarily the microcosm. Physicists have long known that certain procedures, such as radioactivity, seemed random and unpredictable. While a large number of radioactive atoms obey the laws of statistics, it is impossible to predict the exact time at which a specific atomic nucleus will split. This fundamental uncertainty is extended to all individual and subatomic phenomena.

The word "quantum" by itself means a small energy package, i.e a very small package (from the Latin word quandum). Thus, quantum mechanics, as quantum theory is called, has to do with the basic keystones of matter. These are the basic elementary particles which build up everything in nature. These particles include atoms, molecules, neutrons, protons, electrons, quark, and also photons (the basic light units). All these objects - if we can really describe them as such - are much-much smaller than anything that can be seen and observed by the human eye.

In the dreamy quantum world: the particles are waves and the waves are particles. That is, a beam light is both an electromagnetic wave propagating in the universe, and a flow of tiny particles directed with speed towards the observer. This arises from the fact that some quantum experiments or phenomena reveal the wave nature of light, whereas others reveal the particulate nature the same light. Note though that never both aspects of light are

revealed simultaneously. Nevertheless, we suggest that before we observe a beam of light it is both a wave and a particle flow at the same time.

In the realm of quantum physics everything is ambiguous: a feature of uncertainty dominates on all its entities, whether it is light, electrons, atoms or quarks. This uncertainty is known as the uncertainty principle and it states that we can only predict the most probable position of a particle and not the exact location. Moreover, we are never able to determine with exact precision nor the position or the momentum of a particle. Therefore, the scientific predictions on the results have a statistical and probabilistic nature. Moreover, there are no "hidden variables" (as Einstein would like), which, if were made known, would dispel the fog that surrounds the quantum world. Therefore, the magical, the obscure, and the hidden, are the integral features of the quantum structure of the universe.

For the interpretation of quantum mechanics there is a need for an ontological investigation and reflection: Because what explanation can be given for the mysterious superposition of the states of the quantum systems?

A photon (a quantum of light) or an electron (a negatively charged elementary particle) can be found in a superposition of two or more states. We can no longer talk about "here" OR "there". In the strange quantum world we can talk about "here" AND "there." A photon, a part of a flow of light, that falls on a film screen with two holes, instead of choosing one or the other hole as normally expected, can pass through both of the two holes at the same time. An electron that follows a curved path around a nucleus can be possibly located in multiple positions simultaneously.

The phenomenon that creates the greatest wonder in the dreamy world of quanta is the phenomenon called Quantum Entanglement. Two particles that may be too far away from each other, even millions or billions of kilometers away, are strangely linked. The slightest variation that may occur in one of them immediately causes a change in the other.

The quantum theory is primarily a practical field of physics. The quantum theory helped to achieve brilliant technological developments such as nuclear power, transistors, electron microscopy, lasers, and superconductors. Also, it explained the structure of atoms and nuclei, the chemical bonds, the mechanical and thermal properties of solids, the electrical conductivity, the iciness of collapsed stars, and many other important natural phenomena. The quantum theory has been proven by a vast majority of evidences that arise not only by the relevant devices found in trade, but also by carefully designed scientific experiment. Thus, most of the theoretical physicists simply perform their tasks without reflecting on the bizarre philosophical implications of quantum theory. This is proof that the ideology of common sense and positivism dominates on the western civilization’s "cosmic theory of knowledge."

On the other hand, the mathematical theory of Hilbert space, the abstract algebra, and the probability theory – which are the mathematical tools used for the explanation of quantum phenomena - allow the prediction of highly-precise results from the experiments, although they do not make us understand the processes behind this phenomenon.

It looks like that the mysterious box of a quantum system is beyond the human limits of genuine understanding. According to one of the interpretations of quantum mechanics, we can only use the box to predict results, which are simply statistical in nature.

The understanding of modern physics and mathematics does not arise from their "language" or their equations but from the importance expressed through this language. This means a shift the effort to interpret the phenomena using the horizontal mathematical formalism of epistemology to the vertical mathematical structuralism of ontology. In other words, a shift from scientism to the philosophical science.

NEW CONCEPTS OF MATTER, LIFE AND MIND

The concept of matter

Advances in the new sciences suggest a further modification of this assumption about the nature of reality. In light of what scientists are beginning to glimpse regarding the nature of the quantum vacuum, the energy ‘’sea’’ that underlies all of spacetime, it is no longer warranted to view matter as primary and space as secondary. It is to space or rather, to the cosmically extended 'Dirac-sea' of the vacuum that we should grant primary reality. The things we know as matter (and that scientists know as mass, with its associated properties of inertia and gravitation) appear as the consequence of interactions in the depth of this universal field. In the emerging concept there is no 'absolute matter,' only an absolute matter generating energy field.

The concept of life

The subtle relationship between the material things we meet with in our experience and the energy field that underlies them in the depth of the universe also transforms our view of life. Interactions with the quantum vacuum may not be limited to micro-particles: they may also involve macroscale entities, such as living systems. Life appears to be a manifestation of the constant if subtle interaction of the wave-packets classically known as 'matter' with the underlying vacuum field. These assumptions change our most fundamental notions of life.

The living world is not the harsh domain of classical Darwinism, where each struggles against all, with every species, every organism and every gene competing for advantage against every other.

Organisms are not skin-enclosed selfish entities, and competition is never unfettered. Life evolves, as does the universe itself, in a 'sacred dance' with an underlying field. This makes living beings into elements in a vast network of intimate relations that embraces the entire

biosphere itself an interconnected element within the wider connections that reach into the cosmos.

The concept of mind

In the on going co-evolution of matter with the vacuum's zero-point field, life, and mind and consciousness emerge out of the higher domains of life. This evolutionary concept does not 'reduce' reality either to non-living matter (as materialism), or assimilate it to a nonmaterial mind (as idealism). Both are real but (unlike in dualism), neither is the original element in reality. Matter as well as mind evolved out of a common cosmic womb: the energy-field of the quantum vacuum. The interaction of our mind and consciousness with the quantum vacuum links us with other minds around us, as well as with the biosphere of the planet. It 'opens' our mind to society, nature, and the universe. This openness has been known to mystics and sensitives, prophets and meta-physicians through the ages. But it has been denied by modern scientists and by those who took modern science to be the only way of comprehending reality.

Now, however, the recognition of openness is returning to the natural sciences. Traffic between our consciousness and the rest of the world may be constant and flowing in both directions. Everything that goes on in our mind could leave its wave traces in the quantum vacuum, and everything could be received by those who know how to 'tune in' to the subtle patterns that propagate there.

SCIENCE NOT SCIENTISM – BEYOND MATERIALISM AND IDEALISM: CONSIOUSNESS IS THE CONNECTION OF BEINGS AND THE WORLD

Our culture's materialistic worldview is rooted in *scientism* , which is not the same as science itself. Science in its purest sense is not a worldview but a *method* for systematically investigating and organizing aspects of reality that we access through our senses. Simply put, science is a way of knowing reality. Scientism takes this one step further and claims that science is *the only* way of knowing reality. Whereas science is silent regarding the aspects of reality beyond its scope, scientism asserts that there is *no* reality beyond its scope. According to scientism, if something is not rational, or not verifiable through the physical senses, then it is not real.

The first thing to notice about scientism is that it makes a fundamental assertion about reality. Scientism says, "science is the *only* way of obtaining true knowledge of reality." This statement, however, cannot itself be verified by the methods of science.

Our materialistic worldview thus rests upon two assumptions: (1) science reveals a material world, and (2) scientism is true. The first assumption has been seriously challenged by the discovery of quantum theory. [2] As for the second assumption, we have already seen that

scientism is no more than an unjustified assumption about reality. And we must be careful to remember that scientism can just as easily fool us into taking a quantum worldview as reality. No matter what worldview science might offer, if we mistake it for all of reality, we have bought into scientism.

We see, then, that scientism blinds us to everything in reality that is beyond the scope of the scientific method, no matter what that method may reveal to us. So, how much of reality is left out? Almost all of it! Einstein, for example, tells us

All our science, measured against reality, is primitive and childlike. [3]

And Heisenberg echoes his words:

The existing scientific concepts cover always only a very limited part of reality, and the other part that has not yet been understood is infinite. [4]

In the process of deepening our inquiry into the nature of reality, we are limited only by assumptions we cling to, whether they be assumptions about the object of our seeking or about the method we're using. We can only continue to deepen our knowledge by acknowledging that our worldviews, theories, and methods of investigation are, at best, only provisional, and eventually must be surrendered. As Heisenberg tells us,

Whenever we proceed from the known into the unknown we may hope to understand, but we may have to learn at the same time a new meaning of the word "understanding." [6]

So if we wish to become ever more intimate with reality, we must continually go beyond our current way of understanding, our current mode of inquiry, and our current notions of reality. In an unlimited inquiry, the very method of science itself must finally be surrendered, leaving us simply with science , which literally means knowledge . This suggests that science in its most radical sense is not limited to any particular method of science, any assumption about reality, or even any idea of what "knowledge" means. Only when we surrender everything and open ourselves to the unknown without any fixed method or framework or preconception, can Reality then perfectly reveal itself as the Knowingness that is inherent to Consciousness Itself

Modern Physics Contradicts Materialism

The first reason is that the advent of quantum physics in the first quarter of the twentieth century has rendered the materialist worldview scientifically untenable. A fundamental assumption of the materialist worldview is that physical objects exist independently of consciousness, which is considered to be a mere epiphenomenon of physical processes taking place in the brain. According to quantum physics, however, this is not true. Material objects do not exist in any definite way apart from the consciousness which observes them. These two aspects of reality—consciousness and its objects—are inseparable. Thus, the evidence of science itself contradicts a purely materialistic account of the universe. Consequently, science

has had to abandon its materialist worldview and is currently in search of some other explanation for its findings.

This does *not* mean that science presently provides evidence for a spiritual worldview, as some modern thinkers have prematurely concluded. What it does mean, however, is that materialism can never again provide a sound basis for science. Thus, a major obstacle to any rapprochement between science and religion has been effectively removed.

PARALLEL METHODOLOGIES AND DIFFERENCES BETWEEN MYSTICISM AND SCIENCE

There are, in fact, two connections between science and mysticism. The first has to do with similarities in their methodology. Just as scientists maintain that the truth of their theories can be verified by anyone who conducts the proper observations and experiments, mystics maintain that the Truth of their teachings can be verified by anyone who is willing to undertake the appropriate spiritual disciplines and practices. Thus, the difference between science and religion is not (as many people have supposed) that one relies on empirical investigation and the other on blind faith. Rather, the difference lies in the domains to be investigated and the kinds of truth to be verified.

While scientists focus their investigations on the behavior of objects in consciousness, mystics concentrate on the subject to consciousness—that 'self' or 'I' to whom the objects appear. And while scientists seek to develop ever more refined and comprehensive theories about how reality works, mystics seek to Realize a Truth about its fundamental nature that lies beyond the grasp of any theory whatsoever. It should be noted that, far from placing science and mysticism in conflict, these differences between their respective domains and functions are actually what make their compatibility possible.

Not only do science and mysticism possess parallel methodologies, but mysticism can actually provide a coherent spiritual/philosophical understanding of how science works. One of the key teachings agreed upon by mystics of all traditions concerns the relationship between consciousness and its objects—the very relationship which (as we have already seen) lies at the heart of the philosophical crisis in modern physics. What the mystics claim is that the distinction between the subject *to* consciousness and objects arising *in* consciousness is imaginary. In reality, Consciousness (God, Brahman, Buddha-Mind, or Tao) constitutes the Formless Ground out of which all forms arise as inseparably as waves arising from a single ocean.

Thus, mystical teachings pick up precisely where modern scientific theories leave off. And so it is here, at this juncture between their two domains, that an actual continuity between science and mysticism begins to reveal itself.

Once this is grasped, the problem of constructing a new worldview boils down essentially to a question of formulation: Can the continuity between mystical teachings and scientific theories be expressed in a single, rigorous language comprehensible to both?

DIFFERENCES

The truths which science yields are conceptual truths, arrived at through a combination of thinking and experiencing. As such, they are also and inevitably relative truths, subject to revision and change as our thoughts and experiences change.

But the Truth to which mystics bear witness is an Absolute Truth—one which, as the Hindu sage, Shankara, says, "is beyond the grasp of the senses," [14] and which, Ibn `Arabi writes, "cannot be arrived at by the intellect by means of any rational thought process." This Absolute Truth can only be known through a *third* mode of cognition—called variously *Enlightenment, Realization* , or *Gnosis* —which transcends both thinking and experiencing. In fact, it is precisely our ordinary ways of thinking and experiencing that veil this Truth from us, for as Buddhist master, Huang Po, writes: *Blinded by their own sight, hearing, feeling and knowing, they do not perceive the spiritual brilliance of the source substance. If they would only eliminate all conceptual thought in a flash, that source-substance would manifest itself like the sun ascending through the void and illuminating the whole universe without hindrance or bounds.*

Dionysius the Areopagite says of the Christian mystic's Enlightenment: Renouncing all that the mind may conceive, wrapped entirely in the intangible and the invisible, he belongs completely to him who is beyond everything. Here, being neither oneself nor someone else, *one is supremely united by a completely unknowing inactivity of all knowledge, and knows beyond the mind by knowing nothing.* In other words, the Truth to which all Mystics testify is of an entirely different order than the truths formulated by science. When Jesus said, "Know the Truth and it shall make you free," [18] he wasn't talking about the theory of relativity. And when the Buddha said, "The gift of truth is the highest gift," he wasn't referring to quantum physics.

There are quite a few seekers out there today who think that discovering mystical Truth is simply a matter of "shifting your paradigm," or learning a "new worldview." And while it is certainly valuable to examine your worldview and to investigate new paradigms, it is also crucial to remember that, no matter how revolutionary a worldview may seem, or how compatible with mysticism a paradigm may be, worldviews and paradigms always remain conceptual constructs. But the Absolute Truth revealed by Gnosis lies beyond *all* concepts, *all* paradigms, and *all* worldviews, whatsoever, into that Ocean of Silence at the Heart of the World.

DIALOGUE BETWEEN THE EASTERN THOUGHT AND MODERN WESTERN SCIENCE

The spiritual experience of oneness conduces to the same insight as reasoning through science. Both convey the insight of fundamental interconnection between ourselves, other people, other forms of life, the biosphere and, ultimately, the universe. Science and spirituality, far from being mutually exclusive and conflicting elements, are complementary partners in the search for the path that can enable humanity to recover its oneness with the world. Science demonstrates the urgent and objective need for it; and spirituality testifies to its inherent value and supreme desirability.

The Progress to new physics - quantum mechanics, relativity, the universe of the microparticles, theories for complex and non-linear dynamic systems, invisible worlds, chaos leads to order, give a different dimension to the way of thinking of individuals, scientists, and philosophers. The basic elements of the Eastern world view are also those of the world view emerging from modern physics. The Eastern thought and, more generally, mystical thought provide a consistent and relevant philosophical background to the theories of contemporary science; a conception of the world in which man's scientific discoveries can be in harmony with his spiritual aims and religious beliefs. The two basic themes of this conception are the unity and interrelation of all phenomena and the intrinsically dynamic nature of the universe. The further we penetrate into the submicroscopic world, the more we shall realize how the modern physicist, like the Eastern mystic, has come to see the world as a system of inseparable, interacting and ever-moving components with man being an integral part of this system.

Quantum theory thus reveals an essential interconnectedness of the universe. It shows that we cannot decompose the world into independently existing smallest units. As we penetrate into matter, we find that it is made of particles, but these are not the 'basic building blocks' in the sense of Democritus and Newton. They are merely idealizations which are useful from practical point of view, but have no fundamental significance.In the words of Niels Bohr, 'Isolated material particles are abstractions, their properties being definable and observable only through their interaction with other systems

The structural similarities of Eastern thought and Western natural science pointed out the great scientists of our time. Bohr’s quantum principle of complementarity supports that everything in the Universe consists of opposed sections. The Chinese Tao is the symbol that characterizes the dialectic unity of opposites. The Tao is the rhythm which connects the opposites. Other physicists who noted this similarity include Heisenberg, Niels Bohr and Julius Oppenheimer, as well as a host of contemporary scientists and biologists .

Heisenberg: ‘’The two foundations of twentieth-century physics-quantum theory and relativity theory-both force us to see the world very much in the way a Hindu, Buddhist or Taoist sees it, and how this similarity strengthens when we look at the recent attempts to combine these two theories in order to describe the phenomena of the submicroscopic world: the properties and interactions of the subatomic particles of which all matter is made. Here the parallels between modern physics and Eastern mysticism are most striking and we shall often encounter statements where it is almost impossible to say whether they have been

made by physicists or by Eastern mystics. *Niels Bohr* ‘’The great scientific contribution in theoretical physics that has come from Japan since the last war may be an indication of a certain relationship between philosophical ideas in the tradition of the Far East and the philosophical substance of quantum theory. *Robert Oppenheimer*: ‘’For a parallel to the lesson of atomic ..... [we must turn] to those kinds of epistemological problems with which already thinkers like the Buddha and Lao Tzu have been confronted, when trying to harmonize our position as spectators and actors in the great drama of existence’’. Oppenheimer wrote in 1954: 'The general notions about human understanding…which are illustrated by the discoveries in atomic physics are not in the nature of things wholly unfamiliar, wholly unheard of, or even new. Even in our own culture they have a history, and in Buddhist and Hindu thought a more considerable and central place. What we shall find is an exemplification, an encouragement and a refinement of old wisdom.'

Schrödinger, in speaking of a universe in which particles are represented by wave functions, said, “The unity and continuity of Vedanta are reflected in the unity and continuity of wave mechanics. This is entirely consistent with the Vedanta concept of All in One.” “The multiplicity is only apparent. This is the doctrine of the Upanishads. And not of the Upanishads only. The mystical experience of the union with God regularly leads to this view, unless strong prejudices stand in the West.”

(Erwin Schrödinger, What is Life? , p. 129, Cambridge University Press) As Fritjof Capra suggests, '…Eastern thought, and more generally, mystical thought provide a consistent and relevant philosophical background to the theories of contemporary science,' both conveying 'the unity and interrelation of all phenomena and the intrinsically dynamic nature of the universe.' Capra quotes the Tantric Buddhist Lama Anagarika Govinda: 'The Buddhist does not believe in an independent or separately existing external world…The external world and his inner world are for him only two sides of the same fabric, in which the threads of all forces and of all events, of all forms of consciousness and of their objects, are woven into an inseparable net of endless, mutually conditioned relations.' Likewise, said a Japanese Zen master upon attaining enlightenment: 'I came to realise clearly that Mind is not other than mountains and rivers and the great wide earth, the sun and the moon and the stars.'

ONE THOUGHT, TWO FORMS Of UNIVERSAL SPIRITUAL (UNITY- DIVERSITY) (MYSTICISM AND RATIONALISM)

Mysticism: All are One, the universe is a Unity

All things in the universe are one. They are all made of the same basic matter/energy, and they interact with one another, constantly. All things on earth are one: plants, animals, rocks, oceans and atmosphere. All living creatures had a common origin, all depend on each other, and shape and are shaped by non-living things. Life has radically altered the earth's atmosphere, and molded many aspects of its geology. The Gaia system is an organic evolving whole embracing the biosphere, hydrosphere, lithosphere and atmosphere.

All humans on earth are one. We descend from the same family of common ancestors. We are, in a quite literal sense, siblings, and like siblings we depend on each other's love and care and responsibility. We are interdependent not just in our families and communities, but in nations, and increasingly on a global scale - just as we are also interdependent with nature and the earth.

Rationalism: The universe are many and different beings

Yet at the same time things are many. Matter-energy is embodied in many different particles and bodies. Life has evolved into many unique species - at least 1.5 million that we know of - and each individual of each species is unique. Diversity is essential to the beauty and interest of nature and the universe. Without it everything would be blank and monotonous.

All these beings have their own separate existence. Existence as a separate individual is always more or less temporary, from the day's life of a mayfly to the billions of years of a star. Sooner or later, humans, cats, trees, planets, stars will end their temporary existence and be reabsorbed, recycled and recreated as part of new phenomena. Yet even if their existence is temporary, this does not mean that it is unreal or unimportant.

Animals with nervous systems and senses have a greater degree of separation. Their consciousness make each one see themselves as separate. And in many respects they are separate: driven to seek survival, even at the expense of other individuals or other species.

Recognizing unity and diversity

We often think too rigidly in terms of either/or, black/white distinctions. Philosophical systems that talk about unity tend to deny or play down diversity, as if it were in some way not real, or not important. Yet this devalues individual things and creatures. It makes us look at them in a distant and abstract way, makes us ignore their particularity.

Other systems focus too much on diversity and ignore the ways in which things are united and interdependent. This too carries the risk that we see ourselves only as isolated individuals, in competition with each other.

Yet we do not have to make an all-or-nothing choice between unity and multiplicity. Both exist and for wholeness we must embrace both.

Imagine you are standing on a rocky shore by the ocean, on a breezy day. The reach ahead of you is ultimately linked with every stretch of sea on the planet. It is a unity, a vast watery whole.

But in front of you, where water interfaces with air, what you see is waves, hundreds of thousands of waves: some enormous, others smaller, others again tiny waves on the backs of waves. Each of these waves is a distinct entity, with its own characteristics. They are a multiplicity.

The Multiplicity and the Unity are one and the same thing, a thing that is both many and one at the same time. The waves, and the currents underwater, make up the ocean. The ocean is the underlying basis for every wave. Neither the ocean, nor the waves, can be understood in isolation from each other.

The One is the Many, the Many are the One

We need a sense of the unity of life and of humans for the sake of human welfare and for the survival of the planet. We need a sense of unity with the cosmos so that we can connect with Reality. But we also need a sense of individuality, for the sake of our own dignity and independence and of the loving care for others. We need it to appreciate each natural form, each animal and plant, each human person in their uniqueness.

We must preserve the sense of unity and the sense of diversity and multiplicity. We must recognize that the One and the Many are the same thing viewed from different angles. The One is the Many. The One is manifested only in and through the Many. It has no separate existence apart from the Many. Equally the Many are the One. Even during their temporary separation, they are always part of the One, and always united with the One. Every one of us is always part of the One, and can unite with the One at any time we choose.

DIFFERENCES IN WESTERN AND EASTERN THOUGHT

The eastern and Asian philosophies and religions were led through introspection, meditation, intuition, insight and mystical experience to the understanding of the deep structure of the natural world. We could say that they do not constitute philosophies, with the west notion of the term, since they are not expressed by the rational intellect, the logical argument and the declarative language of science, but by parables, allegories, images and poetic language. The eastern philosophy points a path to the revelation of truth, namely the living experience that humans, plants, animals, the planet, the stars, everybody and everything is One. Everything is made of the same “universal matter”. The separations are metaphysical abstractions and mental constructions. The difference between the western and the eastern and Asian thought is the way that we will reach the ultimate knowledge, the knowledge of wholeness. There is no methodology on the western sense, a system of predefined rules that aim on a purpose. There is the path of the personal search. That is why we support that the “knowledge” is not mental, namely impersonal, but it is experiential, i.e., personal. The “knowledge” is ineffable and inexpressible, for it is not expressed in words, but shown with attitude, manner and style.

The eastern and Asian thought is poetical thought and wisdom of life. The western philosophy is a rational thought seeking for the truth by the abstract mind and the natural or artificial symbolism of language and mathematics. The eastern philosophy denied the division into matter and spirit, on which the western philosophy and science was founded. It is talking about the unbreakable One. Namely, it is neither idealism, nor materialism. It does not accept this theoretical division on knowledge. The western thought founded its building on the division of matter and spirit and from this division emerged the two philosophical currents of materialism and idealism. The western science today ends up on the same conclusion with the

eastern philosophy. We surpass this division between matter and spirit. The nature is united. We go over matter and spirit. Besides, at the contemporary physics, matter and energy is the same. The Universe is energy. The matter is nothing more than concentrated energy. What is more, the division into spirit that observes and matter that is being observed has been refuted by the double slit experiment of quantum physics. In this experiment the observer and the object being observed are one since they affect one another.

The science of Chaos teaches us that everything is interconnected, but the contemporary developments in neuroscience, getting started with the brain neurons and their multiple connections, reveal the topology of the brain, a miniature of the universal geometry of everything.

The wisdom of the Eastern ancient knowledge and the Western philosophy of the contemporary scientific knowledge converge and create open thought, the thought of open Wholeness. The core of the open thought is the cosmic consciousness. In every particle, atom, molecule, cell of matter the energy and the information of the cosmic spirit is concentrated. The history of the universal spirit and the spirit of the universal history of spirit unfold through time and in different places. They are history of transformation of our relationship with the world. The knowledge of the cosmic spirit is an unchanged structure, which is expressed in multiple forms in the evolutionary history of the universe. There is an harmony between the spirit of Eastern wisdom and Western science. It attempts to suggest that modern physics goes far beyond technology, that the of universal thought can be a path with a heart, a way to spiritual knowledge and self-realization.

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