Article

The Physics of Now: Experiential Consciousness Research (Part II)

Amrit S. Sorli*

ABSTRACT

The universe is really a self-renewing being in its own right. The universe itself is God. In the model of the universe we developed, the "mathematical universe" itself is the direct medium of the information between the particles. In the mathematical universe the transfer of information is instant. In the material universe, at the scale of photons, information spreads at the speed of light. We need to keep in mind that consciousness is not information. Consciousness is manifesting and acting through the mathematical universe and DNA down into the level of the material world. Within this context, the human thought process is not an "energy phenomenon" carried by the electromagnetic waves as many people imagine. Thought is rather a phenomenon that belongs in the realm of the "mathematical universe". Therefore, thinking has tremendous power. Any thought impregnates the entire universe. With thoughts and potent visualization one can eliminate certain physical problems in the body. When the mind is linked with consciousness harmonious thoughts are created. When the mind is subject of its own egoism, destructive thoughts are created. Emotions are an actual "energy/material" phenomenon, tied to the secretion of hormones on human physiology. Telepathy takes place via a mathematical universe between two or more minds.

Part II of this three-part article contains: 4. Mathematical universe is a medium of quantum entanglement; 5. Unification of the "double nature" of light; & 6. New horizons of Relativity Theory: A conscious observer is a reference system at absolute rest.

Key Words: physics of now, mathematical universe, God, experiential consciousness, information, thought, emotion, mind, Consciousness, material world, instantaneous, telepathy.

4. Mathematical universe is a medium of quantum entanglement

Universal space where time is just a mathematical sequence of movement, elegantly explains the famous "Einstein-Podolski-Rozen" experiment (familiarly recognized as the "the EPR experiment"). The three scientists were working together at the beginning of the 20th century. They assumed that the quantum particles are interconnected in a way that allows them to access instant information. In the previous century, the EPR experiment was often tested and proven to be valid and it was determined that was indeed the case. For example, if you take two particles, which are first together and then send them traveling in different directions. The distance between particles will increase and then when you measure the spin of the first particle it will be

*Correspondence: Amrit S. Sorli, Independent Researcher. Email: sorli.amrit@gmail.com

to the "right" and the spin of the second particle will be to the "left". According to the Special Theory of Relativity the speed of light is the maximum speed with which information can travel. Yet in the EPR experiment the transfer of information is instantaneous, so the traditional Special Theory of Relativity cannot explain it.

In the model of the universe I developed with Fiscaletti, the "mathematical universe" itself is the direct medium of the information between the particles. The mathematical universe simply "knows" about the spin of the first particle and so it instantly informs the other particle how to rotate. Additionally, the classic EPR experiment shows that the universe has a tendency toward developing symmetry and harmony as the opposite spin of the particles is determined by the laws of symmetry.

In the mathematical universe the transfer of information is instant. In the material universe, at the scale of photons, information spreads at the speed of light. Interestingly, once we get to the scale of atoms and molecules the speed of information will always be less than the speed of light. We need to keep in mind that consciousness is not information. Consciousness is manifesting and acting through the mathematical universe and DNA down into the level of the material world.

Within this context, the human thought process is not an "energy phenomenon" carried by the electromagnetic waves as many people imagine. Thought is rather a phenomenon that belongs in the realm of the "mathematical universe". When a thought arises in the mind, it is immediately present throughout the universe. Therefore, thinking has tremendous power. Any thought impregnates the entire universe. With thoughts and potent visualization you can eliminate certain physical problems in the body, you can "create" your life. When the mind is linked with consciousness harmonious thoughts are created. When the mind is subject of its own egoism, destructive thoughts are created. Emotions are an actual "energy/material" phenomenon, tied to the secretion of hormones on human physiology. Emotions have the power to be able to create certain thoughts, while on the other hand thoughts always generate certain feelings. For example, sadness comes from destructive thoughts and conversely, your happiness is borne of your more creative thoughts.

Telepathy takes place via a mathematical universe between two or more minds. Using the vehicle of intuition, one can travel through the mathematical universe medium and obtain information on the psycho-physical condition of another man or some situation out there in the material world. Trained people are able to see what is going on at the other end of the planet or even other planet. Some claim to even be able to perceive via telepathy what is going on in other solar systems.

While the material universe is three dimensional, the mathematical universe is multi-dimensional. In math we can also have a space with an infinite number of dimensions. When mathematicians started to discover multidimensional spaces, some physicists thought it also applied equally to the material world. They did not understand that mathematics is neither energy nor matter. It is rather a phenomenon that exists beyond the material universe. Mathematics is not a product of the neural processes in the brain which are material and three dimensional. If this were so, the mathematicians could develop only three models of a three dimensional space.

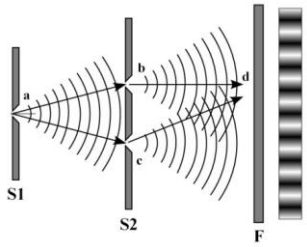
Futuristic writers have tried to postulate a reality of "parallel worlds" where worlds should and/or might be parallel to our own universe. They have imagined that there could be alongside our own universe another universe, in another dimension, that we cannot observe directly because of the dimensional schism. Such reflections are the result of a fundamental lack of understanding about the true nature of material universe; that it is three dimensional and does not tolerate the existence of parallel universes.

5. Unification of the "double nature" of light

Our model of the universe gives a new understanding of the dual nature of light. Light is a bit of a chameleon, it sometimes behaves like a particle and sometimes it behaves like a wave. This double nature of light was originally supposed to be the result of the mode of observation, that is, specifically, when you are looking at it like a wave, it behaves like a wave, when it is observed as a particle it behaves like a particle. In our vision, the photon is at the same time both a particle and a wave. A photon is transmitted by an electron in its transition from a lower to a higher energy state. For example, when iron is heated it starts to glow which is the manifestation of the release of photons. Photons spread out in all directions and travel in space. The movement of the photon creates waves in space much like a ship does when it is traveling through the sea. However, in the case of the photon, the "ship" cannot be considered separately from the "wave of the sea". This is the missing law of quantum mechanics: "Elementary particles and the space into which they move are one physical reality", they are one great fabric.

The nature of this simultaneous particle/wave nature of the photon is confirmed by the double slit experiment. In the image below you can see that the photons have their origination point (marked "a" in the illustration below). From the origin, if we send photons one by one, they will travel through the left and right slit alternately (marked with "b" and "c" in the illustration below,) this creates on the screen a significant interference pattern (marked with "F" in the illustration). When the traveling photons only make it through the left slit b, we get the same interference pattern, because the waves of space created by moving the photons went also

through the right slit c. Physicists have not yet definitively explained this phenomenon. The experiment teaches us that waves of space are created by the single photon's motion and that it will always travel through both of the slits.



Double slit experiment

The frequency of light is associated with the movement of the light source and of the observer, and with energy consumption which the photon uses for movement. When a light source moves away from the observer, light reduces in frequency. This is what is called "shift to red spectrum". In the sixties of the twentieth century this "red shift" was considered the main evidence for the expansion of the universe. Today, it is accepted in astronomy that about sixty percent of the "red shift" is due to a strong gravitational field through which light moves. So, photons which come from distant galaxies have reduced energy, because energy is spent as it "pulls out" from the strong gravitational fields of other galaxies. This latter interpretation of "red shift" has contributed to the overall reducing popularity of ideas about the expansion of the universe, which has in recent years seen fewer and fewer defenders. Of greater prevalence these days is a model of a dynamic universe without a beginning and end, in which, there is no need for a "creator", as it is an "uncreated" system which stands in dynamic equilibrium.

6. New horizons of Relativity Theory: A conscious observer is a reference system at absolute rest

In the realm of physics, the observer is an integral part of the experiment. Speaking out of personal experience and the personal experiences of many other people who practice meditation, I can add that consciousness has the function of observation. Truly, in essence the observer is consciousness itself. The same consciousness is watching the world through the vehicle of the senses of individual men. Most people are experiencing the world tied and bound-up within the limited field of their minds. Consciousness, on the other hand, works only as an observer that cannot see its own origin. When you awaken into true consciousness, you recognize that the "observer" is a pure function of consciousness. Unfortunately, we have no experiential evidence in terms of the classical methodology to back up this claim because observation and the

experience of consciousness are both subjective phenomena. It is noteworthy however, that thousands of people have had the experience that the observer is consciousness itself. I feel that the subjective experience of so many individuals has its own inherent credibility.

Let's do a quick yet convincing experiment: take a look at your palm. You know that this is your palm, without having to even think about it. Consciousness is watching your palm and knows that it belongs to your body. Close your eyes and your mind can create an image in your imagination of your palm. Consciousness can also be aware of this created image in the mind's eye. Your mind can create certain types of content on your palm in this present moment, for example: "I have a beautifully shaped palm." Consciousness is equally aware of the impressions of physical reality as well as these kinds of imagined thought formations.

Our minds are changing. Our feelings are changing. Yet the consciousness that beholds them always remains immutably the same. Consciousness is not part of changing world. It is an especially beautiful moment when consciousness is finally able to observe and realize itself. The more you are aware of your body and mind, the more you become consciousness itself. With the beginning of the subjective exploration of consciousness, physics will start to use consciousness as a research tool for discerning the adequacy of scientific models within the world. Knowledge gained at universities will be enriched with auto-reflection which allows peaceful development of human society in accordance with cosmic laws.

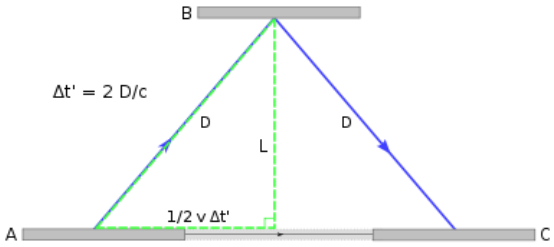
The personal experience that consciousness is the observer, watching the world through the vehicle of human senses and mind, is a spectacular realization. The conscious observer experiences the world directly outside the framework of psychological time of "before-now-then". For the conscious observer, changes happen in the "eternal now", or as Albert Einstein put it: NOW. A conscious observer is present in each point of space. When our body moves, the conscious observer remains the still point. A conscious observer is the only reference system in the universe that does not move and does not change, it is in absolute rest. This realization gives added dimension and elegance to the Theory of Relativity. The starting point of physics and its research is over time becoming one involving the observer/consciousness. He observes the universe, he supervises mind which builds models of the world; he examines the adequacy of models with physical world. The observer/consciousness is the same in each physicist and is giving physics another level of objectivity and a chance to be a truly "objective science", which exists independently of the human mind.

"Subjective experience" is tinged with personality, thoughts and emotions of the person's mind, whereas, "objective experience" is the experience of consciousness itself, which is independent of the mind. Restated another way, "objective" is what we experience when we are grounded in

the awareness of the conscious observer. Science in the 21st century is destined to develop an experiential spirituality cleared of all religious and historical convention, a spirituality which is based on direct experience of consciousness.

6.1. A conscious observer enables profound understanding of relativity

Even today, some parts of Special Theory of Relativity are not fully understood when looked at from the perspective of the conscious observer. A long-standing classic example of this in physics compares and contrasts how for an observer on the train station platform, time appears to run faster than it does on a moving clock on a passing train. The illustration below can be commonly found in physics textbooks, it illustrates how the observer at the station sees the vertically raised clock on the train.



Here we see the photons moving between two mirrors. For an observer on the station what is seen is photons are moving in a zig-zag fashion. This is true, and this particular issue is not in dispute. In all textbooks, physics shows that for the observer at the station, the rate of the clock in the train was slower than it was for the observer within the railroad car. It is taught that this is because the observer who remains on the station in actuality sees a longer path of photons than the observer standing next to the clock does. Yet, physics has largely ignored the fact that the longer path of photon is really just an optical illusion due to the movement of the photon clock and it cannot itself have any influence on the actual rate of the clock. In truth and reality, the rate of the photon clock is the same for both observers.

To expand on this notion further, let's consider the following. Suppose the observer on the station has a vertically positioned photon clock. The photon clock on the train will have slower rate for both observers but this is because of the diminished energy density of space caused by the kinetic energy of the train. This reduction in the energy density of the universal space due to the kinetic energy of the train, when compared with a reduction due to the mass of the planet Earth, is really so small that it is assumed within the Special Theory of Relativity that the speed of light is a constant in all moving systems and that the both of clocks have the same rate for both of observers.

In another example involving The Theory of Special Relativity, there is also a lack of clarity about rate of atomic clocks for the first observer. In this example there is observer (1) at the station and another observer (2) in the moving train. Observer (1) is at the station viewing a precise atomic clock and observer (2) is inside a train that has the same precise atomic clock. In this case, The Special Theory of Relativity says there are actually four times: two coordinate times (time as a fourth dimension of space), X4 and X4', and two proper times t and t ', which determine the speed of the clocks. Coordinate times, X4 and X4' apply to both of observers, proper times t and t' are supposed to apply only to the individual observer. Time t is valid only for the observer 1 and time t' is valid only for the observer 2. This does not seem correct, however, the rates of both clocks are valid for both observers and this has been confirmed via GPS systems.

Because of the distance from the Earth energy density of space is increasing and is calculated in the GPS satellite with the following formalism:

$$\rho_m = \rho - \frac{m \cdot c^2}{V + V_1}$$

where V is the volume of the stellar Earth, V_1 is the volume of the sphere with radius d which is the distance of the satellite from the centre of the earth. Clocks that run on GPS satellites function at a greater rate than clocks on the surface of the Earth due to the increased density of space. This shows up as a discrepancy of 45 microseconds per day between the GPS driven clocks and earth-bound clocks. Because of satellite motion regarding the surface of the earth the clocks on the satellite are running at a slower rate for 7 microseconds a day. The density of space on the satellite is lower because of its motion, according to the following formalism:

$$\rho_m = \rho - \frac{m_s c^2 + m_s \cdot v^2}{V}$$

where m_s is the mass of the satellite, v is the velocity of the satellite with regard to the surface of the Earth and V is the volume of the satellite. The final sum of the difference between rates of clocks is 38 microseconds per day. These facts apply to all observers in satellites, planes, trains and automobiles.

If we use consciousness as a research tool we realize that the train is moving in space and we know that time is only the numerical sequence of the clock "ticking" and that furthermore, this phenomenon applies equally to all observers. The moving observer grows older more slowly than the stationary observer. The rub is that neither of them are actually getting older in *time*, but rather, they are getting older in *space*. So again, the speed of ageing of the moving observer is less than the speed of ageing of the stationary observer. Such is our interpretation of The Special Theory of Relativity. Within which, the introduction of the density of universal space becomes a physical theory, and is cleaned of unnecessary mathematical formalism of the fourth dimension. This renewed Special Relativity can be described in a three dimensional Euclidian space. Lorentz's understanding is thereby replaced with an old Galilean understanding. Time is measured with clocks and is only a mathematical quantity. To calculate the different rate of clocks it is best to use the formalism of the Italian physicist Franco Selleri:

$$t' = \sqrt{1 - \frac{v^2}{c^2}} * t$$

Newton believed that time passes at the same rate throughout the universe. In this thinking he was of course only considering the speed of physical phenomena. But remember, in Newton's physics, time is not considered a physical quantity in which changes occur and play out. It is in Einstein's physics that time has become a physical quantity in which physical phenomena happen. This is, in my opinion, overall the greatest foundational flaw of today's physics.

6.2. With Relativity Theory mathematics has overruled physics

The conscious observer is aware of the difference between the physical world and a scientific model of it. He is able to see the rate of compliance between the model and the real world. We will look at the use of consciousness as a scientific research tool in the case of Einstein's Special Theory of Relativity. Conscious observer sees that the Special theory of relativity is not a "physical theory" but rather a "mathematical theory". Isaac Newton's theory of gravity, for example, is a physical theory, because all the elements that appear in the formula for gravity are measured in physical world: the gravitational force F between two masses is equal to the product of the two masses m1 and m2, and the gravitational constant G, divided by the square of the distance r between the centers of the two masses.

In the Special Theory of Relativity fourth dimension X_4=ict is a product of the time t, the speed of light (c), and an imaginary number i, where i is the squared minus 1. No one knows exactly

what a fourth dimension within the physical world is like. Most physicists simply believe in its physical existence; in physics, the "belief" is not enough. It is necessary for each claim to be confirmed experimentally. In the relationship between the Special theory of relativity and the physical world there is no "adequate connection" where each element of the theory corresponds to the exact element in physical world, as seen in Newton's theory of gravity.

The Special Theory of Relativity, which Einstein published in 1905, illustrated that the rate of clocks is slower in rapid flight, than it is on the surface of the Earth. In the sixties of the last century this was experimentally proven. At the time, most physicists thought that clocks ran slower because they believed that the fourth dimension of space in which planes fly, shrinks. No one has yet fully explained how the contraction of time as a fourth dimension of space affects the clock mechanisms themselves. I developed my own "physical theory" of Special Relativity, where "the relative speed of the clocks" depends on the energy density of the three dimensional universal space. If the plane is moving through the universal space, and not through the four dimensional space-time, the kinetic energy of the aircraft, which is a result of movement, reduces the energy density of the fabric of universal space, resulting in a reduction in the speed of the clocks mechanisms, as well as a reduction in the speed of all other physical phenomena in an airplane.

The Special Theory of Relativity has other drawbacks for conscious observer. The first drawback is the predicted contraction of objects in the direction of movement, which leads to a contradiction. Let us suppose that we have in an aircraft two photon clocks. The first lies horizontally in the direction of flight, while the other is placed vertically. The photons travel between the two mirrors, one path of photons means one "tick" of the clock. Due to the shrinking into direction of flight, the horizontal clock would shrink and run faster than the vertical clock that would not be shrinking. The Special Theory of Relativity assumes that all clocks in an airplane run with the same rate. It is the contraction of the objects into direction of movement that leads to contradiction.

6.2.1. Diminishing of energy density of space diminishes velocity of light

In the "physical model" of Special Relativity there is no length contraction. The horizontally placed photon clock has the same speed as the vertically placed photon clock. Because kinetic energy of the aircraft further reduces the energy density of the universal space, both photon clocks will run a bit slower. The reduction however is negligible; the rule of constant speed of light is preserved. An experiment of the American Astrophysicist Irwin Shapiro has proven that when light travels through space with reduced energy density its speed reduces slightly. Back in

1964 Shapiro measured the reduction of light speed, when it travels between the planets Earth, Mercury and Venus. In between planets the energy density of space is smaller than it is in interstellar space. The reduced energy density of space due to the kinetic energy of the aircraft and the reduced energy density that is a result of gravity are bridging both Special Relativity and General Relativity and this further illuminates the relational equality between inertial mass and gravitational mass.

Every year the planet Mercury gains in its orbit around the Sun. Newton's physics failed to describe why this happens. Each year it travels on the boundary a little farther than was predicted by Newton's theory. We have measured this and reliably know it has been overtaking (known as "precession") in its orbit for the last 100 years that we have been watching. This concept of precession is actually valid for all planets, however the farther away from the Sun you move, the phenomenon of precession decreases. Why is this? Einstein was able to accurately describe the precession of all the planets with a set of Equations of General Relativity. I, with my colleague Fiscaletti, achieved identical results with equations that describe precession as a result of movement of the universal space around the Sun. Universal space around the Sun is like an extended body of the Sun and it rotates with the Sun. The rotation of the universal space thus "pushes" planets in the direction of their movement and this results in the planets overtaking.

6.2.2. Time travels are out of question

Back in the thirties of the 20th century Einstein moved from Europe to Princeton, New Jersey, in America. Kurt Gödel, the Austrian mathematician and best logician of the 20th century also went to Princeton. Gödel and Einstein became friends and of course they did a lot of thinking and talking about physics. Gödel had developed the equations of General Relativity and realized that in theory it could allow travel back into the past. In the Gödel universe there are "closed time-lines" through which it would be theoretically possible to make this time travel. And yet, if this is so, in theory, someone could travel into the past, kill their own grandmother and then they would not be able to be born in the future, which is of course an implausibility. Gödel is simply not yet understood by most physicists. However, physicists continue to use derivations of his equations as evidence that time is a physical quantity through which it is possible travel into past.

Gödel's ultimate purpose was to draw attention to the contradictory nature of travel into the past. He wanted to develop the General Theory of Relativity from being solely a mathematical theory into being a physical theory. A physical theory can have no contradictions, because it is based on actual observations of the real world, whereby all the key elements that appear in the equations are obtained by actual measurements.

With Fiscaletti, I built a model of the universe, where we could travel only through space and time as a numeric sequence of our trip. Also, travel through time categorically falls off the conceptual map because it does not withstand the simple fact that material objects can exist and inhabit only one place and cannot be in two places at the same time. Suppose that we miss the 6.00 departure time for the train from Paris to Berlin. Instead we take a taxi to the airport and we then we fly in a spaceship through the Gödel time line into the past for two hours. Then we fly back to the airport, go to Paris, and look at the clock. It now reads 5.30. Serendipity! Now we have time for a tea. However, even if we make this journey into the past, the original train remained on its way to Berlin, it still continued onward in the same direction. So at 6.00 a train would not have appeared at Paris station despite our efforts.

Similarly, you can have a past-life regression and consciously relive an experience in a former life yet you cannot change the events that happened themselves. Our past and future lives are happening simultaneously in a context of a timeless universal space, here and now in eternity, where time is only a numerical sequence of changes.

The American physicist Sean Carroll has written a book "From Eternity to Here" in which, inter alia, he proffers that it is not possible to travel into the future, however it is possible to travel back into the past, but even still we can't do anything to effect change in the past. For a "simple thinking man" his conceptualizations can come across as fairly absurd. Carroll was obviously laden with Gödel-like "closed time-lines". This idea that it is possible to travel into the past, yet we can't do anything to effect any change all becomes even more complicated and even more contradictory. I ended up writing him a letter explaining my viewpoints and joked that his book may have the title of "Eternity is Here", but that the flesh of his book did not prove the point. Predictably, he did not seem to care to comment. Like most human beings, physicists often think that their views on the world are the most correct. Pure consciousness, however knows that permanent doubt in a theory is the biggest test of its validity.

Mathematical theories of the 20th century managed to describe most of the physical phenomena we know, while at the same time they have diminished the physicists' sense of realistic thinking which should be tied at some point to the real world. Physicists today think about the physical world through mathematical formulas and models. It is as if in front of their eyes they no longer perceive concrete phenomena, but rather, only conceptual models of same. The use of consciousness as a research tool requires a more "physical mode" of thinking, where we are conscious of both the physical phenomena and of the model of phenomenon which it describes.

A classic example of this "mathematical thinking" in physics is, how the English physicist Stephen Hawking explains the theory about the big bang. In his book "Brief History of Time" he explains that the energy of matter in the universe is positive, therefore the gravitational energy is

negative (in the context of this book gravitational energy is energy of space). The sum of both energies of the universe is always zero, which can be written as: Em + Eg = 0. If both of these energies are present in the first moments of the big bang and you multiply them the product remains zero. Similar as 1 + (-1) = 0 , 2 + (-2) = 0 and so on. If it is true in math, it is true in the phenomenon of life. If the sum of two adjacent integers (one positive, one equally negative) is zero…then I say to you…the universe simply cannot be created out of nothing. It cannot arise out of zero.

The next "text book case" of mathematical physics, which has lost contact with a physical reality, is the new so called "String Theory", which in the last 30 years of development has not produced even one reliable result, which can be confirmed by experimental physics.

6.2.3. Quantum theory of consciousness makes no sense

Structure of the universe is following:

STRUCTURE OF THE UNIVERSE

- consciousness which functions as the conscious observer - mathematical universe which is ruling material universe	nonmaterial universe
- energy of the space (energy of quantum vacuum) - electromagnetic energy - matter - life energy (QI, Prana) which existence in not confirmed yet)	material universe

Quantum theory of consciousness makes no sense because consciousness belongs to the nonmaterial universe and is not "quanta" in a known sense of this word. Fundamental time as a numerical order of change belongs to the nonmaterial universe, emergent time as a duration of change is the result of the process of measurement done by the conscious observer.

(Continued on Part II which also contains the references)