Research Article

Fundamental Forces are not Fundamental as our 3-d Universe is Driven by an External Energy Source

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Abstract

Atom has been considered as a space of perfect vacuum and no energy loss takes place inside the atom. The purpose of the current research work is to prove that even fundamental particles receive energy from external sources for their motion. In order to prove this, the model of the solar system and its planets is selected. According to this proposed theory, even the gravitational attraction between planets and stars is due to external energy received through the hypothesized O- Dimension. O-dimension is a time-independent totally symmetric dimension filled with potential energy and it encircles every object from atom to galaxy as well as the whole Universe and imparts energy to the whole Universe. The gravitational force between two objects is a result of the energy shadow cast by them on each other. Mathematical model developed and applied to the Sun and planets in our solar system as well as Earth and moon and it fits with the values obtained by Newtonian theory, confirming the validity of the hypothesis.

Introduction

There have been many unsolved problems and mysteries in physics. This current work is focused on finding solutions to most of those problems. Over the years, we have constrained scientific thinking in Newton, Galileo, and Einstein's angles. It has been necessary to come out from those approaches and see physics from a new direction to find a solution to the unsolved problems.

Unsolved problems in physics

Some of the unsolved problems in Physics are the Nature of Gravity [1], Dark Matter [2], Dark Energy [3], Entanglement of Particle [4], Quantum Tunnelling [5], Speed of light being constant irrespective of frames of reference [6], Wave-particle duality [7], Origin of the Universe [8], Measurement problem [9], uncertainty principle [9], superposition at the quantum level [10], Expansion of Universe [11], and Validity of Big Bang Theory [12].

A new approach to the existing physics is performed so that the solution to unsolved problems can be found. The following laws laid the foundation of current physics:

The "Newton's Universal Law of Gravitation" (1686) contains no explanation as to what gravity is. It is a law that describes how gravity works, not what it actually is [13].

The "Einstein's General Theory of Relativity" (1915) tells us that planets and stars (any kind of matter) warp the fabric of space-time and that they produce gravitation as a side effect of this warping - however, we do not have a theory that tells us what this "fabric" is made up of or what its fundamental properties are [14].

The closest we have to a widely accepted "theory" of gravity and gravitation is "the general theory of relativity," and it does not really describe correctly what gravity is.

Newton suggested an empirical equation for the gravitational force with G ($6.6743*10\text{-}11$ N·m2·kg^{-2}) as the gravitational constant. Newton's theory and laws of motion have been the foundation of physics, and based on the same, many everyday life problems could be solved very easily for lower velocity values. Newton's theory fails near black holes where extremely high gravitational force exists and at velocities close to the light velocity.

Einstein made sharp progress in the understanding of gravity by introducing the space-time structure and explaining gravity as a result of space-time geometry. In General Relativity (GR), matter shows space-time how to curve, and curvature shows matter how to move. Einstein's reasoning of Gravity was by virtue of imaginary space-time curvatures in space, although more realistic visualizable reasoning was preferred

(Figure 1). This work focuses on the basic external forces by virtue of which the universe works and its further extension to a more reasonable visualizable understanding of Gravity.

Although GR has been successful in solving many problems, it still has some unanswered questions. If space-time has a form similar to stretched film, it should have a boundary. The properties of intrinsic tension and elasticity in the fabric should be known. Einstein's theory does not apply to subatomic particles. Hence, quantum physics had been outside the limits of General Relativity. It has always been assumed that all subatomic forces, e.g., weak forces, strong forces, electromagnetic forces, and gravity (so-called fundamental forces), are intrinsic properties of matter, and their existence, nature, and properties have nothing to do with anything outside of matter.

The following points have been puzzling, and the reasoning given has never been satisfactory.

i.   If a distant object such as a comet comes near the Sun from an almost infinite distance, it should fall into the Sun by virtue of gravitational force rather than making an elliptical path around the Sun. How does it know to bend around the Sun?

ii. So much of matter in the Universe and the existence of Gravity in the Universe should result in the collapse of entire matter. There should be some force giving direction to the movement of the objects in the Universe.

iii. To make planetary motion exist, there should be some additional force to guide the matter in the planetary motion.

iv. Matter at its smallest scale is in the form of electrons, strings, or quarks vibrating. They have energy. They consume energy. Where does this energy come from? These energetic particles exist in association with a larger mass. Hence, it was felt that the existence of these energetic vibrating particles needs some source of external energy. Matter exists by virtue of vibrations
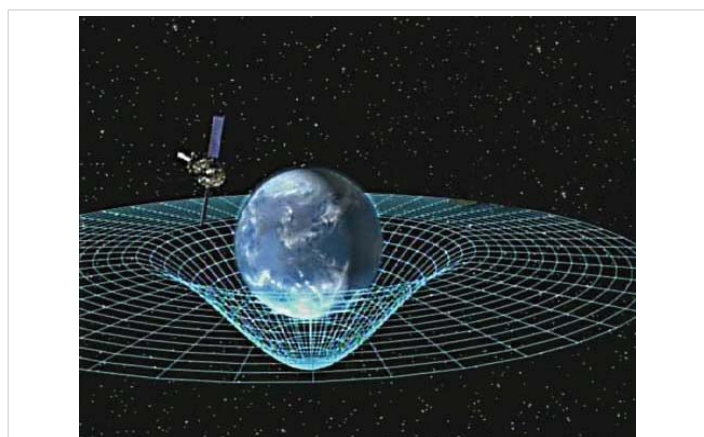
in subatomic particles. The energy for the vibration must have a source from outside of the matter. In the presence of Gravity, why should the Universe expand with acceleration?

The theory stated in this paper was developed through a comprehensive review of existing theories and unsolved problems in physics. A mathematical model was then developed to calculate the gravitational force based on the proposed theory.

The current theory states that the energy to elementary particles is imparted from an external source. This theory replaces the 4-D space-time fabric of GR with 3-D energy lines. The energy lines radiate from an external source and impart energy to the matter of our 3-D universe. Two unique additional dimensions are introduced in this theory: the Reality 0-dimension and the Imaginary 0-dimension. These two dimensions are unique and totally symmetric. These dimensions are filled with potential energy, and they are the source of the energy in this theory. These dimensions are totally symmetric energy-filled balls. We call them dimensions because they can act on individual particles separately as well as collectively on the agglomerate of the particles as well as on the total universe in the same manner in the form of a halo. This energy integrates quantum particles with gravitational forces. Further application of this theory can solve many more problems and hold the potential to be a universal theory.

Figure 2A shows a children's toy that gave an idea of a new approach to looking at matter and basic physics. The picture shows a spinning wheel connected with a pair of threads on both sides. You twist the thread by rotating its wheel with the help of fingers. Energy is stored in the twisted thread. As you pull the thread, the stored energy in the thread is released and imparted to the wheel. The wheel gains kinetic energy and in turn, twists the thread again. Thus, pulling the threads again releases the stored energy in the thread (Figure 2B). The link showing how the external force acts on the Universe is referenced below [16].

A similar mechanism should apply to the vibrational energy in subatomic particles. Energy for vibrating subatomic particles is obtained from an external source. Similarly, matter composed of subatomic particles must have an energy source from outside.

O-dimension hypothesis

In this theory, there is an additional pair of basic dimensions. We call them O-dimensions.

i.   Reality 0-dimension

ii. Imaginary 0-dimension.

O-dimensions are spherical energy-filled dimensions that exist around every particle individually and around multiple
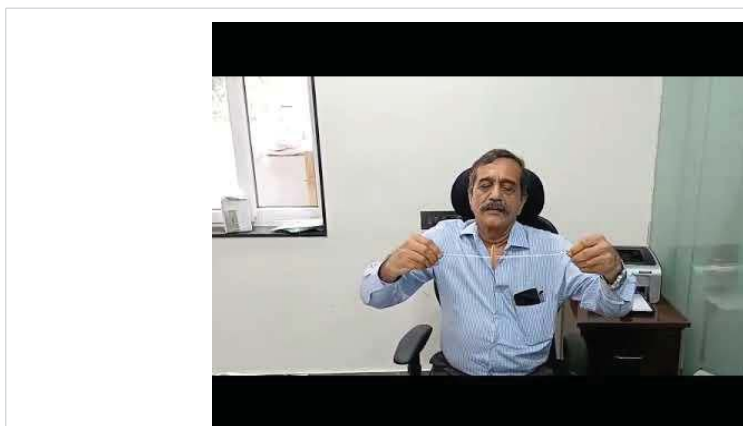

Figure 1: Space-time Curvature of General Relativity [15].

Figure 2A: Spinning wheel analogy to illustrate external energy source principle [16].
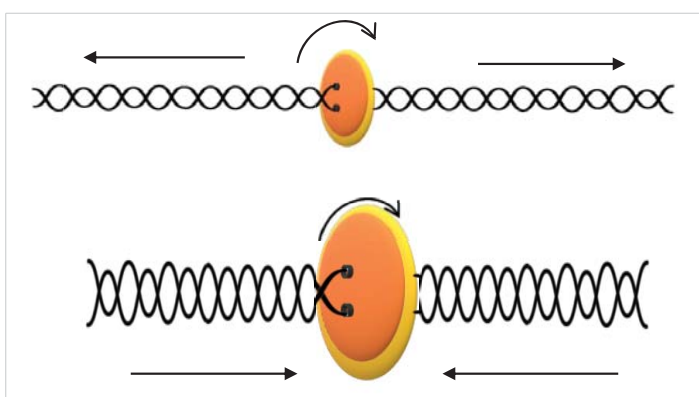https://www.youtube.com/embed/adX64oONGBg?feature=oembed

Figure 2B: Illustrations of the mechanism of the external source of energy by means of a spinning toy with threads connected on two sides.

particles collectively as well as around the entire Universe. When observed in a 3-D universe, these dimensions form a halo-like structure around each discrete particle as well as around the composite of particles, and further around planets as well as around the entire 3-D universe.

These names are derived from real numbers and the concept of imaginary numbers. (The purpose of this nomenclature is for the planned extension of this theory to new Quantum Physics). Further work can lead to linking this theory with Schrodinger's type equations. A straightforward solution could be found for wave-particle duality and uncertainty principle with the help of this hypothesis. It is planned to give a new approach to quantum physics using a 3-D universe model created by these two-dimensional sources of energy. Work in this direction has been initiated.

Both dimensions are totally symmetric and filled with energy (a kind of potential energy). We call them dimensions because they are not confined to any particular location. Therefore, what we call 0-dimensions are symmetric energy spheres having unique symmetry properties, which are different from the 3-D universe. These spheres of energy surround every particle individually as well as every system of matter under study. Being independent and unique, we

call them dimensions. These dimensions are called 0-energy dimensions (1. Reality-0 energy dimension, Imaginary 0-energy dimension). Being absolutely symmetric, time does not exist in these 0-dimensions. The difference between 0-dimensions and Euclidean space dimensions is that Euclidean space is asymmetric, and there exists time and entropy in this space, whereas 0-dimension is absolutely symmetric, and time does not exist in it. 0-dimensions encircle the Euclidian 3-D universe. 0-dimensions exist around each particle of the 3-D universe individually as well as collectively in the form of a halo (Figure 3). The symmetry of the 0-dimension implies that every particle in this dimension is omnipresent. You cannot distinguish between two particles. Time does not exist in the 0-dimension. Particles at the periphery of the 3-D universe and 0-dimension have dual properties, such as timeless and omnipresence of the 0-dimension as well as properties of the asymmetric universe, as they change their position across the phase. Energy applied to the 3-D Universe totally or individually on any particle of the 3-D universe is uniform from all directions.

Other possible configurations of 0 dimensions in association with the 3-D Universe are shown in Figure 4.

These two 0-dimensions are independent.

The Basic Rules of Symmetry are:

i.   Time does not exist in the total symmetric system

ii. In a system with non-existent time, every particle is omnipresent. In other words, you cannot distinguish between two particles.

iii. Asymmetry gives rise to time. The time value is related to the degree of asymmetry.

This new theory substitutes the space-time structure of the relativistic approach by energy lines imparting energy to every subatomic particle from an external source (0-Dimensions). This energy is imparted by a pair of proposed 0-dimensions. This theory connects subatomic particles with
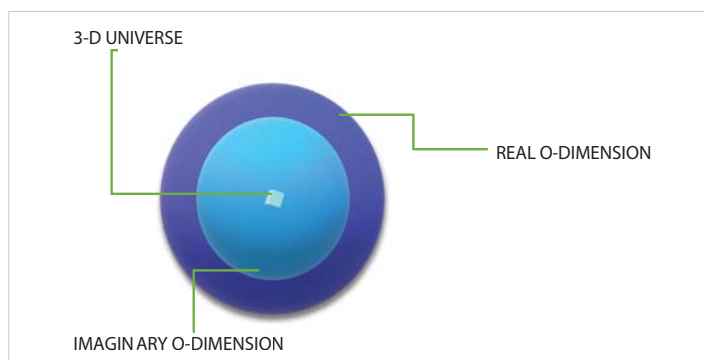
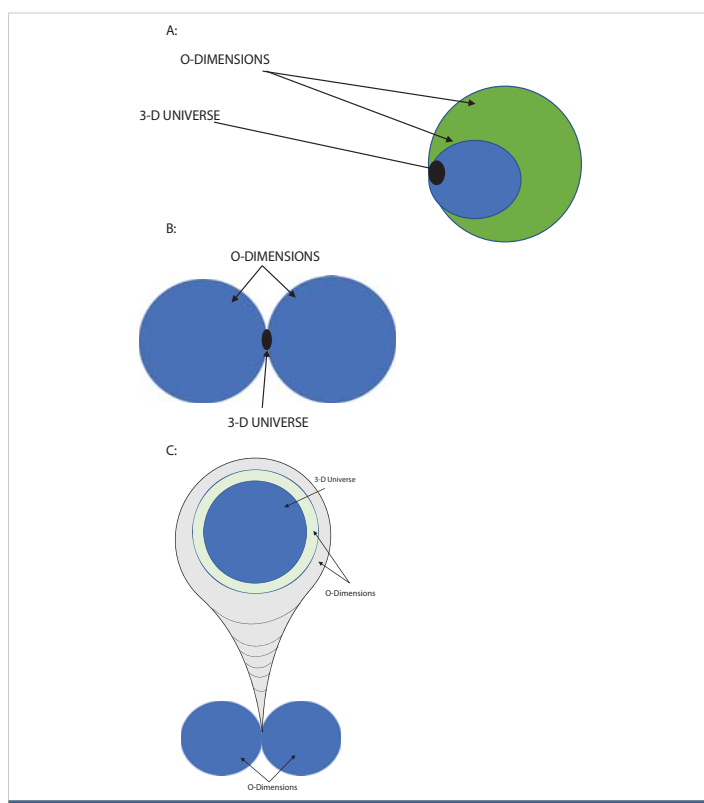**Figure 3:** 3-Dimensional universe at the center of two O-dimensions.

Figure 4: A, B, C: Possible orientations of the 3-D Universe with respect to O-dimensions.

external energy sources. The O-dimension encircles every subatomic particle and imparts the energy required by the particle. For a larger mass, the O-dimension of each particle adds up to form a larger O-dimension encircling the larger mass. The O-dimension of larger 3-D matter is the sum of all O dimensions of subatomic particles. O-dimensions are present around every discrete particle, agglomerate, or composite of particles, or even planets as well as the entire Universe in the form of Halo. Every system under study is surrounded by the O-dimension, which imparts energy to the system uniformly from all directions.

The quantum field has come inside the domain of this theory, and it focuses light on unanswered problems such as dark energy. This theory supports the possibility of the Holographic Universe. We propose not to use a time as a dimension but it should be treated as a field for any calculation.

Beginning of the 3-D universe

At present, the widely accepted theory for the beginning of the Universe is the Big Bang theory, which is absurd, nonintuitive, and illogical. Attempts have been made to fit the theory with observations, which has resulted in its wider acceptance. In the current 3-D universe of ours, every new creation takes place by interaction between two opposite species, *viz.* male and female. Even plants also create new plants by the interaction of male and female parts. In such a case, why should the beginning of the Universe be by a big explosion? No child to any animal species is born by explosion in the womb, nor any plant species propagates by firework. Thus, the Big Bang is a scientifically wrong theory of the beginning, which is leading us in the wrong direction. It is necessary to correct all initial points in the theories that are pointing in the wrong direction of science. It has become essential to go to those wrong starting points for correction, as science has come to a standstill due to them.

The 3-D universe is analogous to a biological system. In biological systems, two entities with opposite properties (such as males and females) give rise to new entities. Similarly, a 3-D universe was formed when two O-dimensions (1. Reality, 2. Imaginary) interacting with each other may be by accident.

A momentary spark/perturbation/interaction between these dimensions is the beginning of the 3-D universe. This spark created asymmetric vibrating quantum space and caused the beginning of a new universe. It is not only the beginning of a new Universe; it is the beginning of time and entropy initiated by the creation of an asymmetric 3-D universe. The asymmetric points are created at the connecting points between the O-Reality Dimension and the O-Imaginary Dimension (Figure 5). A knot is generated between the energy of two O-dimensions, causing stress on the energy fields of two dimensions, which consequently initiates vibrational motion in the knot. This process proliferated, causing the birth of a larger 3-D Universe. Initial knots may be particles having no mass or very small masses, such as photons/electrons. Further interactions of O-dimensions created new small particles. Further small massless particles merged to form larger, more asymmetric particles. This is the beginning of our new 3-D asymmetric Universe. Word asymmetry represents the degree of asymmetry and not total asymmetry. During the explanation of the new theory, time is expressed in terms of time (seconds) per unit of length (Meter) of the Universe. In the beginning of the Universe, this unit of time per unit of length in the Universe was very large as compared to the current one.

The Universe is shown at its 4 stages of expansion in Figure 6. The velocity of light C is the same in all 4 stages when observed in their own frames. The time value/unit length of the universe differs in these stages. Reciprocal is unit length divided by time. Hence relative velocity of light increases with

expansion when observed from an expanded frame of the universe. Also, the speed of light in stage (a) with reference to other stages is lower when observed from other stages; similarly, for every stage, the speed of light is observed to be lower compared to the expanded state when observed from the expanded state.

The wavelength of light of every stage is more than that of the expanded stage when observed from the expanded stage. A redshift is the result of a change in the relative time span of the Universe as it expands. When an object from the distant past is observed from the expanded state of the universe, the object's observed value has a higher wavelength of light and lower frequency. This is the cause of the observed redshift.

As the asymmetry and volume of the Universe increased, the value of time per unit distance decreased. The current

value $1/(3*108)$ seconds/meter (the reciprocal of the velocity of light) is the representative current state of asymmetry of the Universe. Thus, the speed of light is nothing but the degree of asymmetry of the Universe, and it is a fundamental value of the current state of the Universe. The time value per unit distance of the 3-D universe has been decreasing over very long periods of time as the Universe expands. Additionally, the velocity of light regularly increases with the expansion of the universe when observed from the expanded stage of the universe. A decrease in time per unit length value results in an increase in entropy value. Since our Universe is expanding continuously, the time per unit length is decreasing. This is the reason for time appears to be unidirectional. Thus, time and entropy are functions of the degree of asymmetry. The increasing entropy property is due to continuous expansion of the Universe. In a 3-D universe, a photon appears to travel from one point to another, whereas when viewed from the O-dimension, it is already at those two points in the beginning itself. The phenomenon of light traveling is a property of the 3-D universe due to the presence of space and time, and it is different when observed from the O-dimension. A photon in a 3-D universe is a projection of a photon in O-dimension. The movement of photons in a 3-D universe is by virtue of the dynamics of the energy gap between two O-dimensional energy sources and the degree of asymmetry creation. This dynamics of vibration from external energy sources and degree of asymmetry lays the foundation of current laws of Physics.

Figure 5: Beginning of a 3-D Universe wherein a time parameter exists and subsequently an entropy.

EXPANDING 3-D UNIVERSE

Diameter of 3-D universe is D and time per unit length is T per Meter

(a)

Diameter of 3-D universe is 2D and time per unit length is (T/2) per Meter

(b)

Diameter of 3-D universe is 4D and time per unit length is (T/4) per Meter

(c)

Diameter of 3-D universe is 8D and time per unit length is (T/8) per Meter
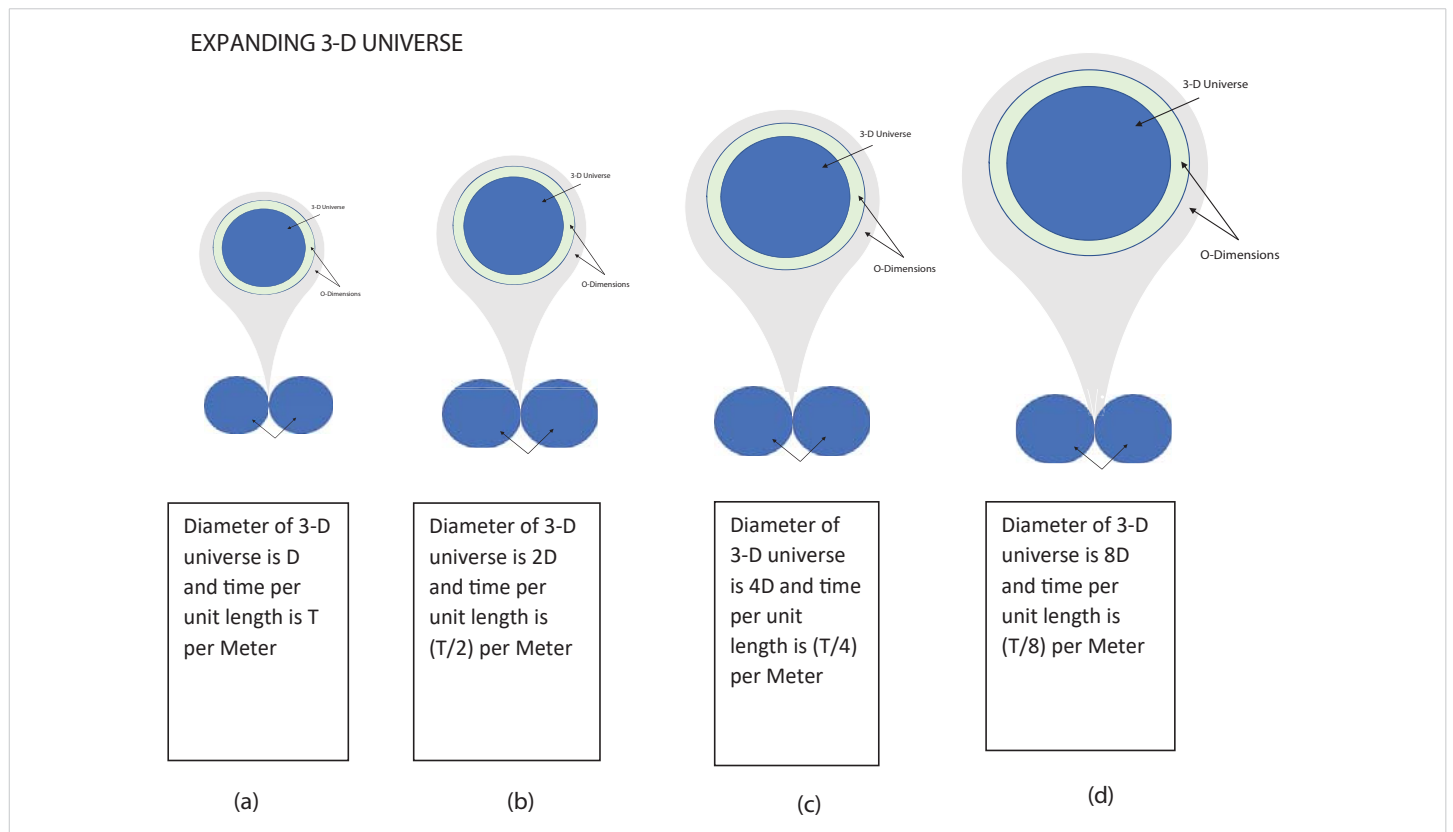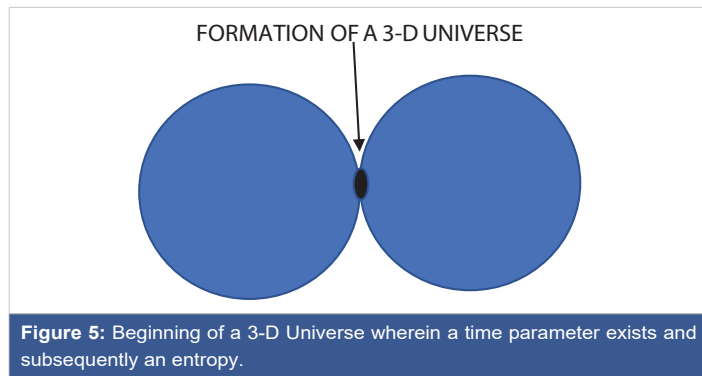
(d)

Figure 6: The Universe is shown at its 4 stages of expansion. The time value per unit length in the 3-D universe decreases as the universe expands.

The proliferation of asymmetry caused further expansion of the 3-D universe, or one can say that expansion caused an increase in asymmetry. Particles of this Universe that are in a vibrational motion are connected to two O-dimensions by means of energy lines (Figure 7). Energy from the O-dimensions is stored in the interwound or twisted form of energy lines, which impart this energy to the 3-D universe (Figure 8).

Small massless particles or particles with very low mass in the 3-D Universe lie on the boundary of the 3-D universe and O-universes and possess dual properties of the O-universe, such as timelessness, along with the properties of the 3-D asymmetric universe (space, time and entropy). Particles change their properties as they move across the boundary from one phase to another phase. When observed in a 3-D universe, these dimensions form a halo-like structure around each discrete particle as well as around the composite of particles and further around planets as well as the whole of the 3-D universe. The importance of this property in explaining quantum entanglement, speed of light, and wave-particle duality will follow in the next sections.

The 3-D universe generated has 3 Euclidean coordinates and the O-dimension with entropy and the existence of unidirectional flowing time. The unidirectional flow of time and entropy is due to the expansion and continuous increase in asymmetry of the universe. The space-time of Einstein's Universe is replaced by energy lines, as shown in Figure 9 below. It is proposed to use time as a field in a 3-D universe instead of a separate dimension.

Big bang

As shown in Figure 6, time has become increasingly smaller compared to the earlier universe as the Universe expanded. Therefore, today's 1 second is equivalent to almost 3000 years at the time of the origin of the Universe. When we observe the Universe in back time close to the beginning of the Universe, a period of 3000 years of expansion appears to have occurred in one second [18]. Is this illusion we call the Big Bang?

Massless Particles (Present on the boundary of the 3-D universe and O Dimensions. They are part of both dimensions and possess properties of both dimensions)

Figure 10 shows the formation of a larger 3D Universe, where the massless particles are present on the boundary of the 3-D universe and O Dimensions, and are part of both dimensions and possess properties of both dimensions. The Interaction between small massless particles gives rise to larger particles. Larger particles are part of only the 3-D universe and do not share properties of O-dimensions. If a massless particle is pulled away from the boundary of the 3-D universe and O-dimension, it loses its timelessness and obtains a particulate form.
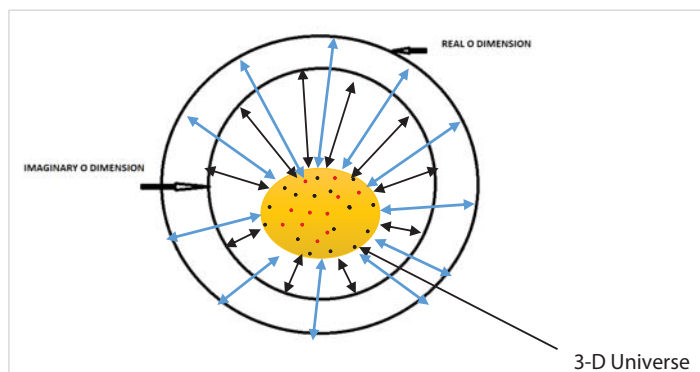

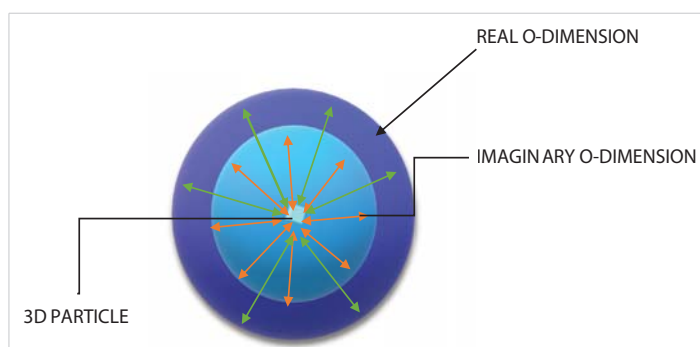**Figure 7:** 3-D Universe vibrating between two O-dimensions.

Figure 8: 3-D particle formed in between 2 O-Dimensions, the beginning of the 3-D universe.
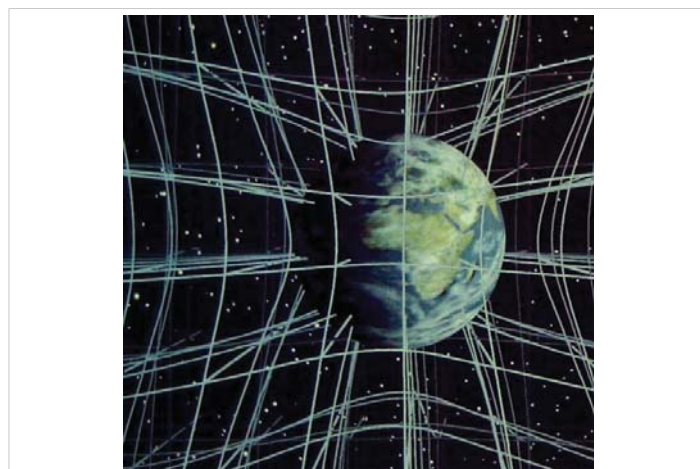

Figure 9: Picture of the energy line association with matter in a 3-D universe [17].

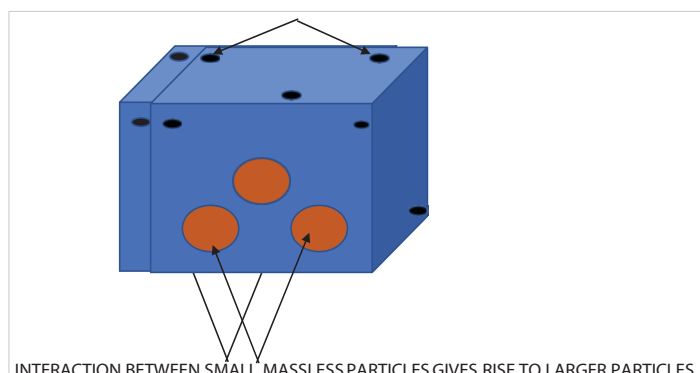INTERACTION BETWEEN SMALL MASSLESS PARTICLES GIVES RISE TO LARGER PARTICLES.

Figure 10: Formation of a larger 3-D Universe.

As per this theory, the energy source of subatomic forces is from an external energy source. All fundamental forces, such as electromagnetic, gravitation, weak force, and strong force, have external input of energy from O-dimensions.

To verify the new theory where the energy source for all the subatomic forces and subsequently the gravitational force is also external, a new model for the gravitational force is proposed. Gravitational force is calculated between the Sun and planets in our solar system as well as between Earth and the moon. The results of gravitational force are parallel to the existing values calculated with Newton's equation confirming the validity of the new theory

Gravitational force and new model

When two objects come closer, some of their energy lines are canceled and create an energy vacuum in the objects, as shown in the figure below. Red-colored conical sections of two objects are energy-starved regions caused by the shadow of each object on another object. Two red-colored sections of matter fall into the energy shadow region, and an energy vacuum is generated. This vacuum is the cause of the gravitational force (Figure 11).

According to the new model, as illustrated in Figure 11, the red-coloured cones of Matter are energy-starved regions of two objects R is the shortest distance between Object 1 & Object 2. Among the two spherical objects used, Object 1 is more massive than Object 2.

Then, the mass of the conical section in the energy shadow (shown in red) for object 1 is MCS1, and the mass of the conical section in the energy shadow (shown in red) for object 2 is MCS2, where,

D is the diameter of object 1, which is larger than Object 2, which is smaller in size and has diameter d,

Dx is the diameter of the bottom of the energy-starved energy cone of Object 1,

d_x is the diameter of the bottom of the energy-starved cone of Object 2,

The conical sections of the matter in red colour are in the shadow area of the external energy field. As gravitational force is proportional to the sum of masses of energy shadow cones.

If multiplied by the square of the speed of light "C" gravitational force is proportional to $(MCS1+MCS2)*C^2$

The new equation of the gravitational force is as follows:

Gravitational force = $2*K* (MCS1+MCS2)*C^2 * MCS2*((D/Dx^2) +(d/dx^2))$

But $D_x^2 = d_x^2$

Hence, Gravitational force = $2*K (MCS1+MCS2)*C^2*MCS2* (D+d)/ D_x^2$ (1)

When two objects come closer due to the cancellation of the energy lines of the two objects, distortion occurs in the lines of energy.

According to Equation 1,

MCS1 is the mass of the shadow cone of Object 1, which is starved for energy (Unit kg)

MCS2 is the mass of the shadow cone of Object 2, which is starved for energy (Unit kg) MCS1> MCS2.

K is a new gravitational constant $1.5711*10^{-35}$ kg^{-1}

C = Velocity of light $3*10^8$ m/s

R = shortest distance between two objects

Validation of theory

To verify the validity of the theory, equation no. 1 is proposed for the gravitational force. This equation is applied to the planetary system of our solar system as well as the Moon and Earth to check the validity of the new theory.
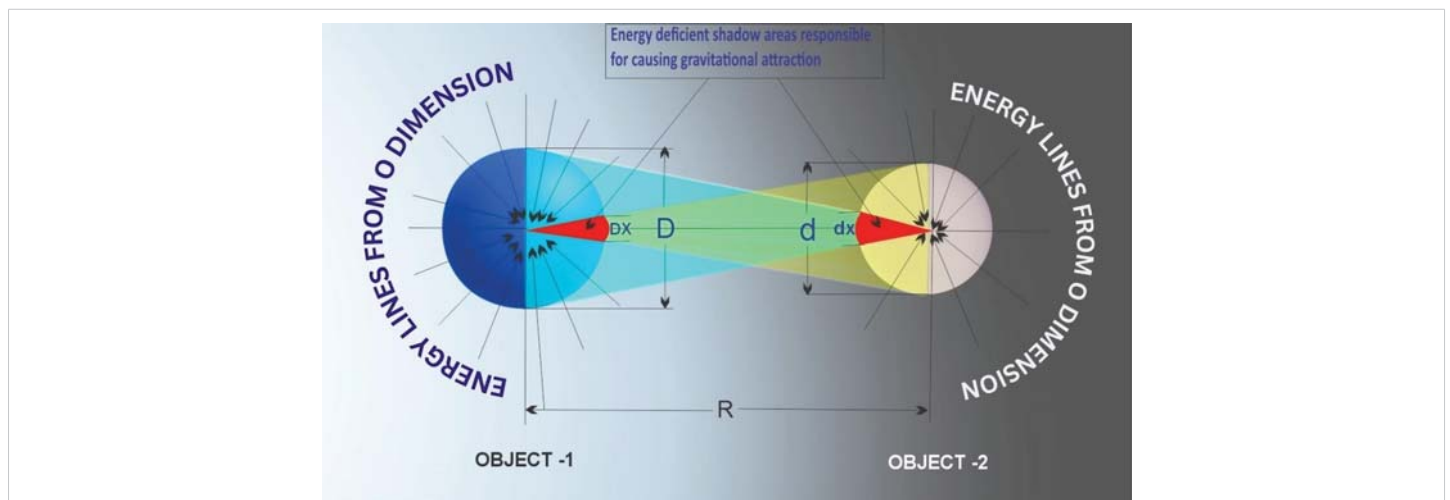

Figure 11: New Model for the Gravitational Force.

The results show that the calculated gravitational force values are in accordance with the existing values calculated with Newtonian theory. These calculations are performed to confirm the validity of this theory wherein the energy of shadow mass cones is converted into energy by multiplying it by the square of the speed of light. The results are within the accuracy limits of the data and support the proposed theory. Thus, $E=MC^2$ was used to calculate the energy of the starved portion in the shadow of the planets. The values match the gravitational force using the Newtonian equation. Thus, the strong force inside the energy-starved portion of planets is proportional to the gravitational force calculated by this theory and generates proof for the relation between the strong force and gravitational force. Additionally, it implies that the gravitational force is directly related to the strong force. This confirms that the particles of the 3-D universe exist by virtue of an external force.

The calculations are shown in Table 1.

The gravitational constant "K" is derived from these data. There is a small deviation between Newtonian values and these results as seen in Table 2. The accuracy of data (1,2) obtained from the internet may not be perfectly accurate. The second reason is that distances between the planets are taken from the data available on the internet. As shown in Figure 11, the energy lines connecting two objects are curved due to the energy vacuum generated. Light follows this curvilinear path. Hence, the data represent the distances represented by curved lines. The actual shortest distance will be less than the values available in standard data. This can lead to the inaccuracy of the results. Figure 12 above and its discussion also imply that the actual distance between distant planetary objects is less than the observed values as they vary with the time value of the expanding universe. The most important thing about this exercise is that these calculations prove the concept of having an energy source to our Universe being from outside is correct.

This principle will solve most of the mysteries. Einstein suggested exploring hidden variables of existing science theories to explain the strange behavior of quantum particles. This theory is an approach towards the same.

While discussing this theory with some people, they raised the question of why, if there is an external source of energy, we cannot detect it and why we cannot utilize it to solve the energy problems of our planet. The question raised was very interesting. An explanation for the question is as follows:

Energy lines store energy from external sources and subsequently impart this stored energy to matter. Transmission of energy from the external source to the particle of the 3-D universe occurs through the O-dimension. The O-dimension is an integral part of every particle as well as the entire 3-D Universe. O-Dimension exists like a halo around every matter. There does not appear to be any point where the energy could be tapped from. Small massless particles lie on the boundary of the O-dimensions and 3-D universe. Energy is transmitted directly from the O-dimension to the subatomic particles. Nevertheless, further investigations based on this theory could lead to the possibility of utilizing external energy to solve the energy problem of our planet. At this stage, only the possibility appears that nuclear energy could be tapped by controlling the external energy source instead of performing the fission reaction. Even if this possibility is realized, it will change the energy scenario of our planet.

Hans Hermann Otto [21,22] further modified the equation for the gravitational force of the new theory by incorporating the Universal gravitational constant: $6.743*10^{-11}$ m3 kg^{-1} s^{-2} in equation 1. The modified Gravitational Force equation is

Gravitational force=$2*7.978975*G*MCS1*MCS2/(Dx/2)^2$. ----(2).

Table 1: Gravitational Force calculation by the new theory and comparison with gravitational force by Newton's formula: Column F/ F Newton shows how well the model fits with the Newtonian data.

C:Velocity of Light+ 3*10^8 M/S; K(Gravitational Constant)=1.64447*10^-35 Kg^-1													
Star/ Planet	Mass Kg M	Density kg /m3	Diameter METERS	Distance Meter From Sun or Earth	Diameter of bigger cone bottom *Dx*	Diameter of smaller cone bottom *dx*	Volume of sphere section of big Cone	Volume of sphere section of small Cone	Mass of Bigger cone	Mass of smaller cone	F	F newton	F/F newton
Sun	1.989E+30	1410	1.392E+09										
Mercury	3.285E+23	5430	4879500	57419000000	59146.48461	59146.48461	6.37112E+17	2.23341E+15	8.98327E+20	1.21274E+19	1.32849E+22	1.30638E+22	1.016926467
Venus	4.868E+24	5243	12107000	1.08E+11	78022.88889	78022.88889	1.10867E+18	9.64281E+15	1.56322E+21	5.05572E+19	5.53828E+22	5.53822E+22	1.000009734
Earth	5.972E+24	5510	12742000	1.5205E+11	58325.76126	58325.76126	6.19553E+17	5.67125E+15	8.7357E+20	3.12486E+19	3.42312E+22	3.54146E+22	0.966583157
Mars	6.417E+23	3933	6779000	2.1794E+11	21649.00431	21649.00431	8.53559E+16	4.15682E+14	1.20352E+20	1.63488E+18	1.79092E+21	1.639E+21	1.092693792
Jupiter	1.898E+27	1326	139822000	7.4284E+11	131005.4817	131005.4817	3.12562E+18	3.13959E+17	4.40713E+21	4.1631E+20	4.56045E+23	4.16494E+23	1.094960785
Statern	5.683E+26	687	116460000	1.4761E+12	54912.37721	54912.37721	5.49159E+17	4.59447E+16	7.74314E+20	3.1564E+19	3.45767E+22	3.68628E+22	0.93798335
Uranus	8.681E+25	1270	50724000	2.946E+12	11983.67413	11983.67413	2.61539E+16	9.53042E+14	3.6877E+19	1.21036E+18	1.32589E+21	1.39852E+21	0.948063985
Neptune	1.024E+26	1640	49244000	4.4742E+12	7660.324527	7660.324527	1.06869E+16	3.78065E+14	1.50686E+19	6.20026E+17	6.79206E+20	6.68479E+20	1.016048047
Pluto	1.309E+22	1880	2376600	5.71E+12	289.6871454	289.6871454	1.52796E+13	26093536659	2.15442E+16	4.90558E+13	5.37251E+16	5.54741E+16	0.968471193
Moon	7.348E+22	3340	3474800	384400000	57590.923	57590.923	5.52925E+15	1.50795E+15	3.04662E+19	5.03654E+18	1.98334E+20	2.027E+20	0.97845974

G is the universal gravitational constant: 6.743*10^-11 m^3 kg^{-1} s^{-2}. Gravitational force calculations as per the modified equation are given below in Table 3.

Dark matter

The existence of dark matter was proposed as the observed velocities of the objects in galaxies and their masses did not match with each other. If the objects had to stay in their stationary orbits, the predicted masses of Galaxies had to be higher than the measured ones. Hence, the concept of dark matter came into existence. This dark matter helps to prevent galaxies from disintegrating [23].

Current theory proposes that energy-starved matter is responsible for the gravitational force. In Figures 11 and 12, red-colored conical sections are energy-starved matter. Their mass multiplied by the square of the velocity of light is proportional to the gravitational force. Energy lines are canceled close to the material objects in space and create an area that is devoid of energy lines. Figure 13 shows high energy concentration around material objects and the creation of low energy intermittent regions in between material objects.

These low-energy regions are energy vacuums and have the property of exerting a force of attraction on the material objects in the space. The deficiency of mass, which leads to the dark matter concept, is due to uneven energy densities in space. The energy-deficient spaces in the Universe that exhibit the force of attraction on the Universal objects lead to the concept of Dark Matter.

Therefore, there is no such thing as dark matter, but it is the force exerted by the energy-deficient regions in the spaces caused by the uneven distribution of material objects. Furthermore, due to the cancellation of energy lines, some energy lines in the space adjacent to the energy vacuum area become curved. Photons travel in space along the energy lines. If energy lines are curved, observed distances between two objects appear more than what it is in reality.

Similarly observed distances between galactic objects could be more than the shortest distances in reality. The discussion in Figure 6 above also suggests that decreasing the time value per unit distance in the expanded universe leads to lesser distances between distant galactic objects than what is observed. We calculate the energy of rotating objects by the formula ($F = MR\omega^2$). In reality, R, the shortest distance between two objects, is less than the one measured by visual means or by any other means. Calculation of the centrifugal force using virtual distances will result in a higher value than the calculation performed with the shortest distance value. Hence, the predicted centrifugal force value is higher than the value in reality and could be a cause of reasoning for dark matter. It is necessary to explore whether these two possible reasons for dark matter account for five times.

Quantum entanglement

Small massless particles reside on the boundary of the 3-D universe and 0-dimension. They are timeless and omnipresent. This means that they exist at almost every point on the

Table 2: Data [19,20] showing the calculation of the gravitational force by the proposed model and comparison with the Newtonian gravitational force. Column F/F Newton shows how well the model fits with the Newtonian data.

Star/ Planet	F = 2K((msc+mpc)*C^2*mpc* ((Dia of Planet 1+ Dia of planet 2)/Dx^2	F Newton	F/F Newton
Sun			
Sun / Mercury	1.25159E+22	1.30638E+22	1.016926467
Sun / Venus	5.34218E+22	5.53822E+22	1.000009734
Sun / Earth	3.31438E+22	3.54146E+22	0.966583157
Sun / Mars	1.68968E+21	1.639E+21	1.092693792
Sun / Jupiter	5.08788E+23	4.16494E+23	1.094960785
Sun / STATERN	3.61235E+22	3.68628E+22	0.93798335
Sun / URANUS	1.31472E+21	1.39852E+21	0.948063985
Sun / NEPTUNE	6.78221E+20	6.68479E+20	1.016048047
Sun / PLUTO	4.99649E+16	5.54741E+16	0.968471193
Earth / MOON	2.13571E+20	2.027E+20	0.97845974

Table 3: Data [19,20] showing the calculation of Gravitational force by the proposed model and with the incorporation of Universal Gravitational constant in the equational force calculation (Equation 2).

| C:Velocity of Light+ 3*10^8 M/S; G(Gravitational Constant)=6.743*10^-11 m3 kg−1 s−2													
Star/ Planet	Mass Kg	Density kg /m^3	Diameter METERS	Distance Meter From Sun or Earth	Diameter of bigger cone bottom dx	Diameter of smaller cone bottom dx	Volume of sphere section of big Cone	Volume of sphere section ofsmall Cone	Mass of Bigger cone M	Mass of smaller cone m	F = 2*7.978975*G*M*m/ (Dx/2)^2	F newton	F/F newton
Sun	1.989E+30	1410	1.392E+09										
Murcury	3.285E+23	5430	4879500	57419000000	59146.48461	59146.48461	6.37112E+17	2.23341E+15	8.98327E+20	1.21274E+19	1.32645E+22	1.30638E+22	1.015362916
Venus	4.868E+24	5243	12107000	1.08E+11	78022.88889	78022.88889	1.10867E+18	9.64281E+15	1.56322E+21	5.05572E+19	5.53099E+22	5.53822E+22	0.998694237
Earth	5.972E+24	5510	12742000	1.5205E+11	58325.76126	58325.76126	6.19553E+17	5.67125E+15	8.7357E+20	3.12486E+19	3.41862E+22	3.54146E+22	0.965311632
Mars	6.417E+23	3933	6779000	2.1794E+11	21649.00431	21649.00431	8.53559E+16	4.15682E+14	1.20352E+20	1.63488E+18	1.78856E+21	1.639E+21	1.091256371
Jupiter	1.898E+27	1326	139822000	7.4284E+11	131005.4817	131005.4817	3.12562E+18	3.13959E+17	4.40713E+21	4.1631E+20	4.55445E+23	4.16494E+23	1.093520382
Statern	5.683E+26	687	116460000	1.4761E+12	54912.37721	54912.37721	5.49159E+17	4.59447E+16	7.74314E+20	3.1564E+19	3.45312E+22	3.68628E+22	0.936749448
Uranus	8.681E+25	1270	50724000	2.946E+12	11983.67413	11983.67413	2.61539E+16	9.53042E+14	3.6877E+19	1.21036E+18	1.32414E+21	1.39852E+21	0.946816822
Neptune	1.024E+26	1640	49244000	4.4742E+12	7660.324527	7660.324527	1.06869E+16	3.78065E+14	1.50686E+19	6.20026E+17	6.78313E+20	6.68479E+20	1.014711452
Pluto	1.309E+22	1880	2376600	5.71E+12	289.6871454	289.6871454	1.52796E+13	26093536659	2.15442E+16	4.90558E+13	5.36544E+16	5.54741E+16	0.967197185
Moon	7.348E+22	3340	3474800	384400000	57590.923	57590.923	5.52925E+15	1.50795E+15	3.04662E+19	5.03654E+18	1.97099E+20	2.027E+20	0.972369844
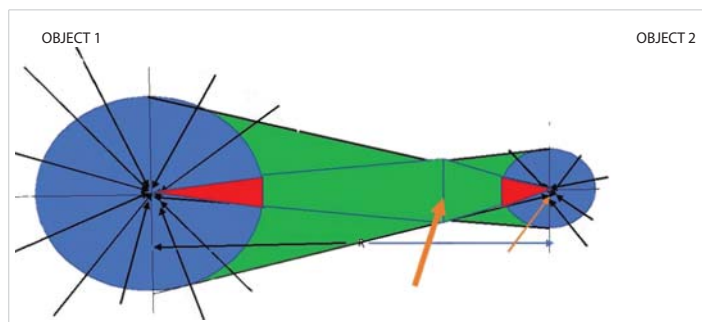
Figure 12: Matter deprived of external energy is responsible for gravitational force. The green portion is the space devoid of energy lines. The area shown in red is the matter falling in the shadow area.
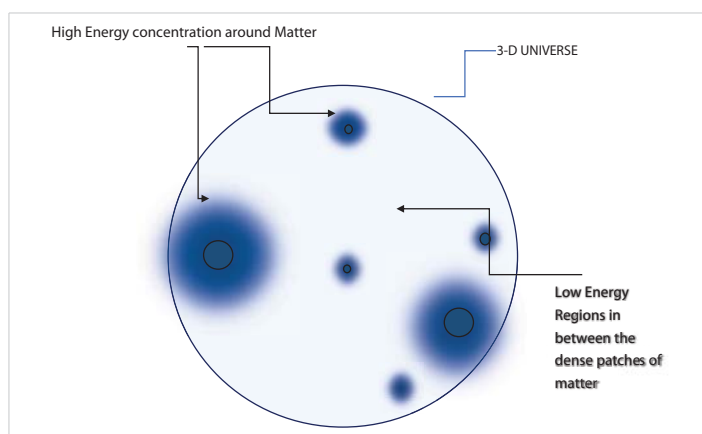

Figure 13: Low-energy regions in space give rise to the concept of dark matter.

circumference of the 3-D universe. The observer inside the 3-D universe sees photons/electrons traveling due to the existence of time in the 3-D universe. The traveling of light between two points and its speed is a property of a 3-D universe. At the boundary of the O-dimension and 3-D universe, separation of entangled particles does not take place, while in the 3-D universe, the particles are observed as separated from each other by a large distance. This explains the unusual behaviour of entangled particles. Entanglement is observed only in the case of massless or very low-mass particles, as they exist on the periphery of the contact surface of the O-dimensional and 3-D universe. The existence of particles at the boundary of the O-dimension and 3-D universe gives the dual property of both dimensions to the particles. When observed from the 3-D universe, it has a particulate property with time associated with it, whereas, from the O-dimensional side, it is a timeless omnipresent particle. Therefore, entangled particles residing on 2 opposite sides of the 3-D universe are at the same original position in the O-dimension. Distance and time are virtues of the 3-D universe. Distances and separation of particles are not taking place in the O-dimension. The separation of particles takes place in the 3-D universe and not in the O-dimension. Hence, quantum entanglement is observed as distance separation is not taking place in the O-dimension. Obviously, if we observe the transfer of the signal from one entangled particle to another entangled particle faster than the speed of light, it is not surprising, as separation in a 3-D universe is a property of the 3-D universe, although the particles are not separated in the O-dimension [24].

Entanglement

Transmission of the signal from one entangled particle to another one takes place instantaneously in the O-Dimension, and the results are visible instantaneously in the 3-D Universe (Figure 14). Yes, Einstein is correct in this case too. The principle of locality is not violated, as separated quantum particles are in the locality of each other in the O-dimension. The appearance of instant results in the 3-D dimension is a manifestation of what has happened in the O-dimension.

Double slit experiment and wave-particle duality

Photon in double slit experiment appears to be traveling from the source to the slits and further to the screen as we are experimenting in the frame of a 3-D Universe. As per current theory, photons exist on the circumference of the 3-D universe, and the O-dimension has the property of timelessness and is omnipresent. As per this theory photon, at the time of the start of its journey towards the double slit and screen, is already present at these three points (Starting point, double slit and screen) [25]. Observation in a 3-D universe shows the photon as traveling due to the existence of a time parameter in the 3-D universe. When we attempt to observe the photon in a 3-D universe using a photon detector either before hitting the screen or near the double slit, we pull it into the 3-D universe completely from the interphase of the 3-D universe and O-Dimension, and then it becomes exclusively a part of the 3-D universe; its timeless and omnipresence property is lost, and it becomes a particle in the 3-D universe. Hence, any observation of a photon in a double-slit experiment makes the photon an absolute part of the 3-D universe, and it is then a particle (Figure 15).

The left figure represents a double-slit experiment without any detector. Photons are present at the boundaries of two O-dimensions and the 3-D universe. The same photons are projected in a 3-D universe. Two O-dimensions impart vibrations in the photons on the boundary, and this vibration is transmitted as a wave in a 3-D Universe.

When the Detector for Photons is introduced near slits, photons are no longer part of the O- dimensions, and they are solely part of the 3-D universe and show a particulate form. Photons are pulled inside completely in the 3-D universe, and their properties by virtue of O-dimensions are lost.

Dark energy

When distant galaxies are moving away from each other at very high acceleration, a conclusion was drawn that there must be an additional energy than the known one. This additional energy was termed dark energy. Our current theory proposes an external source of energy that drives the Universe. Hence, it justifies the existence of additional energy in the Universe

and explains the Dark energy. The whole Universe vibrates through an external source, and hence, dark energy is the prime energy source of our Universe. *Observed dark energy is a manifestation of a small part of dark energy, which drives the universe.* Energy lines in a 3-D universe contain and carry energy from an external source. *Energy lines are nothing but dark energy* [26].

Holographic universe and consciousness: If any information exists on the periphery of O-dimensions, it can be transmitted to a particle in the 3-D field generated by interactions with the O-dimension. This information can be transmitted to the 3-D universe along with external energy. This information gained by particles can give rise to a holographic Universe (Figure 16).

One can explore the possibility of explaining consciousness using this theory. Data for consciousness are on the surface of O-dimensions. These data are transmitted to the particles of the 3-D Universe. Recipient particles or objects can have different filters by virtue of which variations of consciousness exist in recipient objects.

Uncertainty of measurements: This theory can give more understanding of the uncertainty principle, as small particles possess timeless and omnipresent properties of the O-dimension as well as the time, momentum, and entropy properties of the 3-D universe. Particles can jump from the 3-D universe to the periphery of two O-dimensions back and forth. The presence of particles solely in the 3-D universe wipes out its wave property. When the position of the particle is determined, it becomes solely a part of the 3-D universe, and its waveform is lost, leading to uncertainty in momentum measurement. Work has been initiated to explain Quantum Physics using a newly proposed theory. Two external dimensions cast two universes having superposition on each other. One Universe is real and another universe is in the form of Hilbert space.

Superposition: The existence of small particles on the boundary of the O dimension and 3-D universe is proposed. Two O-dimensions are proposed, *viz.* 1. O-Real dimension and 2. O - Imaginary dimensions. Particles residing on the periphery of the O-dimension and 3-D universe possess dual properties, *i.e., the* property of the O-dimension and the property of the 3-D universe. The energy transmission from two O-dimensions to particles results in the addition or real wave function from the real O-dimension and the complex vector of wave function from the imaginary O-dimension. As explained in the section on Double slit experiment observation brings superimposed waves completely in a 3-D universe and in a particulate form. This can open more explanations for Schrodinger's equation and further its understanding.

Conclusion

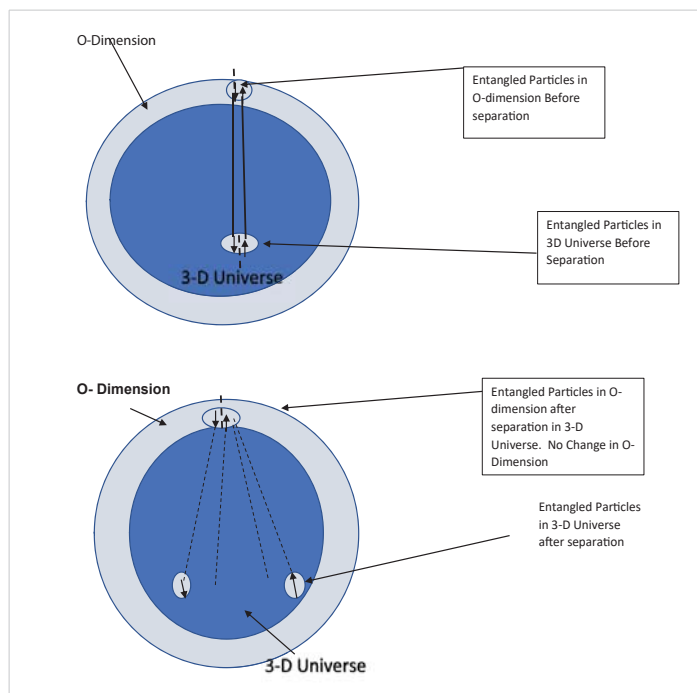This new theory has opened the doors to the fol lowing:

Figure 14: The instant transfer of signal between two entangled particles in a 3-D universe at speeds greater than light is due to their unseparated existence in the O-Dimension. Top: Entangled Particles on the Boundary of O Universe and 3-D Universe. In O-Dimension they are not separated from each other even though they get separated when observed in 3-D Universe. Bottom: Entangled Particles separated in 3D Universe but their position in O-Dimension is unaltered.
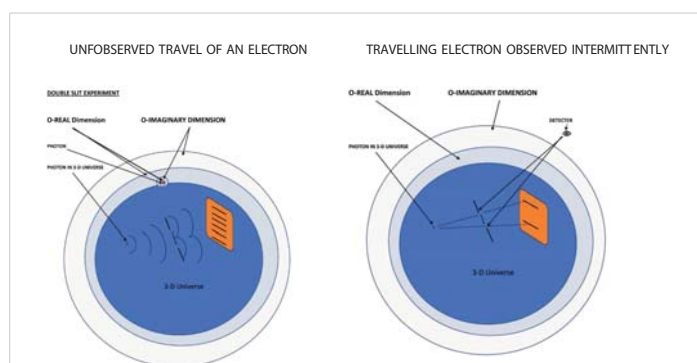

Figure 15: Unobserved travel of photons and observed travel of photons in a 3-D universe. Left: Unobserved travel of an electron. Right: Travelling electron observed intermittently.

i. Possibility of utilizing the external source of energy driving the Universe to solve the energy problems of our planet

ii. Theory of Origin of the Universe and a new vision of Big Bang

iii. Dark matter concept justification and reasoning

iv. Dark energy solution

v. Wave-particle duality explanation

vi. Reasoning for particle entanglement

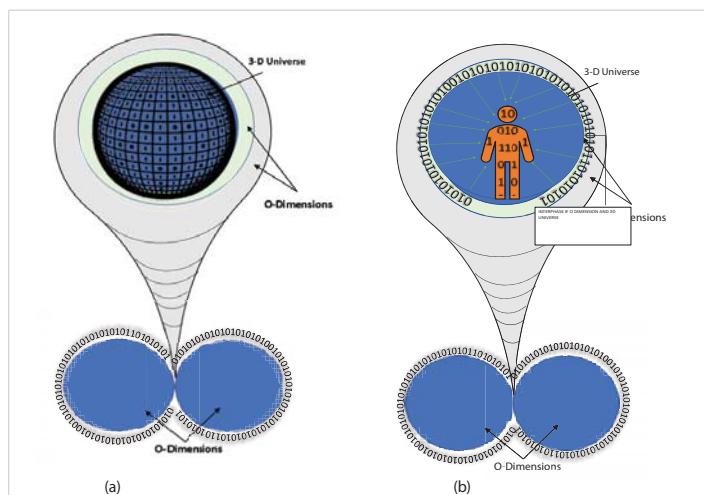vii. Foundation for developing Holographic universe theory

Figure 16: Concept of holographic universe and its possibility from the perspective of current theory. (a) Information on the surface of the O-Dimensions is transmitted to the 3-D Universe; (b): Information for consciousness is transmitted to the objects in the 3-D universe.

viii. Superposition

ix. Uncertainty Principle.

This theory brings an association between the Gravitational Force and the other 3 forces, *viz*. Weak force, strong force, and electromagnetic force. This theory brings gravitational force and quantum physics under one umbrella.

This is the opening of a new door for physics, and more work on this principle will open vast new scientific areas. Quantum physics could develop at a very fast speed due to the understanding of correct basic principles. Even fantasy claims can be avoided due to a proper understanding of the exact basics.

The hypothesis proposed in this work has been substantiated with the help of a new Gravitational force model and the results support the hypothesis. However, there is more work needed to establish the theory. The authors are working on writing quantum physics based on this theory as a new beginning.

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