

The Comprehensible Universe

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Abstract -- The Universe perhaps may look and can be modeled as Earth like body and thus the origin of different natural features and their functions, based on certain physical laws, on the Earth can be compared and explained with formation of different features and their functions, based on somewhat same processes and physical laws, in the Universe.

On the Earth there have had been: i) formation of oceans, mountains and rivers, ii) river water flow along with sediments from snow covered mountainous region and their non – settlement due to high velocity in the steep sloping mountainous regions consisting of narrow gorges and gullies and expansion and settlement of the same water along with sediments as soon as the river leaves the mountainous region and starts flowing in the plain region due to reduction in velocity after covering a long distance with passage of time, except that the river doesn't flow at the speed of light and the temperature of water increases with passage of time and large distance covered, iii) rotation and movement of silt, sand and boulders of rocks within river channel during high velocity of water in the sloping regions between the source and its final destination, the ocean, except that the river, which contains silt, sand and boulders doesn't rotate or circle around its source, a mountain, since the mountain itself doesn't rotate, iv) the river water along with sediments, during reverse cycle of erosion, transportation, and deposition, will again flow and fan out along with sediments in already expanded regions, and v) the river along with sediments will finally rush with high velocity to settle down in the original source region, i.e. preexisting mountainous region.

Similarly, in the Universe there had been: i) Big Bang singularity and in turn propagation of particles with super velocity by the electromagnetic force intertwined with gravitational waves and non formation of galaxy having stars, planets and other celestial bodies during the time and reach of the inflation, ii) expansion of the Universe and in turn formation of galaxies having stars, planets, and other celestial bodies in the reach between outer boundary of the inflation and the South Pole of the Universe due to decrease or reduction in the speed and temperature of the particles with passage of time and large distance covered, iii) rotation and movement of galaxies, stars, planets etc in the matter and energy of spacetime fabric, in the reach of expansion of the Universe while remaining within the circular waves of the DBOSG, iv) the galaxies having stars, planets, etc, during reverse cycle or fate of the Universe will expand in already expanded region of the Universe, which happened after Big Bang singularity. In this present expansion of the Universe all the galaxies are moving, simultaneously, continuously and uniformly toward DBOSG due to repelling force of the matter and energy of spacetime fabric, while remaining within the gravitational waves of DBOSG, v) the galaxies having stars, planets, etc will finally rush with high velocity for contraction or destruction in the region of Big Bang singularity i.e. the region of DBOSG. In this Universal geometry or configuration the gravitational waves of stars, planets and DBOSG are intertwined, as such the spacetime is also finite in this Universal gravitational system.

The great low marine basins, which were developed as great savannahs between Early Cretaceous and Late Pleistocene time were responsible for overall development of our ancestors. After Middle Miocene our ancestors left living in the trees of the forest and started moving vertical with head raised up. This was turning point for all round development of our ancestors.

All the galaxies, including DBOSG are resting within the matter and energy of spacetime fabric, except that the spacetime is not resting in any dense stratum. Large life forms can't evolve and exist at the bottom of the blue region of the Universe due to existence of high pressures, and super gravity and super gravitational energy/waves, respectively. There should be a region or body, always both on the Earth and in the Universe as a natural storehouse to store the things that get disordered in their life cycle.

The Universe, at present, is expanding and this will continue till it is negotiating the reach of already expanded region of the Universe and shall contract after it approaches the inflation or super gravity zone of DBOSG, i.e. the region of Big Bang singularity.



1 INTRODUCTION

We have had been trying to know that whether the way lives are existing on this blue planet, Earth can also exist in the similar way in other regions of the Universe. We are daily in the contact of the nature,

and try to understand the way the things, both animate and inanimate that are moving or stationary, perform their actions just by chance or on the basis of their will or happenings at

atomic/subatomic scale that is based on scientific determinism.

The inanimate celestial bodies, like Sun, Earth and Moon, which have no mind, and have had been instrumental in the evolution of lives and their survival, have in strict sense, sincere, uninterrupted performances since their formation, whether or not a sacrifice or an offering have had been made to please them for their mercy upon us.

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For an example, so long the Sun rays will fall on the surface of the sheet of water, ocean the clouds will be generated, which in turn will vaporize, condense, precipitate and saturate the Earth's surface, causing production of lives both fauna and flora, i.e. food for all, and also being source of potable water for drinking, irrigation and power. The celestial bodies and matter and energy in the Universe do not do any

action or work or a favor for a person, or a village, or a city and or a country, but perform their respective duties, sincerely and continuously and uninterruptedly without any interest. These bodies act or are governed by the fundamental laws or forces of the nature, which are transmitted by the matter particles existing within them. The laws of physics are present and working all the time everywhere in the Universe, since there is continuous and uninterrupted transmitting of forces, i.e. force carrying particles from matter particles within an atom.

2 FORCES RESPONSIBLE FOR CREATION AND MOVEMENT OF CELESTIAL BODIES

There are following four forces of the nature, which have had been responsible for creation and movement of celestial bodies in the Universe: i) Strong nuclear, ii) Electromagnetic, iii) Weak nuclear, and iv) Gravity. It has been found that the speed of the electromagnetic wave is equal to the speed of light and the gravitational waves are tied to the electromagnetic waves, therefore the speed of

the gravitational waves will also be equal to the speed of light, i.e. about 300,000 kms a second.

3 CELESTIAL BODIES AND THEIR FORCES INVOLVED DURING ROTATION AND MOVEMENT OF OTHER CELESTIAL BODIES

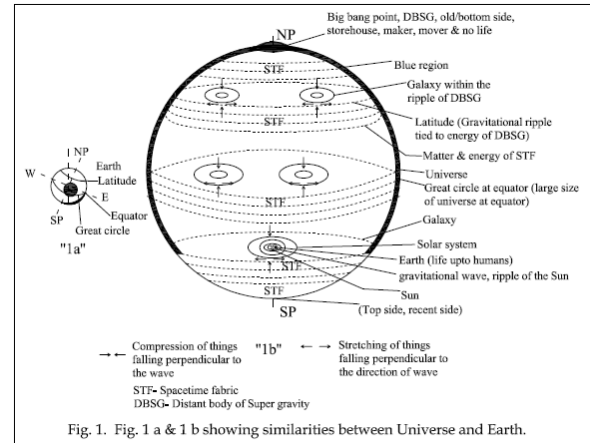
There are matter and energy in the spacetime fabric, stars, planets and satellites, etc within different galaxies in our Universe. All are moving under more than certain critical speed since their formation. The galaxies are rotating and moving toward DBOSG.

3.1 Matter and Energy in the Spacetime Fabric

The spacetime is having following most important properties- i) the particles of matter and energy (These were distributed throughout the Universe at the time of Big Bang singularity that happened at the present location of DBOSG. The matter and energy of the spacetime fabric are similar to the ocean water, which is originated due to cooling of the gases emanated from the hot Earth.) in the spacetime may be aligned along the gravitational

waves of the celestial bodies, including DBOSG, similar to reaction by iron filings along the force field of a bar magnet; this may be reason that the particles of spacetime fabric in the entire Universe are believed to be of thin pieces of string having only length; thus becomes one of the artists to receive the gravitational waves of some other artist, like Sun or any activities or information and propagate or transfer them, smoothly and uninterruptedly to another artist, like Earth for further action (i.e. rotation and movement of the Earth); ii) the particles of matter and energy are so dense and closely spaced that they make a continuous medium or agency by evenly distribution of them, and characterized by density, movement and temperature, throughout the Universe, wherein the spacetime is intertwined, like a fabric or a sheet of bed, iii) worthy of converting themselves into space and time and vice versa as per the shape and size of the celestial bodies resting or passing through them due to their behavior or configuration like infinitely thin pieces of vibrating strings having only length; at the outer surface of the celestial body, the matter and energy of

spacetime fabric will align in curved manner (due to stretching of the things falling perpendicular to the direction of the gravitational wave) and change into time and will be compressed due to falling perpendicular to the wave and change into space [4], and iv) exerts an upward force to the celestial bodies resting or moving on it, similar to ocean that gives an upward force to a ship that stay or move in it (fig. 1). In the absence of repelling upward force to the celestial bodies, the expansion of the Universe can't be possible. So, the role of the spacetime fabric is most important and thus in the absence of the spacetime fabric there will be nothing existing and happening in the Universe; or rather the Universe will not exist. "Stephen W Hawking [7] writes, but in 1998 observations of very distant supernovas revealed that the Universe is expanding at an accelerating rate, an effect that is not possible without some kind of repulsive force acting throughout space" [206].



3.2 Distant Body of Super Gravity (DBOSG)

The Universe at the Big Bang itself was zero size or infinitesimally small, infinitely dense, hot, no room for any events to happen in, rotating at infinite speed and glowing white hot in which the particles were moving at quantum state and causing Super gravity. The outside region was very cold, dark, and nothing to happen due to absence of any matter and energy. (The white hot appearance was due to wave like character of the particles within the tiny size of the Universe.) The light and heat generated inside the hot point could not escape due to Super gravitational attraction, thus breaking down all the rules, laws, and regulations of common perception.

If we trace the geological history of the rock formation on the Earth, by adopting the top down approach, we come to a conclusion that things were

at one point [2]. Similarly if we trace the cosmological history we come to a conclusion that about ten or twenty billion years ago, the Big Bang really happened -- the event that began our Universe. " Stephen W Hawking [6] writes, at this time the Universe would have contained mostly photons, electrons and neutrinos and their antiparticles, together with some protons and neutrons" [129]. Why it happened can be explained by physical and other changes that are happening on the Earth. We know that snow cover / deposit on the mountain can't melt and flow the resulting water as a river or stream unless it is subjected to:

i) Temperature (The temperature is simply a measure of the average energy of the particles.)

and / or

ii) Some external forces.

Since there was no resistance from the outside uniform cold and dark region located in the immediate adjacent vicinity of the infinitesimally small, infinitely dense and hot cosmic mathematic point, it was all due to increase in temperature of the particles having inherent electromagnetic force tied with Super Gravitational energy / force that caused

inflation in the immediate and adjacent outside region and dispersed the matter and energy in a manner of field due to non - resistance from the outside region.

The DBOSG, perhaps, remnant of Big Bang singularity, is made up of matter and energy and may be located at the end or beyond blue region of our observable Universe and due to its Super gravity is cut off from the rest of our Universe. So, this body was later converted, perhaps into a star like our Sun that may be rotating at infinitely high speed or at quantum state and causing gravitational waves intertwined with electromagnetic force / energy in the spacetime fabric from North Pole to South Pole of the Universe, by following the law of Inverse Square. "Carl Sagan [1] writes, no gravity must decrease with distance, which is why a comet or a planet moves slowly when far from the Sun and faster when close to the Sun --- the gravity it feels is weaker the farther from the Sun it is" [56]. The gravitational waves of DBOSG may be affecting all forms of energy in the universe. The propagation or transmitting of gravitational waves from the source,

i.e. DBOSG, to the receiving object or end will depend upon:

1. There should be space and / or medium to travel/ propagate the waves from one end i.e. source to other end.

2. The source should be of supergravity to propagate the waves through the spacetime fabric from North Pole to South Pole of the Universe, covering all the galaxies from their one end to other end.

3. The source must rotate at infinitely high speed to transfer the gravitational waves intertwined with energy through matter and energy of spacetime fabric up to the last galaxy at the far end, like our own milkyway galaxy.

If these celestial bodies had been in rest then there would have been absence of waves or ripples in the spacetime fabric. This phenomenon can be explained by different state of relationship between an object and the water body on the Earth. It has been observed that the ripples or waves are not generated when an object is in standstill or in rest in a pond or lake. But, when an object, like stone is thrown into a pond, the circular ripples or

waves are generated and propagate parallel to outer surface of the stone, till the exhaust of power of force applied by the stone to the water body at the point and time of hitting the pond. Here, in the case of a stone hitting the pond, if the length of pond is not sufficient enough to accommodate the ripples then the ripples will bounce back from the last end of container, which may be hard, toward the point of emanating of the ripples. But, this is not in the case of the Universe, since here the spacetime fabric is infinite and without boundary or edge therefore there is no restriction in propagating the waves from the point of emanating to other distant end of the Universe.

Nevertheless, when an object rotates continuously, then there are generation and propagation of continuous and uninterrupted ripples or waves parallel to outer surface of the object. So, for continuous rotation of the celestial bodies the source must rotate continuously. And for continuous rotation of all galaxies in the Universe, the source, the DBOSG must rotate at infinite high speed, otherwise the simultaneous rotation of all galaxies, from their one end to other end, in

the Universe can't be possible. By this way the waves can exist in the direction of propagation at each instant of time, from North Pole to South Pole of the Universe and covering from one end to other end of all galaxies, wherein a particle occupies one point of space at each instant of time. So, as one can't separate the river water coming from the source and also already existing in the river channel, similarly one can't separate the waves propagating from the DBOSG and the waves already existing right from the Big Bang singularity. Since the gravitational waves produced by all forms of energies, including mass, travel in the form of ripples or circles or fields therefore any object coming in its way will be affected, like sensation of terrible heavy weight and solidity hanging on our hand by touching a live wire, which is nothing but electromagnetic force or wave or field that causes distortion or curvature or warp by its thrust or pressure in the area of the objects falling in its way.

All the ripples or waves or circles generated by the DBOSG in the matter and energy of the spacetime fabric and having galaxies from North Pole to South Pole of the Universe will mark out a

cone whose tip will be at the place and time at which the Big Bang singularity happened or at the place of the DBOSG. In the absence of continuous ripples or waves that have had been propagating right from the time of Big Bang singularity and also from present DBOSG, the existence of galaxies and their movement due to expanding Universe toward DBOSG is not possible, because for simultaneous movement of all the galaxies, from their one end to other end, these galaxies have to be within a ripple or wave of DBOSG.

Thus the galaxies having stars, planets and other celestial bodies are resting in the matter and energy of the spacetime fabric, which in turn are aligned along the gravitational waves of the DBOSG. This is similar to the ships resting in the ocean, which in turn rests on a massive and dense geological stratum. Therefore, as the ship stays and moves in the ocean, similarly the galaxies having stars, planets, and other celestial bodies rotate and move in the matter and energy of the spacetime fabric. If the DBOSG really exists and radiating its gravitational waves tied to energy then the convexities of all curved geometry in the Universe,

made by it in the spacetime fabric should be towards top side, i.e. towards us. As a result, the different galaxy will be within different ripple or curved geometry in the spacetime fabric in the Universe, made by the DBOSG.

So, though the Universe is not infinite and the spacetime don't have any boundary or edge, but due to existence of all the galaxies, from the outer boundary of inflation to South Pole of the Universe, within the gravitational waves of the DBOSG, the spacetime is also finite in this configuration or geometry; it will be similar to bending of spacetime around the Earth, but without boundary or edge.

The Universe, as a whole, perhaps may look and can be modeled as Earth like body, having latitudes at constant distance from North Pole to South Pole with a great circle or latitude at the equator [6]. Thus the galaxies lying within the ripples in the spacetime fabric generated by the gravitational forces tied to energy of the DBOSG will represent the latitudes from the North Pole or the point of Big Bang singularity or the region of DBOSG to the South Pole of the Universe. The ripples with short wavelength and high amplitude in

the spacetime fabric will be of increasing order from the Big Bang Point (bottom or old side) with maximum radius at the equator, and in decreasing order, i.e. small circles with low amplitude and long wavelength from equator to the South Pole (top or recent side or towards us). The shape and size of the Universe is thus based on the volume and rate of inflation and in turn expansion of the cloud of gases containing matter and energy that were thrown away at the time of Big Bang singularity, where there is present location of the DBOSG.

4 REASONS FOR EXISTENCE OF STARS, PLANETS AND GALAXIES AT DIFFERENT REGIONS OF UNIVERSE

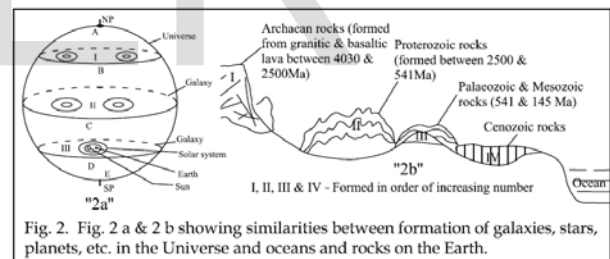
After Big Bang there was inflation followed by expansion, which resulted into decrease or reduction in radiation of temperature due to decrease in speed of the particles after covering a large distance with lapse of time, and by following the law of Inverse Square. At this point of time when the particles cooled off, they started clumping together due to their gravitational collapse / fall to form a big mass and further caused gravity in the spacetime fabric. So, it reveals that in the reach or zone of Super

gravity (gravitational attraction) of DBOSG there were not formation of galaxies having stars, planets etc, due to super speed of the particles and energies in the reach of inflation of the Universe, but as soon as the boundary of Super gravitational energy / force of DBOSG started or from the outer boundary of inflation of the Universe, formation of galaxy began and continued up to South Pole of the Universe.

Now these regions consists of galaxies and are considered as local irregularities, which are denser in comparison to surrounding regions that are uniform, homogeneous, and characterized by density and temperature. This is the reason that the Universe is uniform and homogeneous on a large scale with local irregularities, such as galaxies having stars, planets, etc at different latitudes or ripples from outer boundary of the inflation to South Pole of the Universe.

So, all the celestial bodies in the Solar system and all the galaxies have been formed after formation of the Sun and DBOSG, respectively. This can be explained by a geological model. On the Earth, the Proterozoic rock formations are

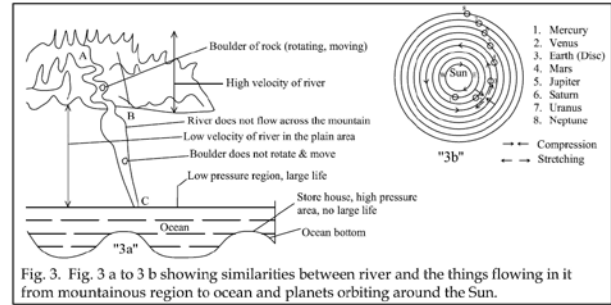
formed by the erosion, transportation, sedimentation and metamorphism of the first oldest rock formations, like Archaean (bottom or old side), which became the foundation for rest of the later rock formations. The youngest rock formations, like Cenozoic (top or recent side) are formed from all the oldest rock formations, like Archaean, Proterozoic, Palaeozoic and Mesozoic. However, the source of Archaean rock formations is the granitic and basaltic lavas that flowed from the Earth's crust, perhaps between 4030 and 2500 Ma[8][fig 2].



Now, at present the gravitational waves of DBOSG may be travelling at certain fixed speed in the different reaches of the Universe from North Pole to South Pole of the Universe, but due to continuous propagation of waves it looks as if there is instant arrival of the waves from North Pole to South Pole of the Universe. This is the reason that any region or a point in the Universe never remains

empty. This phenomenon is similar to the flow of river water from source to the ocean, which also flows at certain velocity at different reaches of the total length of the river course. However, it looks as if there is instant flow of water from source to the ocean.

The above phenomenon can be represented or modeled as a river flow from source to the ocean. The river flows in a narrow width consisting of deep valleys and gullies in the mountainous region in its first reach and thus has its maximum velocity due to steep mountainous slopes and maximum volume of water with absence of any large planer surface. As a result there is no settlement of river water as well as the sediments brought by it in the initial reach of the river. There is reduction in velocity of the river as it leaves the mountainous sloping region and starts spreading and flowing in plain region and settles down along with sediments in the open depressional regions, giving rise to formation of savannahs and new rock formations. The river again flows in smaller width when it meets the ocean and settles down along with sediments (fig 3).



Thus, we may call this body of Super gravity and super gravitational energy (DBOSG) as an original moving body, an overall maker, an overall mover, the support of all, and the origin and end or storehouse of all celestial bodies in the Universe.

5REASONS FOR CRITICAL RATE OF INFLATION / EXPANSION AND EXISTENCE OF SAME CMBR IN OUR OBSERVABLE UNIVERSE

The inflation immediately after Big Bang was so strong and / or at critical rate that the super gravitational waves intertwined with energy along with particles crossed the Super gravitational attraction zone / reach of the DBOSG in the reach of inflation and further there was continuous propagation of gravitational waves tied to energy after starting of expansion of the Universe from outer zone of the inflation to South Pole of the Universe and thus there was no recollapse of the

Universe. Nevertheless, it is believed that the inflation after Big Bang depended upon:

1. The speed of the particles / light waves or electromagnetic waves and heat associated with them, which flowed from the source to the end depended upon the power or magnitude of the source, e.g. the power of the DBOSG, perhaps has had been dominating the entire Universe from North Pole to the South Pole of the Universe by following the law of inverse square and being within the limits of uncertainty.
2. The size of the particle or string of certain length and wavelength and amplitude; in Quantum Mechanics or in micro- world, the smallest the particles, highest the velocity; less the mass of a particle, the greeter the energy and the higher the frequency, shortest the wavelength.
3. Persistence of emission of particles or strings or foils from the source; this will depend upon again the power or magnitude of the source radiating the particles.
4. The nature of the force that causes waves or ripples which are able to travel to long distance; the ripples or waves are generated by joining

light particles or strings or foils that have already a wavelength, say w , after they are emitted from the source; this force is electromagnetic tied to gravity; out of all four forces the electromagnetic force is only a long range. Since the outside region, at the point and time of inflation, was containing nothing or in other words there were absence of any positive and / or negative charged particles, hence the electromagnetic force moved to long distance.

The existence of nearly the same temperature of the microwave background radiation in our observable Universe can be explained or represented or modeled as a river flow from source to the ocean. The water immediately after releasing from the snow covered mountainous region starts flowing with some volume, velocity and temperature (say 2^0 C). In the initial reach or near to the source, say about 30 kms, the temperature of the river water is almost same (say 2^0 C), but the temperature of the river water increases (here may be 8^0 C) when there is reduction in velocity of the river water as it leaves the mountainous sloping region and starts spreading and flowing in plain

region. Again when there is reduction in velocity of river water and flows almost at few degree of slope of the ground the temperature of the water becomes almost luke warm say 15°C .

This 15°C temperature of river water that has been demonstrated on the Earth can be compared with the microwave background radiation in our observable Universe, because we don't know the things beyond our observable Universe. The microwave background radiation within the influential zone of the DBOSG may be much higher. The only difference in the case of the Universe is that the source was infinitesimally hot and glowing white hot and thus with increasing distance and passage of time due to inflation and expansion the temperature decreased progressively from North Pole i.e. point of Big Bang to South Pole i.e. our own milky way galaxy. In this case of Universe the temperature will fall down progressively with passage of time and the distance covered, whereas in the case of the river flow from the snow covered mountains, the temperature will rise up progressively with passage of time and the distance covered.

6 PARTICLE – WAVE DUALITY IN THE UNIVERSE

Everything in our Universe is really a shade of gray. In the macro-world we live in, almost everything is either very nearly a particle or very nearly a wave. For an example, in the macro-world, i) a mountain of meta-sedimentary rock that is made up of small particles that are responsible for cementing or connecting all other particles of different sizes and shapes while forming in layered deposits, ii) sedimentary rocks having layers of beds and ripples or waves marks in them, and iii) the great savannahs – the fertile lands having alluvial sediments, which have become one plain regions due to smallest binding particles, like clay. All these formations have passed through particle-wave duality processes. However, at present these features are remnant of the particle-wave duality processes, since after solidification, the phenomenon of particle-wave duality is absent in the deposited material. But, in the micro-world, gray rules. "Particles" and "Waves" are levels like "black" and "white". Sometimes particles-waves are more

particle-like, and sometimes more wave-like. But

fundamentally, everything really is both.

It means the particle in the micro-world should be very small of only length with no width or height, like a flexible string or foil of certain wavelength. And, this is possible in the case of particles in Quantum Mechanics, where light is associated with electromagnetic force and therefore will behave as particle-like when the light particles in particle-wave duality stage are compressed and behave as wave-like, when the light particles in particle-wave duality stage are stretched. Since, the particles in the case of Quantum Mechanics are never solidified or in other words are mobile and connected by virtue of electromagnetic force inherent in them, therefore they always remain flexible and have tendency to move in the direction of their velocity, including empty space. Nevertheless, in the case of macro-world the particles are neither flexible nor do have certain wavelength. To start with, first of all we will discuss about particle - wave duality that prevails in the macro - world:

6.1 Particle - Wave Duality in a Water body

If a pebble is dropped into a water body, like a pond or lake or basin, etc. the formation of waves or ripples on the surface of water around and parallel to outer surface of the pebble can be seen. There is compression of water molecules perpendicular to the wave / ripple (i.e. the wave will compressive the things coming in its way) and stretching of the water molecules perpendicular to the direction of travel of wave (the things on its sides will experience the stretching). It means the force of the pebble will cause ripples / waves in a medium that is comparatively more flexible, homogenous, and continuous in comparison to the object causing waves. This can be illustrated by a rubber band. If we apply the force from inside to outside of rubber band then the rubber band will compress in the direction of force applied and stretch perpendicular to the direction of force applied. Thus the waves or ripples generated around the point of impact of the pebble into the pond are because of joining the water molecules; after joining these molecules behave as wave during movement.

6.2 Particle – Wave Duality while deposition of

Sediments in a Lake

In the case of sedimentary deposits there will be formation of layers of beds with ripples or wave marks over them, so long the particles of sediments like clay, silt and sand etc. are mixed properly in appropriate ratio and flow simultaneously with fluid, water in a pond, lake, and basin etc. or particles of sand with fluid, air in a sand deposits. In the case of sedimentary deposits in a pond etc. the particles of sediments and the water have the mass therefore both can cause the gravity. Thus, the particles of sediments and the water have the tendency to have free flow or sink in an already given space. And since the water has the tendency to maintain equal level in a given space the particles of sediments also follow the same rules.

The sediments, such as clay, silt, sand, etc., while depositing in a pond, lake, basin, etc. behave like particle as well as wave, when subjected to external forces, like oscillating and directional currents of fluid, like water that produce symmetrical and asymmetrical ripples or waves in the sediments, so long the individual particles of the

sediments are free to move very closely and have not been solidified; or in other words the individual particles of the clay, silt, sand etc. have not joined together, completely. Thus, the ripples or waves are undulations that are produced by fluid i.e. water movements over particles made up of clay, silt sand, etc. Such ripples or waves in the sediments will show particle-wave duality.

The direction of the ripples or waves cannot be changed in the middle of the wave. If at all is to be changed, then the source's direction will need a change. However, the individual depth of the trough and height of the crest or in other words, the amplitude and the wavelength between two crests, will depend upon the force or frequency i.e. the amplitude or wavelength of the water currents. Thus, the ripple or wave marks formed in the sedimentary deposit, after the solidification of the sediments by temperature and pressure will be called a ripple marks or wave marks only, that are made up of billions, billions of the particles of clay, silt, sand, etc.

In the macro-world, the objects we see are massive, compact and dense since they are remnant

of the particle-wave duality processes and therefore they never remain flexible with certain wave length like in micro-world. Here in macro- world a rock having wave like appearance is made up of particles and have certain degree or amount of tensile, able of being stretched, and compressive, able to compress, strengths, only. The particles in a rock, after applying some external forces, will not join together, after crossing the limits of compressive and tensile strengths of the rock and thus the rock will collapse or dismantled or crushed or crumbled.

6.3 Particle - Wave Duality of Light

The waves in the case of light are ripples or cones of light waves that are produced or generated after joining the light particles, right from the point of emanating them from the source, such as electrons and quacks, i.e. opposite charges existing at opposite ends of an atom. These light particles, also called photons, are flexible and continuous supply from the source, having only length like a string or foil, with no width and height, but of a certain wavelength, say w , and are joined together in a circular manner in cone shape by virtue of their having inherent electromagnetic properties.

7 MEDIUM RESPONSIBLE FOR CREATION OF DIFFERENT FEATURES IN THE UNIVERSE

In the macro-world, in the case of mud deposit in a puddle or pond, etc. if we squeeze a lump of wet mud, the first thing that comes out is the water, followed by clay, silt, sand, etc. And, if we rub two stones, the first thing that comes out is the light and heat associated with it followed by rock powder and so on. In the micro-world, for an example, if we light a candle, the first thing that comes out is the light and the heat associated with it, followed by wax. Thus, i) water is the main element to settle down the sediments in a basin to form a continuous feature, like alluvium and rocks, ii) oil is the element to form the wax, and iii) the light intertwined with electromagnetic energy that causes gravitational waves is main element to settle down or collapse the particles to form the galaxies having stars, planets, etc. So, the light tied with electromagnetic force and gravity, which were responsible for creation of celestial bodies, have had been ceaselessly emanating and propagating from the Big Bang singularity and even from present

DBOSG. These forces are being transmitted from North Pole to South Pole of the Universe for creation of new bodies and to keep all the galaxies having stars, planets, etc, from one end to other end within different ripples. 'Carl Sagan [1] writes, without electrical forces, there would no longer be *things* in the Universe – merely diffuse clouds of electrons, protons, and neutrons, and gravitating spheres of elementary particles, the featureless remnants of worlds' [180].

8 PARTICLE THAT GIVES WEIGHT TO A BODY

All the known particles in the Universe are divided into two groups: i) particles that make up the matter in the Universe, and ii) particles that give rise to forces between the matter particles. In the quantum mechanics, the forces or interactions between matter particles, such as an electron and quark are carried by particles of light or photon or boson tied with electromagnetic force that causes gravity.

An atom consists of centers of forces gyrating with high velocity within its nucleus and around orbit. As per equation $E = m c^2$, the matter and energy are interconvertible, i.e. matter can be converted into

energy and vice-versa. The energy in any particle is equal to its mass or weight multiplied by the square of the velocity of light.

Thus, as the voluminous water current is responsible for formation of rocks and alluvium, similarly the voluminous packets of light tied with electromagnetic force that causes gravity is responsible for creation of particles and in turn galaxies having stars, planets and other celestial bodies, except that once galaxies, stars, planets and other celestial bodies that get solidified, the light tied with electromagnetic force that causes gravity still functions between matter particles that constitute these bodies at atomic level. Similar is the case of rock and alluvium. The matter within the atoms of these bodies are held together due to continuous and uninterrupted high movement of light tied with electromagnetic force that fly back and forth between quark and electron and causes gravity or depression or curvature or warpin the area of electron and quark. It looks as if everything is stationary within these bodies. An ordinary eye can't see these forces moving with high velocity within these bodies. We will not be able to see the

light coming out of these massive bodies so long they are not subjected to external forces.

So, the smallest particle / elementary particle, like electron and quark is not the smallest particle that gives weight to a body in the entire Universe, but whatever comes out (i.e. the light tied with electromagnetic force that causes gravity) of the smallest elementary particle, is Smallest particle or "God Particle", which gives weight to the elementary particles, like electron and quark due to constant and un-interrupted movement at high velocity between electron and quark and causing reactionary depression (depression caused by the pressure) while moving forward and hitting at quark that comes in its way, respectively.

In our daily life also we have been noticing that electric repulsions (means curvature or depression or warp caused) produce a sensation of hardness, when we have an electric shock. By touching a live wire with a heavy voltage flowing through it, we will have a sensation of terrible weight and solidity, though by observing closely we see that there is nothing of that sort there. But even then we feel a heavy weight hanging on our hand.

This sensation of terrible heavy weight and solidity hanging on our hand is nothing but the curvature or warp or in short the depression caused in the area of the object falling in its way or coming in its contact by the gravitational thrust of electromagnetic force (all forms of energy causes gravity).

We know that Gold is element number 79 with 79 protons in its nucleus and Lead is element number 82 with 3 more protons than gold on the Periodic Table. The 3 little protons make difference in atomic weight of Gold (196. 9665) and Lead (207. 2), respectively. Addition of 3 more protons in the nucleus of Gold have changed its internal atomic structure and in consequence its color from gold – yellow to lead – grey and fracture from ductile, sectile and malleable to sub – conchoidal to brittle and specific gravity from 17 to 7.5. So, the number of protons in an atom's nucleus is its most important characteristic: its *element number*.

The addition of protons in the nucleus of an atom of an element not only makes difference in atomic weight but also in overall change in color and other physical and chemical properties of the element, like Cu (copper – red color), Ag (silver –

white color), and Au (gold – yellow color) that are element numbers 29, 47, and 79 on the Periodic Table and have atomic weight 63.546, 107.8682, and 196.9665, respectively. The change in color may be associated to change in geometry of packets of light beam that consists of 7 colors, viz. violet, indigo, blue, green, yellow, orange, and red. And we know that each chemical element absorbs a characteristic set of very specific colors. This all happens due to continuous and uninterrupted change in geometry or curvature in the nucleus of an atom of an element.

Thus, there must be a particle, like particle of light or photon or boson responsible for creation or building block of all elementary particles and in consequence the mass or weight of a body in the entire Universe.

The things, like earth, water, air, and all living beings, including humans on the Earth and all celestial bodies in the Universe are made up of different elements. All these bodies have weight. Thus, the massive and dense bodies like mountains and galaxies having stars, planets, etc, which has weight, in reality, is not caused by some particle or

'God Particle', but is manifestation of constant thrust or pressure by the light waves tied with electromagnetic force, which causes or generates continuous and uninterrupted gravity or curvature or depression or warp in the elementary particle, like electron and quark within the atom of these bodies, while emanating and hitting, respectively.

It, therefore appears that everything in the Universe, which is either in isolation, like a grain of sand or in combination like a mountain, star, and planet are simply packets of atoms, wherein the elementary particles, like electrons are constantly transmitting the force particle, like photon or boson tied with electromagnetic force that flies back and forth between electron and quark, thereby causing gravity or curvature or warp or depression in the electron and quark due to its gravitational thrust.

This constant and uninterrupted thrust by the electromagnetic force, which causes gravity or depression or warp or curvature in the area of homogenous, frictionless and flexible fermions, is so fast that neither the electromagnetic force nor the curvature looks moving to and fro and getting curved, respectively. So, in consequence both look

stationary. The stationary curvature or warp or depression both in the electron and quark is nothing but the pressure that can be called as weight, which is equal to the thrust that causes depression or warp or curvature. Thus, there is nothing like a weight of any substance, but it is a constant gravitational thrust that causes depression on the object coming in its way. This force is gyrating, continuously and uninterruptedly, in all the bodies on the Earth as well as in the celestial bodies in the Universe.

If this particle is responsible for uniting all other particles by its attraction or gravity, which is light tied with electromagnetic force that causes gravity, then this particle must be present right from the time of early Universe that was infinitesimally dense, infinitely small, infinitely hot and glowing white hot and containing photon, electron, neutrinos together with some protons and neutrons. The entire matter and energy that now constitute the whole Universe were within that tiny Universe.

9 MECHANISM INVOLVED IN FORMATION OF GRAVITATIONAL WAVES AND

ROTATION AND ORBITING OF CELESTIAL BODIES ALONG CIRCULAR ORBIT

The Sun that contains about 2 % of heavier elements because of its being second – or third - generation star formed about 5000 Ma out of a cloud of rotating gas containing the debris of earlier supernovas. However, the carbon and other heavier elements that later condensed to form a planet like Earth that now orbit the Sun might have moved from inside the star to friendlier neighborhood, which was accomplished when the star, at the end of its life cycle, exploded as a supernova [4]. The Earth while dwelling in the trough or ripple or circular wave in the spacetime fabric caused by the gravitational force tied to energy of the Sun and enhanced by its mass and energy by replacing the matter and energy of the spacetime fabric within the curved region was already rotating and moving by the matter and energy of the spacetime fabric in the absence of any resistance or friction, around the Sun, right from its early stage of interstellar gas and dusts of matter and energy (carbon and other heavier elements), like clouds in the sky that rotate

and move from ocean to other places by the outside agencies, like air.

The Earth in the initial state perhaps was neither rotating nor moving in comparison to present day state, because of its extensive and huge volume (much more than the present volume). With lapse of time, the Earth acquired its massive and dense form due to gravitational collapse of the matter within it, and started spinning because of angular momentum and stirring of forces around it, violently. Later on, the Earth started rotating and moving along the direction of stretching of matter and energy of the spacetime fabric. The spinning and the movement of the Earth under more than certain critical speed, after it became massive and dense, was enough to stop its flung into the darkness of interstellar space and pulling up by other big bodies, like Sun. So, there was no restriction on its existence in the curved spacetime fabric, after it became massive and dense, also.

However, the direction of movement of the Earth from west to east, and any other celestial body, perhaps might had been fixed already by the direction of trajectory of the throw of the gaseous

cloud at the time of explosion of supernova, similar to river whose flow direction from the mountainous region is dependent on the gushing or pushing of water on a depression caused, either by the erosion of the bed rock by high velocity of large volume of water or a structural feature already existing in the bed rock in certain direction. This indicates that for the flow of a river and rotation and movement of things in it, from source to the ocean, there should be continuous gushing or pushing of sufficient volume of water and / or a medium or path having depressions aligned in certain directions, throughout its course. This phenomenon should also apply to the celestial bodies rotating and moving in the spacetime fabric, except that the river does not take round of its source, i.e. a mountain, like Earth orbiting around the Sun, which also orbits in the Milky Way Galaxy.

In the case of a river since the source, the mountainous region does not rotate and move in a circular manner, the fate of the river is partly dependent on the volume of the water and also the slope and its direction from the source to the ocean. Nevertheless, the river does not flow along a fixed

slope and direction between the source and the ocean, rather it flows in different slopes and directions and hence in different velocities and also not in and around of its source. But, it is not similar in the case of the celestial body. The celestial body rotates and moves in a fixed speed along a fixed circular path around a rotating and gyrating celestial body. This is because of the fact that the Universe is uniform, homogeneous and curved on large scale

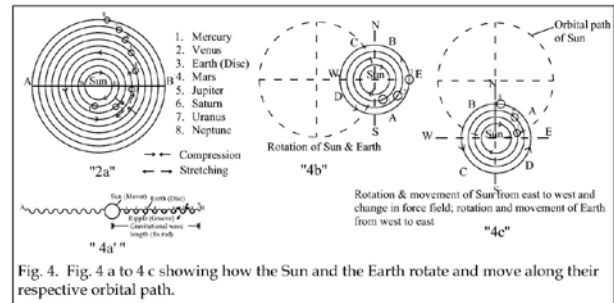
Moreover, the gravitational forces tied to energy of the Sun are also transmitted by fields, which are like curves or warps, or distortions, or geometry, or ripples in the spacetime fabric and are generated as a result of rotating of the Sun. Therefore, all the celestial bodies, like Earth falling in its route have to follow and move along the ripple in a curved manner around its source. This also indicates that the Earth cannot travel tangent to the gravitational wave of the Sun, since again the outer surface of the Universe is curved like Earth. This outer curved geometry of the Universe is because of constant generation of circular gravitational waves by the DBOSG. It means the rotation and movement of celestial body, like Earth in circular path around

celestial body, like Sun is dependent on the rotation and movement of the source (Sun) that itself rotates and moves in a fixed speed and path around Milky Way Galaxy. Thus the fate of the Earth is dependent partly on the functions of the Sun and partly on the matter and energy of the spacetime fabric (medium), which are again aligned in curved manner by the gravitational forces of the celestial body, like DBOSG.

What happens when the Sun rotates and moves from east to west while dwelling in the ripple or circular orbital path in the spacetime fabric, its gravitational force tied to energy pushes the immediate and adjacent surrounding matter and energy of the spacetime fabric causing the stretching (things falling perpendicular to the direction of wave) and compression (the things falling perpendicular to the wave) of the matter and energy in the ripples in spacetime fabric around and opposite to the direction of the movement of the Sun. Since, all the celestial bodies in the Universe act with the help of spacetime fabric, therefore the stretching and compression of the matter and energy in the ripple in the spacetime fabric, in the opposite

direction of the movement of Sun, i.e. from west to east direction, the spacetime fabric becomes warped or dented all around the Sun. Since this phenomenon continues, there is a continuous shift or precession of the force field and warped surfaces or dents in the complete ripple or wave in the spacetime fabric, uninterruptedly around and opposite to the direction of the movement of the Sun, i.e. in the direction from west to east. This is the reason the geometry of spacetime fabric constantly changing as mass and energy of the Sun moves. As a result, the Earth, which was already rotating and moving from West to East right from its gaseous cloud of carbon and other heavier elements to dense state while being within the ripple in the spacetime fabric, further continued rotating and moving constantly in circular orbital path from west to east by the movement of the stretched and compressed matter and energy of the spacetime fabric. Since the Sun constantly rotates and moves along its path at certain critical constant speed, therefore the Earth also rotates and moves at a certain constant critical speed, while dwelling in the stretched, compressed and constantly moving ripple

generated by the gravitational force tied to energy of the Sun [fig 4].



This can be illustrated by river flow or is similar to continuous flow of the river water from source, i.e. a mountainous region to the ocean. What happens, when there is continuous discharge of enormous volume of water from the source and in turn its high velocity in the immediate sloping region, it keeps on pushing the water from the source to the ocean that gives an impression of continuous flow of the river. Nevertheless, the river water that starts flowing from the source never reaches to the ocean, instantly; rather it takes sufficient time say, for an example 8 days and 6 hours to travel 900 km length of the river that flows over a inhomogeneous and non uniform terrain between the source and the ocean, with an average velocity of 3, 2, and 1 meter a second between zero

and 30 km in highly rugged and sloping region, 30 and 300 km in moderately rugged and sloping region, and 300 and 900 km in smooth and plain region, respectively. This is one of the reasons that neither the river nor the rock boulders in it flow at constant velocity between the source and the ocean.

It means inconsistency in the velocity of the river from the source to the ocean causes variation in the movement and even the non-movement of rock boulders in it. This raises a question what would have happened if there would have inconsistency in the speed of gravitational waves or ripples caused by the Sun in the spacetime fabric? In that case the celestial bodies, like Earth would have certainly not rotated and moved at constant critical speed. As a result there would have been irregularities in the formation of day, night and seasons and in consequence the Earth would have not been a suitable place to live in, due to absence of congenial environment.

Thus for continuous rotation and movement of the celestial bodies, like Earth there should be continuous stretching, compression and movement of the matter and energy of the spacetime fabric in

the ripple or wave or curvature or distortion or warp around and opposite to the direction of movement of the Sun, i.e. in west to east direction by the gravitational force tied to energy.

The rotation and movement of the celestial bodies, like Earth in the spacetime fabric can also be compared with rock boulders in the river that get moved, rotated, rounded and polished by the river currents along its flow direction, when it is in high velocity in cascading and steep slopes of rough and rocky mountainous terrain, except that the river does not flow like a force field, i.e. it does not behave like a ripple or wave, since the source, the mountain neither rotates nor moves in a circular manner, it remains firm at its own place.

The water has the property of being settle down from high level to low level. The electromagnetic forces have property of propagating in a field, parallel to outer surface or towards the emanating / propagating direction of the force. The force field neither settles down nor rises up as the water and air does by following the law of gravity and levity, respectively. The electromagnetic forces

cause gravity or ripple or curvature or warp in the direction of its propagation.

Therefore, the river doesn't flow around the source or mountain but flows away from it. Moreover, the river and the rock boulders in it flow over an inhomogeneous and non uniform terrain i.e. hard rocky and alluvial terrain, but the celestial bodies, like Earth rotate and move while dwelling in the curved geometry or ripple that is made up of frictionless homogenous and uniform medium of matter and energy of spacetime fabric, which also moves along a circular orbit. All the celestial bodies, matter and energy in the spacetime fabric and the forces radiating from them fall within the domain of matter and energy. Thus, all the planets in the Solar system and all the galaxies from North Pole to South Pole in the Universal gravitational system are rotating and moving in circular manner under constant more than certain critical speed at all times, while dwelling in the fixed circular ripple by the gravitational forces tied to energy of the rotating and moving Sun and DBOSG, respectively within the ocean of spacetime fabric containing matter and energy.

It appears that all the galaxies, stars, planets, satellites etc will always rotate and move at a distance and opposite to the direction of rotation and movement of their central governing force; as Earth is rotating and moving from west to east and its central governing force (Sun) from east to west. And the position of the central governing force, i.e. Sun which generates gravitational waves tied to energy must be at distance and slightly at higher level than the bodies, like Earth receiving these waves, so that the ripples or curved geometry (which are considered as latitudes) are made at proper distance and level and the accompanying planets, like Earth is housed in it for rotation and movement. Similarly, the DBOSG, the central governing force, is at considerable distance and higher level than all galaxies in the Universe.

In the river rounded boulders of rock cannot move at the velocity of water due to their massive and dense mass; but at the same time if these bodies were made into powder then would have moved at the velocity of the river. Similarly, the celestial bodies, like Earth due to its massive and dense mass cannot move at the speed of gravitational force tied

to energy of the Sun; but at the same time if the Earth was dismantled into its building blocks of which it is made then those matter particles would have moved at the velocity of gravitational waves, since the matter and energy are equivalent. As the boulders of rock cannot change the velocity of the water, similarly the Earth cannot change the speed of gravitational waves. On the contrary both the river and the gravitational waves or fields after giving motion to the objects resting in them maintain further ahead their velocity and speed, respectively.

The Sun and any other celestial body have had been doing two things- i) in the first stage, when it formed, it curved the spacetime fabric by its mass, where it is, ii) in the second stage, when it rotated and moved in a circular path, it further curved or is curving its own curved geometry at its own place and in consequence the waves are being transmitted through spacetime fabric that are up to the last planet, Neptune.

The troughs and crests in the circular waves will be similar to the troughs and crests in the waves caused by an object in a pond, except that

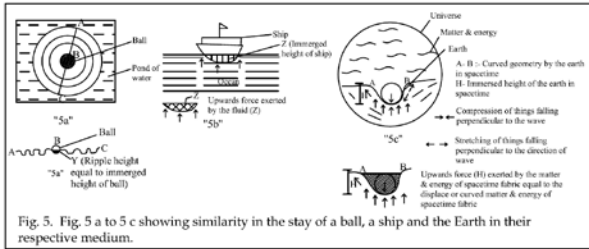
gravitational waves intertwined with electromagnetic waves travel at the speed of light through that ripple. In the case of a pond, only the immersed height of the object creates the circular ripples, since the water has a property to maintain its uniform single level, therefore it does not exist above certain level of an object resting on it. Nevertheless, in the case of celestial body, like Sun which rotates and moves under more than certain critical speed, may be generating ripples in the spacetime fabric equal to its height or size, since the celestial bodies are surrounded by matter and energy of spacetime fabric which are present throughout the Universe.

The river water does not cut across as well as move around the mountain, from where it originates, instead it flows away from the mountain, because the river water has the tendency to flow from higher level to lower level; more over the mountain does not rotate and move. Similarly, the ripples in the spacetime fabric that are generated by the gravitational waves tied to energy of the Sun do not cut across the Sun from where it originate, but rather propagate parallel to the outer surface of the

Sun, because the forces are transmitted by fields or circles outside of the source. And as the Sun rotates and moves continuously in a circular orbit, so there are generations of continuous circular waves around the Sun. Thus any celestial body, like Earth coming in its way is not cut across by the wave; instead it remains within the ripple due to compression and stretching of the matter and energy of the spacetime fabric. As the velocity of the river and movement of the things, like boulders of rocks within it in a sloping terrain like mountainous region is comparatively more than the velocity of water flow in the plain or semi plain regions, similarly the speed of the planets, like Earth and Neptune lying within the spacetime fabric and located near and farther to the Sun is fast and slow due to high and low gravitational energy / force of the Sun, respectively.

The ship stays in the ocean due to law of buoyancy, and the law of buoyancy states that any object immersed in a fluid will experience an upward force (exerted by the fluid on which the ship is resting) equal to the weight of the displaced fluid (fig 5). Similarly, the Earth that makes the geometry

in the spacetime fabric, experiences an upward force, exerted by the matter and energy of the spacetime fabric, equal to the weight of the matters that were occupying in the area of curved spacetime fabric. Thus, the Earth is occupying the area where the matter of the spacetime fabric should have been present. However, the Earth is always surrounded by the matter of the spacetime fabric. And, thus is free to stay in the spacetime fabric, as the ship in the ocean. In consequence, the Earth falls in the domain of matter and energy which are equivalent, and thus has been moving at the speed of 30 km a second. The high and low speed of planets, like Earth and Neptune is also due to their location in deep and shallow trough or high and low amplitude and the short and long wavelength of the circular ripples that are generated due to high compression and stretching and low compression and stretching of matter and energy of spacetimefabric near and farther end of the Sun, respectively.



10 FREE FALLING OBJECTS ON THE SURFACE OF EARTH AND OBJECTS THAT DO NOT FALL OFF FROM EARTH'S SURFACE INTO INTERSTELLAR SPACE

The orbital distance between the Sun and the Earth remains fixed at all times, since the Earth is staying within already compressed ripple, caused by the Sun, as such cannot change the ripple on which it is staying; the Earth instead of following the law of inertia started rotating and moving along the circular orbital path around the Sun, as the Sun itself was already rotating moving and changing its position along its circular orbital path prior to the formation of the Earth. This phenomenon is like moving of a disc (Earth) tied to one end of a fixed rod (curved geometry or wave in the spacetime fabric caused by the gravitational force tied to energy of the Sun) along a groove (one of the ripple in the spacetime fabric) by a mover (Sun that rotates, moves and changes its position and generates circular ripples in the spacetime fabric by its gravity tied to energy) from other end of the rod, except that the Earth spins and moves from west to east and the Sun from east to west.

On the Earth, the apple which falls freely from the tree on the surface of Earth, in reality, travels or moves in already curved region or path that is made by Earth's mass in the spacetime fabric, like curving the bed sheet by a cup. As a result, matter and energy of the spacetime fabric, which exert an upward force, are absent within the curved region of the Earth. And this region is occupied by the air. So, the things lying outside of the cup don't cause any effects inside of the cup, similarly the matter and energy and other celestial bodies lying outside of the Earth's curved surface don't cause any effects within the Earth. It means once the Earth has curved or made the geometry in the spacetime fabric then the matter and energy of spacetime fabric as well as the Earth don't have any role to play on the free falling objects on its surface in the curved geometry. So nothing pulls down the freely moving objects from the curved surface of the Earth. Thus ignoring air resistance, the apple falls freely, straight vertical,

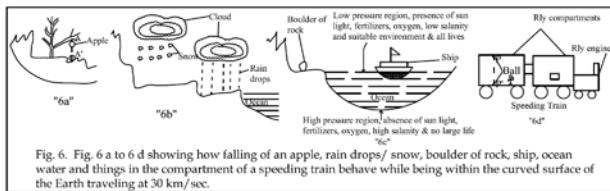
without deviation from its path, on the surface of the Earth, because the total length to be travelled by the apple is within the Earth's curved region, where the matter and energy of spacetime are absent.

The above phenomenon can also be explained by huge and extensive clouds of water vapors over the Earth during monsoon season. These clouds, which consist of thousands of millions of millions cubic meters of water move by the outside forces/or agencies, like air from ocean to other places so long they are in cloud state. Once get condensed, they precipitate in the form of rains and fall on the Earth's surface that flow in the form of streams and rivers. And, in case a certain region falls below freezing point, these raindrops will change into snow. But, neither snow nor the raindrops stay in the sky. This is because of the fact that both snow and rain drops, neither is converted into a single huge solid body nor can they rotate or move under more than certain critical speed in the sky. As a result these freely-moving objects, like snow and rain drops, ignoring air resistance, travel or fall down along the same curved paths or geometry made by the Earth's mass that replaced

the matter of spacetime fabric. This is also like falling of a ball, ignoring air resistance, straight down from ceiling to the floor inside of a moving train and falling of the same ball in slanting manner in the direction of travel of the train, where the air flows in high velocity. Thus everything within the curved geometry of any body is free to fall down and go up to certain height subject to the mass or weight of the object and strength of the force applied to it, respectively.

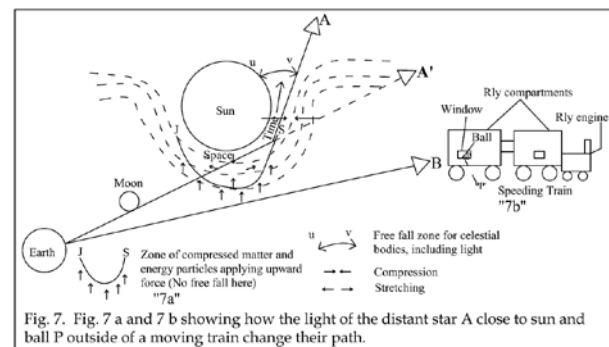
Though, the surface of the Earth does not have any boundaries or edges, we see that i) the objects, like boulders of rock that are resting on Earth's surface, ii) freely moving objects, like ship in the ocean, and iii) ocean water itself do not fall off the world, i.e. shooting off into the darkness of interstellar space (fig 6). This is because of the reason that these things are resting on the curved surface of the Earth that itself is resting in the curved geometry or trough of the ripple of gravitational waves in the spacetime fabric. This is similar to the case of a moving train where ignoring the jerks experienced during movement of a train on rigid, uneven and rough rails, the things, including

human beings in the train stay comfortably and do not move and fall off the train and also within the compartment.



The situation at the contact of Sun's overall outer curved surface with spacetime fabric is totally different. Here the situation is like ocean water giving upward force to the ship from all sides and thus holding on the ship tightly from all sides. Similarly, the matter and energy of spacetime fabric are giving an upward force to the Sun. The medium, i.e. the matter and energy of spacetime fabric is already curved (or in other words the matter and energy of the spacetime fabric are stretched, i.e. things falling perpendicular to the direction of the gravitational forces) and compressed (due to the things falling perpendicular to the gravitational wave) [4] on the sides and below the Sun, respectively. Therefore any celestial body, whatever its mass may be, and a light ray, which has zero mass, falling or passing through the curved medium on the sides of the Sun will not experience any force

at all and pass through this zone without deviation from its path, because the matter and energy of the spacetime fabric, which exert an upward force to the objects resting or passing through them are stretched here or in other words wherein the matter and energy of the spacetime fabric are converted into time. And the same celestial body, including the light ray will experience an upward force exerted by the matter and energy of the spacetime fabric just below the Sun in the curved manner towards the curved surface of the Sun, because of comparatively more compressed matter and energy of the spacetime fabric that exert an upward force, or in other words wherein the matter and energy of the spacetime fabrics are converted into space. The situation will be like giving a constant upward force by a spring to the object resting on it.



This is the reason that during a total solar eclipse, light from star A bends as it passes below the Sun, because of upward force or compression to the particle through which the light has to travel. We see that light as coming from location A' – star A appears to be closer than normal to star B, star whose light is bent much less due to the fact that the light from it neither passes through the curved paths nor below the massive body, like Sun [3] [fig 7].

11 ORIGIN OF LIFE AND DEVELOPMENT UP TO MODERN HUMANS

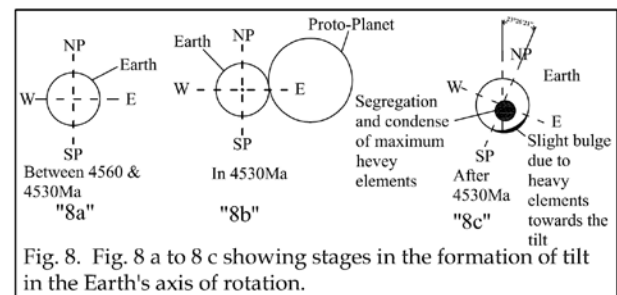
11.1 The early Earth

The Earth formed about 4560 Ma was initially very hot and without an atmosphere. With passage of time, the Earth released the methane, ammonia, water and hydrogen gases and formed the primitive atmosphere and the first oceans. The habitable zone of our Solar system is generally considered to be the region where water can be liquid. The Sun's luminosity cannot vary by more than $\pm 10\%$, and perhaps much less [3].

11.2 The Tilt in the Earth's Axis of Rotation

The tilt of about $23^{\circ} 26' 21''$ angle in the Earth's axis of rotation was, perhaps created due to one of the following reasons: i) the bulge of the Earth in the direction of tilt that formed at the time when it was in semisolid state, or ii) the segregation and condense of maximum heavier elements towards the region of strike by a 'rock', the size of Mars, at grazing angle, on the surface of the Earth and hence the tilt towards the heavier side (fig 8). "Robert L. Piccioni [3] writes, the collision was cataclysmic.

On impact the kinetic energy was converted to heat and melted the entire Earth from surface to core, allowing iron and other heavy elements to flow down to Earth's center" [266].



11.3 First Oldest Rock Formation on the Earth

The first oldest rock formations that came into existence after the origin of Earth are known as "Precambrian", the "Supereon". It represents an enormous thickness of rock formations that were

formed, perhaps between 4030 and 541 Ma [8]. In India, the oldest rocks, Achaean which are referred to as "SHIELDS", and form the basements of all other formations, were formed between 4030 and 2500 Ma. These rocks are of igneous origin, comprising metamorphosed rocks that were formed by the granitic and basaltic lavas, together with a subordinate amount of sediments. The well known Shield area of India is known as Peninsular India. The Proterozoic rocks, which are formed between 2500 and 541 Ma, consist of sedimentary rocks which have been subjected to varying grades of metamorphism [2].

11.4 Origin of Life

The evolution of life on the Earth is dependent on the Sun rays (heat and light), water, fertilizers (minerals), gases (oxygen, etc.), and overall a suitable environment. However, the organic cycle of the sea begins with abundance in sea water of the necessary inorganic elements - carbon, hydrogen, oxygen, phosphorus, nitrogen, iron, and many trace elements, which together with sunlight, make plant life possible. Many of these plants are of minute or even microscopic size, and these constitute the food

material for animals that, although minute, are larger than the plants on which they feed or graze. These tiny animals, in turn, become food for larger animals.

11.5 Absence of Life between 4560 and 4000 Ma

The life which could not appear between 4560 and 4530 Ma may be due to i) Earth being hot for some period and existence of poisonous gases in the atmosphere, ii) dissolving of toxins of early chemistry in the first oceans, iii) absence of igneous, metamorphic and sedimentary rock that generally supply inorganic elements on erosion and transportation to the ponds and oceans, iv) absence of atmospheric and stratospheric layer that resulted in penetration of ultraviolet light of the Sun on the Earth's surface, and v) Sun's luminosity more than $\pm 10\%$. The life again did not appear between 4530 and 4000 Ma, due to i) melting of Earth from its surface up to core by the heat generated by the kinetic energy of the proto-planet that struck the Earth, ii) Sun's luminosity less than 3% due to presence of gases and dusts in the atmosphere and stratosphere, and iii) the entire proto-Earth's surface

covered by the water and absence of igneous, metamorphic and sedimentary rocks.

11.6 Evolution and Development of Life between 4000 and 541 Ma

The life appeared suddenly in the ponds and oceans of the primitive Earth, in about 4000 Ma due to supply of necessary inorganic elements - carbon, hydrogen, oxygen, phosphorus, nitrogen, iron, and many trace elements from the land surface that was, perhaps of igneous, metamorphic and sedimentary origin. The bacteria, archaea (simple single-celled life) appeared in about 4000 Ma (in Archaean). The blue-green algae and worm appeared in Proterozoic. All these lives covered and filled the primitive oceans and continued up to 541 Ma, without any change and development for most of the 3459 million yr [8].

11.7 Evolution and Development of life between 541 and 145 Ma

When the Sun's luminosity varied only $\pm 3\%$, then the monopolizing grip of the algae was broken, and an enormous proliferation of new life forms emerged, an event called the Cambrian explosion in about 541 Ma [8]. The other factors involved in the

stabilization of such conditions were the temperature on the Earth's surface, the composition of the atmosphere, a suitable range of climate, and protection from harmful radiations from space, particularly ultraviolet rays, and formation of large basins of water which later became the oceans. Soon after the Cambrian explosion, the oceans teemed with many different forms of life, viz. trilobites, first chordates, sponges, and brachiopods.

11.8 Development of Life after Formation of

Marine Basin in about 145 Ma

There was not much development from bacteria, archaea, blue-green algae to worm to fishes to amphibians to reptiles to mammals to birds for about 3855 million yr, i.e. from 4000 to 145 Ma, because of insufficient supply of fertilizers (minerals) and absence of a suitable environment, like a fresh as well as low marine water basin. The adjoining connecting land areas might have been marshy, which was not suitable to migrate for free swimming lives in the deep sea water to land surfaces for crawling and finally moving vertical.

If the life from fish (appeared in 485 Ma) to reptiles (appeared in 359 Ma) to mammals

(appeared in 252 Ma) to modern man (appeared in 40,000 years ago from the present) was to evolve, it was most important or rather pre-requisite to form great savannahs [2]. The great low marine basins which later were converted into savannahs were formed and developed between Early Cretaceous (145 Ma) and late Pleistocene (40,000 yr ago from the present), [fig 9].

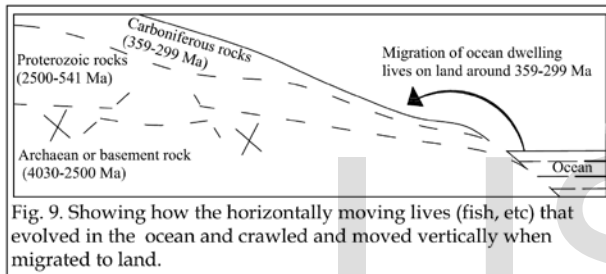


Fig. 9. Showing how the horizontally moving lives (fish, etc) that evolved in the ocean and crawled and moved vertically when migrated to land.

11.9 Appearance of Primates (Cretaceous, from 145 to 66 Ma) and Migration and Divergence of Forest Dwelling Creatures in the Basin

The lives appeared are - the primates (placental mammals) - the ancestors of the monkeys, the apes and the humans. In the early Miocene the first apes appeared about 23 Ma [8]. The apes, probably still lived in the trees of forest (from 23 to 21 Ma) in the higher mountainous and thick forest reaches. These apes might have started moving on their two hind limbs vertically with heads raised up and sat

vertically, occasionally between 14 and 11 Ma in the Lower Siwalik (Middle Miocene – 18 to 11 Ma).

11.10 Turning Point in the Advancement of Pre-Humans in the Basin

Due to change in living environment, i.e. from hilly and forested areas to savannahs and favorable climatic conditions, the turning point in the development of physical, mental, eating and living habits or overall development of our immediate ancestors came in the Late Pleistocene, i.e. from 0.782 to 0.126 Ma, when all the low marine as well as fresh water basins both on land and its surroundings, were completely filled up by continental sediments after mountain building activities in the Pliocene-Pleistocene time.

Modern humans originated from our species, archaic Homo sapiens in the Middle Paleolithic (in the Late Pleistocene, about 200,000 BC years ago), in sub-Saharan Africa [7], [8], [9]. Since, at this time they left climbing the trees and moreover all the eatable things were available at the level of their height, these creatures plucked, picked up and collected the eatable things by one of their

forehands and holding the flora by other, while walking by their hind two limbs. As the time past, they could stand vertically on their two hind limbs with heads raised up because of strong thighs and legs and thus their front two hands were free, once forever. Thus our ancestors possessed all the physical habits that we have today. During this time these species moved their heads in almost all directions, while walking vertical with head raised up, and thus possessed an excellent binocular vision. As a result, they saw and experienced around them, vast savannahs, different types of flowers, trees, shrubs, fruit bearing plants and trees, mountains, animals, birds, waterfalls and canyons by their binocular vision.

Thus for the development of brain power it is necessary to move vertical with head raised up. In our daily life also we observe that the creatures, like buffalos, which have no thinking power at all are completely horizontal. The monkey, gorilla, and chimpanzee with a little brain-power have their head fixed just above the back-line. Therefore, these creatures, are always restless and walk horizontally with their heads raised up, and always sit vertically.

And, man with his greatest thinking-power is always vertical and feels very uncomfortable even to lie flat on the ground.

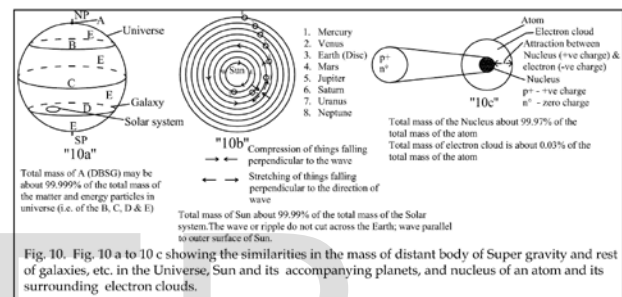
During the time from 200,000 BC to 40,000 yr ago from the present, due to availability of food in all directions within level of pre-human's height, and their feel and experiences of harmonious, simple and beautiful Earth, their mind became serene and quite. As a result they became less aggressive and harder and focused their mind on the innovative problem solving. Slowly they developed their physique and the brain-power, by taking all types of nutrients, i.e. fruits, vegetables and flesh and by seeing, thinking and analyzing the things and the events around them by a serene, quite and positive mind, respectively. As a result, in course of time, these creatures gained experiences, more learning from the nature, wisdom and maturity which in turn were responsible in the development of bigger brains and higher level cognitive functions. In course of time, they increased manual skill and developed interest in tool use and other new things[8] & [9].

Later on, these humans monopolized their grip both in the hilly areas and savannahs, wherever they settled. These humans had domesticated other animals, like buffalos, horses, cows, goats, dogs etc. for their own benefits. In course of time, these humans have had not allowed the wild animals including their own ancestors like apes and chimpanzees in their habitable areas. Thus, the period from 200, 000 BC to 40, 000 yr ago from the present was the time of rise in development and civilization of we modern humans and downfall in the development and civilization of forest dwelling creatures. This is the only reason that there is presently no development from fish – reptiles – mammals - homosapiens – modern man.

12 FATE OF THE UNIVERSE

The gravitational energy / force of DBOSG will be very strong and weak, near and farther from it, respectively. As a result, the celestial bodies near to and farther from the DBOSG, will feel strong and weak force, respectively (fig 10). This is similar to the case of celestial bodies, like Mercury and Neptune in the Solar system, which have high and

low gravitational force / energy near and farther from the Sun, respectively. Our Solar system is at recent or top side of the universe as a result the celestial bodies fall in a region of very cloud weak gravitational energy/waves of the DBOSG and therefore is still in a perfect gravitationally bound system within it.



The distant region in our Universe is looking blue. The objects, if any, that may be occupying at the end of blue-region and beyond is not visible or seen. This may be due to reason that the area between end of blue region (down side, i.e. old) and beyond and towards us (top side, i.e. recent) is occupied by the multiple layers of spacetime fabric which is made up of vibrating particles and is agitated due to gravitational waves or ripples generated by the rotating and moving of the celestial bodies existing in the entire Universe as well as DBOSG. Thus the space between blue

region and our Solar system must be consisting of matter and energy that are characterized by density, movement and temperature. And the DBOSG located beyond the end of blue region may be still radiating continuously its gravitational force / energy. But, in reality, the blue region should not be blue. It should look like a sheet of water, ocean. The ocean also looks blue, but in reality is colorless or transparent. Here also the sun's light neither reaches to the bottom region nor does the object at the bottom is seen from the top.

In the case of Universe the bottom is reverse, i.e. the blue region is towards sky and the DBOSG is beyond the blue region. The supernovas and galaxies are moving due to expanding of the Universe towards DBOSG, and perhaps in already expanded region, which was formed after Big Bang singularity.

On the Earth, there are repeated cycles of rains, and resulting precipitation, saturation of land mass, erosion, landslides, transportation and deposition of continental sediments along with fauna and flora into the ocean. As a result, one day the deepest level on the Earth that is occupied by

the ocean will be replaced by the continental sediments. And the mountainous, forests, and other landmass areas that have had been eroded by the water will, gradually, be replaced by the ocean. Mount Everest which is about 8848 m high from m.s.l. and consists of limestone of Permo-Carboniferous age (359-252 Ma) is located in the area that was once occupied by the sea. The above phenomenon suggests that the things on the Earth are cyclic. Thus, it is believed, as the bottom of the blue region of the ocean, which rests on a solid geological stratum on the Earth, is a natural storehouse of the things that become disordered in their life cycle, similarly, the bottom of the blue region in the Universe may be natural storehouse of the things that will become disordered in their life cycle.

Maximum gravitational energy / force of the DBOSG should always be near to the bottom of the blue region and gradually decreasing i.e. by following the law of Inverse Square, towards the top, i.e. towards us. In the case of water body on the Earth, maximum pressure is always at its bottom, i.e. bottom of blue region, gradually decreasing

towards top. This is the reason that a powerful current of water of fixed amount and velocity that comes out from the bottom level of the water body, as well as dropping from top of water body to the ground surface, will do same amount of hydraulic mining, because of equal amount of force generated.

As the depth or curvature and surface extension of the water body, like ocean is dependent upon the shape, size and extension of the geological stratum, similarly the extension of the galaxies, stars, planets, matter and energy, etc in the Universe will also depend upon the extension of the gravitational forces tied to energy of the DBOSG from North Pole to South Pole of the Universe.

If the bottom of blue region of the Universe is occupied by a DBOSG then neither celestial bodies nor any other things will remain stable, in and around of it. Therefore, large life forms cannot evolve and exist in and around of this body of Super gravity. However, large life forms, like us and other microscopic organisms are possible in our Solar system which is located at far end of the DBOSG. In our Solar system, the large life forms, like us, are possible only on the Earth, which falls in the

Golden Prospecting Region (or Goldilocks Zone).

In the case of the Earth also large life forms like us and animals are not possible at the bottom of the ocean, because of high pressure, absence of sunlight, and oxygen (i.e. anaerobic conditions). Nevertheless, varieties of life are possible at the top of the water body, due to presence of sufficient sunlight, fertilizers (minerals), oxygen, minimum water pressure, low salinity of water, and also availability of different regions - like on land, on shore, and off shore areas for fauna and flora to flourish and develop from horizontally moving in the oceans to vertically moving on land areas, i.e. migration of all animals from ocean to land.

The gravitational waves tied to energy of DBOSG and also of galaxies and celestial bodies in the Universe are intertwined. Thus, all the galaxies and celestial bodies etc in the entire Universe are within, at all times, in this intertwined system. Thus, nothing remains left out of the Universal gravitationally bound system. This phenomenon is similar to the water coming out of the source i.e. mountainous area which takes some time to reach to the ocean, but there is continuous flow of water in

the river. This is the reason all the rock boulders, sand, silt and clay are continuously rotating and moving within the limit of water currents from source to the ocean. Anything that goes outside of this system or geometry does not rotate and move, instead remains stand still. Similarly, the gravitational waves emanating from the DBOSG and also galaxies, planets etc take time but since there is continuous propagation of gravitational waves between the DBOSG and the Solar system and also within different galaxies, planets, stars, etc. That is why all the galaxies, stars, planets are constantly rotating and moving within this system.

12.1 Expanding Universe

It was felt that if the density of the Universe would have been greater than a certain critical value, gravitational attraction existing between different galaxies would have eventually stop the expansion and make the Universe start to contract again. As a result the Universe would collapse to a big crunch.

But how can the gravitational attraction between different galaxies dominate the repulsive or expanding forces of dark matter and dark energy in which these galaxies are performing their actions.

The total density of all galaxies etc may be very much less than the total density of matter and energy. This is similar to presence of ships and other living bodies performing their actions in the ocean. Here the density of water is certainly much more than the density of all the bodies resting or performing their actions in it? There would have been a situation of standstill. If the density of the water would have been less than the bodies resting in it then how these bodies would have performed their actions in it? Similar is the case of the different galaxies performing their actions in the dark matter and dark energy of spacetime fabric. Therefore the density of the dark matter and dark energy has to be bigger than the density of the Universe containing galaxies etc. As such the density of the Universe can't stop the expanding of the Universe by dark matter and dark energy of the spacetime fabric, up to the outer influential zone of the gravitational attraction zone of DBOSG.

The distant supernovas and galaxies that are moving fast away from us may be due to expanding Universe. This will look like movement of ship or log of wood resting in the ripple or wave toward the

shore at the time of high tide. In the case of ocean the ripples or waves will hit the shore, a hard or rigid surface, and rise up because of presence of a wall or boundary at the contact of ocean water that is resting on a medium, a rock. As a result all the bodies resting within the ripples will hit the hard rock at the shore, lifted and damaged. But, in the case of universe since there is no boundary or wall at the contact of any celestial body and the matter and energy of spacetime fabric (a flexible medium) on which these bodies are resting or performing their actions. As a result the waves or ripples containing galaxies, planets, stars etc within their curvatures or warps in the matter and energy of spacetime fabric are free to move in the direction of propagation of waves. This is the only reason that the distance between two gravitational curvatures or warps or ripples or dents is increasing, without affecting the celestial bodies, like galaxies and stars resting within them.

Our Universe will expand till it is negotiating the gravitational waves/energy (negative force) of the DBOSG in the expanded reach of the Universe. In this reach the light or electromagnetic

waves intertwined with gravitational waves of the dark matter and dark energy has to exert more force / pressure in the reach of higher gravitational waves / energy (negative force) of the DBOSG as well as the gravitational attraction between different galaxies, and cover more area i.e. by making larger cones or waves and lose energy while moving upward against negative gravitational energy of DBOSG and all the galaxies. Due to this the light will lose energy by increasing its wavelength to cover a larger area and thus will decrease its frequency. As a result the speed of the waves will not accelerate. So, there will be only expansion of the universe. The Universe, at present, is expanding, but not at the rate that was happening during the time of inflation immediately after Big Bang; in other words the density of the dark matter and energy (these are responsible for repelling force) of the Universe responsible for expansion of the Universe is not that much strong compared to the inflation and / or expansion of gravitational force at the time of Big Bang singularity, i.e. during early stage of the Universe when gravitational waves tied with electromagnetic waves were in quantum state.

And, if the Universe is at present expanding then the distance between two ripples / waves having different galaxies that contain stars, planets, satellites etc is also expanding. "Stephen W Hawking [5] writes, even if the Universe is going to recollapse, I can confidently predict that it will not stop expanding for at least ten billion years" [133].

This phenomenon of expanding of the Universe is similar to the ocean water along with sediments flowing from ocean to the land when there is reverse cycle of erosion, transportation and deposition by the water currents. Here also, in the initial reach or flood plain area the water along with sediments will expand or spread out in larger area, which was formed by the rivers during their flow from mountainous region. Again, the rivers along with sediments will flow at high velocity in a narrow region or width comprising of gullies, and gorges, which were formed during the journey of the rivers to the ocean. Similarly, all the galaxies having stars, planets and other celestial bodies will move at high velocity to smaller region, i.e. in the region of DBOSG or within the region of inflation, during their final journey for contracting, due to

Super gravity of DBOSG. At this moment of time even the light of all bodies coming near to the affected zone of DBOSG will also be dragged by its infinite density.

Nothing in the Universe is stationary; everything is rotating and moving at certain critical speed in the spacetime fabric in the Universe. All the galaxies having stars, planets, and other celestial bodies in the Universe, from North Pole to South Pole, are rotating and moving under certain critical speed in a fixed direction, simultaneously and uniformly towards only one destination, i.e. the DBOSG. For this the stars, planets and other celestial bodies should be within the gravitational waves of their source, like galaxy, as Earth is within the gravitational waves of the Sun, and the Sun is within the gravitational waves of the milkyway galaxy, which in turn is within the gravitational waves of the DBOSG. If it is not so, then during expansion of the Universe all the stars, planets, and other celestial bodies can't move simultaneously to DBOSG. The extent of all the galaxies, from one end to other end must be within the closed circular gravitational waves of the DBOSG, wherein a

particle is occupying one point of space at each instant of time. The gravitational waves of DBOSG in the spacetime fabric, from North Pole to South Pole of the Universe, and the gravitational waves of the Sun in the Solar System must be travelling with certain critical velocity and by following the law of inverse square and remaining within the limits of uncertainty, but due to continuous propagation of gravitational waves right from the time of big bang singularity and formation of the Sun, any region and point in the spacetime fabric is not empty or does not remain out of these waves.

This phenomenon is similar to river water flow with certain velocity from source, mountainous area, to the ocean, which takes some time to reach to the ocean, but there is continuous flow or sheet of water in the river, right from the source to the ocean. This is the reason that not a single point or length of the river remains empty throughout the course of the river. The velocity of water, in a mild sloping plane, can be judged by the wooden log floating on the surface of water. However, if we see the complete river water column, it appears as if the river water is stationary, or is not flowing at all.

Here, we can't separate the position and the velocity of the water (already existing in the river channel and being added a fresh water coming, at each instant of time, from the source) that is flowing at certain velocity and at certain position and time. This is called uncertainty.

This is similar to the rivers flowing from source to ocean. However, on the Earth there are several rivers, which carry the sediments in different directions and slopes based on a structural features already existing on the surface of the earth in certain directions or by erosion of the earth by excessive volume and velocity of water, from the source to the different locations of ocean. The final destination of all the rivers on the Earth is also only one object, i.e. ocean. But, in the case of the Universe, since all the galaxies having stars, planets, and other celestial bodies are existing within the different ripples caused by DBOSG in the matter and energy of smooth, frictionless, and homogenous spacetime fabric having no boundary or edge, the galaxies, from one end to other end, are compel to move, simultaneously and uniformly toward the DBOSG. This is similar to the case of a

ball tied to at one end of a rubber band; the ball will move away by giving repelling force to it by the mover, and will come back to its initial position after release of the tension in the rubber band. And, once the ball moves away from its original position to distant point the mover does not have any control on it. It is the rubber band that has control over the ball; or in other words the fate of the ball is dependent on the rubber band, once it leaves its original position. If the rubber band is broken in middle or any part of its length then the ball will not come back to its original point. Similar, is the phenomenon in the case of celestial bodies. Once the galaxies having stars, planets, and other celestial bodies move, from their initial position, by the movers, i.e. the dark matter and dark energy, the movers don't have any control over the galaxies; it is the waves or ripples that carry these galaxies to their destination, i.e. the DBOSG.

All the stars, planets, and other celestial bodies within the galaxies are free to rotate and orbit independently of the rotation and movement of the galaxies, while lying within wave or ripple of their source, like Earth rotating and moving around

the Sun, and all galaxies rotating around the DBOSG. This is similar to the passengers performing their actions within the compartment of a speeding train in certain direction. The train having a speed of 150 km / hrs may be covering about 41.7 m in a second, but the passengers who are within the compartment of speeding train may be doing their normal work, like moving, jumping and doing other things similar to the way on the surface of the earth in an open air; but the movement of the passengers is not affected by the speeding train.

The overall fate of the stars, planets, and other celestial bodies within the galaxies is solely dependent on the movement of the galaxies, whose fate is dependent again on the ripples on which they are staying; in other words the final destination of all the stars, planets, and other celestial bodies within different galaxies is governed by the movement of the galaxies. This is similar to the passengers within speeding train, whose destination is governed by the mover.

12.2 Existence of Intelligent Life and other

Living Beings in the Land and Ocean on the Earth indicates Expanding Universe

The living beings of water bodies, like ocean and lake can't evolve and develop whose water is static and /or decreasing. These living beings can only survive in a water bodies whose water is constantly being circulated or expanded by the ripples or waves, though these water bodies have wall or a boundary. In the case of Earth, the satellite, Moon creates substantial tides that are believed to have played a role in the development of lives in the ocean. Similarly the living beings on the Earth's surface can't evolve and develop in a static environment wherein there is no circulation of air, change in Sun's temperature, potable water for drinking, and growth of flora and fauna that become source of food. The living beings also can't evolve and develop in a contracting or congested environment that is constantly subjected to catastrophe, like repeated folding (i.e. compression), faulting, landslides, earthquakes, catastrophic floods, etc.

In a static Universe there will not be movement of matter and energy of spacetime fabric and in turn the celestial bodies like galaxies, stars, planets etc will not rotate and move and as a result there will not be generation and propagation of gravitational waves. In consequence the planets, like Earth and its satellite, Moon will also not be able to move along certain orbital path. As a result there will be absence of congenial atmosphere on the Earth to evolve and flourish living beings, including intelligent lives, like we humans. Similarly in a contracting Universe the matter and energy of spacetime fabric will squeeze to smaller volume and as a result the celestial bodies will not be able to function in such situation. As a result there will be a total chaos and absence of any creation throughout the Universe. So the possibility of evolution and development of living beings in a static and/or contracting Universe is not possible.

The role of matter and energy of spacetime fabric in the entire Universe is most important due to their homogenous, frictionless smooth nature, and absence of any boundary within them throughout the Universe. The Universe when

expands due to repulsive force exerted by the matter and energy of spacetime fabric, the disorder increases in the direction of expanding, which is towards DBOSG. By this way the Universe, for some time, will expand in the zone of gravitational energy of DBOSG, or in already expanded region after Big Bang singularity, in a smooth or ordered state because of no - boundary condition and smooth and homogenous nature of matter and energy of spacetime fabric. In an expanding Universe there won't be restriction in the functioning of matter and energy of spacetime fabric and in turn rotation and movement and generation of gravitational waves by these celestial bodies like Sun, planet Earth and satellite like Moon in the spacetime fabric, and thus existence of a suitable environment for evolution and development of living beings, including the intelligent beings, like we humans. So, the evolution and development of living beings, including intelligent lives, like us is possible only in an expanding Universe, and that too with no - boundary condition within matter and energy of spacetime fabric." Stephen W Hawking [4] writes, the no – boundary condition implies that

the Universe will be spontaneously created out of nothing" [119].

The Universe, at present, is expanding wherein the distance between two waves or ripples having galaxies, stars, planets etc within them is increasing by the repulsive force of the matter and energy of spacetime fabric in the direction of expansion of the Universe, which is towards DBOSG or bottom side or old side, wherein the cosmological arrow (expanding of Universe) and disordered arrow (thermodynamic) are pointing in the same direction.

12.3 Contracting Universe

Our Universe will contract and lost forever when it will approach the gravitational attraction zone of the DBOSG; or in other words when all the matter and energy of spacetime fabric along with stars, planets etc. within the different galaxies of the entire Universe will finally approach the inflation zone or gravitational attraction zone of the DBOSG. At this moment of time the Super Gravity or infinite density of DBOSG will stop the expansion of the Universe and cause Universe containing all

galaxies, stars, planets, and matter and energy of spacetime fabric to re-collapse. This will be the first cycle of contracting or collapsing or end of the Universe, because the Big Bang singularity was first cycle of creation of the Universe, since there is nothing south of the South Pole, i.e. south of our blue planet, Earth. The Earth is in top side or recent side of the Universe. "Stephen W Hawking [7] writes, the Universe would start as a point at the South Pole, but the South Pole is much like any other point. To ask what happened before the beginning of the Universe would become a meaningless question, because there is nothing south of the South Pole" [172].

Now onward there will be repeated cycles of creation and end of the Universe. We have observed that, on the Earth, there are repeated cycles of rains, and resulting precipitation, saturation of land mass, erosion, landslides, transportation and deposition of continental sediments along with fauna and flora into the ocean. As a result, one day the deepest level on the Earth that is occupied by the ocean will be replaced by the continental sediments. And the mountainous, forests, and other landmass areas that

have had been eroded by the water will, gradually, be replaced by the ocean. It has been recorded that the Mount Everest which is about 8848 m high from m.s.l. and consists of limestone of Permo-Carboniferous age (359-252 Ma) is located in the area that was once occupied by the sea. So, the above phenomenon suggests that the things on the Earth are cyclic and this phenomenon should also apply to the celestial bodies in the Universe.

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