Universe and Life

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Running Title: *The Cause of Gravitation based on a New Space Concept emerged out of Biology*

Abstract: *SPACE is primitive life, intelligence and the ultimate, blissful form of the Powerful Being, which has no particular shape. Life originates only from pre-existing Life. Two greatest mysteries- 'life' and 'gravitation' are interrelated. Space-realization is essential to find out the answer to both. The cause of gravitation is 'space evacuation' (space-entry or space feeding), which is a biological process caused by the Living Universe. All the particles are part of the Great Life of the Powerful Being and everything is inside it. Therefore, nothing in the universe is non-living; it is the local vision that causes the distinction. Every force is a contact force irrespective of whether it is perceptible or not. No space-time warp can cause a motion unless something is pushing or pulling. The local effects of forces should be judged against the tremendous motion every object is subjected to. In gravitation or magnetism objects are pushed by the most powerful entity, the space; but just like gravitation, the weakest of all forces that governs the universe, space remains hidden yet controls everything including DNA replication and propagation of electromagnetic waves.*

Keywords: Newton, Einstein, Niels Bohr, Gravitation, Planetary rotation, Relativity

Searching The Powerful Being

"Discovery of space will be one of the greatest discoveries of the century."-Carl Sagan.

"The idea of gravity acting at distance is so great an absurdity that no man who has in philosophical matters a competent faculty of thinking, can ever fall into it."
<div align="right">-Sir Isaac Newton</div>

"I am quite convinced that someone will eventually come up with a theory whose objects, connected by laws are not probabilities but considered facts."
<div align="right">-Einstein challenging Bohr</div>

"An intelligence knowing all the forces acting in nature at a given instant, as well as the momentary positions of all things in the universe, would be able to comprehend in one single formula the motions of the largest bodies as well as the lightest atoms in the world, provided that its intellect were sufficiently powerful to subject all data to analysis; to it nothing would be uncertain, both past and future would be present to its eyes."
<div align="right">-Perrie Simon de La Place</div>

It is true that only God can fulfil La Place's mighty concept, yet, I could achieve it to a certain extent by hard work. The final results appear simple but I sacrificed my life for it. I don't care if it fits into human brain since the ideas like space evacuation, relativity of distance, latent velocity etc. are no less queer than mass relativity and time dilation.

1. Introduction

A hyperdimensional unified theory or a quantum account of general relativity is expected to solve the riddle of gravitation. Is there no alternative?

What is the cause of gravitation? How can matter distort space-time at distance?

Can anyone find out the mystery that eluded great geniuses as Newton and Einstein? Why couldn't they reach the cause? Why did Einstein take refuge in the advent of another theory after he got defeated by quantum theorists? Why did Carl Sagan, who started searching the answer to space at eleven, predict at old age as given above? If the secret of space is without any fundamental change in concepts, then, how can it be a great discovery?

Newton and Einstein, two of the greatest minds the world has ever seen, couldn't answer the cause of gravitation. That means, it may not come under human mind. If so, how can someone ever hope to trace it out?

It is their method that denied them realizing space and thereby gravitation. There is a strange way! It may be unknown to physical science but a few people in the ancient time tasted it. Those were great philosophers/prophets/hermits lived not only in India but in many other parts of the world like Greece, The Middle East, China etc. In India, they left behind The Upanishads, sit nearby (it is to whisper the secret)!

This method was not meant for finding out the cause of gravitation (those enlightened ones must not have even thought of such a thing as gravitation) but to reach the highest knowledge possible for mortals. It was to realize the ultimate reality-SPACE or Cosmic Soul or Great Life! Once space is realized, it is understandable to a certain extent because space, as stated earlier, is not coming under the grasp of human mind. Here space does not mean the outer space alone. It is the very stuff of everything. Mass, energy, life and time are its varied expressions only.

What is the difference between understanding and realization? A simple example: a person in a landlocked country can understand ocean as vast, salty and wavy by

reading or hearing about it. If she/he crosses the country, reaches a beach, swims in the ocean, tastes the water she/he can realize it to a certain level. If the person engages in scuba diving, the realization is better. Still there are wonderful realms like coral reefs, abyss etc. The more the person explores, the greater is the realization.

There are many different methods for realizing space. The easy method (it may take only a few years or decades) is asceticism. It is not by renouncing one's duties but performing every work as perfectly as possible in a detached way. One should understand that it is not he/she but the organs only are at work. Gradually, the person will be able to control his/her energy flow and reach a level almost equal to death. One should almost die while still alive to come in unison with space to realize it. Another method is meditation. An introvert can accomplish it faster. The humiliations and sorrows may help to renounce worldly pleasures. Whatsoever be the path, the purpose is the same -controlling one's energy flow that differentiates the microcosm from the macrocosm. The people who realized space called it by different names. Yet, to the best of my knowledge, none of them has described the cause of gravitation and therefore, let me venture (I realized space by 28, starting at nine. Now I'm sixty plus). Space is the Eternal Truth and Life. Life originates only from pre-existing Life. Life and gravitation are interrelated!

The cause of gravitation may be unbelievable since belief and understanding are properties of mind.

A convict can produce hundreds of people who had not witnessed his/her act of crime but the court accepts the testimony of a true witness against those hundreds. This is same with space; rely on the words of the one who could realize space rather than of the ones failed to accomplish it. There is the intelligence-SPACE-that creates, maintains and destroys everything. It is everywhere but acts as if it were not there!

Now let us go to the cause and its mathematical proofs. I have a humble request to dear readers. As this is not based on present notions, please keep them, including a few proved concepts in science, aside **at least for the time being.**

2. The Cause of Gravitation

The cause of gravitational force is space-entry or space evacuation or space feeding. It is a very complicated phenomenon happening at or beyond the velocity of light. When stars produce energy, mass is converted into space, expressing energy. Gravitation is its opposite process. In other words, gravitation is not the conservation of energy, but conversion of space to mass! Mass and space are the two sides of the same thing, not mass and energy. That is why energy can be converted from one form to another. Just think of PE and KE. This would be clear. What does mass do in their interconversion? Any claim of mass-production by annihilation of energy is due to the improper understanding of 'space', 'mass' and 'energy'.

Energy is not an entity but an expression of either matter or of space. It was due to the fault in unifying mass and energy that, special relativity could not explain gravitation and

Einstein had to come up with general relativity; still compelled to predict the advent of another space concept, challenging Niels Bohr. From a philosophical point of view, with present scientific knowledge, if matter is 'frozen energy' 'or shrunken energy' (according to Einstein's equation) why is it not disintegrated back into energy? Does m=E/c^2 tells us of it? This brilliant economical equation, although works well, is a retreat from a very, very complicated problem. Yet it may be considered an outstanding achievement forever because m mass can express only mc^2 energy; the reason behind it (relativity of distance in a tremendously moving universe and hidden velocity or latent velocity thereby) is also very interesting and complicated!

Major Proofs for Space Evacuation as the cause of Gravitation
1) **m^3** in the unit of universal gravitational constant.
2) Existence of inverse square law.
3) Coincidence of inertial and gravitational mass.
4) Law of Planetary Rotation.

Proof 1: Meaning of m^3 in $m^3kg^{-1}s^{-2}$ (=Nm^2kg^{-2}) in the unit of G

Great Newton started his equations of gravitation based on Kepler's Laws, which in turn, as scholars know, was built on Brahe's data. Newton was after the effect of gravitation since the genius was unaware of the cause. This space concept is based on the cause. Therefore, new equations have to be developed directly from Kepler, skipping the effect-explaining gravitational equation of Newton. **As effect is due to cause,** whatsoever new equations developed based on the **New Space Concept** will be related with Newton's equation. Then, why should we develop new equations? Surely useless, and waste of time! Newton's equations on gravitation work well in normal cases except in situations like black holes (there is possibility of space holes also, that, even a supernova explosion cannot create but space can). This attempt is not at all to challenge or change Newtonian equations but to explain the cause. Therefore, please bear with me those who wanted to know the cause.

Kepler did the greatest thing what was possible for that studious genius at his time; $T^2 \propto r^3$! Time itself is an illusion and hence, square of time when related to cube of distance was the beginning of a defective science although it has tremendous meanings as long as it works and since a few more equations could also be developed from it. Yet, for a true philosopher it is as meaningless as a mirage and he/she would **search for alternatives.**

This theory states that space (the ultimate stuff of the universe) is entering en masse to every object that has mass, and causes the effect of gravitation. To describe the phenomenon of space evacuation, a new elementary particle model is necessary. The model should express how the space packets, the quanta of energy or fields, are orderly arranged to form mass. It should explain why mass is not being disintegrated back to energy (or space). It should describe β-decay, how 2 unequal masses (proton and electron) with equal and opposite charges are formed. It should deal with the reason behind these charges. It must also describe 'energy absorption and release' as one might call it and the structural

change it causes to particles when each quantum of energy is absorbed or released.

The model should explain why quarks (if any) have fractional charges and how these are assembled to form integrated particles like proton or neutron and they in turn assemble forming bigger clusters that we call 'atoms' today. A model that describes these types of things can explain space-entry, the cause of gravitation and other forces like electromagnetic and nuclear forces and other phenomena like quantum entanglement in a better way than any single theory can do today. This is the incorporation of quantum theory into gravitation and other forces. Since the author is unaware of the existence of such a model, a new morphological one is proposed and it is already published in my recent book (the link is given at the end). Lots of mathematical input is required, and for that a person should have profound knowledge in quantum theory and mathematics. Since I, a biology teacher, am not the one suitable for it, let me leave it for the specialists. If anyone is interested, may do it or just leave it! This essay is meant to deal only with the cause of gravitation.

Space-entry is a slow process with respect to a particle. It may take long time for a particular amount of space to get converted into a quantum of matter and to get integrated into a particle. As a body has enormous number of particles the inflow or influx of space becomes appreciable. It causes gravitation. Gravitons, neutrinos etc. shall be there. But these are not the cause. Mind or machine cannot detect space-entry just as we cannot perceive or feel the motion of the earth directly. It is due to the conversion of space to mass that the charge of particles is changing now and then, causing transformation of particles. We can detect the change in charge, but cannot measure the change in mass **occurred due to gravitation.** Why? Our measuring units are also changing by the same degree!

If a person has ocular limitation in perceiving seawater but only boats and ships, he/she might be astonished watching them disappear into a mighty whirlpool. Gravitation is just like that; one can see materials attracted towards bodies, not the tremendous inflow of space into them.

How is space, the real subtle ultimate stuff of the universe, compensated? It is during the process that we call energy production. And mass is formed from space! According to the mass of each object, space is merging into it. Space-entry shall be general or specific. Gravitation is general space-entry while magnetism is specific along with general.

Space-entry of the sun is felt as gravitational pull of the sun on the planets and other bodies in the system. It is a process of continuous space evacuation. A system of acceleration comes into existence by this process. If space is ever distorted and if it is expressible as Einstein did in General relativity it is due to the miraculous space-entry. Something bends. Can absolute nothingness curve? Nothing moves without a push or pull!

Since this concept argues that gravitation is due to space-entry, and since space is entering volume wise and causes the force of gravitation, the velocities of planets should be inversely proportional to the volume-wise distance from the central mass (sun) as long as the planets are revolving (Why? Since the volume of space entering depends on the mass of the central bodies, it is a constant for the sun or any other bodies).

By trial and error, it was found that for a given central mass,
$$v^6 \propto \frac{1}{\frac{4\,\pi r^3}{3}}$$

$$v = k \times \sqrt[6]{\frac{1}{\frac{4\,\pi r^3}{3}}}$$

k is related to G, the universal gravitational constant through
$$\sqrt[6]{\frac{4}{3}\pi}$$

Had Newton been given g and v

Just for aesthetic value let us see what such a great genius as Newton would have done if he was not given Kepler's 3rd law and if he were given various data of g at different distances from the sun and v, the orbital velocity of planets at those distances. Certainly, g is calculated using Newton's equation but imagine it were available using some machine at different distances from the sun. **Let Newton be provided with the concept of space-entry!**

The sun exerts force of attraction on the planets due to space-entry of the sun. Therefore, the value of g (acceleration due to gravity of the sun, not of the earth) at a particular distance from the sun should be proportional to the orbital velocity at that distance. Or else, they should fall into the sun. By analysing the data of g and v he would find out by trial and error (as Kepler traced out $T^2 \propto r^3$ by Pythagorean heritage of trial and error) that,

$$v^4 \propto g$$

That is, at $r_1, r_2, r_3 \ldots r_n$, for a given central mass $v_1^4/g_1 = v_2^4/g_2 = v_3^4/g_3 \ldots = v_n^4/g_n$, where, $v_1, v_2, v_3 \ldots v_n$ and $g_1, g_2, g_3 \ldots g_n$ are orbital velocity and acceleration due to gravity at $r_1, r_2, r_3 \ldots r_n$ distance of planets from the sun respectively.

Since g towards the sun is depended on the mass of the sun, he can generalize (if he has such data of g at the position of the earth and a few more) by trial and error as,

v^4/gM = a constant, where, M is the central mass.
What is the constant? G!
$v^4/gM = G$

What is its unit? $m^3 \, kg^{-1} \, s^{-2}$! Why does this m^3 appear? Space is entering volume wise!
It is also $N \, m^2 kg^{-2}$, that shows the causative force.
Since $v = 2\pi r/T$ he would reach
$T = 2\pi r /(gMG)^{1/4}$

This is the same thing that Newton did using Kepler's law. The cause of gravitation could also have led him to the same derivation.

Proof 2: Existence of Inverse Square Law

Sir Isaac Newton mined out inverse square law hidden in Kepler's law. Newton could not realize space or space-entry

(though he was very close to truth by attributing space as, 'dwelling place of God'). It was hiding in $4\pi r^2$, which helped him derive it. He considered gravitation acting three-dimensionally; Kepler conceived it two-dimensional.

To heavenly bodies, space enters through an area $4\pi r^2$ every second. This $4\pi r^2$ area increases with increase in distance r from the centre of the body. When r is doubled the area increases 4 times. If such a space-entry or space evacuation happens it should be a constant volume according to the mass. Since the volume of space enters is a constant, the thickness of space that has to pass through $4\pi r^2$ area decreases with increase in r (**this may not be the real volume but effective volume causing the force**). This results in diminishing of attractive force with distance. The force caused due to space-entry should be directly proportional to the mass and inversely proportional to the area through which it passes.

$F \propto 1/4\pi r^2$ because, the thickness of space passing through $4\pi r^2$ decreases with increase in r.

Since the space enters is proportional to the mass
$F \propto M$, where, M is the mass of the body.
$F \propto M/4\pi r^2$ $F = KM/4\pi r^2$
Value of $K = 4\pi G$. That is, $4\pi GM/4\pi r^2 = GM/r^2 = g$ where, g is the acceleration due to gravity.

When $4\pi G$ force acts through $4\pi r^2$ area it results in g. Here g is the force caused due to space-entry. There is tremendous philosophical difference between GM/r^2 and $4\pi GM/4\pi r^2$. The former shows the effect while the latter the cause!

The simplified version gives a false notion that the attractive force between two bodies is inversely proportional to the square of the distance. Of course, r is also distance. How or why the force of attraction should reduce if space is absolute vacuum? Particle exchange is not at all a logical justification for the attractive nature of gravitation although it may be useful to explain repulsive forces.

Proof 3: Coincidence of Inertial mass and Gravitational mass
Gravitation is a continuous force. Even if the body is falling (merging) freely, the force is still there and hence the body is accelerated continuously. It is not like any other contact force. As stated earlier, gravitation is caused by the incoming space. A freely falling body obeys the nature of space in a gravitational field and hence it undergoes weightlessness.

Blocking an object against gravitational field is equal to accelerating it against relatively stationary space because gravitation is incoming space. When someone measures inertial mass and gravitational mass, the person does the same thing **although he/she is using totally different methods and equipment!** There are no two masses!

How can someone get two different values when he/she is measuring the same thing? Since the person does not know what gravitation is, he/she thinks that he/she is measuring inertial mass when an object is accelerated at the same rate at which it would fall. **Here, this space concept challenges analysis and deduction conducted by human mind!**

Proof 4: Possibility of a Law of Planetary rotation
Much is there to talk about the deep theory behind the following equation developed through trial and error based on the secret of life and cause of gravitation, but since it is beyond the scope of this essay, just the equation is presented here. Time of rotation of planets,

$$T \cong \frac{d^{\frac{1}{1.25}} \times (1+e)^6 \times (1+\tan incl.)^{\frac{1}{2}} \times K \times Cm}{(Vs-v)^{6.77} \times (1+\cos tilt)^{\frac{2}{3.06}} \times R^{1/24}} \quad \text{.....................(2)}$$

Here, the value of K=0.00292

Time obtained using the above equation

Planets/ bodies	Observed time (in days)	Time obtained using the above equation (in days)
Mercury	58.6462	58.0987
Venus	243.0187	243.7624
Earth	0.99727	0.99482
Mars	1.025957	0.97068
Jupiter	0.41344	0.422825
Saturn	0.44401	0.51839
Uranus	0.71833	1.08492
Neptune	0.67125	0.644
Pluto	6.3867	8.815
Moon	27.32166	27.1997

where, T = Time of rotation of planets
K= a constant of rotation.
Cm= Central mass (mass of the sun for planets and mass of the planets for satellites)
d = Distance of the planets from the sun;
e = eccentricity of planets tilt = Degree of inclination of equator of planets to orbit.
Vs = Orbital velocity of an object required at the synchronous satellite position of the sun or any central mass. Taking the rotation time of the sun as **25.38** days, the synchronous satellite position of the sun is at **2.52815599 E+8** m away from the centre and hence, Vs= 72440 m/s
v = Orbital velocity of planets
Incl. = Inclination of orbit to ecliptic
(Lots of mathematical perfection is required for the above approximation. Our science is yet to begin compared with the mystery of life and death and working of the universe!)

Calculations using the formula,

$$T \cong \frac{d^{\frac{1}{1.25}} \times (1+e)^6 \times (1+\tan incl.)^{\frac{1}{2}} \times K \times Cm}{(Vs-v)^{6.77} \times (1+\cos tilt)^{\frac{2}{3.06}} \times R^{1/24}}$$
.....................(2)

$$\text{Mercury} = \frac{(5.791\,E+10)^{\frac{1}{1.25}} \times 1.2056^6 \times 1.1228554^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{24570^{6.77} \times 2^{2/3.06} \times 243970^{\frac{1}{24}}}$$
$$= \frac{7.7019702\,E+36}{1.5343822\,E+30} = 5019734s = 58.0978 \text{ days}$$

$$\text{Venus} = \frac{(1.018\,E+11)^{\frac{1}{1.25}} \times 1.007^6 \times 1.0593^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{37420^{6.77} \times 0.001106134^{\frac{2}{3.06}} \times 605180^{\frac{1}{24}}}$$

$$\frac{4.1887626\,E+36}{1.9888645\,E+29} = 21061076\text{s} = 243.7624 \text{ days}$$

$$\text{Earth} = \frac{(1.496\,E+11)^{\frac{1}{1.25}} \times 1.0167^6 \times 1.00^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{42650^{6.77} \times 1.9174^{2/3.06} \times 637814^{\frac{1}{24}}}$$

$$\frac{5.5862433\,E+36}{6.4992066\,E+31} = 85952\text{s} = 0.99482 \text{ days}$$

$$\text{Mars} = \frac{(2.2794\,E+11)^{\frac{1}{1.25}} \times 1.0934^6 \times 1.0323^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{48310^{6.77} \times 1.90678^{2/3.06} \times 3396900^{\frac{1}{24}}}$$

$$\frac{1.229848\,E+37}{1.4664328\,E+32} = 83866\text{s} = 0.970678 \text{ days}$$

$$\text{Jupiter} = \frac{(7.7833\,E+11)^{\frac{1}{1.25}} \times 1.048^6 \times 1.022833^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{59380^{6.77} \times 1.9985^{2/3.06} \times 7149200^{\frac{1}{24}}}$$

$$= \frac{2.5352378\,E+37}{6.9397447\,E+32} = 36532\text{s} = 0.422825 \text{ days}$$

$$\text{Saturn} = \frac{(1.4294\,E+12)^{\frac{1}{1.25}} \times 1.056^6 \times 1.043345^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{62780^{6.77} \times 1.90386^{2/3.06} \times 6026800^{\frac{1}{24}}}$$

$$= \frac{4.3587302\,E+37}{9.7316961\,E+32} = 44789\text{s} = 0.51839 \text{ days}$$

$$\text{Uranus} = \frac{(2.87099\,E+12)^{\frac{1}{1.25}} \times 1.0461^6 \times 1.0135^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{65640^{6.77} \times 0.86247^{2/3.06} \times 2555900^{\frac{1}{24}}}$$

$$= \frac{7.0924138\,E+37}{7.5662643\,E+32} = 93737\text{s} = 1.08492 \text{ days}$$

$$\text{Neptune} = \frac{(4.5043\,E+12)^{\frac{1}{1.25}} \times 1.009^6 \times 1.03097^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{67000^{6.77} \times 1.8695^{2/3.06} \times 2476400^{\frac{1}{24}}}$$

$$= \frac{8.2582778\,E+37}{1.4394634\,E+33} = 57370\text{s} = 0.664 \text{ days}$$

$$\text{Pluto} = \frac{(5.91352\,E+12)^{\frac{1}{1.25}} \times 1.251^6 \times 1.30764^{\frac{1}{2}} \times 0.00292 \times 1.989\,E+30}{67704^{6.77} \times 0.47008^{2/3.06} \times 115100^{\frac{1}{24}}}$$

$$= \frac{4.2003206\,E+38}{5.5148917\,E+32} = 761632\text{s} = 8.815 \text{ days}$$

For the moon, the central mass is the earth and hence data are processed accordingly.

$$\text{Moon} = \frac{(3.844\,E+8)^{\frac{1}{1.25}} \times 1.05^6 \times 1.09024^{\frac{1}{2}} \times 0.00292 \times 5.976\,E+24}{2055^{6.77} \times 1.99963768^{2/3.06} \times 173800^{\frac{1}{24}}}$$

$$= \frac{1.8010136\,E+29}{7.6636972\,E+22} = 2350058\text{s} = 27.1997 \text{ days}$$

Possible Reasons for Imperfection

1) **Mathematical imperfection:** better mathematical techniques may be required. For example, the minus value required for Venus. Method used in the incorporation of eccentricity, inclination and tilt may need revision.
2) **Imperfection of data:** The average rotation of huge gaseous planets and that of the sun may be different from what is observed from outside.
3) **Unavailability of data:** The data of another nearest solar system is required to formulate an equation.
4) **Possibility of intruders:** Although the revolution of all the planets expresses harmony, it would be a little premature to ascertain that all these are formed inside the system. Intruder will take more time to obey the law of rotation, unlike the law of revolution.

References

[1] 'Coming of Age in the Milky Way' by Timothy Ferris (Anchor Books)
[2] 'The Ascent of Science' by Brian L Silver (OUP) and some other simple physics text book of students, Wikipedia etc.

Link to The New Space Concept:
[3] https://www.johnsonpj.com/articles.html
[4] https://www.amazon.com/-/e/B0CLZNZKZK
[5] https://www.amazon.com/dp/9359112402