# Understanding the Limit of Relativity, Dark Matter and the Hubble Shift

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## Abstract

There is fundamental misnomer about what General Relativity describes. This is why Einstein's field equations do not explain the rotational velocities within flattened spiral galaxies. Dilation fields have two different shapes, spherical and flat. Stellar systems are spherical and have only one shape gradient, and events are evolved forward and accelerated sequentially as the dilation gradient deepens. Flattened spiral galaxies have two types of interacting gradients. From above and below the disk, the gradients act across the broad flat surface of the disk, evolving objects forward at the same rate and hence the same velocity. Along the edge the effect is spherical and this causes the circular orbits, as in General Relativity. This paper clarifies how General Relativity describes the evolution of the continuum, how events and spaces evolve forward together and how relative velocities equate to forward evolution within the continuum rather than movement through pre-existing, static, spaces. This approach also allows the Hubble shift to be described in terms of time dilation. Since events are always being accelerated in the rate of time, older frames have progressively slower rates the older they are, creating a time dilation gradient. As we are always being accelerated in time and space, objects in older frames must appear to be accelerating away from us. This eliminates the need for Dark Energy. The theory also describes the dynamics in time by which the CMBR is generated, accelerated, and concentrated, converting the potential energy of the

spacetime continuum into real energy and mass. A proof of the dynamic developed here is LIGO'S Sept. 14, 2015 detection of a "gravity wave"; a distortion in the rate of time, an acceleration in the rate, travelling at C through space and distorting space in the physical form of the antenna, translating the force in time into "real" energy. Also, IBEX failing to find a shock wave at the edge of the heliopause as expected is a proof of the concepts regarding the nature of the continuum explained here, as also might be the "dead zone" discovered by Pioneer 1. The theory also explains black holes and why our limits of perception within a black hole, and at ~ 14 Gly, are due to the ***limit of relativity***, where our perception transitions from time-like to space-like, which is where the difference in the rate of time between frames, the *d*Rt, = 1 s/s, both looking into a gravity well, and looking outward to the limits of perception.

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# Introduction

About two years ago, while considering General Relativity and gravity, I had an inspiration that caused me to rush out the most embarrassing thing I have ever published. I pray no copies remain.

Realizing this, I went back to school, taking refreshers in calculus and studying quantum physics. As I wanted to be able to read and understand Einstein's original papers, I then studied tensor calculus.

Reading Einstein's 1915 paper on General Relativity, "The Foundation of the Generalized Theory of Relativity", has now allowed me to refine my insight so I can directly relate it to General Relativity.

There is no new math here. This paper is meant to clarify what Einstein's equations describe. The reason his equations do not describe what we see in galactic rotation velocities is because we do not understand what the equations describe within the continuum, nor the continuum itself, and so do not know how to apply them to flattened galactic dilation gradients, if that is even possible.

General Relativity does not define an evolution *through space*, but rather the evolution of *the continuum*, events *and space* evolving forward together. What we perceive to be "empty" space is also evolving forward.

This point of view opens the door to many new possibilities and seems to eliminate the Big Bang as a viable theory. As the Big Bang thermodynamics depend on the creation of permanent particles of invariant mass, and since quantum physics has shown no such particles exist, the theory is in any case not viable.

As CERN has produced no results of note, even the discovery of the Higgs boson being suspect, the Standard Theory has also proven to be not viable.

As Einstein said, “Reality is merely an illusion, albeit a very persistent one.”

## About Einstein and General Relativity

Einstein’s equations accurately describe the dynamic *effects* of gravity on a particle moving within a time dilation gradient, and they work well in a spherical system centered on a spherical mass, but do not always describe what we see on the galactic and cosmic scales and, hence, we are looking for “Dark Matter”, to make his equations work for galaxies, and “Dark Energy” to explain the Hubble shift. However, the real reason they do not always work on these large scales is because these are not spherical systems and General Relativity, GR, does not define gravity, only the effects of gravity under certain circumstances. Einstein did not find or define a force. He was only defining how the effects of the force are manifested as events in the time-dilated continuum evolve forward under certain circumstances.

I will be quoting Einstein’s 1915 paper on GR, “The Foundation of the Generalized Theory of Relativity”[1], throughout this paper.

In § 4 he states, “According to the general relativity theory, gravitation thus plays an exceptional role as distinguished from the others, especially the electromagnetic forces, in as much as the 10 functions $g_{\sigma\tau}$ representing gravitation, define immediately the metrical properties of the four-dimensional region.”

This statement makes it clear that his equations only “represent” gravitation.

There are also many misnomers about what the equations are describing and what it means to “evolve forward” because people do not understand what the continuum is and how it manifests.

It is the author’s belief, for reasons delineated later, that the spacetime continuum is eternal. It is also a “singularity” whether it has the volume of a grain of sand, or has an infinite volume. Both aspects of spacetime, space

and time, can be perceived to have substance in that they are cohesive within themselves, and with each other in that they must maintain a proportionality to maintain C. C is always accounted for through a proportional relationship between time and space. If either time or space equaled "0", there would be no C, for obvious reasons. By the same token, there is an upper limit to the change in proportionality. The difference in the rates of time between frames cannot exceed 1 s/s for them to remain time-like, as developed below.

Considering a *in vacuo* state as Einstein uses in his fundamental metric, as spacetime is at least *perceptually* infinite and eternal, the Heisenberg Uncertainty Principle allows the spacetime continuum to be full of an infinite energy potential. According to this theory, time rate fluctuations translate the potential energy into real energy by putting stress on space to evolve "forward" at different rates in adjacent frames throughout the continuum and space is cohesive and resistant to change. Adjacent frames cannot evolve forward at different rates without creating stress, tension and a relativistic *movement* due to the dynamics in time discussed below. It is the relativistic evolutionary movement, the "Lateral Flow", that translates the potential energy into real energy.

As per Heisenberg, there can be fluctuations in the rate of time on any scale since virtual particles are always popping in and out of existence.

One then asks if the CMBR could be the result of the simple fluctuations in time? Would those fluctuations generate motion and energy densities? As per this theory, this is most probably so. The fluctuations also originate the relative motion by which the energy densities are concentrated and magnified through gravitational acceleration, as developed below.

We perceive the universe as though spaces, and objects (events) within it, pre-exist and that the objects (events) are separate. In one respect they do pre-exist, as the events were set in motion in the past. But these spaces and events do not exist in the future, nor the past. Nor do they exist independently of one another. They only exist in the present evolving moment of the energetic spacetime continuum, i.e., even if it is expanded to infinity, the continuum is still a singular thing that only appears to have separate parts. Because it is a continuum, regardless of its volume, we can

have quantum entanglement, superposition and dual wave/particle properties.

As we know through quantum physics, solidity does not exist. Until we observe something, only superposition waveforms exist. As such, bodies (events) are not moving "through" or "in" a pre-existing space. Spaces, and the apparent positions in space of events relative to other events, change in their appearance as the continuum evolves forward due to the changes in time. The perception of moving "through" a pre-existing space is an illusion. The space is evolving forward, too. Think of swirls in an oil slick floating on water that is being heated gently from below. Events are evolving forward primarily in place and "space spaces" are also evolving forward in time with the rest of the continuum. The author postulates that this explains why IBEX[2] did not find a bow shock at the edge of the heliosphere, as was expected, and why Voyager 1 has entered a "dead zone"[3] where solar particles just seem to stop and are not affected by the expected stellar winds.

When driving down the road, the road is not there waiting for us. The road is also evolving forward in the continuum, always changing, but in the same place relative to adjacent frames so it is there for us as we evolve forward *and* move through the continuum relative to other events. It evolves forward at the same rate we do, maintaining its relative position in time and space, because we occupy the same relative position in the dilation gradient and are therefore evolved forward at the same rate.

As such, all events in space evolve forward, including perceptually empty space itself, "in the forward direction of time", as in the forward evolution of our watch hands.

However, as we experience events as though they are moving "through" space, that terminology will be used throughout this paper.

When we speak in terms of GR, we often talk about "curvature in the forward direction of time". This means that all particles appear to have a curvilinear trajectory through space as they evolve forward in a time dilation gradient. As per this theory, it also implies a second direction for the evolution of time.

The forward evolution of our inertial frames is the same as the perceptual forward evolution of a planet in its orbit: an evolution in time and

space in the inertial frame according to its existing trajectory, velocity and momentum, and we experience a 1 s/s evolution in that direction and experience a C based upon that rate of time.

Einstein doesn't give us a reason for the curvilinear evolution except for time dilation, but it is due to a second, relativistic, direction of time that flows downgradient in the time dilation field, evolving events downgradient as they simultaneously evolve forward in their orbits.

A proof of the dynamic developed here-in below is LIGO'S Sept. 14, 2015 detection[4] of a "gravity wave"; a distortion in the rate of time, an acceleration in the rate, travelling at C through space and distorting space in the physical form of the antenna, translating the force in time into "real" energy.

Returning to Einstein, in Special Relativity, SR, the Lorentz contraction is due to the constancy of C and the movement of relative points of view. For two comoving observers, time appears slower and a meter shorter at each other's position because of how light travels. This is not a geometrization of spacetime, just a visual effect due to relative motions. In each observer's inertial frame, C is still a constant based on a rate of 1 s/s. However, it is a *reality* for each observer that the other's meter is shorter and his clock running slower. There is currently no way to perceive it otherwise.

Einstein said General Relativity, GR, was also not a geometrization of spacetime. People misconstrue the "curved spacetime" concept. In GR he describes the apparent curvature in motion as events in spacetime evolve forward by adding the element of time dilation from SR to that forward evolution. He is not *adding time* as a new dimension. Time is already included in our laws of motion. It just has no "depth". It is a "flat" rate of time equal to 1 s/s. He is adding time *dilation* as a new "dimension" in time. Most people misunderstand the "dimensionality" concept. The time dilation can simply be considered another element added to the tensors, instead of an actual "dimension", but the concept of dimensionality is also fitting as the dilation gives a "depth" to time in that the rate changes over distance through space. This is easily visualized around any spherical body, where time slows as the body is approached: the gravity well. The center of the Sun is a deep 3-dimensional pit in *the rate* of time, not a pit in time itself.

The author postulates the apparent depth in time created by time dilation creates apparent depth in space by lengthening the length of a meter, which attenuates, i.e., stretches, light, and that it also creates apparent motion through that depth in the lateral flow as described below.

Einstein is still using a special case of SR to derive his calculations in GR, meaning the apparent curvature, like the Lorentz contractions in SR, is also a visual effect. However, just as in SR, this is reality for the observer.

In § 15 of his 1915 paper, he calls the time dilation elements his "energy components" (his quotation marks**),** while considering the Hamiltonian function, but does not show how time dilation translates into energy. Instead, the time dilation effects are translated into angular deflection.

Consider, however, a particle in free fall in a dilation gradient. The steeper the time dilation gradient, the higher the acceleration and velocity of a particle. The higher the velocity, the higher the momentum and kinetic energy and, hence, potential energy from the spacetime continuum becomes real energy. The increased kinetic energy cannot come from nowhere. Energy and momentum must be conserved, which is why Einstein needed the stress-energy-momentum tensor in his equation, as discussed below.

In most of today's discourse, the potential energy is considered the "gravitational potential energy". This is an empty phrase, though, when one does not know what gravity is. How can we say something has "gravitational potential energy" if GR is only describing evolving geodesics? How can evolving geodesics generate and transfer energy? They cannot. As below, there is an actual spacetime dynamic in effect that manifests the energy.

Also, we all know what gravity *feels* like. It pulls us down every instant. In an accelerating vehicle, it pulls us *back* in our seats. This is not a geodesic effect. It is a force: a drag.

In § 4 of Einstein's 1915 paper we find the following: "From the method adopted here, the case of the usual relativity theory comes out when owing to the special behavior of $g_{\sigma\tau}$ in a finite region it is possible

to choose the system of co-ordinates in such a way that $g_{\sigma\tau}$ assumes constant values —

$$\begin{Bmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & +1 \end{Bmatrix}$$

We would afterwards see that the choice of such a system of co-ordinates for a finite region is in general not possible."

The particle moves in a straight line in this fundamental metric, where there is no time dilation; where the time-time element $g_{44} = +1$, which is a 1 s/s rate in all frames, the same rate we each experience in our inertial frame. Though a useful tool in GR, Einstein admits this metric most likely cannot exist. If it did, there would just be a single, infinitesimal, particle, and it would have a zero velocity, regardless of the X, Y, Z components of the metric, as there would be nothing to relate its motion to. Space would appear flat and have no dimensions as there would be nothing else to relate distance to. If the particle had any mass at all, it would be sitting at the center of its own spherical gravity well, a pit. He considers this situation to be *in vacuo*. In saying this state probably cannot exist in a finite region, he is confirming the author's conjecture that the spacetime continuum is energetic. It cannot be otherwise.

He then goes on to say, "If we now introduce, *by any substitution* (author's italics), the space-time co-ordinates $x_1 \ldots x_4$, then in the new system $g_{uv}$ are no longer constants, but functions of space and time. At the same time, the motion of a free point-mass in the new co-ordinates, will appear as curvilinear…".

Einstein does not give us a reason for the changing metric components. He just assumes they change for whatever reason, "by any substitution". Why? Because he just needed to show that a change in the metric would create curvature of motion. Although he doesn't say so, his "by any substitution" is just the introduction of a dilation gradient of any

sort. This means the particle is no longer *in vacuo*. In other words, there is no gravity without time dilation and there is gravity when time dilation appears.

By using his field equations, Einstein translates the differences in the rates of time into angular deflections without defining a force. He never saw a force, just a gravitational field. But Einstein remarks later, in § 21, in his comparison to Newton's theory as a first approximation, that, "The remarkable thing in the result is that in the first-approximation of motion of the material point only the component $g_{44}$ of the fundamental tensor appears.". This is the time-time component.

It is also the time-time component that determines relativistic mass. The author has seen it referred to as "being" the relativistic mass, but believes this is incorrect. The time dilation creates the lateral flow dynamic that generates the primary relativistic mass in the form of the CMBR, and then magnifies it by accelerating through space and the CMBR, forcing the CMBR into the flow, accelerating and concentrating it at the bottom of the two primary shapes of dilation gradients discussed below.

Time dilation also determines the rate at which an event appears to evolve forward in the continuum. In a spherical system, this is what a particle's relative velocity is: its relative rate of forward evolution in both space and time. The greater the relative time dilation, the faster the apparent relative velocity and the greater the angular deflection, $\alpha$, of events downgradient.

Events in stable orbits have velocities and accelerations that maintain their relative motions and positions in time and space in relation to the center of the pit and the other events in the system. Events orbiting in slower relative time have a higher evolutionary velocity and appear to undergo continuous acceleration, which maintains their relative positions in time and space.

A feather and bowling ball accelerate and fall at the same rate if they are dropped from the same height because they are both being *evolved forward* at the same rate, not because of "inertial mass". If they are dropped

from different heights, whichever is lower accelerates faster because it is beginning in a steeper gradient and being evolved forward faster.

Where Rt = Rate of Time, the term *d*Rt as used below is the difference in the rates of time between frames. This is not to be confused with ΔRt, which would be the change in the rate of time in any inertial frame, i.e., as through acceleration.

As per Einstein's fundamental metric, if the *d*Rt = 0 then $\alpha = 0$. At the event horizon of a black hole, where time appears to stop, as the *d*Rt → 1, $\alpha \rightarrow 90^0$, $V_A \rightarrow C$, $M_R \rightarrow \infty$ and space becomes flat, where $V_A$ = apparent velocity, in this case recessional velocity, and $M_R$ = the relativistic mass.

As per this theory, it is not possible to see light from areas where *d*Rt > 1. Following the terminology of Minkowski as Einstein did, events where the *d*Rt < 1 are time-like. Events where the *d*Rt > 1 are space-like and light cannot connect them.

In the fundamental metric, with no time dilation, we have $V_A = 0$. At maximum observable dilation, the event horizon of a black hole, we have $V_A = C$. Thus, the effects in time can be scaled for apparent velocities from 0 to C, and for $\alpha$ from $0^0$ to $90^0$, for *d*Rt's from 0 to 1, and there is no forward evolution of events within the continuum without time dilation.

Using the formula $V_A = d\text{Rt}*C$, in the fundamental metric we have a $V_A = 0*C = 0$, and at the event horizon of a black hole we have a $V_A = 1*C = C$. Of course, the scaling in between the two extremes depends on the current trajectory, velocity and momentum of the particle being accelerated, as per GR.

## The Hubble Shift

When we look out into space beyond the solar system, and back in time, we are also looking down a time dilation gradient into slower time because, as below, events are always accelerated in the relative rate of time as they evolve forward in the continuum. The observer's relative rate of time is always faster than that in frames in the perceived past, and we find that as

the *d*Rt → 1, D → ~14 Gly and recessional $V_A \rightarrow C$, as reflected by the steady acceleration of the Hubble constant. This creates the impression we are at the center of the universe and leading it in its evolution.

Because we are always being accelerated forward in the rate of time, and therefore apparently space, events in the past must appear to accelerate away from us in the opposite direction. As the recessive $V_A \rightarrow C$, lateral $V_A \rightarrow 0$, just as it does near the event horizon of a black hole.

## The Limit of Relativity

Near a black hole, where the *d*Rt → 1, events require a relative evolutionary velocity of near C to keep up with our 1 s/s rate and remain within our visual section of the continuum.

As a black hole appears to have an effective time rate of zero, events appear to stop and we see no forward evolution. But time cannot stop. As per SR, it has a rate of 1 s/s in *any* inertial reference frame. The slowing is just a visual effect due to us looking deep into the time dilation pit. The rate of time at what we perceive to be the event horizon is 1 s/s to an observer *at* the event horizon. Both time and space appear normal to him. We are always talking about *relative* rates of time.

To outside observers, a black hole is perceived as empty space with a zero temperature because no emissions can be detected. In this respect, it can be said that from the outside observer's perspective, the energy of events entering a black hole is transferred back into the potential of the spacetime continuum. In actuality, however, the events are still there. They just appear to disappear to the outside observer due to the effects of time dilation. We just cannot see events taking place in areas with a *d*Rt > 1.

It therefore appears that a black hole *is* just an area of space where the *d*Rt → 1 and there is no reason for it to be void of events. This is the reason black holes can absorb each other; they are just space. If they were invariant masses they would obliterate each other like two planets colliding. This also solves the conservation of information problem for events "entering" black holes.

The ***limit of relativity***, where our perception transitions from time-like to space-like, is where the *d*Rt = 1, both looking into the gravity well of a black hole, and looking outward and back in time.

## Dark Matter

Spherical systems and flattened spiral galaxies have different shaped dilation gradients. Spherical systems have one primary gradient centered on a central pit. Flattened spiral galaxies have two interacting shapes of dilation gradients.

The fact that orbital velocities stay the same or even increase with the distance from the center of spiral galaxies has us searching for Dark Matter. What we are missing is right in front of us, however. The time dilation gradient of a flattened spiral galaxy is not spherical. It is nearly flat when considered from above and below the disk. It is only "spherical" looking in from the edges.

Because the dilation gradients from above and below the disk are not spherical, events (objects) are not being evolved forward by the lateral flow sequentially in deeper levels of the gradient, as in a stellar system gradient, but nearly all at once across a broad flat surface. A check of this theory would be that deeper pits, i.e., larger bodies, within the galaxy at any radius should have slightly higher velocities than smaller bodies at the same radius; i.e., larger masses and concentrations of masses are evolved forward faster than lesser masses due to their steeper gradients within the primary gradient.

The curved paths of the stellar systems within the galaxy are due to the flow moving in from around the edges of the galaxy, which is GR's curvature of motion, but the orbital speeds are primarily determined by the flows from above and below the disk, which also act to compress the disk.

The flattened time dilation gradient of the galaxy explains the increased velocity of the stellar systems when combined with a correct view of the dynamics in time. The accelerated velocities increase momentum and the total energy, and therefore the relativistic mass, of the galaxy.

Thus, there is no need for a particulate “Dark Matter”.

As Einstein’s field equations use an infinitesimal surface so he can apply SR, and translate the difference in the rates of time into angular deflection, the author is as yet unclear as to whether his formulations will adapt to work on flattened galactic gradients.

However, as the angle of deflection and stress-energy- momentum tensor in GR are proportional to the difference in rates, we know the effects on the galactic scale will also be proportional to the differences in rates.

## The Lateral Flow & Dynamics in Time

As the dilation gradient deepens as a particle approaches the center of a spherical (stellar) system, the relative velocities and angular deflection of stable orbiting bodies increase with proximity to the center of the system, and larger bodies require a higher velocity to maintain the same orbit as a smaller body. This proves gravity is not just evolving geodesics. As in Newtonian physics, gravity is related to mass. The greater the mass, the greater the drag. This is because the greater the mass, the deeper the time dilation gradient within that mass.

This is why Einstein needed the stress-energy-momentum tensor on the right side of his equation even though, as in § 16 of his 1915 paper, he says, “It must be admitted, that this introduction of the energy-tensor of matter *cannot be justified* (author’s italics) by means of the Relativity-Postulate alone; for we have in the foregoing analysis deduced it from the condition that the energy of the gravitation-field should exert gravitating action in the same way as every other kind of energy. The strongest ground for the choice of the above equation however lies in this, that they lead, as their consequences, to equations expressing the conservation of the components of total energy (the impulses and the energy) which exactly correspond to the equations (49) and (49a). This shall be shown afterwards. It is not required by the theory of General Relativity”. Without it, the equation does not balance, i.e., there is no equality nor conservation of energy and momentum.

From the point of view of this theory, the geodesics the left-hand side of the equation describe are the effects of the force of the flow in time defined by the right-hand side elements, as scaled by the stress-energy-momentum tensor.

To an outside observer, time is evolving forward faster, and therefore "first", in the fastest rate-of-time frames. The next instant is "beginning" there and then perceptually flows into slower time rate areas, seeking the shortest routes to the bottom of the gravity wells (time dilation pits). This apparent flow along the time dilation gradient we call the "lateral flow"; a second, relativistic, forward direction of time, some of the effects of which are described by Einstein's field equations. As above, the author postulates it is this flow that also manifests the real energy of the CMBR at the Planck level.

It is the lateral flow that is the force of gravity. It creates drag by travelling down gradient through a deepening time dilation field at a constant speed, C, relative to the base temporal time rate in the preceding reference frame up the gradient. This creates a stress in time as it accelerates the rate of time in the local reference frames it is updating, and the acceleration shortens the length of a meter in those frames, creating stress in space.

For every second of an originating reference frame's evolution, the lateral flow attempts to flow downgradient through 299,792,458 m of space, evolving time in the slower rate areas one second as it shifts through space. Due to ever slowing rates of time, the time dilation gradient prevents this without a shift forward of all the events and spaces in the gradient.

This drag curves the evolutionary path of events downgradient, i.e., particles, including the photons of the CMBR, in or moving across a dilation gradient, will have their paths curved downgradient. The degree and rate of curvature depends on the existing velocity, momentum and trajectory of the particle as well as the degree of time dilation. This is GR's curvature in the forward evolution of events.

The accelerating nature of gravitational time dilation gradients creates gravity just as acceleration through spacetime due to the application of an

external force creates a gravitational drag. In a gradient, time is being forced to evolve forward at an accelerating rate and relatively longer meters are being forced to shorten a higher percentage of their length.

We do not feel gravity in static states of motion, or when moving directly down gradient with the lateral flow unless the down gradient movement is halted, as when standing upon the Earth. A steady acceleration, as in an orbital free fall, manifests the same as a steady velocity, as the flow around the particle normalizes along all axes, as it does with simple velocity.

Acceleration due to the application of an external force creates a dynamic where the rates of time, and their associated meter lengths, must dynamically adjust. When we accelerate, we are accelerating against the flow, no matter which direction we move in, and this creates the drag. We are forcing ourselves to evolve forward sooner and faster than we normally would: our rate of evolution increases. To an outside observer our rate of time must slow to accommodate C, but as long as we are accelerating, our rate of evolution increases. The quickened deterioration of fruits and vegetables aboard the International Space Station is probably a manifestation of advanced aging in the inertial frame due to acceleration. Although the fruits and vegies have an apparent steady velocity, and therefore are weightless, they are still undergoing constant acceleration beyond what they would experience on Earth, as all orbiting particles are.

Because gravity is partially a stress between different rates of time, the tension between the time rates of the flow and the local frame equalizes midway between them. The lateral flow accelerates the rate of time in the reference frame it is updating by $d\mathrm{Rt}/2$, while the drag of the slower rate also slows the rate of time of the flow by $d\mathrm{Rt}/2$ so it is flowing into the next frame at C based upon the rate of time of the reference frame just updated. This preserves the relative rates of time of adjacent frames, the relative length of a meter, and maintains the slope of the time dilation gradient.

As the flow shrinks the relative length of a meter in successive frames at an accelerating rate and pulls everything along with it, and since space is cohesive, it works to shrink the relative size of the universe. But as relationships between reference frames are only relative, both in the rate of time and length of a meter, the universe maintains its proportionality.

When the flow is moving in opposite directions against itself into two pits from their barycenter, the effect is augmented proportionately, as per current equations.

The flow is obviously only downgradient, which is why gravity only has one direction. This means all events, in any dilation field, which means *all* known events, are being dragged and accelerated into slower reference frames as they are simultaneously accelerated forward in both time and space in the inertial frame. GR defines the resultant of these two effects for particles in apparent motion in a dilation gradient. In spherical systems, the flow is primarily orthogonal to the center of the system and the stable orbits orthogonal to the flow. This is also true in flattened spiral galaxies where the flows through the gradients on the flattened disk sides are orthogonal to the direction of rotation. This, of course, reminds us of the orthogonal relationships between electric and magnetic events described by Maxwell's equations and as used by Einstein in both SR and GR. If the CMBR *is* a time dilation phenomenon, and the processes above are correct, this probably allows the electromagnetic field to be directly connected to gravity.

The flow shifts all events downgradient, even photons, hence the apparent deflection of light around large masses like the sun. This means all energy masses are shifted downgradient, including the CMBR. This concentrates energy at the bottom of the gradient, spherical or flat.

The author postulates that in a spherical pit this creates a high concentration of energy and a shear that leads to the formation of particle events. These are vortex events in spacetime. Intersecting flows can create clouds of particle events and intersecting flat gradients create a foam of spherical pits where they intersect, creating flattened spiral galaxies.

However, particulate formation is observational, as per quantum physics. When we observe events, we are slowing their rate of evolution in time and see them as particulate, i.e., "frozen" in space in the past instead of as waveform superpositions with evolving momentums in the present. Everything we see is in the past. It is not possible to directly observe the present. Light having a "velocity" prevents it.

When we are not observing them, events are not a part of our reality. This is also relativistically correct. What is behind you does not exist for you

until you turn your head around. Without an observer, there is no substantive creation, only possibilities and probabilities. As the Big Bang theory thermodynamics rely on the creation of permanent particles of invariant mass, it cannot be valid. There are no permanent particles.

Again, as per Einstein, “Reality is merely an illusion, albeit a very persistent one.”.

## The Origin of Spacetime

What eternally promulgates spacetime? Though not definitive science, what follows is how the author perceives it.

The author has had proof positive in his life experience that what he is about to say is true: faith gives us divine power. Doctors depend on it and casino owners hate it. This has also been proven by others, repeatedly, throughout the world, throughout history, in the laboratory of life, which he believes should satisfy scientific criteria. Miracles do happen.

This is because spacetime is created by the awareness of being “here”, space, and “now”, time. There is a primary awareness that exists only because it is aware of time passing. No light, no senses, just self-awareness. This is the “I Am That I Am”.

This is a horrible state of being. The worst thing we do to people is to put them in solitary confinement.

Fortunately, it can imagine light and alter its perception of rates of time to stretch the light to give its space depth and otherwise manipulate the light to create worlds that it can incarnate itself into, “losing” itself to escape its eternal loneliness and pass its eternity. All life forms are just different points of view, different perspectives for that single awareness. Hence, we are all one in it and we are all its children and, hence, in faith we have divine power.

The universe evolves forward beneficially for us when we *believe* it will. We are all brought forth as infants who must be carefully succored and this initiates us into faith. We are born into a totally loving, caring,

supportive world. A guilty conscience initiates doubt, which is the opposite of faith, and it can manifest devastating effects.

The science is part of the illusion, but it enables us to manipulate things in such a way as to make our lives much fuller and better in innumerable ways. Ultimately, though, it works because we believe it does.

The reason we all hate boredom and fear loneliness is because we are of and from that eternally alone being. If you would know the Creator, know yourself.

The Kingdom of Heaven is *within* you. It is *your* faith that makes you whole. If you want proof, *ask* for something reasonable. Don't forget to say, "Thank you", when you get it.

## References

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