General Relativity: Effects in Time as Causation

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Keywords: gravity; Einstein; general relativity; special relativity; galactic rotation velocities; spiral galaxy; dark matter; dark energy; Hubble shift; time dilation; spacetime; space; time; spacetime continuum; black hole; event horizon; timelike; spacelike; timelike; geodesics; gravity waves; LIGO; IBEX; Pioneer; Voyager; stellar system; big bang; quantum; quantum physics, quantum continuum

Abstract

A proof of the gravitational dynamics developed here-in is LIGO'S Sept. 14, 2015 detection of a "gravity wave", and a proof of the nature of the evolving continuum is IBEX failing to find a shock wave at the edge of the heliopause as expected, as also might be the "dead zone" discovered by Pioneer 1. As Einstein's Tensor is solely based on the time elements he calls his "energy components", only the effects in time are considered in this paper. Though it is noted that although the stress-energy tensor is not considered here, it is also scaled by the time elements, T^{00}. The spacetime continuum is the quantum continuum. The evolution of time is the primary, irresistible, force in the universe, as all space, and the densities embedded within, must evolve forward with the passage of time. The Heisenberg Uncertainty Principle allows for random fluctuations in time that create relative densities in space, due to length contraction in the faster areas. Even though GR is based on the Equivalence Principle, the constancy of c and Lorentz contractions, the apparent effects of the time elements also appear to manifest as a virtual flow in the forward direction of time down gravitational fields (dilation gradients) from areas of faster time. This is a relativistic gravitational direction of evolution, GDE. that evolves the densities down the dilation gradients, collecting them at the bottom of the gradients. Considering Einstein's Fundamental Metric to represent the fundamental direction of evolution, FDE, experienced by each observer in his/her inertial frame, the GDE can only manifest orthogonal to the FDE as there is no space ahead of or behind the evolving continuum for the dilation gradient to appear in. The

resultant of these two directions of evolution results in the curvature in evolution as per GR as the spacetime (here-in also quantum) continuum evolves forward. Densities are not evolving "through" a "pre-existing" space because there is no space "ahead" of the evolving continuum for densities to move into. The passage of time has an acceleration aspect of ~$2.2686*10^{-18}$ s/s that manifests the Hubble shift through time dilation in older frames. Without the acceleration time would not appear to pass. This acceleration eliminates Big Bang singularities and infinite expansions when added to the time elements of Einstein's field equations. Galactic rotation velocities are explained through the proper application of GR.

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Introduction

The singularity of the Big Bang and the universe expanding faster than the speed of light are nonsensical, as is Dark Matter. The evidence certainly seems to support these theories, but we are most likely misinterpreting what we are seeing. We also know the Standard Model is most likely wrong as CERN has produced no new results, the Higgs boson even being suspect.

Instead, this theory attempts to explain what we are seeing in the universe through relativistic effects in time, which is what the Einstein Tensor in General Relativity is solely reliant on.

There is no new math here, though the author is working towards adding math for some processes in future versions.

I began thinking along these lines after studying Quantum Mechanics because Einstein translates the differences in the clock rates into angular deflection and velocity. He calls these his "energy" components. So even though GR is based on the Equivalence Principle, the constancy of c and Lorentz contractions, the apparent effects of the differences in the time elements should also appear to manifest as a virtual flow in the forward direction of time. That forward direction in a gravitational field is down the dilation gradient. This would account for the fact that gravity only has one direction and why it overpowers the other forces so much even though it is so weak: it is an irresistible evolutionary force in time.

I had been working on a relativistic solution to the Hubble shift for some time and was surprised how simply it came together when a slight acceleration in the rate of time is considered an integral aspect in the passage of time. I was then very pleasantly surprised when I saw what happened when it was added to the time elements in Einstein’s field equations, where it eliminates big crunches and infinite expansions and instead allows for a fluctuating, eternal universe.

About Einstein and General Relativity

"Reality is merely an illusion, albeit a very persistent one."

Albert Einstein

Einstein's field equations accurately describe the visual and dynamic *effects* of gravity on a particle moving within a gravitational field (time dilation gradient), and they work extremely well in a spherical system centered on a spherical mass. The reason they do not seem to work on the galactic and cosmological scales is because the dynamics being described by General Relativity, GR, are not being fully understood and go beyond the Equivalence Principle, the constancy of c, and Lorentz contractions. There are also perspectives in the time aspect that need to be considered.

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

In § 16 of his 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….". It is only used to provide a sense of the conservation of energy and momentum. Therefore, it will not be used in this paper. Only the relativistic effects in Einstein's Tensor will be considered, as this is what GR describes. In § 15 of his 1915 paper, he calls the time dilation elements his "energy components" (his quotation marks**),** while considering the Hamiltonian function, and this paper focuses on those time elements.

He also remarks 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 element.

It is also the time-time element that determines relativistic mass in that for an object in freefall within a time dilation gradient, the velocity and rate of acceleration are determined by the difference in the rates of time between frames, just as the evolving geodesics describing the particle's apparent motion are.

Though not considered herein, it should be noted that the stress-energy tensor is also scaled using the time elements to make it agree with the results of Einstein's Tensor. It is the time elements that Relativity relies on.

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. When we accept the postulates of Special Relativity, SR, relative motion will manifest as per GR, and this fits the metrics of the changes in relationships in space we experience. It is simply what we must see based upon the evolution of events over time in a time dilated continuum. It is not a causation. The causation is the passage of time that evolves the spacetime (herein, also "quantum") continuum forward. The evolution of time is the primary, irresistible, force of the universe. All of space must evolve forward with the passage of time.

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; 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.

Spacetime can be perceived to have substance as space expands and contracts in response to changes in the rate of time (tick rate), and the two aspects are cohesive and interdependent in that they must maintain a proportionality to maintain c. Because of this proportionality restriction, there is an upper limit to the difference in the rates of time, dRt, between the inertial frame of the observer and any coordinate frame; the dRt cannot exceed 1 s/s for them to remain timelike and visible to each other, as developed below.

Einstein’s Fundamental Metric

	X	Y	Z	T
X	-1	0	0	0
Y	0	-1	0	0
Z	0	0	-1	0
T	0	0	0	+1

We begin with considering Einstein’s *in vacuo* state in his Fundamental Metric as representing the “Fundamental Direction of Evolution”, or FDE, of a flat, non-time-dilated, spacetime, and by considering the constant rate of time in the metric to be the fundamental, universal rate of time as experienced in any observer’s inertial frame. As developed below, this forward rate of time includes a small acceleration aspect. As this non-dilated spacetime continuum is at least *perceptually* infinite and eternal, Heisenberg’s Uncertainty Principle, HUP, allows it to be full of an infinite potential energy.

We need not consider infinity, however, due to the isotropic nature of the continuum, and can limit ourselves to the universe contained within the observable horizon. Only the universe within the observable horizon is timelike and what lies beyond that, what is spacelike, is irrelevant: it is beyond the “limit of relativity”. This change to spacelike occurs at ~13.9 Gly and also at the event horizon of a black hole where the tick rate → 0 and the dRt → 1 s/s.

HUP also allows for random fluctuations in the rate of time. When the rate of time fluctuates, a dilation gradient is created which is orthogonal to the FDE of the continuum. It can only be orthogonal because spacetime is an evolving continuum and there is no space “ahead of” or “behind” the evolving continuum for the dilation gradient to appear “in”. It can only appear “across” the FDE as viewed by an outside observer. Einstein’s

General Relativity solution for the extra precession of Mercury's orbit is a proof that space also evolves forward.

At the faster end of the gradient. the length of a meter appears shorter to maintain c, creating a relative density in space.

Although normally applied to a wavelength, where shortening a wavelength increases frequency and, hence, energy, the author postulates that this can also be said of for length in space. We can justify this because decreasing a length in space corresponds to an increase in the rate of time and, therefore, also an increase in frequency and the energy of any photons within the space, regardless of the source of the photons or their number.

Densities appear to evolve downgradient in a gravitational (time dilation) field because, 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 flowing into slower time rate areas, seeking the shortest routes to the bottom of the time dilation gradients, evolving all densities down gradient with it. As space is cohesive and resistant to change, densities manifest an increased drag on the rate of evolution, slowing the tick rate within the density, and densities resist displacement from their FDE within the continuum.

This apparent evolution downgradient manifests as a second, relativistic, direction of evolution within the continuum, herein called the "Gravitational Direction of Evolution", or GDE. Whereas the GDE always meets increasing resistance from ahead as it evolves through the drag of the slower tick rates of successive frames, accelerating them, the FDE always encounters increasing resistance from space itself as density increases within the continuum, from "behind", and so is accelerating them. Both of these accelerations cause relative velocities to appear to increase as the gradient deepens. The velocities reflect the difference between the universal rate of evolution of the FDE and the apparent tick rate of the local frame, but, as per GR, velocities and tick rates change with perspective (See Appendix A). The GDE can therefore be perceived as being the result of the FDE trying to evolve space forward at a constant rate of acceleration (as below) throughout the continuum.

Gravity only has one direction because the GDE only flows downgradient. It overpowers the other forces so easily, even though it seems so weak in comparison, because it is an irresistible evolutionary force in time, and the curvature of motion we see manifested in GR is the resultant of the two evolutionary directions, fundamental and gravitational. GR can explain how we see this evolution materialize given the postulates of SR, the constancy of c and Lorentz contractions because they corelate to the effects in time. The Lorentz contractions are dependent on c and c has a direct correlation to the rate of time in that when the rate of time fluctuates space must adjust to maintain c.

So, when a dilation gradient appears, the relative density at the faster end of the gradient is evolved down the dilation gradient into slower time frames.

In a spherical dilation pit, as spatial density accumulates at the focus of the pit, the rate of evolution continues to decrease: the denser the space the slower the rate of evolution. This deepens the slope of the gradient at an accelerating rate as the density grows, making the event self-sustaining and self-accelerating.

Both the FDE and GDE are impeded at the focal point of the pit. As developed below, the impedance is not complete because the FDE always precedes the GDE and the curvature of motion we see in GR develops into spin, a time vortex. On the stellar scale the resulting dynamic results in the formation of a star. This dynamic could conceptually occur on any scale, and as the dRt → 1 s/s, relativistic effects could occur manifesting virtual and elementary particles.

To accommodate c, the next instant must appear to flow down the gradient at c, otherwise light could not be evolved through the continuum at c. It is departing each frame at c relative to that frame's rate of time. As it moves into a slower adjacent frame, it accelerates the tick rate of that frame and the slower frame decelerates the tick rate of the flow by an equal amount. This equalization maintains the relative slope of the dilation gradient, which only changes as density increases at the center of the pit or bottom of a non-spherical gradient.

A proof of the dynamic developed herein is LIGO'S Sept. 14, 2015 detection[4] of a "gravity wave"; a distortion in spacetime consisting of fluctuations in the rate of time accompanied by distortions in space, shifting through the space time continuum at c. Space was proven to stretch with the dilation and compress with the acceleration, distorting the physical form of the antenna. This brief deceleration/acceleration is on top of the acceleration due to the FDE and GDE, as described above.

It is necessary now to deviate for a moment to discuss the Hubble shift.

The Hubble Shift

Events always appear to be undergoing acceleration as they evolve forward in the time dilated continuum. This suggests that the passage of time itself involves an integral acceleration aspect; perhaps without the acceleration, time would not notice time passing, just as we do not feel gravitational effects at a steady velocity, but do when under acceleration. We do not detect this in our inertial frames as it is so small and is manifesting as part of the FDE's rate of time.

If this is true, when we look out into space beyond the local gravitational influences of the galaxy, and back in time, we are also looking down a time dilation gradient into slower time. The observer's (apparently invariant) relative rate of time is always faster than that in frames in the perceived past, and we find that as D $\rightarrow$ ~13.9 Gly, dRt $\rightarrow$ 1 s/s, recessional velocity $V_{RA} \rightarrow c$, and lateral velocity $V_{LA} \rightarrow 0$, just as it does near the event horizon of a black hole. Slower time results in lower frequency and the Hubble shift.

Assuming a Hubble constant, H_O, of 70 km/s/Mpc, we find the apparent recessional velocity reaches c at 4282.7494 Mpc = 13.968062372 Gly.

For a 1s/s dRt at this distance the rate of change is: 1/13968062372 = $7.1592*10^{-11}$ s/s/ly = $2.3349516024*10^{-4}$ s/s/Mpc.

Obversely: for 1 Mpc the dRt = $2.3349516024*10^{-4}$ s/s and:

$c*(1 + dRt) = (299792.458)$ m/s * $((1+(2.3349516024*10^{-4}))$ s = 299862.458 m and:
299862.458 - 299792.458 = 70 km/s/Mpc = H_O

Because we are always being accelerated forward in the rate of time, and therefore apparently space, events in the older frames must appear to accelerate away from us in the opposite direction.

This also creates the impression we are each at the center of our own universe and leading it in its evolution, which is relativity, each of us in our own reality: the other observer's meter is always shorter and clock slower and he only exists in the past. We can never see the other observer in the present.

Continuing from above, we find that:
$2.3349*10^{-4}$ s/s/mpc = $7.1592*10^{-11}$ s/s/ly = $2.2686*10^{-18}$ s/s acceleration within our inertial frames. This equates to a $6.801091702188*10^{-10}$ m contraction in space to maintain c.

In this way, the acceleration is putting a constant pressure on space to compress to maintain c, which, as above, can be seen to increase energy and density and, also, therefore, apparent pressure. Also, when the acceleration is proportionately added to the proper and coordinate time elements of Einstein's field equations, based upon their individual relative rates of time, singularities and infinities are avoided because the geodesics are slightly distorted:

Where t_1 = coordinate time and t_0 = proper time, the time elements $\Delta t_1 / \Delta t_0$ become: $((((\Delta t_1*(((1 +((\Delta t_1 / \Delta t_0) * (2.2686*10^{-18})))) / ((\Delta t_0 * (1 + (\Delta t_0 * 2.2686*10^{-18}).$

For each second of Δt_0 this becomes: $((\Delta t_1*(1 + 2.2686*10^{-18} \Delta t_1)) / ((1 + (2.2686*10^{-18}))$

This manifests as a net acceleration of the proper time relative to the coordinate time as the dilation gradient deepens and $\Delta t_1 \rightarrow 0$. It also causes the FDE to always precede the GDE, which relative rate of evolution to the FDE is determined by the slope of the dilation gradient. This prevents the

FDE and GDE from coinciding and the subsequent formation of a singularity in a Big Crunch scenario.

Obversely, as $\Delta t_1 \rightarrow \infty$, infinite divergence is impossible as Δt_1 is always divided by a sum > 1; i.e., $\infty / (1 + 2.2686*10^{-18}) < \infty$.

We now return to the previous line of thought prior to our analysis of the Hubble shift.

As above, events are not moving “through” or “in” a pre-existing space. Space is not “left behind” nor “moved into”. The perception of moving “through” a pre-existing space is an illusion. There is only an evolving spacetime continuum

When we see light lensing round a massive body, it is not moving “through” a distorted space, it is being evolved down the body’s dilation gradient by the GDE as it passes through it.

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 through the application of an external force. 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 tick rate.

Consider a thin oil slick floating on water being gently heated from below. The continuum is the oil slick and the evolution of time is the heat.

Masses are densities within the fabric of the continuum. When we “drive down the road”, we are shifting our density *within* the continuum. This requires the application of force and there is resistance. The forward evolution of the continuum itself is due to the simple passage of time and no other force need be applied.

The stars and planets occupy relative tick rate levels, as modified by their relative densities and velocities, and evolve forward within the continuum at those rates, taking the shortest route in time. As above, all these factors change with a shift in perspective, as per GR (See Appendix

A). They don't meet external resistance in the FDE because they have a slower tick rate then the surrounding space and they are instead putting a drag on the evolution of time, as above.

The author postulates that it is because the solar system is not "moving through" space, but is evolving along with space, that 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 Voyager 1 is not affected by the expected stellar winds.

When we accelerate into older, slower frames, those frames must appear to accelerate in their rate of evolution so we are in the present when we are within them. We are forcing them to accelerate in time and they resist this. The faster we accelerate, the faster we are requiring the frames we are entering to update and the more resistance we meet. The drag we feel while accelerating, which becomes infinite at c, is the drag of those frames as we try to shift our density within the continuum. We cannot force space to evolve at c, either in the FDE or GDE.

We also find that, where V_{RA} = apparent recessional velocity, V_{TA} = apparent transverse velocity, M_R = relativistic mass, and α = angle of deflection, as per Einstein's Fundamental Metric, if the dRt = 0 then α, $V_{RA,}$ and $V_{TA} = 0$. At the event horizon of a black hole, where time appears to stop, as $dRt \rightarrow 1$, $\alpha \rightarrow 90^0$, recessional $V_{RA} \rightarrow c$, $V_{TA} \rightarrow 0$, $M_R \rightarrow \infty$ and space appears flat.

Near a black hole, where $dRt \rightarrow 1$, events require a relative evolutionary velocity of near c to keep up with the FDE and remain connected by light 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 an invariant rate of 1 s/s in *any* inertial reference frame. which is the fundamental rate of the universe overall. 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 dRt > 1.

It therefore appears that a black hole *is* just an area of space where the dRt → 1 and there is no reason for it to be void of events. Einstein believed you could just drive through a black hole without harm.

This is the reason black holes can absorb each other; they are just space. If they were invariant mass they would obliterate each other like two planets colliding. This also solves the conservation of information problem for events "entering" black holes.

Galactic Rotation Velocities

The masses of flattened spiral galaxy systems and spherical stellar systems have different shapes and, therefore, different shaped time dilation gradients and different effects in the time aspect.

Within a stellar system, where GR works so well, as the dilation gradient deepens more quickly as the center of the dilation "pit" is approached, all events appear to accelerate increasingly in spacetime, appearing to evolve forward faster through its apparently faster velocity "through/in" space. The dilation gradient only equalizes in an infinitesimal focal point at the center of the star, impeding the forward evolution of events in all directions, concentrating energy.

In Einstein's 1915 paper, substituting X, Y, Z, T for his X_1, X_2, X_3, X_4, his Fundamental Metric, which can be considered the basis of the tensors describing a null gravitational field, is:

	X	Y	Z	T
X	-1	0	0	0
Y	0	-1	0	0
Z	0	0	-1	0
T	0	0	0	+1

In flattened spiral galaxies, designating the Y axis as being orthogonal to the flat galactic disk, the dilation gradients along the +Y and -Y axes above and below the flat mass of the disk equalize within the disk and as the dRt → 0 along the Y axes, ΔY→ 0.

As ΔY = 0 at Y = 0 in the middle of the plane of the galactic disk, the Galactic Fundamental Metric within the disk of a flattened spiral galaxy is:

	X	Y	Z	T
X	-1	0	0	0
Y	0	0	0	0
Z	0	0	-1	0
T	0	0	0	+1

As all the Y elements go to 0, this metric can be reduced to:

	X	Z	T
X	-1	0	0
Z	0	-1	0
T	0	0	+1

As with Einstein’s Fundamental Metric, this Galactic Fundamental Metric cannot be realized in finite space as it also represents a null gravitational field without time dilation. ΔY also never actually remains at 0 since particles oscillate above and below the plane of the galactic disk.

However, in this fundamental metric without Y elements, forward evolution can only proceed through the X and Z axes, which share a common plane, and we get circular motion around the center of the galactic mass, orthogonal to the dilation gradients. Note that the orbits in a stellar system are also orthogonal to the dilation field. As above, the GDE can only manifest orthogonal to the FDE.

As the +1 in Einstein's g_{44} element of the Fundamental Metric represents an invariable rate of time for all frames along all axes, the +1 of the g_{33} element in the Galactic Fundamental Metric represents an invariant rate of time along the X and Z axes. Within the galaxy's dynamic metric, these time elements then change relative to the mass density along the spiral arms, and the apparent velocity relative to adjacent frames is determined by the relative rates of time along the +Y and -Y axes at Y = 0. In the absence of an accelerating gradient as in a stellar system, the relative rate of evolution within the inertial frames of the disk is primarily determined by the rate of time in the inertial frames. Thus, we see an initial rapid increase in velocities near the center of the galaxy, where the rate of time rapidly increases with distance from the massive central black hole.

Velocities appear slower between the arms, despite the faster rate of time, due to the shallower gradient. Within the arms, where densities are concentrated, the gradient is deeper along the Y axes and velocities appear accelerated more as they do in a deeper gradient in a stellar system. The dilation gradients along the Y axis decrease in slope as mass densities decrease along the arms, time goes faster at Y = 0, and we see a slightly faster evolution (apparent velocity) of the stellar systems within the continuum with distance from the galactic center.

The g_{33} element also varies slightly relative to the slope and depth of the gradients within the individual stellar systems. This slope effect also manifests the same as we see in a stellar system where relative acceleration increases as the gradient of the slope deepens. A test of this would be that larger masses and groups of masses should therefore appear to be evolving forward faster, and appear to have higher velocities, relative to nearby smaller masses due to their deeper, steeper, individual gradients.

Although the primary dilation gradient is along the Y axes, as the disk flattens there is also a secondary gradient looking in from the edges. The evolution in this directions forms the bars of Sb galaxies.

The Origin of Spacetime

Einstein's Fundamental Metric

	X	Y	Z	T
X	-1	0	0	0
Y	0	-1	0	0
Z	0	0	-1	0
T	0	0	0	+1

A 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 an invariant 1 s/s rate in all frames, the same rate we each experience in our inertial frame as we evolve along our worldline. It represents a null gravitational field. Though a useful tool in GR, Einstein admits this metric most likely cannot exist in finite space. 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. 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.

Because no motion would be apparent in the Fundamental Metric, it can be reduced to just the time-time element, g_{44}, which is simply TT = 1. An observer existing in this state would only be aware of time passing. The observer's space would be evolving forward with time, but that would be undetectable. The author calls this the IATIA state: "I Am That I Am". This will raise some objections, but it must be noted that our reality is an illusion being manifested out of superposition waveforms that only take on forms that are dependent on an observer being present. Again, as per Einstein, "Reality is merely an illusion, albeit a very persistent one.".

So, although what follows is anathema to many physicists, if it is true it is necessary to properly understand what we are trying to describe with our science. If it is true and never accepted, then our science will never fully explain our experience.

What eternally promulgates spacetime?

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.

Appendix A

Relative Velocities of the Planets From Different Perspectives

Since relative velocity changes with a change in perspective, the relative rate of time must, too.

Considering relative velocity and rates of evolution within the continuum, in the following computations:

Planetary orbital lengths and periods are as per NASA.
Orbital periods are related to 1 Earth year.
Orbital lengths are as perceived "around the Sun".
Helical orbital lengths are computed using the following formula:
(Distance travelled by the Sun)^2 + (Orbital length)^2 = (Helical length)^2
The distance travelled by the Sun is relative to the CMB.
Sun velocity = 368 km/s = 11.60672*10^9 km/yr.

Considering the perspective of the orbits of Mercury and Venus relative to the plane of the ecliptic, we assign Mercury a velocity of 47.89 km/s and Venus one of 35.03 km/s, a large difference.

But if we consider the velocity of the Sun and its forward evolution in time relative to the CMB, and the helical distances travelled by the planets we get a much different perspective:

Mercury:
Orbital length: 57.909227*10^6 km
Orbital period = .24 yr
Orbits/yr = 4.1666
Total orbital length = 241.249839*10^6 km
Helical length = 11.609226961*10^9 km
Velocity = 368.07948 km/s vs 47.89 km/s

Venus:

Orbital length: 10.8209475*10^7 km
Orbital period = .62 yr
Orbits/yr = 1.6129
Total orbital length = 17.4531062*10^7 km
Helical length = 11.608032143*10^9 km
Velocity = 368.04160 km/s vs 35.03 km/s

Earth:
Orbital length: 14.9598262*10^7 km
Orbital period = 1 yr
Orbits/yr = 1
Total orbital length = 14.9598262*10^7 km
Helical length = 11.607684041*10^9 km
Velocity = 368.03056 km/s vs 29.79

Mars:
Orbital length: 22.7943824*10^7 km
Orbital period = 1.88 yr
Orbits/yr = .5319
Total orbital length = 121.2467148*10^6 km
Helical length = 11.607353269*10^9 km
Velocity = 368.02007 km/s vs 24.13

Jupiter:
Orbital length: 778.340821*10^6 km
Orbital period = 11.86 yr
Orbits/yr = 0.0843
Total orbital length = 65.6273879*10^6 km
Helical length = 11.606905535*10^9 km
Velocity = 368.00588 km/s vs 13.06

Saturn:
Orbital length: 142.6666422*10^7 km
Orbital period = 29.46 yr
Orbits/yr = 0.0339
Total orbital length = 484.27237*10^5 km
Helical length = 11.606821027*10^9 km 12576482920
Velocity = 368.00320 km/s vs 9.64

Uranus:
Orbital length: 287.0658186*10^7 km
Orbital period = 84.01 yr
Orbits/yr = .0199
Total orbital length = 341.70434*10^5 km
Helical length = 11.606770299*10^9 km
Velocity = 368.00159 km/s vs 6.81

Neptune
Orbital length: 449.8396441*10^7 km
Orbital period = 164.8 yr
Orbits/yr = 0.0060
Total orbital length = 272.96094*10^5 km
Helical length = 11.606752096*10^9 km
Velocity = 368.00101 km/s vs 5.43

From this perspective, the velocities, or rate of evolution, of Mercury and Venus are only .038 km/s different. Note also that as we increase distance from the Sun, the velocities decrease until Neptune has a velocity only .001 km/s different from the base velocity of the Sun. Relative velocities equalize with a larger perspective. If we shift out to the local group and its apparent motion relative to the CMB of 627 km/s, the difference between the Sun and Neptune's velocity is only .00059 km/s.

In both perspectives, the velocity and acceleration are directly related to the dRt/distance so are higher in steeper gradients, and this higher apparent acceleration of events in slower time frames maintains their relative positions within the overall continuum as it evolves forward as viewed from both perspectives.

This means GR is describing the forward evolution of the continuum and the events occurring within it, rather than the evolution of events through pre-existing "curved spacetime". It is not the masses that determine relative velocities and trajectories, but the dynamics and perspectives in time.

References

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