Title –

STRINGS ARE BINARY DIGITS WHOSE CURRENTS IN TWO 2-D MOBIUS LOOPS PRODUCE A 4-D FIGURE-8 KLEIN BOTTLE THAT COMPOSES EACH OF THE SUBUNIVERSES IN THE ONE UNIVERSE

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Abstract –

The strings of physics' string theory are the binary digits of 1 and 0 used in computers and electronics. The digits are constantly switching between their representations of the "on" and "off" states. This switching is usually referred to as a flow or current. Currents in the two 2-dimensional programs called Mobius loops are connected into a four-dimensional figure-8 Klein bottle by the infinitely-long irrational and transcendental numbers. Such an infinite connection translates - via bosons being ultimately composed of 1's and 0's depicting pi, e, √2 etc.; and fermions being given mass by bosons interacting in matter particles' "wave packets" – into an infinite number of 8-Kleins. Each Klein
1) is one of the universe's subuniverses (our own is 13.7 billion years old),
2) is made flexible through its binary digits which seamlessly, or almost seamlessly, join it to surrounding subuniverses and eliminate its central hole, and
3) possesses warped time and space because its foundation is the programmed curves in its mathematical Mobius loops (along with the twists they generate [p.7]). The universe functions according to the rules of fractal geometry. So the Mobius does not exist only at the cosmic level. It also manifests at the quantum scale, giving us photons and protons etc. Space and time are no longer separate, but are an indivisible space-time. So if space and the universe are infinite, how can time not be eternal? The past and the future must both extend forever (the idea of time being finite arises from confusion of our subuniverse with the one infinite universe).

BITS (BInary digiTS) only suggest existence of the divine if time is linear. Although a non-supernatural God is proposed via the inverse-square law coupled with eternal quantum entanglement, Einstein taught us that time is warped. Warped time is nonlinear, making it at least possible that the BITS composing space-time and all particles originate from the computer science of humans.

I suspect many readers will be content with reading this abstract. While there are more details, and mathematics, in the content; my natural style of writing is to avoid jargon and maths. I also tend to get philosophical. While I personally feel that there's a lot of precious information in the content, I realize it won't all be to everyone's liking. Other subjects dealt with in this article are - the "Pioneer anomaly", refinement of gravitational physics, dark energy and dark matter,

quantum phenomena like mass and electric charge and quantum spin, Kepler's laws of planetary motion, deflection of starlight by the sun, tides, falling bodies, Earth's orbit, ancient Greek philosophers, Newton, Kepler, Galileo, Aristotle, Parmenides, Zeno of Elea, time travel into the past as well as the future, the elimination of distances in space, humanity's construction of this universe we live in, The Law of Conservation of Matter-Energy, and support for the science-fiction-like idea of the electronic binary digits of 1 and 0 being the building blocks of our universe.

Content –

Sergei Kopeikin, professor of physics and astronomy at the University of Missouri, thinks the previous explanation for the so-called Pioneer Anomaly[1] was only able to account for 15 to 20% of the observed deceleration. He devised a new set of calculations that included the universe's expansion, and the way expansion affects the speed of photons which compose the light and radio waves.

[1] In a paper published on June 12 in Physical Review Letters ["Support for the Thermal Origin of the Pioneer Anomaly" - Phys. Rev. Lett. 108, 241101 (2012) [5 pages]; Slava G. Turyshev, Viktor T. Toth, Gary Kinsella, Siu-Chun Lee, Shing M. Lok, and Jordan Ellis write: "We investigate the possibility that the anomalous acceleration of the Pioneer 10 and 11 spacecraft is due to the recoil force associated with an anisotropic emission of thermal radiation off the vehicles" and "We ... conclude that, once the thermal recoil force is properly accounted for, no anomalous acceleration remains."

Both the "thermal recoil" and "universal expansion" theories regarding Pioneer are extremely interesting. However, I suspect the emission of thermal radiation doesn't have a large enough effect, just as Sergei Kopeikin states. I also suspect the speed of photons in the vacuum of space is, as Relativity states, constant and always appears constant - and that universal expansion therefore doesn't have enough effect either. I'd therefore like to propose a refinement of gravitational physics. I redefine warping as 2.3 times General Relativity's value - deflection of starlight by the sun is still at 1.75 arcseconds since 57% of the light is diverted into solar wave packets (my ideas owe part of their inspiration to the MUH or Mathematical Universe Hypothesis formulated by MIT's Professor Max Tegmark).

Prior to specifically addressing resolution of the Pioneer anomaly through refinement of gravitational physics, it's necessary to mention a few other topics as a result of the need to write at some length regarding the mathematical and unified nature of the cosmos. This nature includes the unavoidable introduction of a couple of unfamiliar concepts - 1) binary digits generating space-time from a 5th dimension[2] via matter-forming wave packets produced from the interaction of gravitation and electromagnetism (both ultimately made of 1's and 0's)[3]; and 2)

the Mobius loop being changed into the physical form of Einstein's warping of space and time (since this universe is described by fractal geometry[4], quantum loops describe wave packets). There is already support for the idea of the electronic mechanism of binary digits - in 1) the Kabbalah (an interpretation of the Scriptures used by some Jews and Christians that seeks to discover mysteries by using special methods of interpretation), 2) the data obtained by the WMAP space probe (Wilkinson Microwave Anisotropy Probe), and 3) Einstein's E=mc^2 when it's solved for mass then reinterpreted according to equations he presented some 14 years after Special Relativity – this reinterpretation's validity is shown by its support of calculations concerning atomic masses/energies.

According to an email I received from a priest in the USA, "What you have presented is a confirmation of what the kabbalah has within its texts. That there is only nothing (represented by 0) and 1." 0 and 1 are pulses of energy being off or on. It can be phrased this way "... orientation of Mobius loops and the flow of the loops' binary digits accounting for the interference between gravitation and electromagnetism". That is: the flow of 0's and 1's (in the 5th dimension) causes gravitational and electromagnetic waves (in the wave packets of the 4 familiar dimensions) to either cancel and produce nothing or 0 (or add up to an electrically neutral particle). Alternatively, the waves can reinforce and produce an "on" pulse or 1 (add up to a positively charged particle). Naturally, gravitational and electromagnetic waves can only cancel and reinforce if they're similar and approximately equivalent. In agreement with the idea that gravitation (the warping of space-time) is the foundation of the universe[5]; electromagnetism is referred to as modified gravity and subatomic phenomena like electric charge/magnetic polarity *, the nuclear strong and weak forces, and quantum spin, are the product of gravitational and electromagnetic waves interacting in wave packets (it's possible that what we call quarks could be redefined as mathematical constructs and still agree with observational data). Of course, gravity can also be seen as a modification of electromagnetism – in this nonlinear feedback, gravity waves are viewed as the product of electromagnetic binary digits. Since the flow of binary digits – base 2 mathematics - is a purely mathematical concept, the G and EM waves – being ultimately composed of 1's and 0's – don't have to result in a positively charged particle. Their maths can result in a negative charge.

* I'd like to write 6 paragraphs showing how zero separation can physically link sunspots and black holes (regions of space that can be formed by collapse of massive stars and have such a powerful gravitational field that nothing inside the event horizon or boundary, including light and other radiation, can escape).

Why do young stars form around a black hole when they should be torn apart? Compare the black hole to a sunspot. Sunspots form because the sun's equator rotates more quickly than its poles (25 days at the equator, 34 days at the poles). Being "frozen" into its gases, the magnetic field lines of the sun stretch, twist, are drawn out into loops and erupt through the sun's surface, forming sunspots. The

intense magnetism of the spots prevents heat from rising to the surface and radiating into space because magnetic fields restrict the motion of charged particles - and infrared photons form charged electrons and protons when they interact with gravity in wave packets (at the most basic level, this process is mathematical and relies on quantum Mobius loops along with their translation into fractally quantum-sized figure-8 Klein bottles). The Maunder Minimum of observations of extremely low sunspot activity from 1645 to 1715 (named after the solar astronomer Edward W. Maunder [1851-1928]) could actually be attributed to a period of intense sunspot activity. Why? Because a great number of decoupled sunspot vortices (rotating magnetic field lines that remain within the sun) would stop the Earth receiving as much warmth from the Sun. The Maunder Minimum coincided with the middle – and coldest part – of the Little Ice Age during which Europe and North America and perhaps much of the rest of the world saw glaciers advance and rivers freeze; even the Baltic Sea froze over, allowing sledge rides from Poland to Sweden with inns built along the way. It would be termed a period of minimum activity coz the sunspots (technically, their increased number of vortices) would not have been visible. The distorted magnetic loops don't have to break through the sun's surface or photosphere but can remain within, forming a rotating vortex that concentrates field lines and can create intense, heat-trapping magnetism.
("Recent observations from the Solar and Heliospheric Observatory [SOHO] using sound waves traveling below the Sun's photosphere [local helioseismology] have been used to develop a three-dimensional image of the internal structure below sunspots; these observations show that there is a powerful downdraft underneath each sunspot, forming a rotating vortex that concentrates the magnetic field." - Wikipedia's "Physics" of "Sunspot".) Therefore, SOHO's observations support the idea that gravitation and electromagnetism are "trapped" in matter/mass-forming wave packets (by analogy with the spacecraft's support for magnetism trapping infrared bosons).

In fluid dynamics, a Kármán vortex street (or a von Kármán vortex street) is a repeating pattern of swirling vortices caused by the unsteady separation of flow of a fluid – in this case, it refers to the flowing lines of magnetic flux forming a wake of decoupling vortices in the gaseous sun.
(for more info about the vortex street, see the journal Physics of Fluids (Phys. Fluids A) 1, 189 (1989) and the article "Vortex splitting and its consequences in the vortex street wake of cylinders at low Reynolds number" by Holger Eisenlohr and Helmut Eckelmann)

Vortex street

When a black hole is rotating; it might also stretch, twist and loop its magnetic field lines. The lines may penetrate into the hole and be lost, but in the case of star formation they'd be drawn out beyond the hole's event horizon (boundary) and compress clouds of dust and gas into new suns (a supermassive black hole's magnetic field is so strong that it can focus particles into jets ejected far out into space so, provided the star is a safe distance from the black hole, it should be able to stop the hole's gravity from shredding a star and making its gases spiral inwards). To condense the paragraphs on zero separation into a few words, the 2 objects which appear unrelated to each other in a direct sense could be a sunspot and a black hole. On the subject of sunspots and the sun, the famous 17th-century scientist Sir Isaac Newton once said the entire universe would instantly feel the loss of the sun's gravity if our star disappeared suddenly – modern science doubts this but zero separation forces me to agree with him. And on the subject of black holes, a massive star truly can collapse and explode as a supernova while a gravitational singularity (the place all matter falling into the black hole gathers) would be produced from the collapsing core. What if that singularity is disintegrated by the fantastic pressure? It would become "BITS of space-time" (this book's proposed building blocks of all matter and spacetime that are the BInary digiTS – strings of ones and zeros – from which space and time emerge). In this way, nature would protect us from black holes and eliminate their assumed and perplexing properties of infinite density, infinite gravity and infinite spacetime curvature. (Astrophysicist Prof. Andrew Hamilton of the University of Colorado says his calculations show the inner black hole cannot

sustain itself - because of all the matter and energy piling up there - and must ultimately collapse, producing a black hole with no singularity.)

(Demonstrating zero separation to be relevant to the universe astronomers study requires a bit of research to get the astronomical facts right, so thanks go to the May 2009 interview in "Discover" science magazine with professor of astronomy and physics Andrea Ghez; the 2006? TV documentary "The Sun"; Wikipedia, the free Internet encyclopedia; "The Sun", a 1989 volume in Time-Life's series "Voyage Through The Universe", Stephen Hawking's 1988 book "A Brief History of Time" and Patrick Moore's 1986 book "A-Z of Astronomy")

If there is zero separation between points in space, then Earth is actually in the same place as any astronomical object (a reality we can never comprehend by solely using our limited physical senses and astronomical instruments). And we really would see a new era in space travel! As well, any object or person on Earth would actually be in the same place as any other - and there would be a revolution in all forms of travel, including the electronic travel of email. If time is an aspect of space and there is zero separation between points in time, the year 2007 would be in the same "place" as e.g. 1971. This means all times co-exist (permitting time travel), and the end of anything or anyone would only exist to our limited senses and experiences. When we believe we're experiencing a beginning or ending, the opposite condition is occurring simultaneously (as is every state in between, or beyond).

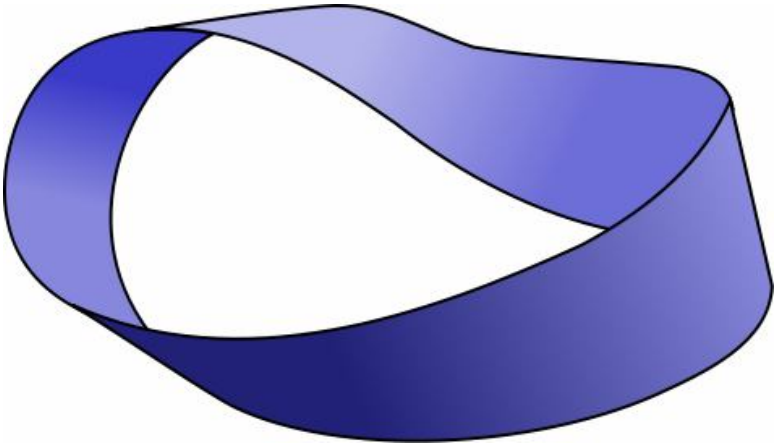
[2] I don't believe the supersymmetry theories can provide a unified account of the 4 fundamental forces but supersymmetry attracts me because it's the child of hyperdimensionality (which is vital to my idea of binary digits originating in 5th-dimensional hyperspace and "creating" space-time). In 1919, German scientist Theodor Kaluza "… wrote to Einstein, proposing that Einstein's dream of finding a unified theory of gravitation and electromagnetism might be realized if he worked his equations in five-dimensional space-time. A few years after that, the Swedish physicist Oskar Klein published a quantum version of Kaluza's work. The resulting Kaluza-Klein theory … turned out to be salutary in working on supersymmetry (in the 1970s)." (p.332 of "Coming of Age in the Milky Way" by Professor Timothy Ferris – published by The Bodley Head, 1988)
(Supersymmetry is part of present-day string theory too.)

[3] Suppose Albert Einstein was correct when he said gravitation plays a role in the constitution of elementary particles (in "Do Gravitational Fields Play An Essential Part In The Structure Of The Elementary Particles Of Matter?", a 1919 submission to the Prussian Academy of Sciences). Einstein also said gravity and electromagnetism may be related – in his paper to the Prussian Academy, he said "Therefore, by equation (1) $G_{\mu\nu} - \frac{1}{2}g_{\mu\nu}G = -\kappa T_{\mu\nu}$, we cannot arrive at a theory of the electron by restricting ourselves to the electromagnetic components of the Maxwell-Lorentz theory …" A wave packet

consisting of gravitation and EM (modified gravitation) would possess what we call mass because of that force's effect on other particles. Where does this leave the Standard Model Higgs field and boson? Also - Steven Weinberg, Abdus Salam and Sheldon Glashow shared the 1979 Nobel prize in physics for electroweak unification (of the weak force and electromagnetism). I suggest it's possible to alter the physics and mathematics of their electroweak theory to agree with the insights of a man called Einstein (especially when, as later parts of this article show, his insights lead to resolution of the dark matter problem and a revision of gravitational theory that explains all 3 of Kepler's laws of planetary motion). And I suggest theories of the scientists who proposed quarks as elementary constituents of matter, George Zweig and Murray Gell-Mann, could also be adapted to fit Einstein's insights. After all, Stephen Hawking and Leonard Mlodinow wrote on p.49 of their book "The Grand Design" (Bantam Press, 2010), "It is certainly possible that some alien beings ... would make the same experimental observations that we do, but describe them without quarks."

Look at the illustration below of a loop (in this case, a Mobius strip). The bottom of it looks like part of a circle while the top has a twist. As a starting point, this particular orientation is referred to here as "spin 1" – it only looks the same if it's turned round a complete revolution of 360 degrees, like the Ace of Spades card pictured in "A Brief History of Time" by Stephen Hawking – Bantam Press, 1988. All the particles of matter in the universe possess spin ½ and need to be turned through two complete revolutions to look the same, just as you have to travel around a Mobius strip twice to reach the beginning (implying that electrons etc. have a structure originating with the mathematical Mobius). A photon has spin 1 and when it interacts with a graviton in a wave packet* (gravitons have spin 2 and look the same if turned round 180 degrees or half a revolution, like the double-headed Queen of Spades in "A Brief History of Time"), the particles' orientations can be the same i.e. they can both have their twist at the top.

* (A wave packet is a short "burst" or "envelope" of wave action that travels as a unit, and is interpreted by quantum mechanics as a probability wave describing the probability that a particle will have a given position and momentum). It acts like 2 hands coming together and catching a ball. Actually, photons are absorbed and emitted just as in laser cooling but instead of a laser beam slowing down atoms, the envelope slows (and traps) photons.



Mobius Loop

If oriented the same way, the electromagnetic and gravity waves forming the wave packets undergo constructive interference and reinforce to produce mass - a massive W+, W- or Z^0 (the carriers of the weak force) that must be turned 360 degrees to look identical i.e. they have spin 1. Slight imperfections in the way the Mobius loops fit together determine the precise nature of the binary-digit currents and therefore of exact mass or charge. If oriented dissimilarly, they undergo destructive interference and partly cancel (there's little or no twist now – both top and bottom of the new Mobius resemble parts of a circle) to create masslessness - a massless, chargeless gluon (carrier of the strong force) that is identical if turned 360 degrees and similarly possesses spin 1. Quarks – in this interpretation, the gravitational and electromagnetic interference caused by a particular positioning of a Mobius strip - combine into protons, mesons and neutrons but are never found in isolation and cannot be observed directly. (In this explanation, the strong and weak nuclear forces have no existence independently of gravitation and electromagnetism. Since EM is modified gravitation according to this article, it's perfectly OK to simply say "independently of gravitation"). They could simply be products of graviton-photon interaction: the strong nuclear force - which is 10^38 times gravity's strength - could be gravity "added to" electromagnetism while the weak nuclear force – 10^25 times gravity's strength - could be gravity "subtracted from" electromagnetism [identical to the antigravitons of antigravity being added to electromagnetism]. The 2nd example assumes combining with 100 billion antigravitons while the 1st assumes the presence of 100 gravitons per electromagnetic photon, and I believe these "assumptions" are justifiable by photon-graviton oscillation or transmutation …) An antiphoton would be formed by the fitting together of a force-carrying, spin -2 antigraviton with a spin 1 photon: (-2)+(+1) = -1. If it's correct that "antiparticles are identical in mass to matter particles but opposite in one key property; we would expect the antiparticle of a massless, chargeless photon to have a spin of negative 1.

It has been shown how different spins can be orientations of the Mobius strip. Speaking of the electroweak force, here's a little bit about "the nuclear forces as modified gravity" - The strong force binds protons and neutrons (nucleons) together to form the nucleus of an atom. It's also the force (carried by gluons) that holds quarks together to form protons, neutrons and other hadron particles. It's 10^38 (100 trillion trillion trillion) times the strength of gravity because it's the product of the electromagnetic force (10^36 times gravity's strength) combined with 10^2 (100) gravitons per electromagnetic photon (the graviton is a hypothetical elementary particle that mediates the force of gravitation). The weak force is responsible for the radioactive decay of subatomic particles and initiating hydrogen fusion in stars. The weak force is 10^25 (10 million billion billion) times gravity's strength because it's the product of the electromagnetic force combined with 100 billion anti-gravitons. That is, it's 10^36 times the strength of gravity divided by 10^11. Physicists argue that a unified "theory of everything" must now include not just gravity and electromagnetism, but also the weak and strong nuclear forces plus dark matter and dark energy. Although the nuclear forces weren't well understood in Einstein's day, I believe Einstein understood them better than any other scientist (both then, and in the nearly 60 years since his death) and was correct not to worry about including them in a unified theory. The title of one of his papers "Do Gravitational Fields play an Important Role in the Constitution of the Elementary Particles?" suggests that Einstein's understanding of the nuclear forces may have been that they have no existence independently of gravitation. In the case of nuclear fusion within the sun - the electric repulsion between two positively charged proton nuclei is repulsive but when the separation is small enough, the attractive nuclear force is stronger. It's essential to remember that this article is not saying electromagnetism and the nuclear forces do not exist. It's saying they don't exist independently of gravitation, which is the underlying cause of all repelling and attracting.

The flow of ones and zeros can produce waves that cancel and result in electric neutrality and masslessness – they can produce waves that reinforce and result in mass or electric charge. Whether the charge is positive or negative depends on the precise orientation of the Mobius. As we'll see by the later discussion of two Mobius loops being connected and extended into an infinite number of figure-8 Klein bottles by infinitely long numbers like pi, this orientation can be viewed as the relative positions of the loops. The orientation or relative positions determines the many combinations of fractions, negativeness, neutrality or positivity of mass, charge and spin. The combinations are finite because the two-dimensional Mobius programs from which fermions and bosons originate, plus each four-dimensional Klein bottle which manifests and expresses the particles, are themselves limited and finite.

The picture used as a starting point (the bottom of it looks like part of a circle while the top has a twist … this particular orientation is referred to here as "spin 1") should be forgotten now. The Mobius loop should be visualized in its completeness – as two Mobius loops formed into a figure-8 Klein bottle by a

connecting band that has an upper and lower layer. The “bottom” and “top twist” can be in any position – at the bottom or top, on the right or left. The important things are the relative positions of the two loops, and fractal geometry – see p.25 where a fractal is defined as a shape such that, if you look at a small piece of the shape, then it looks the same as the original, just on a smaller scale – it is used to describe coastlines, mountain ranges, etc. The mathematical program called a cosmic Mobius loop naturally manifests as a quantum Mobius, too (on a subatomic scale). If one quantum loop remains stationary while the other turns 720 degrees (through 2 complete revolutions), the resultant twist in their connecting band – which is consistent with spacetime being warped - is interpreted as a matter particle of spin ½ i.e. as a proton, neutron or electron. Turning one clockwise while the other is stationary produces one type of charge (positive or negative), while counterclockwise motion linked to stationariness produces a twist in the quantum bottle identified as the opposite electric charge. To produce a neutral charge, the currents of ones and zeros – which can be interpreted as gravitational and electromagnetic waves, or as the exchange of “virtual” gravitons and photons - must move synchronously. As the previous paragraph phrased it, “The flow of ones and zeros can produce waves that cancel and result in electric neutrality and masslessness – they can produce waves that reinforce and result in mass or electric charge.” The current of ones and zeros causes waves in the “riverbeds” of the Mobius loops, and these waves interfere either destructively (cancel) or constructively (reinforce). Synchronous motion of the currents in the loops means no waves are formed, and the particle is neutral.

The energy of the loops’ movements is translated into the mass of particles. For example, there is little relative movement of the loops when waves result in the mass and charge of the electron (a mass of 0.511 MeV/c^2, which may be referred to as “1”). However, there is much more energy expended when the relative movements of the loops result in the mass and charge of the proton (a mass of 938.272 MeV/c^2 or approx. 1836 times as much). Waves can cancel to produce neutral charge and masslessness, so why does a neutral neutron have a large mass of 939.566 MeV/c^2 (approx. 1839 times an electron’s energy). Because both quantum Mobius loops are in motion – moving together, at the same rate – and producing 939.566 MeV of energy. With chargeless particles that are also massless (as far as is known) like the photon and graviton, the synchronized motion of the loops does not result in energy that is concentrated in wave packets to form neutrons, but the energy is dispersed throughout both the cosmic and quantum band connecting the 2 loops i.e. throughout the figure-8 Klein bottle of each subuniverse and subatomic particle.

[4] "Monthly Notices of the Royal Astronomical Society" reports that the WiggleZ galaxy survey confirms that matter is distributed evenly at the largest scales. But if we disregard the largest scale of infinite flatness; smaller scales reflect the idea of fractals e.g. from roughly spherical galaxy clusters, down to stars, down to atoms.

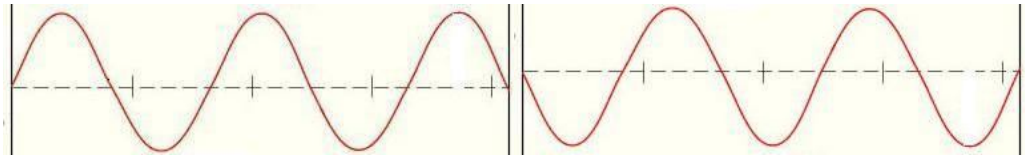
(after examining recent measurements by the Wilkinson Microwave Anisotropy Probe, NASA declared "We now know that the universe is flat with only a 0.4% margin of error." - http://map.gsfc.nasa.gov/universe/uni_shape.html;
and according to "The Early Universe and the Cosmic Microwave Background: Theory and Observations" by Norma G. Sànchez, Yuri N. Parijskij (published by Springer, 31/12/2003), the shape of the Universe found to best fit observational data is the infinite flat model).

[5] Actually, gravity is only the apparent foundation of the universe – the cause we can detect, and see the effects of. It'd be more accurate to call gravity the universe's middleman. It's the cause of things like electromagnetism, the nuclear strong and weak forces, wave packets, repulsion, and attraction. (If electromagnetism truly is nothing but modified gravitation, the same could be true of the strong and weak nuclear forces. Then there would not be 4 fundamental forces, or even the 2 of gravitation and electromagnetism, but only the 1 called gravitation. Would this 1 force introduce a Unified Field Theory and a Theory of Everything?) But gravity is also an effect – of mathematics generated in a 5th dimension. The true foundation of the universe is maths.

In relation to wave packets (referring to Einstein's paper "Do Gravitational Fields Play An Essential Part In The Structure Of The Elementary Particles Of Matter?") - If gravity is actually a repulsive force, it would eliminate the need for dark energy[6] (see the paragraphs below, enclosed in borders) to exist and cause universal expansion. But the sun and moon cause varying tide levels as a result of the constantly varying position, relative to Earth, of the gravitation-absorbing wave packets which compose them i.e. the gravity associated with the sun and moon causes attraction (more about tides in next paragraph). The apple that was supposed to have hit Isaac Newton on the head wouldn't have been pulled there by our planet's centre – it would have been pushed there by gravity coming from the outer solar system (and ultimately by warps of space outside our galaxy). Not all of the gravity encountering the sun or moon is blocked by being diverted into solar and lunar wave packets. Much reaches Earth and is diverted into the wave packets of all things from the top of the atmosphere, to the surface, to the centre of the inner core. Gravity pushes planets toward the sun (planets' orbital speeds prevent them falling into the sun). Some gravitational waves from outside the solar system pass by and some are diverted towards the sun (just as some of the ocean waves passing an island are diverted to the shore by being refracted by the island's mass). As the waves pass the outer planets, more of the waves are refracted by the planetary masses and **appear** to cancel each other at the planet's centres. No interactions in wave packets occur there, meaning there is no mass and, agreeing with conclusions from Isaac Newton's theories, (hypothetical) objects weigh nothing.

X = centre of planet, where waves meet and appear to cancel each other

X



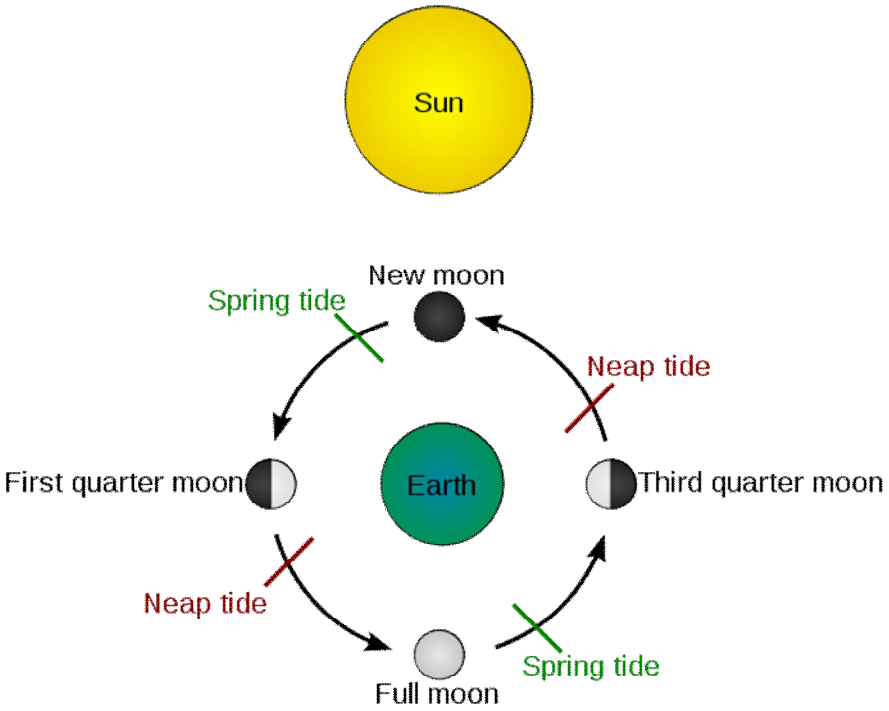
Gravitational wave travelling from one side of planet to centre

Wave travelling from other side of the planet to its centre

If an equal amount of gravitational waves from every direction in the outer solar system converged on a planet whose composition was separate from the gravitation; the orbit of our planet would be equally pushed towards and pushed away from the sun at every point in its orbit and would be a perfect circle. But the gravitational balance is upset because the gravitation composes the planet's matter-forming wave packets. We might expect waves from every direction to contribute equally to the formation of wave packets. This would be so if local space-time was uniform in composition or character everywhere (flat and homogeneous). However, General Relativity attests that space-time is curved and warped and the Mobius loop attests the same when it's transformed from the abstract world of maths to the world and cosmos we know via gravity being ultimately composed of binary digits. These digits make space-time (and its warps which are called gravity) appear to be nothing when they're actually something, and they make mass when they're combined in wave packets with the modified gravity known as electromagnetism. Upsetting of gravitational balance by planets means their orbits cannot be circular but must be elliptical (Johannes Kepler's 1st law of planetary motion says orbits are oval or elliptical). Fractal scaling of the Mobius could cause individual planets to each possess their own balance and have tiny variations in warping of the surrounding space (a variation resulting in the Pioneer anomaly, and also variously – sometimes imperceptibly - influencing the "flyby anomalies" of spacecraft receiving gravitational slingshots/gravity assists to alter their trajectory or speed). There is no independence of time and space; so if flyby anomalies occur at different points in space, they must also occur at different times at the same point in space (space-time warps are very dynamic).

Why will two bodies dropped from the same height in a vacuum reach the ground simultaneously (this was verified by the Apollo astronauts on the Moon using a feather and a wrench or hammer)? They actually don't. There's an incredibly tiny, immeasurable, difference explained this way - the more mass a body possesses, the more gravitation is diverted to play a part in that body's formation (and the more inertia is imparted by the gravitons); though the International Space Station weighs around 400 tons, it has tiny mass compared to any planet and produces so-called weightlessness while black holes – ranging from about 3 solar masses for the smallest stellar variety to billions of solar masses for supermassive black holes in galaxy centres – have so much mass and diverted gravity that light pushed into them is unable to escape.

In further relation to wave packets and the tides - The difference in mass between a space station and a black hole is enormous; but the difference between a feather and tool is, in comparison, nothing. So while the heavier tool does fall faster then the lighter feather as the ancient Greek philosopher Aristotle believed, the difference is many billions of times beyond science's finest measuring instruments. It's appropriate to use the results of the experiments of Italian physicist Galileo, and say gravitation is absorbed into wave packets and the inertia of the gravitons carries objects towards Earth's centre at 9.8 m/s^2 or 32 ft/s^2. The mass of the oceans on Earth is estimated at nearly 1.5 billion cubic kilometres ("Ocean Volume and Depth" – Van Nostrand's Scientific Encyclopedia, 10th edition 2008). All this water is being pushed towards Earth's centre at 32 feet per second per second. But the seafloor prevents its descent. So there is a recoil, noticeable offshore (it is only where oceans and continents meet that tides are great enough to be noticed). This recoil is larger during the spring tides seen at full and new moon because sun, Earth and moon are aligned at these times. This alignment means more of the gravitational waves travelling from the outer solar system are captured by solar and lunar wave packets, and less of them are available on Earth to suppress oceanic recoil (there are still enough to maintain the falling-bodies rate of 32 ft/s^2). At the neap tides of 1st and 3rd quarter, only the moon is significantly suppressing oceanic recoil. If variables like wind/atmospheric pressure/storms are deleted, this causes neap tides which are much lower than spring tides.

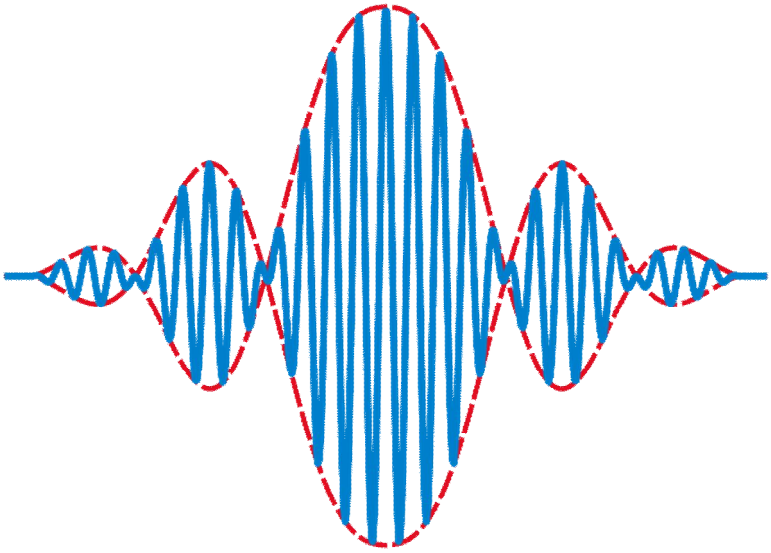


The explanation for Johannes Kepler's 2nd Law of planetary motion (the three

laws were announced between 1609 and 1618, and the second states that a planet or moon moves fastest when at its closest to the star or planet it orbits) can be phrased in terms of recoil. Referring to Earth's moon (I'll explain this physically because I believe the equations used in mathematics, though accurate and precise, often confuse our comprehension of what is actually happening) – when the moon is near Earth, gravitational waves from one direction of the outer solar system are captured in lunar wave packets before reaching Earth, and the momentum of this capture both pushes the moon towards Earth and causes it to move faster when it's near. It suppresses recoil. In this case, the moon's orbit corresponds to the seafloor in the above paragraph – but recoil from the seafloor is not suppressed as is the case with neap tides. The moon's capture of gravitational waves means more gravity waves repress "orbital recoil", the moon's tendency for inertia to move it away from Earth (either by flying off into space, or by increasing the radius of its orbit) i.e. recoil from the moon's orbit is diminished and our satellite remains near to Earth for a time. Eventually the moon's inertia transports it to the farthest point in its orbit where it is orbiting at its slowest speed because our satellite's increasing distance has been allowing more and more gravitational waves to reach Earth (more of them are interacting in wave packets here - and less are available in the space of the Earth-moon system to repress the moon's orbit or to add speed to that orbit). So it can move from perigee to apogee where an imaginary line called the radius vector which joins Earth's centre to the moon's centre sweeps out an equal area in an equal time. (The very slight difference in gravity waves available to Earth is not enough to make the moon crash into Earth or fly off into space - but only enough to cause slight variations in its nearly circular orbit.) At lunar apogee, the strength of gravitational waves pushing the moon toward Earth is greater than those passing Earth (i.e. not tied up in this planet's wave packets) and heading to the moon. It returns to perigee where gravitational waves from one direction of the outer solar system are captured in lunar wave packets before reaching Earth, and this capture pushes the moon towards Earth and accelerates its orbit. Then to apogee again because its inertia and increasing distance have been allowing more and more gravitational waves to reach Earth (more of them are interacting in wave packets here - and less are available in space to repress the moon's orbit or to keep it orbiting as quickly). Since astronomical bodies receive virtually identical amounts of gravitational waves from all directions, the waves' effect on rotation is normally insignificant, only having appreciable effect over the much larger distances (and much greater exposure periods) of their orbits.

So every aspect of the moon's orbit, and all orbits, is dependent on the wave packet (a concept in quantum mechanics - introduced in 1926 by Erwin Schrodinger and interpreted later that year as a **probability wave** by Max Born, grandfather of the singer Olivia Newton-John).
"Einstein says that bodies do not attract each other at a distance. They merely follow the line of least resistance through the hills and valleys of the curved space that surrounds other bodies. Objects that fall to the earth, for example, are not 'pulled' by the earth. The curvature of space time around

the earth forces the objects to take the direction on toward the earth. The objects are pushed toward the earth by the gravitational field rather than pulled by the earth." ("Gravitation" - Robert F. Paton, M.Sc., Ph.D.)
Wave packets are the product of a type of "micro gravitational lensing" (lensing is not achieved directly by matter's mass, but by base-2 mathematics comprising gravitons – and their close relative, photons – then forming mass by interaction in wave packets). Gravitational microlensing on a quantum scale magnifies gravitation by concentrating it inside matter's wave packets. This magnified momentum of gravitons composing the gravitation also explains why the moon is pushed to perigee, and why orbits are fastest when a planet or moon is closest to the body it orbits (the paragraph above phrased this as "the momentum of this capture both pushes the moon towards Earth and causes it to move faster when it's near" - and, at apogee, "less (gravitational waves) are available in the space of the Earth-moon system (because there's a tiny increase in the number of them interacting in Earth's wave packets) to repress the moon's orbit or to keep it orbiting as quickly".

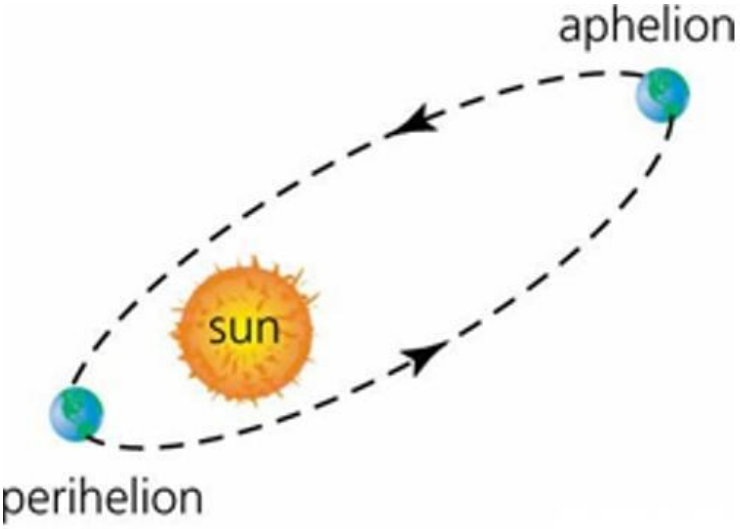


Wave packet

Planets nearer the Sun orbit faster than those farther out because an outer planet concentrates gravity waves in itself – the increasing density with depth corresponds to increasing concentration and magnification of wave packets and gravitational waves. When gravity waves meet in the planetary centre (see diagram at top of p.6), they appear to cancel and have their progress terminated. However, the waves continue – following the oscillations of the wave that entered the planet's opposite side. They eventually emerge from that opposite side, in a magnified condition which they are able to transfer to an inner planet as they journey to the sun

(inevitably, the vast majority of magnified waves do not encounter any planet but dissipate into space). This magnification accounts for planets nearer the sun orbiting faster than those farther out i.e. for Kepler's 3rd law of planetary motion.

Speaking of planets orbiting the sun, here's a nonmathematical paragraph about how dark energy/gravitation causes attraction in the solar system –



As gravitational waves travel from the outer solar system towards the sun (as a starting point, let's say they're coming from the lower left in this picture), they'd push the orbiting Earth to aphelion, its farthest distance from the sun – 152 million km. But gravity waves are also coming towards the sun from the aphelion direction. So Earth's progress to the upper right is stopped and it follows the line of least resistance to waves pushing it from both the lower and upper directions – this corresponds to the path indicated by the arrow pointing left. When it reaches perihelion (its closest approach to the sun – 147 million km), the waves from the right are pushing it back while waves from the left are pushing it forward. Our planet follows the boundary between waves assaulting it from opposite directions and its inertia compels it to follow the arrow pointing right. Upon reaching aphelion again, the tug-of-war (oops, I mean push-of-war) continues and Earth's momentum causes it to go left. We mustn't forget the waves that push Earth towards and away from the sun at both its perihelion and aphelion points. The balance between these forces reinforces the planet's tendency to stay in the illustrated orbit. The sun's position in the illustration is exaggerated – it should be closer to the centre of the ellipse since the difference between perihelion and aphelion is only about 3%. The existence of this difference would rely on the planet manifesting as a multitude of matter-forming wave-packets which divert some gravity waves to every point from the top of the

atmosphere to the centre of the inner core – thus slightly upsetting the balance of gravity waves from opposing directions.

The warping of space-time in General Relativity is not separate from matter but gives an electron a mass of 0.511 MeV (mega electron volts) – technically, physicists say “0.511 Mev/c^2” because an electron volt is actually a measurement of energy, and mass units equal energy units divided by c^2, or m = E/c^2 (which is E=mc^2 when both sides are multiplied by c^2). The term “0.511 Mev/c^2” seriously confused me at first because, on one hand, it’s essential (the speed of light - measured in metres per second - is used to convert measurements of time, in seconds, into measurements of space, in metres: and is also used to convert energy into mass). On the other hand, dividing a number of MeV’s by Lightspeed or Lightspeed squared (c or c^2) results in a remarkably different number. But it made sense to me when I looked at the way Lightspeed is measured (metres **per** second) and decided the slash in “0.511 Mev/c^2” must mean “per” and cannot be a division sign i.e. it’s really 0.511 MeV per c^2. (See below where 938.272 MeV is divided by 89,875,517,873.7 km/s; and becomes 1.04396839x10^-8 s^2 per m^2, as well as 1.67262159 x 10^-27 kg). The quantity of electron mass depends on gravitational energy's interaction with electromagnetic energy (both are ultimately composed of 1’s and 0’s) in mass-forming "wave packets" i.e. c^2 would not mean light’s velocity is multiplied by itself but would mean light’s velocity is multiplied by gravity’s velocity (further suggestion that the velocities in a vacuum of light and gravity are identical is made on the next page). We could also say $m=(E_G*E_{EM})^{(1+0)}$ – the mass in wave packets equals the energy of gravity multiplied by electromagnetic energy (these are raised to the power 1+0 since both energies are ultimately composed of binary digits – and G energy x EM energy produces the nuclear strong force, while antiG x EM results in the nuclear weak force – see p.4).

Gravitational microlensing on a quantum scale (gravitational quantum-lensing) is focused and magnified by an atom's electron cloud, and by surrounding atoms*, to give a proton a mass of 938.272 MeV and a neutron 939.566 MeV. As an element's atomic number (number of protons in the nucleus of an atom) increases, the general rule is that the number of neutrons in the nucleus of each atom increases at a faster rate than the number of protons. This is the result of an atom always having a balance of electric charges (in the absence of ionization); which gives it an identical number of electrons and protons, and a neutral charge. Therefore, as we progress from the start of the Periodic Chart of Elements to the end, mass increase from gravitational quantum-lensing occurs by increasing the number of neutrons at a faster rate than the number of protons (being less than 1/1800 of each nuclear particle’s mass, a lightweight electron hardly contributes anything to atomic mass). There are a few exceptions to the general proton/neutron rule e.g. element 19 (potassium) has a lower atomic weight (approximately equal to the number of protons plus neutrons) than element 18 (argon) – 39.0983 for potassium, 39.948 for argon. When a neutron is removed from a nucleus, it’s no longer subject to its former gravitational

quantum-lensing and it decays in about 14 minutes, 42 seconds by emission of an electron and an electron antineutrino to become a proton. The proton also decays, according to various Grand Unified Theories ("Radioactive decays by Protons. Myth or reality?" by Ishfaq Ahmad, The Nucleus, 1969, pp 69-70). The GUTs estimate proton decay takes 10^31 to 10^36 (10 million trillion trillion to one trillion trillion trillion) years. However, even though the time necessary to regenerate a proton's mass must be calculated using the speed of light squared (E=mc^2 means a tiny amount of mass can be converted into a very large amount of energy. Similarly, m=E/c^2 means a very large amount of energy is converted into a tiny amount of mass), this is enough time for m=E/c^2 to enable all protons to completely renew themselves (see top of p.18) and avoid decay.

* It is clear that an atom is influenced by the lensing associated with nearby atoms because of hydrogen. This element has 3 naturally occurring, stable or relatively stable, isotopes - protium (with a lone proton in the nucleus), deuterium (a proton plus a neutron), and tritium (proton, 2 neutrons - tritium has a radioactive half-life of 12.3 years). All isotopes possess one electron, so this could not be the sole cause of lensing. Lensing affected by the positions of nearby atoms would affect atomic weight, increasing it from hydrogen-1 to hydrogen-3 (as expected) and decreasing it from element 18 to 19 (when an increase might be expected).

m=E/c^2 is equivalent to

mass=938.272 (a proton's energy in MeV - an electron volt is actually a measurement of energy, but scientists can get away with using it to measure mass since mass and energy are related by Einstein's famous equation, $E = mc^2$) divided by 299,792.458 km/s squared (89,875,517,873.7), which is equivalent to 1.67262159 x 10^-27 kg, or 1.04396839x10^-8 s^2/m^2. This latter quantity confused me at first, because I had the 1.04396839x10^-8 but was unsure of which units to apply to it. I found the identical number on my computer, and that had the unit s^2/m^2. This seemed logical to me since multiplying by 89,875,517,873.7 would result in the speed of light squared in metres^2 per second ^2 (1x1=1). Actually, it would be second^2 per metre^2 which implies there is absolutely no difference between space and time. This means time actually could be merely an electronic "clock" measuring the motions of matter (p.13). It also supports the validity of solving the Pioneer anomaly by saying the spacecraft travels 3,000 miles in 4 arcseconds (p.18). This is simply conversion of the linear distance of 3,000 miles of space travel into the angular distance of 4 arcseconds. Like time, angles appear to be different from space but actually aren't – they're just different aspects of one thing (mathematics).

Similarly, m=E^(1+0) – a simplification of $m=(E_G*E_{EM})^{(1+0)}$ which condenses all the gravitational and electromagnetic energies acting on and in a particle into one

term (E) that, in this case, represents the proton mass of 938.272 MeV - is equivalent to

Mass=energy of 938.272 MeV divided by [89,875,517,873.7 ^ (1+0)] and equals 938.272 MeV / 89,875,517,873.7 or 1.672 x 10^-27 kg. Note that the masses of subatomic particles do not appear to have altered with time (see “A Stringent Limit on a Drifting Proton-to-Electron Mass Ratio from Alcohol in the Early Universe” by Julija Bagdonaite, Paul Jansen, Christian Henkel, Hendrick L. Bethlem, Karl M. Menten, Wim Ubachs – “Science”, 4 January 2013: Vol. 339 no. 6115 pp. 46-48, DOI: 10.1126/science.1224898).

Since the proton can only have one mass; the quantity of that mass can only be calculated by dividing by a constant value, and one value, for E (energy). This constant value means the speed of light is no more likely to have altered with time than the proton’s mass (measurement of the speed’s variation would, as the paper in “Science” puts it, be “consistent with a null result”). This one value for E means a) gravitational energy and electromagnetic energy must travel at exactly the same speed (299,792.458 km/s or approx. 186,282 miles per second), and b) gravitation and electromagnetism may even be the same, with electromagnetic waves only being a modification of gravitational waves. General relativity predicts that the speed of gravity is *exactly* the same as the speed of light - Ed Fomalont and Sergei Kopeikin (2003). "The Measurement of the Light Deflection from Jupiter: Experimental Results". *The Astrophysical Journal* 598 (1): 704–711.

So Einstein’s famous formula E=mc^2 supports the idea of this universe being the product of the binary digits 1 and 0 that are used in electronics – by E=mc^2 becoming m=E/c^2 which equals m=E^(1+0).

The average density of the Milky Way is much less than the solar system. Picture the galaxy, except for the central dense bulge that may be roughly 10,000 light years in diameter, made up of solar systems like ours and separated by 4 or 5 light years (the closest star to the Sun is Proxima Centauri, 4.2 light years away). Within those systems, there is a lot of mass and density in the form of stars, planets, moons, asteroids, comets, gas, and dust. But the vast reaches of near vacuum between systems lowers average density enormously – the MacMillan Encyclopedia of Physics says the average density of matter between the stars of the Milky Way is 0.1 neutral hydrogen atoms per cubic centimetre. Since density corresponds to concentration of wave packets and magnification of gravitational waves, there would be extremely little magnifying of gravity waves in interstellar space. I suspect that if it is (very approximately) 10^15 times or a million billion times less, there would be insufficient gravitational magnification to accelerate the stars in the central core or bulge beyond the orbiting speeds of the galaxy’s outermost stars.

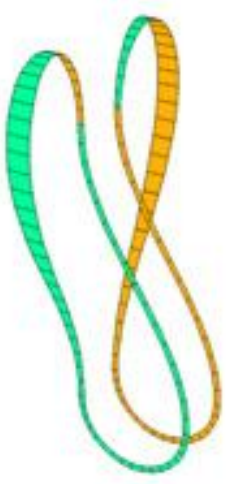
In the 1970s, Vera Rubin concluded outer stars were being sped up by the gravitational attraction of unseen Dark Matter in a halo well beyond the galaxy. This partial revision of gravity states there would be no such thing as dark matter of this nature. However, the term "dark matter" could be used to describe particles in the 5th dimension, or travelling through time, that would be invisible but still exert gravitational influence (in a universe structured according to the rules of fractal geometry, 5th dimensional hyperspace would occupy every fermion and boson, alongside space-time which is ultimately composed of 1's and 0's like particles). The 3 familiar dimensions of length, width and height could be said to correspond to, for example, one of the two-dimensional loops that are integrated by transcendental numbers like pi, and likewise-infinite irrationals, into an infinite number of subuniversal figure-8 Klein bottles (see reference [8]). 1's and 0's portraying those physical dimensions would comprise photons and gravitons that interact in wave packets to create mass. The 2nd loop could correspond to the electronic clock mentioned in the next paragraph, and measure/record the motions of matter. It would be what we call the 4th dimension (time). After the 2 loops are integrated, they could be thought of as one loop. The 3 physical dimensions represent the left side of the loop and the time dimension is perpendicular to them (the twisted part at the top in the picture below – the entire strip is curved; so it translates into the warps common to space, time and hyperspace). And there would also exist an integrating (without it, there would be no space-time) 5th dimension called hyperspace, at right angles to the 4th and (it could be said) 180 degrees from the length/width/height i.e. on the right. H-space is extended from the side along the loop's bottom because the WMAP space probe (Wilkinson Microwave Anisotropy Probe) has determined that a very large 72% of the universe is dark energy, and transmissions of binary digits from hyperspace are an interpretation of dark energy – since binary digits are mathematical, this means the WMAP SPACECRAFT HAS DETECTED EVIDENCE THAT THE UNIVERSE HAS MATHEMATICAL FOUNDATION. The other interpretation of dark energy is gravitation in its repelling role – just as there is quantum entanglement in space, there is retrocausality or backward causality in space-time's other half which means the effect of gravitation has no separation in time from the cause of binary digits. To reach the total of 72%, h-space must also invade parts of the loop assigned to time and normal space. That's not surprising since hyperspace "creates" spacetime – the Law of Conservation says neither matter nor energy can be created or destroyed (though the quantity of each can change), so a better phrase might be "hyperspace recycles spacetime" (when matter changes into energy or energy becomes matter, we say matter or energy has been created).

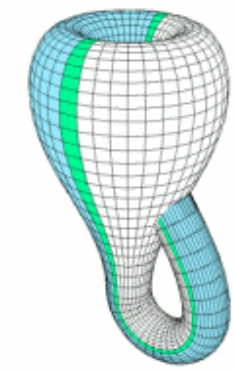
If spacetime is recycled, recycling must also occur to people since humanity is a fractal version of space-time. In what form did the matter and energy making up you and me exist before birth, and in what form will it exist after death? If humans are unified with an infinite universe, every one of us must possess infinite (immortal) life. Everyone knows that life is full of twists and turns (after all, it began with a Mobius loop), so we should not expect immortality to be a simplistic

matter of having an eternal spirit or soul which lives on after death. What then? Think about this alternative –

When we die, we're dead. There's no life or consciousness at all. But sometime in the distant future, doctors and scientists discover how to resurrect us – possibly, they could use time travel to obtain a copy of our minds which could be downloaded into a clone bioengineered to be free of defects so it would be healthy and ethical. The resurrected self – perhaps in an immaterial body designed in the far future to overcome physical limitations - would be capable of returning to the point of death (even an eternity before that), and thus having immortal life. But if people are unified with an infinite universe, the relationship could not be just with time – it necessarily extends to space because Albert Einstein showed that space and time cannot exist independently of each other (they form space-time). Everyone (along with everything) merges, and there are no gods - only what is called God. The complementary, negative aspect of God's positiveness would be called illness, accident, death … or in a suprapantheistic context (where the negativity, like the positiveness, embraces all matter and consciousness in electronics-based space-time-hyperspace and is capable of downloading into living or nonliving components), Satan the Devil. Remember, both the positive and negative sides of this cosmic coin are essential for the tiniest, and grandest, functions of the universe as we know it. But it may not always be so – the time will come when there is no illness, accident or death.

Maybe this seems too speculative. When his paper regarding mathematical formulas creating reality was submitted to a scientific journal and rejected as being too speculative, U.S. cosmologist Max Tegmark showed the rejection letter to his friend John Wheeler (1911-2008), a Princeton theoretical physicist. Wheeler said, "Extremely speculative? Bah!" Then he reminded Tegmark that some of the original papers on quantum mechanics were also considered extremely speculative. (p.2 of "Is the Universe Actually Made of Math?" By Adam Frank, Monday, June 16, 2008 - http://discovermagazine.com/2008/jul/16-is-the-universe-actually-made-of-math#.UQNDUR2-pFk





2 unjoined Mobius bands are connected into an ordinary (non figure 8) Klein bottle by a band having a front and back
(thanks to http://plus.maths.org/content/os/issue26/features/mathart/index for illustration)

Production of wave packets is ultimately mathematical (the mathematical foundations could perform “packet switching” - transforming from the abstract world of maths to the physical world of matter’s wave packets). I believe the maths involved belongs to base 2 i.e. the binary digits of 1 and 0 are the cause of matter, gravity, EM, the nuclear forces, black holes, space (whose warps are gravity), and time. (Time is also warped, and possibly an electronic “clock” measuring the motions of matter i.e. producing frames as in a movie. If the universe is made of frames, the word “travel” would refer to one state or position (such as in a planet’s or moon’s orbit) being electronically represented in a “cosmic movie frame”, with possibly a billion times a billion frames displayed every second [or a billion times that] so that its “movement” would appear continuous. Time travel into the past or future would be like going to different points in the cosmic movie instantly. Were ancient Greek philosophers Parmenides and Zeno of Elea at least partly correct to speak of the absurdity of reality being made up of many changing things? Zeno also said motion is absurd. Motion and change would, in the end, merely be the switching of 1’s to 0’s and vice versa.)

I didn’t originally intend to write about tides, falling bodies, Earth’s orbit, and Greek philosophers. But if someone is attempting to explain the Pioneer slowdown etc. by a new interpretation of space-time warping (and this warping is what gravitation is), it’s a good idea – even an essential one – to not solely write about General Relativity and the spacecraft launched 40 years ago. Ideas from centuries ago – including those of Newton, Kepler, Galileo, Aristotle, Parmenides, Zeno – must also be analysed. So must interpretations of the Mobius loop and figure-8 Klein bottle.

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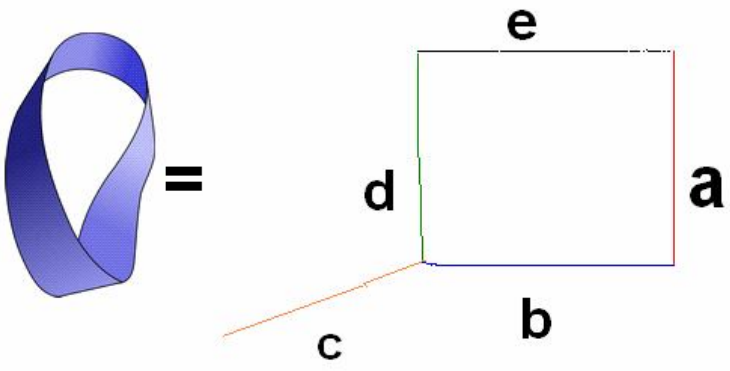
[6] An alternative interpretation of dark energy would be to consider it as radiation of binary digits from hyperspace. It seems to me that gravitation can be viewed as the effect of the cause known as binary digits. What if Israeli scientist Yakir Aharonov, and others, are correct about the theory of retrocausality (that effects influence causes – therefore, causes and effects are not necessarily separate?) Gravitation would then be dark energy too, and I think it would change the astronomy world if scientists would study this possibility.

"Hidden variables" is an interpretation of quantum mechanics which is based on belief that the theory is incomplete (Albert Einstein is the most famous proponent of hidden variables) and it says there is an underlying reality with additional

information of the quantum world. I suggest this underlying reality is binary digits generated in 5D hyperspace. These allow time travel by making it possible to warp space[7] (wormholes being one example of doing this) simultaneously adding precision and flexibility to the elimination of distances; and the “fitting together” of subuniverses (see p.19) to form a continuous superuniverse. (The boundaries where subuniverses meet might be called Cosmic Strings - analogous to “cracks” in spacetime formed as subuniverses cool and similar to cracks that form as water freezes into ice - and first contemplated by the theoretical physicist Tom Kibble in the 1970s.)

[7] Maybe hidden variables called binary digits could permit time travel into the future by warping positive space-time. And maybe they'd allow time travel into the past by warping a 5D hyperspace that is translated 180 degrees to space-time, and could be labelled as negative or inverted.* (The space-time we live in is described by ordinary [or “real”] numbers which, when multiplied by themselves, result in positive numbers e.g. 2x2=4, and -2x-2 also equals 4. Inverted “positive” space-time becomes negative hyperspace which is described by so-called imaginary numbers that give negative results when multiplied by themselves e.g. i multiplied by itself gives -1. [Supporting info from Stephen Hawking’s “A Brief History of Time” – Bantam Press 1988, p.134]) The past can never be changed from what occurred, and the future can never be altered from what it will be. Both are programmed by the 1’s and 0’s. Our free will can be used to a small extent to change the course of our personal lives … but it’s powerless to stop Hitler doing what he did, or to prevent humans learning to time travel oneday.



*
Width a is perpendicular to the length (b or e) which is perpendicular to height c. How can a line be drawn perpendicular to c without retracing b’s path? By positioning it at d, which is then parallel to (or, it could be said, at

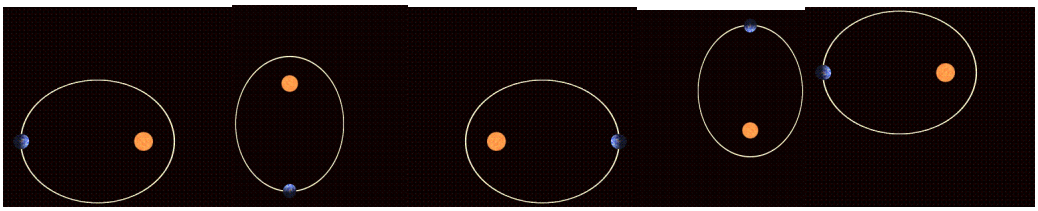
180 degrees to) a. d (the spaceship) is already at 90 degrees to length b and height c. To be at right angles to length, width and height simultaneously (the state equivalent to time travel); it has to also be perpendicular to (not parallel to) a. This is accomplished by a twist, like on the right side of the Mobius loop pictured above, existing in a. Then part of a is indeed at 180 degrees to d, but part of a is at 90 degrees to d. This situation requires a little flexibility or “fuzziness” which allows the numbers to deviate slightly from their precise values of 90 and 180. The fuzziness is represented in nature by past, present, future, space, time, and hyperspace existing everywhere rather than being confined to particular locations. Thus, 90+90 (the degrees between b & c added to the degrees between c & d) can equal 180, making a & d parallel. But 90+90 can also equal 90, making a & d perpendicular. (Saying 90+90=90 sounds ridiculous but it has similarities to the Matrix [of mathematics, not the action-science fiction movie] which is an array of numbers placed in rows and columns. It was worked out in the mid-nineteenth century by British mathematician Arthur Cayley, matrix mechanics is a version of quantum mechanics discovered by Werner Heisenberg in 1925, and matrices say X multiplied by Y does not always equal Y times X. In this paragraph, the first 90 plus the second 90 does not always equal the second 90 plus the first 90 because 90+90 can equal either 180 or 90.) If the universe is composed of an infinite number of subuniverses shaped like two 2-D Mobius loops joined to form a 4-D figure-8 Klein bottle, in each subuniverse there would be 2 perpendicularities to the twist (one lot of 90+90, then another 90+90). 180+180 could equal 360 – represented in physics as a subuniverse, galaxy, black hole, subatomic particle (or a spherical wave that spreads to its destination instantly, translating space by 90 degrees i.e. producing quantum entanglement). 180+180 could also equal 180 – represented in physics by two spherical waves instantly arriving from opposite directions and their simultaneous quantum entanglement producing inversion of space (translation by 180 degrees - i.e. making length, width and height simultaneously perpendicular, or travelling in time) which permits the spaceship to enter hyperspace and journey into the past (p.30).

"Empty" space (according to Einstein, gravitation is the warping of this) seems to be made up of what is sometimes referred to as **virtual particles** by physicists since the concept of virtual particles is closely related to the idea of quantum fluctuations (a quantum fluctuation is the temporary change in the amount of energy at a point in space). The production of space by BITS (BInary digiTS) necessarily means there is a change in the amount of energy at a certain point, and the word “temporary” refers to what we know as motion or time. Vacuum energy is the zero-point energy (lowest possible energy that a system may have) of all the fields (e.g. electromagnetic) in space, and is an underlying background energy that exists in space even when the space is devoid of matter. Binary digits might be substituted for the terms zero-point energy (since BITS are the ground state or lowest possible energy level) and vacuum energy (because BITS

are the underlying background energy of empty space). Relativistically, space can't be mentioned without also mentioning time, whose warping can therefore also be viewed as gravitation (since "dark matter" is invisible but has gravitational influence, its existence could be achieved by ordinary matter travelling through time).

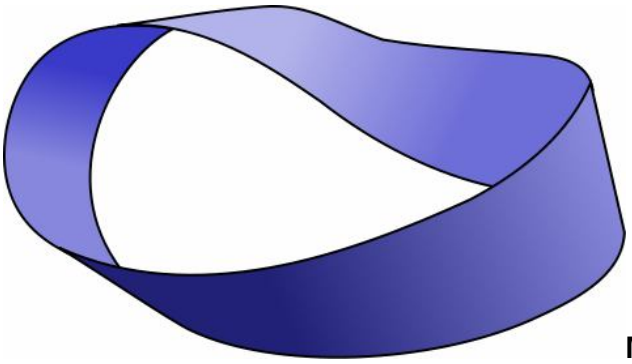
I call hidden variables (or virtual particles) binary digits generated in a 5th-dimensional hyperspace which makes them - as explained in the next sentence - a non-local variety, in agreement with the limits imposed by Bell's theorem. (Bell's Theorem is a mathematical proof discovered by John Bell in 1964 that says any hidden variables theory whose predictions agree with quantum mechanics must be non-local i.e. it must allow an influence to pass between two systems or particles instantaneously, so that a cause at one place can produce an immediate effect at some distant location [not only in space, but also in time].) Comparing space-time to an infinite computer screen and the 5th dimension to its relatively small – in this case, so tiny as to be nonexistent in spacetime – Central Processing Unit, the calculations in the "small" CPU would create and influence everything in infinite space and infinite time. This permits a distant event to instantly affect another (exemplified by the quantum entanglement of particles separated by light years) or permit effects to influence causes (exemplified by the retrocausality or backward causality promoted by Yakir Aharonov and others (see "Five Decades of Physics" by John G. Cramer, Professor of Physics, University of Washington - http://www.physics.ohio-state.edu/~lisa/CramerSymposium/talks/Cramer.pdf). This means quantum processes, in which effects and causes/distant events are not separated, wouldn't be confined to tiny subatomic scales but would also occur on the largest cosmic scales.

According to Newton's theory, the planet Mercury moves in an ellipse about the Sun. According to Einstein's theory, the ellipse will turn about forty-three seconds of an arc per century more than Newton's equations predict (all the planetary orbits precess, but the amount is greatest for Mercury). A complete rotation equals 360 degrees x 60 minutes x 60 seconds (1,296,000 seconds). 1 296 000 / 43 = 30,139.53488 (approx. 1 / 30,140 of a rotation).



ORBITAL (PERIHELION OR APSIDAL) PRECESSION –
Imagine the orange star maintains the same position precisely halfway between top and bottom. Then the blue Earth's orbit precesses (rotates gradually over about 112,000 years)

According to http://hypertextbook.com/facts/1997/PatricePean.shtml, the space probes Pioneer 10 and 11 are respectively travelling 2.39 and 2.22 Astronomical Units per year (1 astronomical unit is the average distance between the Earth and Sun - it equals 92,955,807.273 miles (from Wikipedia's "Astronomical unit"). Therefore, Pioneer 10 travels 2.39 x 92,955,807.273 (approx. 222 million) miles per year and Pioneer 11 2.22 x 92 955 807.273 (approx. 206 million). These approximations can be averaged to 214 million miles per year. However, the probes are travelling some 3,100 miles less than expected each year ("The Pioneer anomaly - solved?" by Liz Kruesi in "Astronomy" magazine - Nov. 2012, p. 20). This reduction in distance travelled amounts to 214,000,000 / 3,100 (approx. 1 / 69,000).



Mobius loop

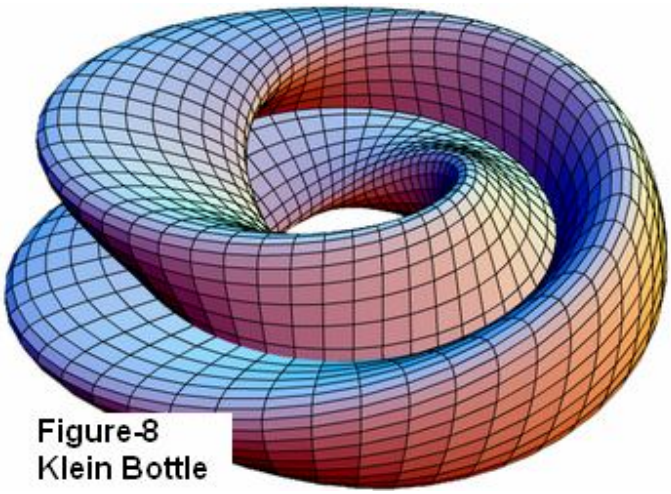


Figure-8
Klein Bottle

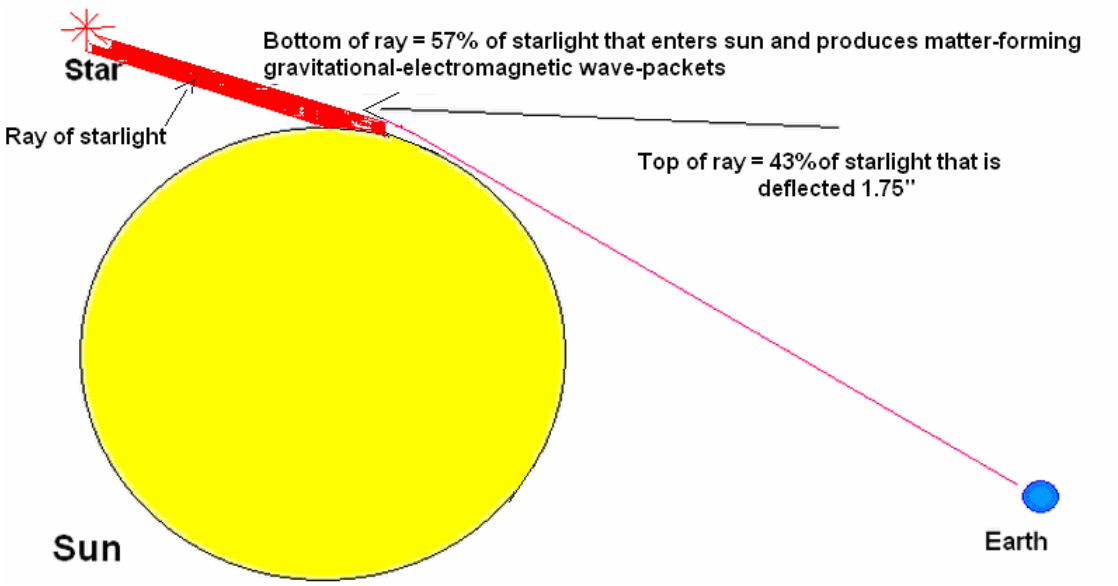
(2 Mobius loops – each one is 2 dimensional - joined along their edges can form a 4 dimensional Klein Bottle) Remember that the flexibility afforded by 1's and 0's seamlessly welds this, a subuniverse, with surrounding subuniverses as well as deleting the hole from its centre.

General Relativity describes gravity and space-time partly by referring to Mercury's motion. If Einstein's space-time warping accurately described the motion of the Pioneer probes, we might expect it to conclude that the Pioneers' reduction in expected distance travelled would be approx. 1 / 30,140 * instead of the actual figure of 1 / 69,032. Rounded to the nearest thousand and inverted, this means the actual warping of space-time has a value of 69 whereas General

Relativity gives it a value of 30 (less than half as much – Relativity's figure is only about 43% of the actual figure, in fact^). This can be explained by warping being based on the Mobius loop. Since one has to travel twice around a Mobius loop to arrive at the same point, the degree of warping is twice as much as it would be in Relativity. This takes us to 86% of the actual value. The foundation of 2-dimensional **Mobius loops** is then converted into 4-dimensional **Figure-8 Klein bottles**. Bottles consist of 2 Mobius loops joined on their sides and bottles in motion make up the 3 space dimensions + 1 time dimension of each subuniverse's space-time. Conversion from Mobius loops into Figure-8 Klein bottles takes energy and could well account for space-time's warping rising from 86% of its actual value to 100%.

* (because Mercury's orbital precession is greater than other planets in our solar system, it indicates warping more easily)

^ Then why has the deflection of starlight by the sun been experimentally proven to agree with General Relativity's prediction of 1.75 seconds of arc?
General Relativity's prediction of 1.75 seconds of arc is accurate if we consider the warping of space to only affect the deflection of starlight around our star. However, this is only 43% of the warping. Apparently, this diversion requires 57% of the starlight – the remaining 43% is free to bend around the sun and reach earth (at the low angle of 1.75 arc seconds, which is too low to enable it to become a constituent of the solar mass). Of course, more wave packets that form part of our planet are created when the electromagnetic (modified gravitational) light arrives at Earth. Einstein understandably, but incorrectly, assumed 100% of the starlight which grazes the sun is deflected at 1.75".



I think this shows that Albert Einstein and Isaac Newton didn't get their theories of gravity and space-time quite right (they definitely would have, if they could have used data from today's experiments and space probes). Imagine a few cosmic possibilities that could ensue from this article – 1) the sun (and all things) could be self-renewing to some degree, and might survive much longer than their predicted lifetime; 2) the whole universe might survive much longer than scientists anticipate (other parts of the submission suggest it's eternal); 3) stars could be brighter and closer than they appear – when their light isn't interacting with the sun; some of it is being absorbed by other stars, galaxies, etc. (scientists know that when light is absorbed by dust in space, it can be reradiated as the infrared rays associated with heat – but this energy can, as Special Relativity and E=mc^2 inform us, be converted to mass i.e. light absorption can produce mass, as suggested by m=E/c^2); and 4) this particular subuniverse that we live in could be younger than we think if stars are brighter and closer than they appear.

On September 9th 2012, Pioneer 10 was 9.918 billion miles from Earth. It was launched on March 2, 1972 so it had been travelling for 14,799 days. Its trajectory has not always been a straight line but let's assume another 820 million miles have been involved in its encounters with planets (including Earth) and moons, plus in its course corrections. Then we can make its path a straight line i.e. 180 degrees which is 10 billion miles long. If we also assume exactly 15,000 days of travel (that takes us to late April-early May 2013), the spacecraft travels an average of 10,000,000,000/15,000 or 666,666 miles per day i.e. 243,333,090 miles each year. Since everything in a unified field theory or Theory of Everything is united [8] (including spacecraft, miles, and angles), it travels (in a year) 243,000,000 miles in 180 degrees (648,000 arcseconds). Above the previous illustration, I suggested the curvature of space proposed by Relativity is only 43% of the actual figure. In that part of this article, it's said starlight does indeed get deflected 1.75 arcseconds by the sun (as Einstein stated), but that 57% of the light is diverted into the sun's matter-forming wave packets (as E=mc^2 implies when it's converted to m=E/c^2). But in the present article, the relevant figures (100%, 43%, 1.75 in fractional form) become (100/43 x 7/4) and equal 4.069. The true curvature would be 4 arcseconds or 2.3 times the accepted 1.75. In one arcsecond, Pioneer travels 243,000,000/648,000 = 375 miles. Remembering that my contributions to viXra often describe space-time warps as Mobius warps (you need to travel around a Mobius loop twice to reach your starting point); we must multiply the 375 miles by 2. In one arcsecond, Pioneer travels 750 miles. In 4 arcseconds, three thousand miles (see p.12). The total shortfall in travel distance (see next sentence) is 3,000 miles per year if Pioneer is traversing space-time that is curved and warped 2.3 times General Relativity's prediction.

If it was possible to do, flattening the very small arc formed by introducing 4 arcseconds each year would extend the endpoint of the space probe's travelled distance by 3,000 miles – this article has previously suggested the universe is one unified field, and the interpretation that Pioneer has revealed the union of the mathematical and physical means THE PIONEER SPACE PROBE HAS

DETECTED EVIDENCE THAT THE THEORY OF EVERYTHING IS NOT ONLY MATHEMATICAL BUT ALSO PHYSICAL (it means everything is part of a unified field and humanity, being part of that field, is necessarily involved in the unified universe's "creation").

The probes are travelling some 3,100 miles less than expected each year according to "The Pioneer anomaly - solved?" by Liz Kruesi in "Astronomy" magazine - Nov. 2012, p.20. Did my fondness for approximating, both here and in http://vixra.org/pdf/1212.0096v2.pdf, remove some 100 miles (about 3%)? The Planetary Society comes to my rescue and says, "Each year, they (the Pioneer space probes) fell behind in their projected travel by about 5,000 kilometers (3,000 miles).

[8] See the earlier paragraph where gravitation is called the universe's apparent foundation and mathematics is called its true foundation. As well, see http://vixra.org/pdf/1301.0040v1.pdf which speaks of using transcendental and irrational numbers generated in a 5th-dimension to connect two programs (2-dimensional Mobius loops) and extend them into an infinite number of 4-dimensional [3 dimensions of space, 1 of time] figure-8 Klein bottles (each is the basic unit – a subuniverse completed with two loops of its own – comprising the universe). Could this be describing evidence of an idea suggested by mathematics' "Poincare conjecture", which has implications for the universe's shape and says you cannot transform a doughnut shape into a sphere without ripping it? This can be viewed as one of the infinite number of subuniverses, each shaped like a Figure-8 Klein Bottle, gaining rips called wormholes when extended into the spherical spacetime that goes on forever (forming one infinite superuniverse). Picture spacetime existing on the surface which has rips in it. These rips provide shortcuts between points in space and time – and belong in a 5th-dimensional hyperspace. I could branch into a discussion of these subuniverses, but that doesn't seem appropriate at this point. I'm here to talk about Pioneer. The only thing connecting Pioneer and a subuniverse is the Mobius. A subuniverse has two loops, but Pioneer is travelling through the warped space-time created by only one. Why is this? Could it be related to the unified field/TOE and be the result of the 2 Mobiuses being integrated into 1 figure-8 Klein bottle?

The inverse-square law further states that the force between two particles becomes infinite if the distance of separation between them goes to zero. Remembering that gravitation partly depends on the distance between the centres of objects, the distance of separation between objects only goes to zero when those centres occupy the same space-time coordinates (not merely when the objects' sides are touching i.e. infinity equals the total elimination of distance – the infinite cosmos could possess this absence of distance in space and time[9], via the electronic mechanism of binary digits). Zero separation is the case in **quantum-entangled** space-time and

physicist Michio Kaku says in his book "Physics of the Impossible" that modern science thinks the whole universe has been quantum-entangled forever. This means there's still room for the infinity known as God. God would be a suprapantheistic union of the universe's spatial, temporal, hyperspatial, material and conscious parts; forming a union with humans in a cosmic unification, and a universal intelligence. Science's own Law of Conservation says the total mass (or matter) and energy in the universe does not change, though the quantity of each varies (I interpret this Law as saying – to get matter and energy, you have to start with matter and energy; which means that time must be warped). So what happens if we subtract humans of the distant future - with their ability to travel into the past and use incomprehensibly-advanced cosmogenesis, terraforming and biotechnology (cosmos, Earth-like planet, and life-generating abilities) from the origins of life? It becomes impossible for inorganic materials – and referring to the creation of amino acids in the laboratory by Harold Urey and Stanley Miller in 1952, relatively simple amino acids - to be assembled into complex plants and animals, whose adaptations are often called evolution.

[9] Elaborating on the infinite cosmos being one in which distance is totally absent from space and time – We need to remain extremely flexible in our thinking, and to be able to regard objects and events in two ways: both like parts of a webpage on the Internet (i.e. as what they appear to be) and as products of a programming language/the electronic mechanism of the binary digits 1 and 0 (ultimately, that's what the webpage is). This might be called "the particle-wave duality of logic". This type of logic could see infinity as both "the state of never ending space-time" and "the state of eliminated distance in space-time". Gravity and light are 2 basic parts of the universe. Could Einstein's aim of uniting electromagnetism (light is one form of this) and gravitation be related to electrical engineering's Optical Effect which says that, on silicon chip-and transistor-scales, light can attract and repel itself like electric charges/magnets (On-chip push–pull effect - Nature Photonics 3, 484 [2009]) . Achievement of Einstein's Gravitational-Electromagnetic Equivalence means gravity could, on quantum levels, also attract and repel itself. General Relativity says gravity is the warping of space-time, so space and time could be made to attract and repel at quantum levels And quantum levels make up all time plus the entire universe - unconventional US cosmologist Max Tegmark says "You are made up of quantum particles, so if they can be in two places at once, so can you." There's no need for Star Trek-like teleportation if you're in 2, or even infinite, places; or 2, or infinite, times at once (see the mention about everyone and everything merging on p.11, as well as the one about the whole universe being quantum entangled forever on p.19). Distances between points billions of light years apart, or between the past and future, might therefore be eliminated - both by gravitational-electromagnetic equivalence, and the act of being in more than one place or time at once. The latter sounds like science fiction or only possible by quantum effects on subatomic scales. So consider the following –

Existence of quantum effects at human or cosmic scales is not wishful thinking. It's the other side of the coin that says cosmic effects exist at quantum scales – which is supported by the equations Einstein developed in 1919 showing that the space warping in General Relativity extends to subatomic particles. In a universe obeying fractal geometry, quantum effects at human or cosmic scales and human or cosmic effects at quantum scales naturally occur. Mathematician Benoit Mandelbrot (1924-2010) developed this fractal geometry and coined the word fractal (a fractal is a shape such that, if you look at a small piece of the shape, then it looks the same as the original, just on a smaller scale – it is used to describe coastlines, mountain ranges, etc). Jack Harris, an Applied Physicist then at Yale University, says quantum mechanics describes a crazy microscopic world where particles whiz around at blistering speeds and routinely violate the classical laws of physics we take for granted. Jack Harris's goal is to take advantage of the "really strange, even mystical" laws of the microscopic and apply them to problems in our macroscopic world. "The ultimate eureka moment would be to suddenly realize that a [macroscopic] object is doing something that is absolutely forbidden by classical physics," he says. "20 Best Brains Under 40" By Sarah Webb, Andrew Grant, Elizabeth Svoboda, Yudhijit Bhattacharjee, Emily Anthes,Jullianne Pepitone - Thursday, November 20, 2008 - http://discovermagazine.com/2008/dec/20-best-brains-under-40#.UQjTcB2-pFk In 1980 or the late 1970s, American astronomer Carl Sagan (1934-1996) wrote these lines for his award-winning television series and accompanying book, "Cosmos": "There is an idea – strange, haunting, evocative – one of the most exquisite conjectures in science or religion. It is entirely undemonstrated; it may never be proved. But it stirs the blood. There is, we are told, an infinite hierarchy of universes, so that an elementary particle, such as an electron, in our universe would, if penetrated, reveal itself to be an entire closed universe." ("Cosmos" by Carl Sagan – Futura, 1983, p.294) Dr. Harris and Dr. Sagan remind us, respectively, of quantum effects at cosmic scales and cosmic effects at quantum scales (they both remind us that the space warping in General Relativity extends to subatomic particles).

Fractal (flowerlike)

In the early 1960s, US President John Kennedy announced the goal of landing a man on the moon, and returning him safely to Earth, before the decade was out. Well, we did it! Together with the space agencies of countries around the world, NASA has explored much of the solar system since then (with unmanned space probes). Admirable stepping stones in the exploration of space are going back to the moon, going to Mars and other places in the solar system, and travelling to the stars. But I'm not content to limit my imagination to these aims.

I really believe it will be possible for human civilization to build a universe before the 2000s are finished. Many people would call the new universe the latest addition to the multiverse i.e. a companion for all the "parallel universes" out there. Personally, I favour Albert Einstein's statements that space and time cannot exist independently of each other, and that time is not a straight line but is warped. To me, this suggests that our own universe only exists now because our future descendents will oneday travel back in time and build it.

Is there any way to speed up the building of the universe … to not wait for a thousand years to pass, or for descendents to be born during those centuries?

“There is a powerful statement in mathematical topology known as the fixed-point theorem. The (best known, among hundreds, because of its wide use) fixed-point theorem, which was proved before World War 1 by the Dutch mathematician Luitzen Egbertus van Brouwer, states that when a surface is subjected to certain forms of continuous distortion, at least one point of the surface will remain fixed, or stationary. Put in this dry, abstract way; the theorem may not seem remarkable, but it has many impressive consequences for the physical world. The fixed-point theorem … applies to the human head and other spheres, such

as the Earth. It states that mathematically, a sphere cannot be associated with a continuous field of radiating lines without there being a fixed point. For a head of hair this means that there must be a fixed point, or whorl, from which the hair radiates. For the Earth this means that the wind cannot be blowing everywhere on the surface at once; there is always a tranquil spot." (from Dr. Crypton's Puzzles and Mind-Teasers: Omega Science Digest, March 1983).

The most important words in the above paragraph are *"… a sphere cannot be associated with a continuous field of radiating lines without there being a fixed point*". ***Sphere*** refers to the description of the universe touched on several pages ago ("sphere" is used in the sense of "roughly spherical" i.e. the mathematically and physically flexible figure-8 Klein bottle, the outcome of two roughly circular Mobius loops). A ***continuous field of radiating lines*** would mean these lines are BITS of spacetime - this book's proposed building blocks of all matter, forces and spacetime). These form every fermionic and bosonic particle in the 3+1 dimensions of space and time (picture space-time as the surface of an expanding balloon).The ***fixed-point*** is not on a surface but is in 5th-dimensional hyperspace (picture the 5th-D as the centre of the balloon – this centre of cosmic expansion is integrated into every part of expanding space-time; space, time and 5th-dimensional hyperspace would not be restricted to certain parts of the Universe but would exist in every particle; and past/present/future would not exist as the distinct periods which everyday life assumes.)

If, as has been suggested, frames are created in the 5th dimension by bits and their very rapid display results in the macroscopic motion we see; what causes the microscopic motion of bits switching on and off in order to display frames? Maybe the switching on and off of bits, and thus building of the universe, is not accomplished entirely by application of the positive energy familiar to our lives in space-time. Maybe it relies on the brain's using positive energy that interacts with the negative energy in 5th-dimensional hyperspace. (See "…time travel into the past by warping a 5D hyperspace that is translated 180 degrees to space-time, and could be labelled as negative or inverted" - p.19). "Physics of the Impossible" by Michio Kaku (Penguin Books, 2008) says on p.205, "Traditionally, physicists have dismissed negative energy and negative mass as science fiction. But we now see that they are indispensable for faster-than-light travel, **and they might actually exist**" (my emphasis using bold type). On p.179 of "The Grand Design" by Stephen Hawking and Leonard Mlodinow (Bantam Press, 2010) it's stated "One requirement any law of nature must satisfy is that it dictates that the energy of an isolated body surrounded by empty space is positive, which means that one has to do work to assemble the body." Page 179 also says "… if the energy of an isolated body were negative … there would be no reason that bodies could not appear anywhere and everywhere." * Could the sleeping, and consequently less distracted by events in our daily space-time, brain engage in feedback with negative hyperspace and easily create the universe without doing very much traditional work? Fractal geometry

states that every particle in space-time contains hyperspace (72%, according to WMAP) – so nearly three quarters of the universe requires no assembly at all, and the remainder does not need one's physical intervention because that can be supplied by others one is entangled with (wherever they are in time and space).

* In hyperspace, assembling bodies requires no work because expending negative energy in inverted hyperspace means no energy – in fact, less than no energy – is expended (see p.19). Traversing 700 light years in the 5th dimension instantly would be meaningless. In hyperspace, time would be travelling backwards for the light beam and we could only ever travel into the past i.e. instantaneously traverse -700 light years.

This contrasts with some scientific theories hypothesizing that a whole universe can be created from nothing. (See p.180 of Stephen Hawking's/Leonard Mlodinow's "The Grand Design" which also says gravity is negative because it's attractive – I say gravity also repels [as dark energy] and the negativeness therefore resides not entirely in gravity, but in suggested hyperspace.) In appearance from nothing, the origin of the universe depends on vacuum fluctuations, or quantum fluctuations (a quantum fluctuation is the temporary change in the amount of energy at a point in space). There is scientific support for spontaneous creation. It speaks of the Heisenberg uncertainty principle and both the value of a field and its rate of change never being exactly zero at the same time, which means space cannot remain empty. The ideas in this book are based on modern science though they adopt a different direction – they say the cosmos appeared from SOMETHING (if the universe arose from fluctuations in energy fields, those fields had to come from something – and I'm suggesting they came from the negative energy in hyperspace interacting with brains).

The idea of quantum fluctuations is valid (a quantum fluctuation is the temporary change in the amount of energy at a point in space) but forget quantum fluctuations that mysteriously happen for no reason. And forget spontaneous generation of life from nonliving matter. Origin of life, the universe and everything depends on brains (and bodies) engaging in feedback with hyperspace to purposely switch bits. It's important for 2 reasons:

1) Science's own Law of Conservation says the total mass (or matter) and energy in the universe does not change, though the quantity of each varies (I interpret this as – to get matter and energy, you have to start with matter and energy), and
2) By actual experimentation the great 19th-century French scientist Louis Pasteur disproved the false theory of spontaneous generation of life, and proved biogenesis (that living things descend only from living things).

Here's how they – or even more amazingly, we - might actually do that building (it undoubtedly doesn't matter whether the word "they" or "we" is used, since everyone and everything is entangled forever):
We write down everything our species has learned (an "Encyclopedia Universalis"). Instead of using ink, we use the binary digits of 1 and 0. And we do not write on paper in a linear fashion (one line after the other … left to right, top of page to bottom). We "write" in the warps of space-time and hyperspace, and do so in Mobius fashion (everything is written so that it's comparable to being on a piece of paper that's given a twist before the ends are joined). This causes curving and warping in space-time, confusing concepts of "here" and "there" (quantum entanglement), and muddled causes and effects (retro- or backward causality). Because of this entanglement of all time and space; if the writing is done in the year 3,000 it would still include the knowledge of the year 3,000,000 or 3,000,000,000 and so on.

On p.13, it was stated "The boundaries where subuniverses meet might be called Cosmic Strings - analogous to 'cracks' in spacetime formed as subuniverses cool and similar to cracks that form as water freezes into ice". The same page also says "binary digits generated in 5D hyperspace (are hidden variables that add) precision and flexibility to … the "fitting together" of subuniverses to form a continuous superuniverse". So every subuniverse was "created" at some point – our own, for example, has not existed for an infinite time but is a mere 13.7 billion years old. Page 11 said "a better phrase might be - hyperspace recycles spacetime", so every subuniverse is not created but "recycled" from the basic mathematical pattern for building all subuniverses (the maths forms gravitons and photons which interact in wave packets to form matter). This is comparable to a large number of machines not being considered to be recycled from other machines composed of the same chemical elements, but as recycled from the same engineering blueprint. Since the infinite universe or superuniverse is, well, infinite; each subuniverse is surrounded by a literally countless number of other subuniverses when it's built. (Infinity will increase in the future when hyperspace transmissions produce more space and time - this is somewhat like the subset of all integers [1, 2, 3, etc.] extending to infinity yet that infinity being smaller than the infinite subset of all decimals.)

I know building a universe sounds like science fiction. To justify a serious call for a cosmos to be built; I therefore felt it necessary to contribute these ideas, based on science and mathematics, that - though very preliminary - would serve as a starting point. These ideas may be mine but they're built on the foundation of all the scientists who've lived before, and are living now (if time is warped, perhaps they even rely on scientists not born yet). And, of course, they build on the foundations of President Kennedy ... as well as every person the world has ever known.

So join me ... and let's boldly go where no-one has gone before. The universe may seem so vast that it's incomprehensible - but can we build it? Yes, we can!

---------- END ----------