

**Title:**

## **Intergalactic Plus Time Travel, Hyperspace and Space-Time's Nature (These Conclusions Address Unusual Things Like Dark Energy by Associating the Work of Einstein, Early Quantum Theorists, Computer Science and Isaac Newton in Unusual Ways.)**

**Intro:**

God's Existence Possible By Combining The Inverse-Square Law With Quantum Entanglement! This "Physics Of The Impossible" Means Evolution Is Not "The Origin Of Species" - Origin Is Due To A Suprapantheistic (Not Supernatural) Unity Of Spacetime's Spatial, Temporal, Hyperspatial, Material, Personality And Mental Parts; Forming A Union With Humans In A Cosmic Unification (We Know This As God). But "Evolution" Is Still Responsible For Changes (Adaptations) Within Species. This text is primarily concerned with science. I want to introduce new ideas regarding science, philosophy and religion. So why would I cling to old ideas concerning economics? The present global financial crisis may indicate that the world we live in today has lost stability and is on the brink of changing. Therefore, this "crisis" might be necessary to awaken us to the potential of tomorrow. Just because money has been making the world go round for thousands of years doesn't mean money will be the way of the world forever (like a worldwide game of Monopoly, money has its purpose and its time – but that time is not unlimited). We should start looking for an alternative system to preserve, and increase, standards of living now in case we need it tomorrow (I imagine, probably naively, that politicians are the ones with the resources and organizational ability needed to implement such a system). This scheme should not use any form of monetary organisation nor be based on gold, silver etc. It should, idealistic and naive as it appears at first, be based on mutual cooperation and the goal of ushering in a paradise on earth. We can say there can never be paradise on earth; but the human instinct to survive is much stronger than our tendency for other types of self-interest, and greed, and to not cooperate with each other. If money ceases to be an option; most people will gladly cooperate with those we would have previously regarded as competition, or even as an enemy, if it's the only way to maintain and improve our living standard.

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**Abstract:**

Here's a detailed, **nonfictional** explanation of why time travel (into both the future and past) is **not** impossible – I've tried to exclude mathematics as much as possible since my goal is to present an explanation of physical reality, and to make it comprehensible to the nonmathematician (I have referred to some maths, e.g. the Poincare conjecture, but have always used English). My text also seeks to explain, in nonfictional terms, phenomena such as intergalactic travel, hyperspace and space-time's nature. This last point includes a new way of viewing gravity which explains dark energy and is based on Einstein's work – as well as viewing gravity as fundamental to the nuclear forces and electromagnetism as well as fundamental to the composition of matter and mass (also based on Einstein's work). The article does speak of God, but definitely not in any way you've heard of. And while I don't believe evolution accounts for the origin of living species, I have no doubt that it does cause modifications in those species. To grossly oversimplify the article, intelligent beings spend thousands of years learning more and more about science. Then they discover how to time travel into the past (early 21<sup>st</sup>-century physics only believes in time travel to the future) where they put future biotechnology and computer science into practice (these sciences are far more advanced than today's science).

While the planned Mars mission of 2018 is robotic, we cannot limit our sights to that since we hope to follow with manned exploration of the Red Planet in the 2030's. The physical bodies and psychology, as well as technology, we possess now or will possess in the foreseeable future are not well suited to prolonged space travel (e.g. our brains and bodies are vulnerable to radiation, muscle and bone loss, abnormal psychology, etc. when travelling in space ... and simply reaching nearby stars would take hundreds or thousands of years). However, there is an alternative to astronauts (or cosmonauts, or taikonauts) reaching Mars and being unable to walk, or think clearly. We can thank the theories of Albert Einstein, an electrical engineering experiment conducted at Yale University in 2009, and some conclusions that logically follow from Einstein/Yale, for pointing the way to this alternative. When fully developed, the "Einstein-Yale Bridge" will take us anywhere in the universe and anywhen in time.

There are 2 bonuses -

**Bonus #1 – Infinite universe, and Bonus #2 –  
How "Pioneer anomaly" refines Einstein's gravitation / space-time**

**Additional Reading Concerning Abstract:**

This biotech/computertech reproduces living organisms and the universe # (what we call the universe today is, according to this article, merely one of an infinite number of "subuniverses"). This entire universe will, being a computer simulation, be filled with advanced artificial intelligence (AI) that can explain why, for example, the components of plant and animal cells called organelles perform the seemingly intelligent actions they do. Since there is no separation or distance of any kind in its unification, the cosmos will also be filled with human/humanoid

intelligence, personality and consciousness. Our consciousness and the advanced artificial intelligence will thus be merged and identical. ## Erwin Schrodinger (1887-1961), the Austrian theoretical physicist who achieved fame for his contributions to quantum mechanics and received the Nobel prize in 1933, had a lifelong interest in the Vedanta philosophy of Hinduism (as does U.S. astronomer John Dobson). This influenced Schrodinger's speculations at the close of his 1944 book "What is Life?" about the possibility of individual consciousness being only a manifestation of a unitary consciousness pervading the universe. The unitary consciousness is what we call God. Importantly, humans and intelligent beings are only part of what's known as God.

# In "The Atlantic Monthly" for April 1988, journalist Robert Wright says U.S. computer scientist and physicist "Ed Fredkin thinks that the universe is a computer. According to his theory of digital physics, information is more fundamental than matter and energy. He believes that atoms, electrons, and quarks consist ultimately of bits—binary units of information, like those that are the currency of computation in a personal computer or a pocket calculator." The existence of such a "cosmic computer" would imply that both living and nonliving matter may be altered by programming, when people learn how to do this. Invasive procedures such as surgery would become obsolete. The waves of energy which holographically compose matter could be digitised and transmitted over the Internet - and the receiver's computer could be equipped with sensors to decode the mix of frequencies, as well as a replicator that reproduces this mix and radiates it to create products indistinguishable in any way from the original product (the frequency mix could also be electronically recorded). The difference between life and nonlife appears to be merely one of complexity. So after inanimate objects and parcels have been successfully e-mailed, more advanced software will be developed and allow things like fruit and vegetables, or living animal/human tissues, to be transmitted (or transported) between places (i.e. in space) and between times. This advanced software could also be used to genetically engineer people whose genes have been disassembled into subatomic, gravitational/electromagnetic pulses and manipulated by computers. An opportunity to possess an eternally youthful body and a brain free of disease/criminal tendencies may therefore exist. When we develop this electronic hardware and software, and also acquire the science-fiction-like technology of time travel, everyone who has long since died could have their minds downloaded into reproductions of their bodies and be resurrected (establishing colonies throughout space and time would prevent overpopulation). These colonies throughout space and time would be composed of what we'd call aliens or extraterrestrials. I may be wrong but I think they'd be our descendants (our descendants could only exist before us if time is not exclusively linear) and would basically think the way we do.

## The predictions of inventor and futurist Raymond Kurzweil are fascinating. According to Wikipedia, he suggests

“With the entire universe made into a giant, highly efficient supercomputer, AI and human hybrids (so integrated that, in truth it is a new category of "life") would have both supreme intelligence and physical control over the universe. Kurzweil suggests that this would open up all sorts of new possibilities, including abrogation of the laws of Physics, interdimensional travel, and a possible infinite extension of existence (true immortality).”

On this last point, I first read about the downloading of minds for the purpose of attaining immortality over 20 years ago in a now-discontinued science magazine (either “Omega Science Digest” or “Omni”).

### **Content:**

#### **Electrical Engineering:**

In July 2009, electrical engineer Hong Tang and his team at Yale University in the USA demonstrated that, on silicon chip-and transistor-scales, light can attract and repel itself like electric charges/magnets.[1] This is the “optical force”, a phenomenon that theorists first predicted in 2005 (this time delay is rather confusing since James Clerk Maxwell showed that light is an electromagnetic disturbance approx. 150 years ago). In the event of the universe having an underlying electronic foundation (see "**A few paragraphs supporting the idea that this is an electronic universe**"), it would be composed of "silicon chip-and transistor-scales" and the Optical Force would not be restricted to microscopic scales but could operate universally.[2] Tang proposes that the optical force could be exploited in telecommunications. For example, switches based on the optical force could be used to speed up the routing of light signals in fibre-optic cables, and optical oscillators could improve cell phone signal processing.

#### **A few paragraphs supporting the idea that this is an electronic universe:**

**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 the binary digits generated in 5D hyperspace (see **Poincare conjecture**)

These allow time travel by making it possible to warp space, simultaneously adding precision and flexibility to the elimination of distances and the “fitting together” of subuniverses to form a continuous superuniverse.

"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 which 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).

^ The idea of quantum fluctuations is valid 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 from something – brains (and bodies) engaging in feedback with hyperspace to purposely switch bits from 1 to 0 or vice versa - is 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 Law as saying – to get matter and energy, you have to start with matter and energy), and

2) By actual experimentation the great 19<sup>th</sup>-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). In relation to biogenesis, consider the Miller-Urey Experiment of 1952. Here, amino acids (the building blocks of protein) were made from inorganic material and by natural causes in a lab. Subtract Stanley Miller and Harold Urey from the experiment, and the experiment would obviously fail. (God would not be a supernatural being separate from any other part of the universe but would be a suprapantheistic unity [natural, though beyond presently understood laws of nature] of spacetime's spatial, temporal, material, personality and mental parts; forming a union with humans in a cosmic unification. This union with humans means it's accurate to say either of the following created the universe and will grant eternal life – God; or humans [and humanoids or ETs?] of the far future who possess undreamt of abilities in physics and bioengineering as well as the ability to time travel to the past. This form of time travel might possibly be achieved via a 5th-dimensional hyperspace [see later explanation] ... present physics only believes time travel to the future may be possible. It's entirely a matter of preference ... since theism and atheism exist as a union in our quantum-entangled, unified cosmos.)

Similarly, subtracting humans of the distant future from the origins of life makes it impossible for inorganic materials to be bioengineered to form amino acids. I don't believe "bioengineered" is the correct word to use when speaking of people forming amino acids from inorganic materials – perhaps "labengineered"?

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] – please see “Quantum” by Manjit Kumar, published by Icon Books 2008.) 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, and thus permit 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). Of course, early 21<sup>st</sup>-century science says the development of an embryo from an egg cell isn't a quantum (subatomic) process. If this is true, the two could not co-exist (albeit in different times). (Intriguingly, the later section **FROM IDEAS ON TIME TRAVEL TO IDEAS ON TIME'S NATURE** concludes that it is not true.) In a universe described by fractal geometry, the 5th dimension wouldn't exist only on a cosmic scale but also as a hyperspace in every fermion and boson. Also, black holes would manifest as supermassive, stellar, and Stephen Hawking's mini, black holes: they could also manifest as the most supermassive of all supermassive black holes ie all of space-time itself (in other words, the ultimate composition of both space-time and black holes is the 0's and 1's called binary digits – representing off and on pulses of electricity).

And speaking of **the universe as a hologram**, it is stated by <http://www.spaceandmotion.com/Physics-David-Bohm-Holographic-Universe.htm> (part of one of the top philosophy sites on the Internet) that “... the British quantum physicist David Bohm (1917-1992) asserted that the tangible reality of our everyday lives is really a kind of illusion, like a holographic image. Underlying it is a deeper order of existence, a vast and more primary level of reality that gives birth to all the objects and appearances of our physical world in much the same way that a piece of holographic film gives birth to a hologram. Bohm calls this deeper level of reality the implicate (which means enfolded or hidden) order, and he refers to our own level or existence as the explicate, or unfolded order. Bohm is not the only researcher who has found evidence that the universe is a hologram. Working independently in the field of brain research, Stanford neurophysiologist Karl Pribram has also become persuaded by the holographic nature of reality. He says that the human brain can be modeled as a hologram. Capitalizing on Pribram's findings, Bohm states that our brains are smaller pieces of the larger hologram. That our brains contain the whole knowledge of the universe. So, you can see how each mind has a limited perspective of the universal hologram. Our brains are our windows of perception. Each mind always contains the whole picture, but with a limited and unclear perspective. We each have different experience in our

lives, but each perspective is valid. Our brains mathematically construct objective reality by interpreting frequencies that are ultimately projections from another dimension, a deeper order of existence that is beyond both space and time.”

(In “The Hidden Reality” - Knopf (January 25, 2011), Brian Greene writes “... reality ... may take place on a distant boundary surface, while everything we witness in the three common spatial dimensions is a projection of that faraway unfolding. Reality, that is, may be akin to a hologram. Or, really, a holographic movie.” Brian Greene’s “...projection of that faraway unfolding” and David Bohm’s “...projections from another dimension ... that is beyond both space and time” could be interpreted as “projections of binary digits from a 5<sup>th</sup>-dimensional hyperspace which become matter, energy, force and space-time in the known 4 dimensions”. This interpretation seems all the more relevant when we recall Carl Sagan’s saying – “There is, in fact, *no* center to the (universe’s) expansion ... at least not in ordinary three-dimensional space.”)

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### **Gravitational-Electromagnetic Equivalence:**

From 1929 until his death in 1955, Einstein worked on his Unified Field Theory with the aim of uniting electromagnetism (light is one form of this) and gravitation. Future achievement of this<sup>%</sup> means warps of space (gravity, according to General Relativity) between spaceships/stars could mimic the Optical Effect mentioned in **Electrical Engineering** and could be attracted together, thereby eliminating distance (similar to traversing a wormhole\* between two folds in space). And "warp drive" would not only come to life in future science/technology ... it would be improved tremendously; even allowing literally instant travel to points many, many billions of light years away. This reminds me of the 1994 proposal by Mexican physicist Miguel Alcubierre of a method of stretching space in a wave which would in theory cause the fabric of space ahead of a spacecraft to contract and the space behind it to expand.[3] Therefore, the ship would be carried along in a warp bubble like a person being transported on an escalator, reaching its destination faster than a light beam restricted to travelling outside the warp bubble. There are no practical known methods to warp space – however, my extension of the Yale demonstration in electrical engineering may provide one.

<sup>%</sup> It is my belief that Charles Misner and John Wheeler were correct in 1957 when they said Einstein was successful in proving his Unified Field Theory. Einstein successfully proved the Unified Field Theory, combining gravitational and electromagnetic equations. Despite what modern science mistakenly thinks, this means everything (electromagnetism, time, space, matter, dark matter, dark energy and the nuclear forces within atoms) has no separate existence from gravitation.

In the 19th century, Scottish mathematician and physicist James Clerk Maxwell unified electricity and magnetism into electromagnetism. Albert Einstein's equations say that in a universe possessing only gravitation and electromagnetism, the gravitational fields carry enough information about electromagnetism to allow the equations of Maxwell to be restated in terms of these gravitational fields. This was discovered by the mathematical physicist George Yuri Rainich (1886 -1968).

England's Professor Penrose has argued that the gravitational fields, if known everywhere but only for a limited time, do not contain enough information about their electromagnetism to allow the future to be determined, so Einstein's unified theory fails. But I have faith in Einstein. So I used an approach to understanding unification which does not rely on mathematics alone but largely depends on visualization combining subjects like physics, cosmology, quantum mechanics and computer science. This makes it clear that all time is unified with the gravitational and electromagnetic fields - meaning the gravitational fields are not known for only a limited time, they do contain enough information, and Einstein succeeded!

Of course, this was merely my own approach. Einstein had one too, and it's well exemplified by the quote he made at the funeral of his engineer friend Michele Angelo Besso (1873 – 1955): "Now Besso has departed from this strange world a little ahead of me. That means nothing. People like us, who believe in physics, know that the distinction between past, present and future is only a stubbornly persistent illusion".

Physicists also 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.

Taking a supportive role to Dr. Einstein once again; I similarly concluded that matter, antimatter and every form of energy (as well as the strong and weak forces) have no existence independently of gravitation and that gravity, being the warping of space-time, is the unifying foundation of all things. There's no need to go into detail about my conclusions since they're merely one individual's approach to revealing what the Master of Science began discerning nearly a century ago. When forced to summarize the general theory of relativity in one sentence, Einstein said: time and space and gravitation have no separate existence from matter.

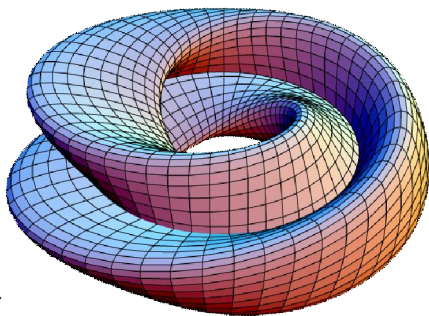


How is the gravity made? I believe it's made by electronics' binary digits in a 5th dimension. I know that sounds like science fiction, but it's using computer science's binary digits to combine General Relativity (Einstein's theory of gravity and spacetime) with quantum mechanics (the subatomic world of elementary particles and forces) and also with an extra dimension proposed by modern physics' string theory. This takes the reader full circle in her or his exploration of nonlinear dynamics - and she or he will see that electromagnetism, though a modification of gravitation, is the source of gravitation too. Dark matter and dark energy are also explained in terms of gravitation, time's nonlinearity and binary digits.

References –

1. EINSTEIN, ALBERT by Paul A. Schilpp – The World Book Encyclopedia, 1967
2. ON PHYSICAL LINES OF FORCE by James Clerk Maxwell – Philosophical Magazine, 1861
3. GEOMETRODYNAMICS by Charles W. Misner/J. A. Wheeler – Annals of Physics 2, 525 (1957)
4. Rainich, G. Y. – Transactions of the American Mathematical Society 27, 106 (1925)
5. A geometric theory of the electromagnetic and gravitational fields by L. Witten (Gravitation, ed. by L. Witten) - New York: Wiley, 19626

### **Poincare conjecture**



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Discovery.com (March 18, 2010) says: "The universe is not only expanding -- it's being swept along in the direction of constellations Centaurus and Hydra at a steady clip of one million miles per hour, pulled, perhaps, by the gravity of another universe." (this is called "the dark flow") 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. My interpretation follows: This can be viewed as subuniverses shaped like Figure-8 Klein Bottles (above; similar to

doughnuts) gaining rips called wormholes when extended into the spherical spacetime that goes on forever (forming one infinite superuniverse). Picture spacetime existing on the surface of this doughnut which has rips in it. These rips provide shortcuts between points in space and time – and belong in a 5<sup>th</sup>-dimensional hyperspace. The boundary where subuniverses meet could be called a Cosmic String (the old version of cosmic strings – analogous to cracks that form when water freezes into ice - was first contemplated by the theoretical physicist Tom Kibble in the 1970s). The new cosmic strings are “cracks” in spacetime formed as subuniverses cool, are extremely thin (the diameter of a proton, or smaller), and have immense density ( $10^{19}$  kg/cm, according to Penguin Encyclopedia, Edited by David Crystal – Penguin Reference Library 2006). This density would vary between any two subuniverses since it depends on the mass and energy content of the boundary regions of the two subuniverses added together, as well as movement of their boundary (the cosmic string) caused by expansion of the subuniverses – because the relativistic motion of each boundary causes enormous quantities of energy to be converted into mass.

### **Time Travel And Teleporting:**

Since Relativity says space and time can never exist separately, warps in space are actually warps in space-time. Eliminating distances in space also means “distances” between both future and past times are eliminated - and time travel becomes reality. If you travelled at the speed of light to a star 700 light years away, you’d take a trip lasting 700 years. But if you traversed that distance literally instantly, space-time would be so warped that you’d find yourself 700 years in the future. Doing away with distances in space and time also opens the door to Star Trek-like teleportation. Teleportation wouldn’t involve reproducing the original and there would be no need to destroy the original body – we would “simply” be here one moment, and there the next (wherever and whenever our destination is).

### **References For The Red Planet, Instant Intergalactic Travel & Time Travel**

[1] Mo Li, W. H. P. Pernice & H. X. Tang (2009) Nature Photonics 3, 464-468

[2] R. Bartlett (2012) <http://vixra.org/abs/1203.0098>

[3] Alcubierre, Miguel (1994). Classical and Quantum Gravity 11 (5): L73–L77

### **DOCTOR WHO**

Since we live in a cosmos with an electronic foundation, we could simulate the spaceship's endeavours and teleport into the future or past (and anywhere in space, or the 5-D hyperspace which produces space and time) using a stationary machine like Doctor Who. It’s conceivable that future particle physics might develop a way of creating a human body’s “backup” (to borrow a term from the world of computers) composed of bosons or force-carrying particles such as the photons which comprise electromagnetic waves. This backup would be absorbed

by the physical body during what we know as life and would often be referred to as the soul - though the word "soul" should, I think, refer to the union of material and immaterial body and our present selves could properly be termed individual souls. People who have long since died could have their minds downloaded into reproductions of their bodies after death then, by using their future backup (instead of a stationary machine like Doctor Who's TARDIS), use time travel to teleport into the past and be present at their time of death. Some of the living might sense the deceased's presence and interpret it as evidence that we have a spirit which doesn't die. If the backup doesn't return to the point at which death occurs, other individuals might see this as proof that death is the end of life and consciousness (it is the end – but only temporarily; until scientists and doctors restore life sometime in the future, perhaps via downloading the mind into a clone bioengineered to be free of defects).

### **MATHEMATICAL HYPERSPACE AND QUANTUM SPIN**

The term "hyperspace" used here is not borrowed from science fiction but is used in the mathematical sense of "a space of more than 3 dimensions". The following paragraphs will give more details of my thoughts on this. On page 247 of "Physics of the Impossible" by physicist Michio Kaku (Penguin Books 2009), it's stated "astronomers today believe that the total spin of the universe is zero". This is bad news for mathematician Kurt Godel, who in 1949 found from Einstein's equations that a spinning universe would be a time machine (p. 223 of "Physics of the Impossible"). Professor Hawking informs us that "all particles in the universe have a property called spin which is related to, but not identical with, the everyday concept of spin" (science is mystified by quantum spin which has mathematical similarities to familiar spin but it does not mean that particles actually rotate like little tops). Everyday spin might be identical to Godel's hoped-for spinning universe.

### **MOBIUS LOOP**

For simplicity, let's say the universe is a Mobius loop<sup>®</sup> (a Mobius loop can be visualised as a strip of paper which is given a half-twist of 180 degrees before its ends are joined), the twisted nature of a Mobius strip or loop plus the fact that you have to travel around it twice to arrive at your starting point might substitute for the lack of overall spin. Then the cosmos could still function as a time machine. We've seen how it permits travel into the future. We can journey further and further into the future by going farther and farther around the Mobius Universe. We might travel many billions of years ahead - but when we've travelled around the Mobius Universe exactly twice, we'll find ourselves back at our start i.e. we were billions of years in the future ... relative to that, we're now billions of years in the past. The 3 familiar dimensions of length, width and height along, for example, the left side of a loop would have a 4<sup>th</sup> dimension (time) perpendicular to them (the twisted part at the top). And there would also exist a 5th dimension called hyperspace, at right angles to the 4th and 180 degrees from the

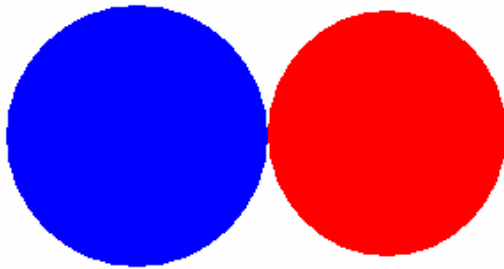
length/width/height i.e. on the right. H-space is extended from the side along the loop's bottom because the WMAP space probe (Wilkinson Microwave Anisotropy Probe) has determined that a very large 72% of the universe is dark energy ... and we'll see later that transmissions of binary digits from hyperspace are an interpretation of dark energy.

@ Actually, each subuniverse in the universe is a Figure-8 Klein bottle: combining 2 Mobius loops in the right way forms a Figure-8 Klein bottle.

### **LOCALIZED UNIFIED FIELD**

Instantly travelling to a planet 700 light years away and instantaneously arriving at a spot in the future which a light beam could only reach by travelling for 7 centuries can be likened to a wave which spreads out from the point of departure. This is because of quantum mechanics' wave-particle duality which can view the spaceship not as a collection of particles but as a wave, or collection of waves.

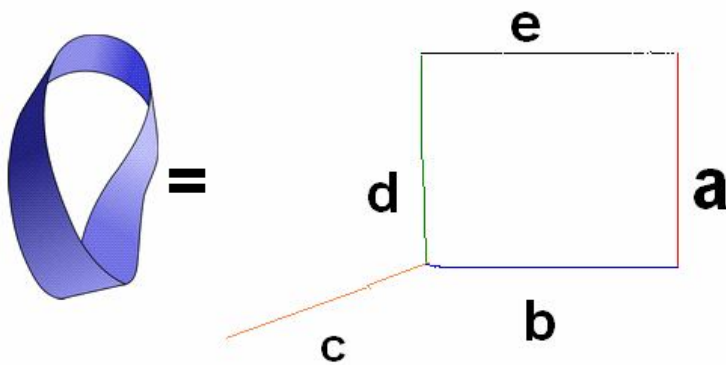
shape of waves when viewed from the centres  
where they begin spreading out is  
**CONVEX**



shape of waves when viewed from the planet  
where they collide is  
**CONCAVE**

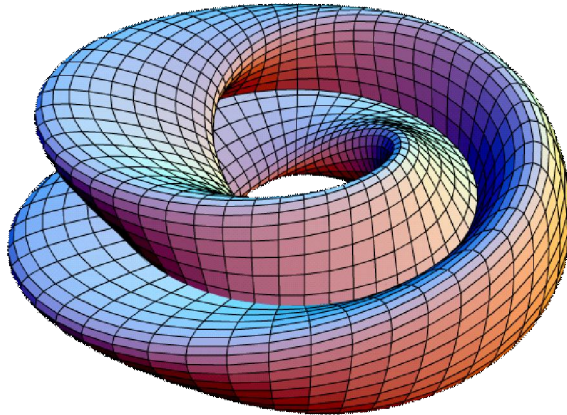
At the destination, the convex shape of the spreading wave arrives instantly (meaning the ship and planet are quantum entangled). This situation is equivalent to space being translated (shifted) by 90 degrees so that the ship is perpendicular to length, width and height simultaneously. What if the spaceship is simultaneously quantum entangled with another wave arriving at the planet from the other side of the universe? Since the waves are entangled and unified, their motions are instant and this situation is equivalent to space being translated by 180 degrees. It's inverted and becomes 5th-dimensional hyperspace.

### **THE MATRIX AND THE FIGURE-8 KLEIN BOTTLE**



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; it has to also be perpendicular to (not parallel to)  $a$ . This is accomplished by a twist, like on the right side of the Möbius 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 infinite universe is composed of subuniverses shaped like figure-8 Klein bottles (diagram at end of paragraph - 2 Möbius loops are joined on their sides to form 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, a galaxy, or one of the spherical waves above producing quantum entanglement and translating space by 90 degrees.  $180+180$  could also equal 180 – represented in physics by both of the

above spherical waves interacting to produce inversion (translation by 180 degrees) of space which permits the spaceship to enter hyperspace. Since a fuzzily spherical figure-8 Klein bottle is necessary to form  $(90+90) + (90+90)$ , any spherical or fuzzily spherical thing in this fractal universe (subuniverse, galaxy, black hole, asteroid, subatomic particle, or anything made of either fermions or bosons) would be an example of altered or warped space-time and must include hyperspace in its composition.



### **REAL / IMAGINARY / NEGATIVE**

The space-time we live in is described by ordinary (or “real”) numbers which, when multiplied by themselves, result in positive numbers e.g.  $2 \times 2 = 4$ , and  $-2 \times -2$  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”, p. 134)

If we encountered an ocean in hyperspace, altitude readings could no longer give positive results like “height of 3 metres above sea level” but would always give negative results like “depth of 3 metres below sea level”. Traversing 700 light years 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.

***Now you see why I wrote all that stuff about hyperspace, quantum spin, matrices, Mobius loops and figure-8 Klein bottles: it was necessary to explain travel into the past.***

In 1928 English physicist Paul Dirac (1902-84) proposed that all negative energy states are already occupied by (then) hypothetical antiparticles (particles of antimatter) – “Workings of the Universe”, a book in the series “Voyage Through The Universe”, by Time-Life Books 1992. Antimatter and antiparticles would therefore be neg(ative)matter and negparticles, described by imaginary numbers. Virtually every modern physicist suspects

that antimatter has positive mass and should be affected by gravity just like normal matter, although it is thought that this view has not yet been conclusively empirically observed. ("Negative mass" in Wikipedia) But I agree with the minority and think antimatter has negative mass. In this way, antimatter would be our peek into the mysteries of a hyperspace with 5 dimensions. Isn't it nice to know that the secret of time travel into the past might be revealed by the antiparticles used in hospitals' PET (positron emission tomography) scanners, and by the antimatter possibly useful in future space propulsion?

### **FROM IDEAS ON TIME TRAVEL TO IDEAS ON TIME'S NATURE**

All space-time is generated by the binary digits 1 and 0 in hyperspace. We contribute ... since we've begun our development of computer technology and, we previously saw, "...inversion (translation by 180 degrees) of space ... permits the spaceship to enter hyperspace". If sections of hyperspace are identical and the same everywhere and everywhen, our accessing of hyperspace enables us to access infinite space-time. This is somewhat similar to accessing, and engineering, of the genetic material of an egg cell (ovum) enabling us to access, and engineer, any part of a developing embryo. And if we engineer all space-time via access of hyperspace, we'd no longer be restricted to any spaceship or starship but would be what a less developed civilization chooses to call gods. Since each one of us has access to every point in space-time (in quantum mechanical terms, we'd be in more than one place – actually, in infinite places – at the same time), everyone would inhabit every subatomic spot in everyone else and everything else. In the 17<sup>th</sup> century, Isaac Newton formulated the inverse-square law (it says that if stars A and B emit light of equal intensity but star B is twice as distant, it will appear one quarter as bright as star A i.e. not the square of 2 (4) but the inverse square of 2 (1/4 or one divided by four). It also says the gravity between any 2 objects – see ***The more mass a body possesses, the more gravitation is diverted to play a part in that body's formation*** later - is only one quarter as strong if the distance between the objects doubles. 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). 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 pantheistic union of the universe's material and mental parts, forming a union with humans in a cosmic unification. The religious writer and broadcaster Herbert W. Armstrong (1892-1986) phrased this as "God is

reproducing himself through mankind” - he taught that the true message Jesus brought to the world was that mankind’s destiny is to become God.

Everyone (along with everything) merges, and there are no gods - only what is called God, existing everywhere ... even beyond space and time (in hyperspace, responsible for Creation). Albert Einstein showed that space and time cannot exist independently of each other. So the merging, or unification, would have to exist throughout all time. It would affect everyone and everything that ever existed, or ever will exist. God would be eternal. The continuing, accelerating expansion of space-time\* which results, in the never-ending future\*\*, in an infinite universe instantly ripples back in time (see “retrocausality”) and means the cosmos has always been infinite.

\* This acceleration was discovered in 1998 by observations carried out by the High-z Supernova Search Team and the Supernova Cosmology Project, has been confirmed several times and is claimed to be caused by mysterious “dark energy”.

\*\* Page 118 of Stephen Hawking’s/Leonard Mlodinow’s “The Grand Design” (published in 2010 by Bantam Press) says “M-theory (that theory which string theorists now consider fundamental) has solutions that allow for many different internal spaces (the curling up of extra dimensions into tiny, invisible spaces), perhaps as many as  $10^{500}$ , which means it allows for  $10^{500}$  different universes, each with its own laws.” My article suggests there is only one extra dimension and only one universe, with one set of physical laws.  $10^{500}$  would therefore refer to either the number of subuniverses existing in space at present or to time (space’s “other half”) and the number of “frames” existing in the cosmos at present (or both subuniverses and frames, since space and time can never be independent of each other). Could this unbelievably enormous number also be known as infinity? 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.

But what about the statement “The continuing and accelerating expansion of space-time which results in an infinite universe instantly ripples back in time and means the cosmos has always been infinite”? This means quantum processes, in which effects and causes are not necessarily separated, wouldn’t be confined to tiny subatomic scales but would also occur on large macroscopic scales. In turn, this means 1) “the Optical Force would not be restricted to microscopic scales but could operate universally” and 2) embryonic development would follow rules of quantum entanglement and retrocausality and must be instant in a real sense, even though we can’t perceive it that way. How could an embryo (indeed, a fully formed plant or animal) exist simultaneously with its egg cell? Suppose time is like the playing of a DVD or video tape. The entire disc or tape obviously exists all the time. But our physical senses can only perceive a tiny part of the



sound and the sights at any fraction of a second. (How can travel into both the future and past not be possible if ALL time always exists? Feedback MUST always exist between string-sized bits in the UNIFIED universe created by binary digits. [Since quantum processes occur on scales up to, and including, the cosmic; egg cell and adult world, defying our senses and experiments, instantly affect each other and thus actually coexist – in different times - in this cosmos **unified by binary digits' production of gravity, the universe's foundation.**]) The feedback between bits would keep the past from changing from what history has recorded and stop the future from changing from its glorious destiny; like a digital thermostat regulating a hot water system and keeping the temperature constant). And if DVDs themselves could be said to correspond to our spatial and temporal environment along with our bodies and brains, could the laser which reads the data on the disc correspond in this analogy to consciousness? In a cosmic-quantum unification where all parts of a disc – and its player's laser - form a unity; wouldn't it be possible for consciousness to read data from anywhere on a disc (suggesting consciousness is not limited to sensory perception)?

### **Time Cloaks**

The Invisibility Cloak became reality (on a small, 2-dimensional scale) in 2006 "when physicists demonstrated that a class of synthetic materials could bend light completely around an object. (Think of water in a stream flowing around a rock.) Without light bouncing off the object, it would essentially disappear." ("Physicists Carve a Niche in Time" by Adam Piore – Discover, April 2012, p. 10) If every form of electromagnetism (plus gravity which is modified to create electromagnetism, and all waves) bends completely around an object, a Time Cloak that renders objects and events undetectable could be created. This would limit our physical senses to only perceiving a tiny amount of the sounds and sights that actually exist. This would save us from sensory overload and perceiving that everything in history, the present, and the future is happening all at once. Such a state of affairs would make present human life impossibly confusing – and if we cannot perceive the future, we can believe that it doesn't exist yet and that we have the free will to make it what we choose. (Our free will has some influence over our personal lives only.)

Cloaking an event in time by bending waves around it, or cancelling out the waves bouncing off it, creates a "bump" in time (think of a rock in a stream as a small, insignificant bump because it's only a few inches wide – that bump is magnified several times by waves bending around it and approaching a diameter of perhaps a foot). It would, of course, be possible to produce this perception-saving bump with the spacetime-generating binary digits in 5<sup>th</sup>-dimensional hyperspace – and for that bump to instantly ripple back through time (like the accelerating expansion of space-time which results in a universe that has always been infinite), ensuring that every person and other thing throughout all history and prehistory is saved from sensory overload. It would also be possible to conceal that bump. This would be a future extension of work done by German

researchers in 2010 where they used an invisibility cloak to hide a small bump on an otherwise flat surface (when infrared light strikes the cloak, it bounces back as if the bump were not there).

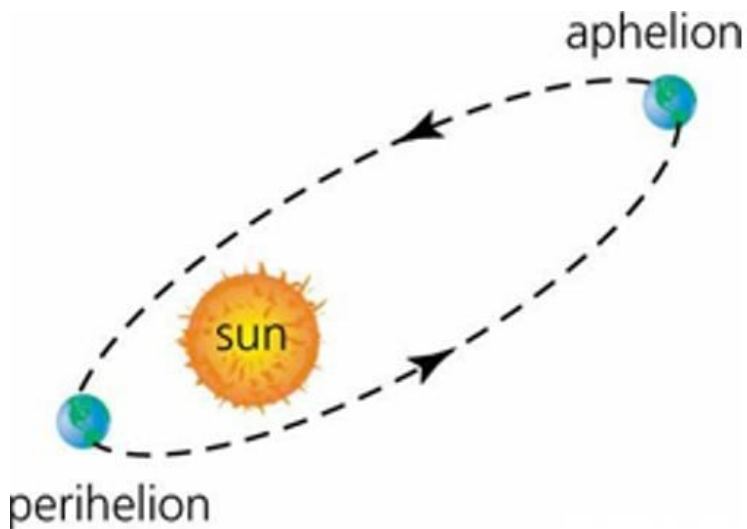
### **Dark Energy, Dark Matter, New Gravitation and New Higgs**

What if I could magically go back to school and earn a doctoral degree in astronomy? The research subject that would entice me is cosmology. The specific line of research I'd take on is Dark Energy/gravitation. We have previously considered dark energy as radiation of binary digits from hyperspace. It seems to me that another interpretation involves gravitation, since this can be viewed as the effect of the cause known as binary digits – and this article previously said causes and effects are not necessarily separate. Dark energy and gravitation would then be different facets of the same thing, and I think it would change the astronomy world if scientists would study the possibility.

If gravity is actually repulsive, it would cause universal expansion (accelerating expansion if more is continually produced by, say, quantum mechanical Hidden Variables that are actually binary digits in hyperspace simulating, via backward causality/retrocausality and time travel - see <http://vixra.org/abs/1203.0098> - the parts of spacetime we've observed and the parts we haven't discovered yet). **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 the binary digits generated in 5D hyperspace (see the bottom of p.4 in <http://vixra.org/abs/1205.0056>). These allow time travel by making it possible to warp space, simultaneously adding precision and flexibility to the elimination of distances.

Simultaneously, dark energy/gravitation causes attraction in the solar system by

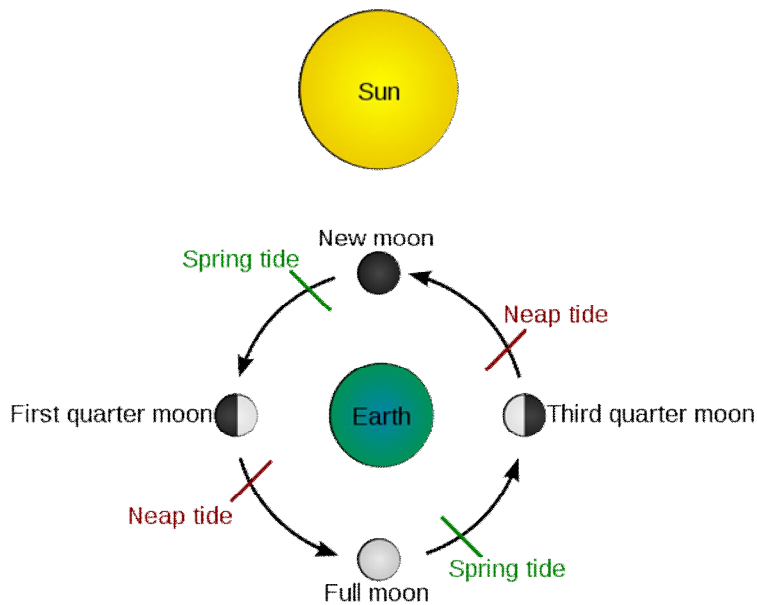
a) pushing planets toward the sun (planets' orbital speeds prevent them falling into the sun),



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 are coming from the outer solar system perpendicular to the waves already mentioned. They 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 at Earth's particular location relative to the sun.

b) pushing objects toward the centre of Earth (where I suggest gravitational waves cancel and, agreeing with conclusions from Isaac Newton's theories, objects weigh nothing) and

c) being diverted to the sun's and/or moon's centre by the formation of wave packets (subatomic unions of gravitational and electromagnetic waves which account for mass). At first and third quarter, diversion by the moon lowers the push of gravitational waves travelling from the outer solar system to reach Earth via the moon. This push keeps ocean tides low – and permits neap tides (which aren't as high as spring tides). At full and new moon, some of those gravity waves from the solar system's edge are diverted both by the moon and the sun. This causes a more noticeable decrease in gravity's push against the earth and permits a spring tide. If the sun and moon were the same distance from earth, the sun would exert about 27 million times as much tide-producing force as the moon. But the sun is about 390 times as far away as the moon. If the distance of a body from the earth could be doubled, it would only exert one-eighth as much tide-producing force on earth. As a result, the tides caused by the sun are only 46% as high as those caused by the moon. (the previous 4 sentences are from "World Book Encyclopedia": the article "Tide" by professor of oceanography Robert O. Reid – we keep it simple by speaking of sunrise and sunset instead of lecturing, in everyday speech, about earth orbiting the sun; so let's continue to keep it simple by speaking of the sun [and moon] producing tides instead of lecturing, in everyday speech, about gravitational diversion). **The more mass a body possesses, the more gravitation is diverted to play a part in that body's formation; 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 (differentiating them from ordinary matter, black holes appear to have no electromagnetism of their own – their electric and magnetic properties come from the matter they swallow).**



If Albert Einstein was correct when he said gravitation plays a role in the constitution of elementary particles (in a 1919 submission to the Prussian Academy of Sciences), the moon can never totally block gravity's influence since it would itself be partly gravitational in nature, and capable of appearing to cause attraction (its particles could be "wave packets" composed of a mixture of gravitational waves and modified gravitation i.e. electromagnetic waves). \*\* Einstein said gravity and electromagnetism may be related – I believe gravity waves possess an amplitude tapering from the centre to the sides while the amplitude of electromagnetic waves remains constant in size. A wave packet consisting of gravitation and modified gravitation would possess what we call mass because of that force's effect on other particles.

\*\* Electromagnetic waves cannot possibly penetrate from the space near the surface of the moon to deep within its interior. Yet the motion of particles produces heat and infrared radiation which, via time's nonlinearity and the "backward causality" promoted by Yakir Aharonov and others, plays a part in formation of those particles. If electromagnetism truly is nothing but modified gravitation, the same could be true of the strong and weak nuclear forces (see p.402 of <http://vixra.org/abs/1201.0106>). 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?

Matter travelling through time, 5th-dimensional hyperspace, and possibly wormholes, could be classified as Dark Matter since it would be invisible yet retain gravitational influence.

As the 1965 song "Turn! Turn! Turn!" by the Byrds, and the 1967 cover by

Australia's Seekers, sings - and as Ecclesiastes 3:1 of your Bible states – there is a time to every purpose. So there's undoubtedly a time for the world to start wondering about many pieces of information that couldn't even be dreamed of before now. We'll wonder if knowledge really has been sealed up until the end (knowledge that will turn the end into a new beginning for the whole world!!)

PS Thinking about what's been written here leads to the conclusion that we all have eternal life. Let me explain – In a Unified Field Theory or Theory of Everything, humans are unified with the universe. Space and time may be infinite (this is indeed possible according to physics and mathematics).

[It seems logical to believe the universe is, by definition, everything that has or does or will exist and that there can be nothing outside the universe. For this reason, "multiverse" and "parallel universe" appear to be misleading terms that can be replaced with "the known cosmos is actually one of infinite subuniverses shaped like a Figure-8 Klein Bottle" and "discovery.com's 'another universe' would be another subuniverse." The hidden variables that are the electronic binary digits of centuries to come could exist in a 5<sup>th</sup>-dimensional hyperspace. In a universe described by fractal geometry, the 5th dimension wouldn't exist only on a cosmic scale but also as a hyperspace in every fermion (matter particle) and boson (force-carrying particle). Binary digits would allow time travel by making it possible to warp space, simultaneously adding precision and flexibility to the elimination of distances and the "fitting together" of subuniverses to form a continuous universe.]

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, 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 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

tinest, 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.

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## **Bonus #1 – Infinite universe**

Bob Berman's article "Infinite Universe" ("Astronomy" – Nov. 2012) has excited me, and prompted me to write down these ideas -

As he wrote, "The evidence keeps flooding in. It now truly appears that the universe is infinite." and "Many separate areas of investigation – like baryon acoustic oscillations (sound waves propagating through the denser early universe), the way type 1a supernovae compare with redshift, the Hubble constant, studies of cosmic large-scale structure, and the flat topology of space – all point the same way." and "...no one can picture (an infinite universe)". Let's start to at least try to picture it by using 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 subuniverses shaped like Figure-8 Klein Bottles (vaguely similar to doughnuts) gaining rips called wormholes when extended into the spherical spacetime that, as the evidence indicates, goes on forever (forming one infinite universe). Picture spacetime existing on the surface of this doughnut which has rips in it. These rips provide shortcuts between points in space and time – and belong in a 5th-dimensional hyperspace.

The continuing, accelerating expansion of space-time\* which results, in the never-ending future\*\*, in an infinite universe instantly ripples back in time (because of "retrocausality" - promoted by Yakir Aharonov, the Israeli physicist specializing in quantum physics [and other scientists], this states that effects and causes are not necessarily separated and can instantly interact) and means the cosmos has always been infinite.

\* This acceleration was discovered in 1998 by observations carried out by the High-z Supernova Search Team and the Supernova Cosmology Project, has been confirmed several times and is claimed to be caused by mysterious "dark energy".

\*\* Page 118 of Stephen Hawking's/Leonard Mlodinow's "The Grand Design" (published in 2010 by Bantam Press) says "M-theory (that theory which string theorists now consider fundamental) has solutions that allow for many different internal spaces (the curling up of extra dimensions into tiny, invisible spaces), perhaps as many as  $10^{500}$ , which means it allows for  $10^{500}$  different universes, each with its own laws." I suggest there is only one extra dimension and only one universe, with one set of physical laws.  $10^{500}$  would therefore

refer to either the number of subuniverses existing in space at present or to time and the number of "frames" (corresponding to motion) existing in the cosmos at present (or both subuniverses and frames, since space and time can never be independent of each other). Could this unbelievably enormous number also be known as infinity? Infinity will increase in the future in the eventuality of transmissions<sup>^</sup> from 5th-dimensional hyperspace producing more space and time via Big Bangs forming more subuniverses. 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. Nevertheless, there can never be anything outside the universe since true infinity of time-space uses backward causality (retrocausality) to instantly ripple back in time and make the cosmos eternally infinite.

<sup>^</sup> "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<sup>^</sup>, simultaneously adding precision and flexibility to the elimination of distances (wormholes being one example of doing this) and the "fitting together" of subuniverses to form a continuous superuniverse. (The boundary where subuniverses meet could be called Cosmic Strings - analogous to "cracks" in spacetime formed as subuniverses cool, similar to cracks that form as water freezes into ice, and first contemplated by the theoretical physicist Tom Kibble in the 1970s.)

<sup>^</sup> 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.

But what about the statement "The continuing and accelerating expansion of space-time which results in an infinite universe instantly ripples back in time and means the cosmos has always been infinite"? This means quantum processes, in which effects and causes are not necessarily separated, wouldn't be confined to tiny subatomic scales but would also occur on the largest cosmic scales.

## **Bonus #2 –**

### **How the "Pioneer anomaly" refines Einstein's gravitation / space-time; and how equations he developed in 1919 show that the space warping in General Relativity extends to subatomic particles**

An experimental proof of the validity of the Theory of General Relativity is described by the following - 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).

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  $2.39 \times 92,955,807.273$  (approx. 222 million) miles per year and Pioneer 11  $2.22 \times 92\,955\,807.273$  (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).

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<sup>^</sup>). 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)

<sup>^</sup> 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? 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 therefore conclude that at the present level of our knowledge of the Pioneer 10 spacecraft

and its trajectory, no statistically significant acceleration anomaly exists.” I don’t think we have enough knowledge of the spacecraft and its trajectory (as they exist in 2012). Therefore, I personally favour the idea that gravitational physics needs a slight revision (Sergei Kopeikin of the University of Missouri and retired JPL scientist John Anderson seem to agree, and Dr. Kopeikin definitely believes that a part of the Pioneer effect is due to the thermal emission, but that part is small, not more than 15-20% of the overall effect.

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. Suppose Einstein was correct when he said gravitation plays a role in the constitution of elementary particles –

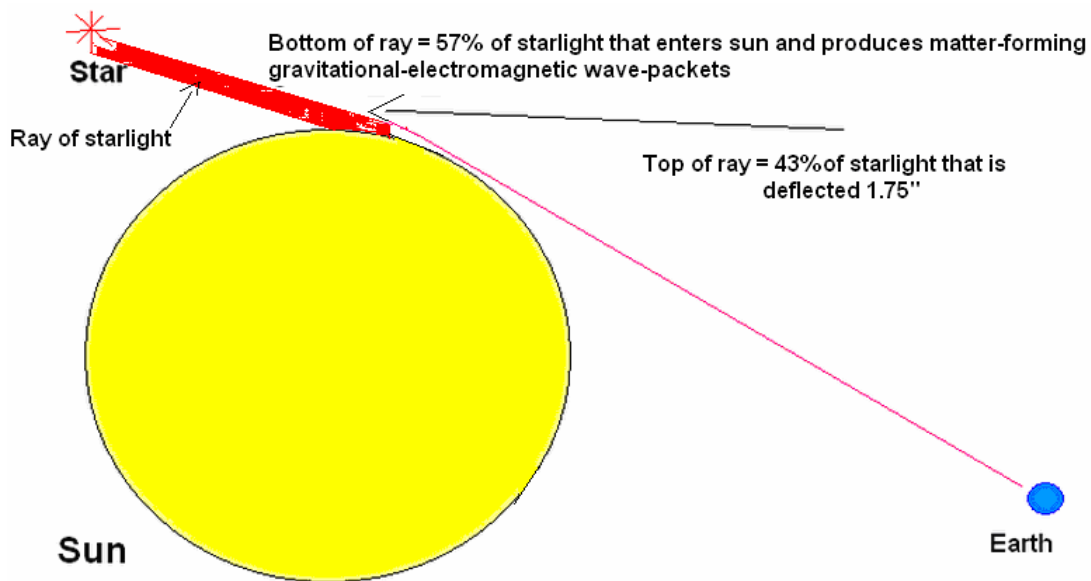
## **DO GRAVITATIONAL FIELDS PLAY AN ESSENTIAL PART IN THE STRUC- TURE OF THE ELEMENTARY PAR- TICLES OF MATTER?**

BY

**A. EINSTEIN**

*Translated from “Spielen Gravitationsfelder im Aufber der materiellen Elementarteilchen eine wesentliche Rolle?” Sitzungsberichte der Preussischen Akad. d. Wissenschaften, 1919.*

(a 1919 submission to the Prussian Academy of Sciences in which his equations say we cannot restrict ourselves to electromagnetic components). If “wave packets” of gravitation + electromagnetism compose matter, there would be no place for a Higgs field or boson in the generation of mass (G and EM could account for particles’ properties). Then the other 57% consists of warps which result in matter-forming gravitational-electromagnetic wave packets. Suppose Einstein was also correct in believing gravitation and electromagnetism are related. Then we might be able to say electromagnetism is merely modified gravitation. Gravity might also play a role in constituting the nuclear strong and weak forces that allows us to say the nuclear forces are modified gravitation, too. 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? When the starlight dives into the sun, it’s diverted into the gravitational-electromagnetic “wave packets” which form our star’s matter. 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. I also believe it shows that "Intergalactic Plus Time Travel; Hyperspace and Space-Time's Nature" is accurate. In the sense of celestial mechanics, I think it accurately portrays Earth's orbit and tides – as well as dark energy and gravitational diversion – despite that submission being nonmathematical. Imagine a few cosmic possibilities that could ensue from this article – the sun (and all things) could be self-renewing to some degree, and might survive much longer than their predicted lifetime; the whole universe might survive much longer than scientists anticipate (other parts of the above viXra submission suggest it's eternal); 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. – this particular subuniverse that we live in could be younger than we think.

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