Title - TODAY, ATHEISM IS REASONABLE AND SCIENTIFIC. TOMORROW, MATHEMATICS AND PHYSICS WILL SHOW THAT ATHEISM IS MISTAKEN.

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Abstract – We begin 600 years in the future, looking back and forth in time until we arrive in the next millennium … where science explains Infinity, Eternity and God. Subheadings in this article are – The 27th Century, Electrical Engineering, Relatively Short-Term Benefits, Gravitational-Electromagnetic Equivalence, Unified Field Theory, Resurrection To Eternal Life, Time Travel And Teleporting, The 30th Century, < Doctor Who … Mathematical Hyperspace And Quantum Spin >, Mobius Loop, Localized Unified Field, The Matrix And The Figure-8 Klein Bottle, Real / Imaginary / Negative, 1000 Years+, Quantum Mechanical God's-Eye View, Unification Explains Infinity And Eternity And God, Hidden Variables, Virtual Particles

Content -

THE 27TH CENTURY

In a "Star Trek: Voyager" program, I think Lieutenant Paris made the comment that the starship Voyager can travel at 2 billion kilometres a second. That's about 7,000 times the speed of light. If we compare 24th century science-fiction speeds to real-life 21st century speeds, they're certainly impressive (fantastic, even). But what if we go an equal distance in the opposite direction of time ... and compare

24th-century science-fiction speeds to those of 27th century real-life? They just might be regarded as pathetically slow (even motionless). In "Star Trek: The Next Generation", a being called The Traveller once moved the starship Enterprise a distance of a billion light years in mere seconds. Remarkable? I believe this may also be extremely slow compared to real-life speeds in the 27th century.

ELECTRICAL ENGINEERING

This is because 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 (Discover magazine's "Top 100 Stories of 2009 #83: Like Magnets, Light Can Attract and Repel Itself" by Stephen Ornes, from the January-February 2010 special issue; published online December 21, 2009). 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 (hopefully, my book "Tomorrow's Science Today" - freely available in complete form by downloading the PDF at http://vixra.org/abs/1201.0106 - will make it clear that this must be so), 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. 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.

RELATIVELY SHORT-TERM BENEFITS

If all forms of EM (electromagnetic) radiation can attract/repel, radio waves will also cause communication revolution e.g. with the Internet and mobile (cell) phones - I anticipate that there may be no more overexposure to ultraviolet or X-rays. In agreement with the wave-particle duality of quantum mechanics, EM waves have particle-like properties (more noticeable at high frequencies) so cosmic rays (actually particles) are sometimes listed on the EM spectrum beyond its highest frequency of gamma rays. If cosmic rays are made to repel, astronauts going to Mars or another star or galaxy would be safe from potentially deadly radiation. And if all particles in the body can be made to attract or repel as necessary, doctors will have new ways of restoring patients to health.

GRAVITATIONAL-ELECTROMAGNETIC EQUIVALENCE

From 1929 til 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 (please see “Unified Field Theory” below) means warps of space (gravity, according to General Relativity) between spaceships/stars could be attracted together, thereby eliminating distance. 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. 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.

UNIFIED FIELD THEORY

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 James Clerk Maxwell to be restated in terms of these gravitational fields. American physicist Charles Misner stated

this was discovered by the mathematical physicist George Yuri Rainich (1886 - 1968).

English mathematical physicist Roger 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. The result is 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 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". (Wikipedia’s – the Free Internet Encyclopedia’s - entry “Michele Besso”)

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.

My book explains why 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. "*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."* ("Physics: Albert Einstein's Theory of Relativity" at www.spaceandmotion.com**)**

How is the gravity made? By electronics' binary digits in a 5th dimension. I know that sounds like science fiction, but it's using computer science to combine General Relativity (Einstein's theory of gravity) with quantum mechanics (the

subatomic world) and an extra dimension proposed by modern physics' string theory - read the book please. Then you'll go full circle in your exploration of nonlinear dynamics - and see that electromagnetism, though a modification of gravitation, is actually the source of gravitation. Dark matter and dark energy are also explained in terms of gravitation, time's nonlinearity and binary digits.

It's a strange strange universe we live in, Master Jack (or should I say Master Albert?) "Master Jack" is the name of a 1968 song by South African band "4 Jacks and a Jill" – it includes the line "It's a strange, strange world we live in".

RESURRECTION TO ETERNAL LIFE

Warping space to totally eliminate distance means Starfleet's ships, including Voyager and Enterprise, would then have some hope of achieving what they were designed to do i.e. explore the entire universe. Further enabling exploration of a universe which appears to be infinite is this alternative to the suspended animation necessary for infinitely long voyages in space: Elimination of diseased matter and/or eliminating the distance in time between a patient and recovery from any adverse medical condition – even death – would be a valuable way of restoring health. With time travel in an electronic universe, people who have long since died could have their minds downloaded into clones of their bodies - a modification of ideas published by robotics/artificial intelligence pioneer Hans Moravec, inventor/futurist Ray Kurzweil and others - allowing them to “recover” from death (establishing colonies throughout space and time would prevent overpopulation). If the distance in time between recovery and a patient is reduced to zero; prevention of any adverse medical condition, including that of a second death for those resurrected, can occur and we can enjoy resurrection to eternal life.

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. This is “foreseen” by the Enterprise time-travelling back to 20th-century Earth in the 1986 movie "Star Trek IV: The Voyage Home" and by Star Trek's "subspace communications". 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).

THE 30TH CENTURY

Now let’s jump forward a few more centuries (to the 30th). The starships of the 27th century might truly be motionless 900 years from now – just obsolete exhibits in museums. 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.

< DOCTOR WHO

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 - Can anything more specific about the mechanics of time travel be stated here? If we get into a spaceship and eliminate the distance between us and a planet 700 light-years away, it'll not only be possible to arrive at the planet instantly but we'll instantly be transported 700 years into the future.* 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

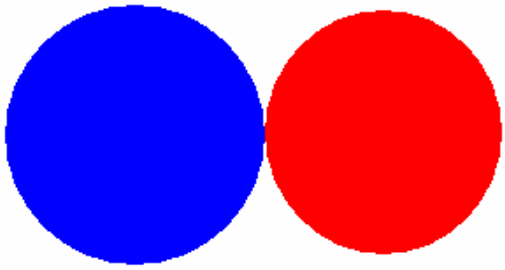
If the universe is a Mobius loop (a Mobius loop can be visualised as a strip of paper which is given a half-twist of 180 degrees before its ends are joined), the twisted nature of a Mobius strip or loop plus the fact that you have to travel around it twice to arrive at your starting point might substitute 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^{th} 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 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.

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.

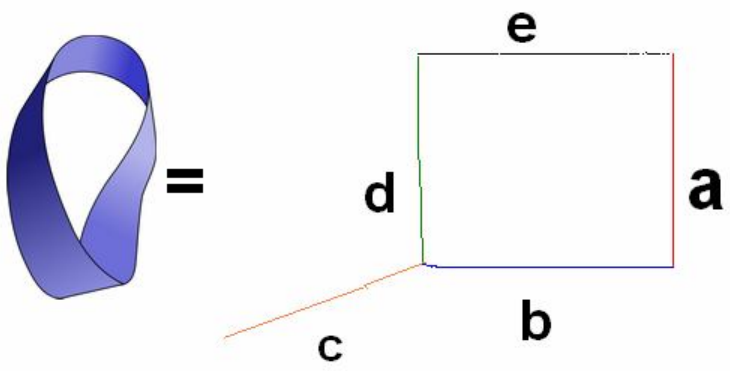
shape of waves when viewed from the centres
where they begin spreading out is
CONVEX



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

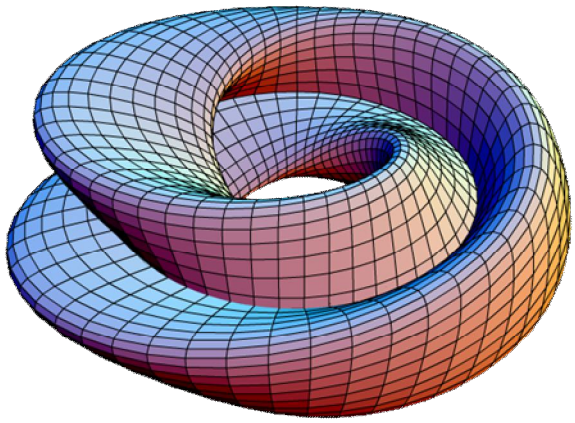
At the destination, the convex shape of the spreading wave arrives instantly (meaning the ship and planet are quantum entangled). This situation is equivalent to space being translated (shifted) by 90 degrees so that the ship is perpendicular to length, width and height simultaneously *. What if the 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 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.) If the infinite universe is composed of subuniverses shaped like figure-8 Klein bottles (diagram at end of paragraph - 2 Mobius 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. 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”, 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 traveling backwards for the light beam and we could only ever travel into the past i.e. instantaneously traverse -700 light years.

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?

1,000 YEARS+

QUANTUM MECHANICAL GOD’S-EYE VIEW

Exploring all of the universe and all of time would still be impossible. Even travelling instantly across many billions of light years of space and billions of centuries of time would be far, far too slow. This is because we’d have to spend time doing research at each destination. This is good entertainment – but if we want to explore everywhere and everywhen, spending time at each destination

will slow us down so much that it will be counterproductive and will doom our acquisition of knowledge. What can we do? Embark on a trip to the next millennium. In, say, the 31st century we might be able to view the infinite universe and the eternity of time all at once. This is because we can build on a statement in a previous paragraph viz. “The fuzziness is represented in nature by past, present, future, space, time, and hyperspace existing everywhere rather than being confined to particular locations.” 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.

UNIFICATION EXPLAINS INFINITY, ETERNITY AND 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). Finally, 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 an infinite universe instantly ripples back in time and means the cosmos has always been infinite.

Finally, a few paragraphs supporting the idea that this is, fundamentally, 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. These allow time travel by making it possible to warp space, simultaneously adding precision and flexibility to the elimination of distances.

Empty space (gravitation) 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 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).

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, the development of an embryo from an egg cell which was previously mentioned is not a quantum (subatomic) process and would not appear to occur instantly.* 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.

* 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 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 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 CD, video tape or vinyl record. 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? The feedback between string-sized bits would keep the past and future from changing, like a digital thermostat regulating a hot water system and keeping the temperature constant). And if CDs 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)?
