

Einstein's Relativities (GR + SR), Bohr's Atomic Model, Dark Matter, Dark Energy, Negative Energy And Modern String Theory/Unification In The Light Of The Concept of an Electronic and Holographic Universe Shaped Like A Mobius Loop

I'm amazed at how well it fits in with the discoveries of the Microwave Anisotropy Probe and with string theory, culminating in the LHC's possible verification of strings and my prediction of negative-energy antistrings. Having said that, I must say this – it's very strange that the scientific world is so obsessed with mathematics (admittedly, my previous submission to General Science Journal did dabble with it when offering a version of $E=mc^2$ to suit the digital world - but I kept it very simple ... so simple it might be regarded as wrong). Math seems to be regarded as infallible, even though it leads to mistakes. The (partial) mistake I have in mind is string theory. I don't deny that there certainly is value in the theory, and in maths, but logic reveals shortcomings. Let me explain, after first writing a short section describing an unconventional approach to unveiling unification and offering an alternative to the Higgs boson that relies on gravitational waves.

ALTERNATIVE TO HIGGS BOSON

An important step might be to think of "... the grand design of the universe, a single theory that explains everything" (words used by Stephen Hawking on the American version of Amazon, when promoting his latest book "The Grand Design" – coauthored with Leonard Mlodinow, Bantam Books, 2010) in a different way than physicists who are presently working on science's holy grail of unification. The universe's underlying electronic foundation* (which makes our cosmos into a partially-complete unification, similar to 2 objects which appear billions of years or billions of light-years apart on a huge computer screen actually being unified by the strings of ones and zeros making up the computer code which is all in one small place) would make our cosmos into physics' holy grail of a complete unification if it enabled not only elimination of all distances in space and time, but also elimination of distance between (and including) the different sides of objects and particles. This last point requires the universe to not merely be a vast collection of the countless photons, electrons and other quantum particles within it; but to be a unified whole that has "particles" and "waves" built into its union of digital 1's and 0's (or its union of qubits – quantum binary digits). If we use the example of CGH (computer generated holography, these "particles" and "waves" could be elements produced by the interaction of electromagnetic and presently undiscovered gravitational waves, producing what we know as mass and forming what we know as space-time. Einstein predicted

the existence of gravitational waves, and measurements on the Hulse-Taylor binary-star system resulted in Russell Hulse and Joe Taylor being awarded the Nobel Prize in Physics in 1993 for their work, which was the first indirect evidence for gravitational waves. The feedback of the past and future universes into the unified cosmos's electronic foundation would ensure that both past and future could not be altered. Our brains and minds are part of this unification too - which must mean extrasensory perception and telekinetic independence from technology are possible, despite modern science's objections which appear to be based on non-unification.

* For more information on the universe's proposed electronic foundation, please see my previous submission to GSJ as well as the remainder of this submission.

STRINGS ARE ONLY PART OF MATTER'S BASIS

Space and time only exist in our experience. They are emergent properties, like wetness and mind. We experience wetness because it emerges from the building blocks of the hydrogen and oxygen atoms which make up water. We experience mind because it emerges from the building blocks of neurons composing the brain. And we experience space-time since it emerges from the building blocks making up the universe. These units are a combination of electromagnetic pulses (forming a cosmic computer which includes randomness and thus the potential to escape rigid preprogramming, and have a small degree of free will) as well as a cosmic hologram (this is produced by the interaction of electromagnetic plus gravitational waves and combination of the holographic aspect with the electronic aspect unifies general relativity with quantum physics). Every physical and nonphysical part of the universal hologram would be a receptor for the downloading of data from the cosmic computer which not only exists in the hyperspace of the large-scale universe but also in the hyperspace of each subatomic particle. (In other words, the holographic universe or spacetime we know is a screen for displaying data from the 5th-dimensional computer.)

It might be helpful to visualise time as the playing of a CD 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. I believe space and time are infinite, so it might be more accurate to visualise time as that HUGE number - in this case, of CDs or tapes - which some versions of string theory propose (10^{500}). My essay tells you exactly how to travel to the future, how to return home, and how to travel into our past. Neither future nor past can be altered (a blow to our belief that we have the free will to shape the future) and my explanation of travel to the past requires re-interpretation of the concepts of "multiverse" and "parallel universes". It also requires the ability to travel billions of light years INSTANTLY - no doubt many readers will instantly dismiss the essay because their preconceptions "know" this simply isn't possible. It indeed sounds like pure fantasy, but I outline an approach based on electrical engineering, General Relativity, and Miguel Alcubierre's 1994 proposal of "warp

drive" that makes it logically possible.

My essay explains why the universe is a Mobius loop and how it is contained in, or unified with, each of its particles (relying on physical senses or 21st-century scientific instruments would make this statement ridiculous). Then each fermion and boson would also be composed of the 3 spatial dimensions, the 4th dimension of time, and the 5th dimension of hyperspace. Detectors like the Large Hadron Collider would be unable to "see" the time and hyperspace components of particles but could only see the small (maybe 5% of the whole) 3 spatial dimensions (the time component would be what we call dark matter), erroneously assuming particles are those small fractions of a Mobius loop that physics calls strings. "Dark matter" would exert a gravitational influence because time, being part of a curved Mobius loop (whether of quantum or cosmic scale), would push objects together in the same way Einstein's curved space-time pushes objects together. We can speak of the HST now - no, not the Hubble Space Telescope but Hyperspatial SpaceTime. We can visualise the Mobius loop as composed of a hyperspace computer which generates information on how things change from one presently undetectably tiny fraction of a second to the next (we call this time, and it's comparable to the frames in a movie) and transmits the data (transmits dark energy) to the insignificant portion of length, width and depth that makes up subatomic particles ... and the universe.

Preceding the Big Bang (which created this local section of the infinite, eternal universe ... or if you prefer, this subuniverse of the megauniverse) there would have been no space, matter or time in this subuniverse. No transmissions of dark energy (creating time and space/matter) would have occurred - therefore the dark-energy content of the universe would have been zero, increasing to the present 72% as more and more matter was created. How is matter created? Perhaps as cosmologist Alan Guth once suggested -

"You might even be able to start a new universe using energy equivalent to just a few pounds of matter. Provided you could find some way to compress it to a density of about 10^{75} (10 exponent 75) grams per cubic centimeter, and provided you could trigger the thing ..."

At the time the Cosmic Microwave Background was emitted (less than a million years after the big bang), results from the Wilkinson Microwave Anisotropy Probe say the dark-energy content of the universe was negligible. Space/matter has been increasing since the big bang so transmissions from hyperspace computer (dark energy) which create them are increasing while the volume of the Mobius loop occupied by time/hyperspace (dark matter) has been shrinking as a result - according to the WMAP satellite, from 63% when the CMB was emitted to 23% today. Why isn't dark energy increasing at the same rate dark matter is decreasing? It must be because, as stated earlier, both time and hyperspace exert a gravitational influence, thereby mimicking space and matter to a degree. This mimicry causes the dark matter between the start of the CMB and the

present to decrease by only about 40% while dark energy increases in the same period by about 70%. If we were dealing with a simple and ordinary loop, this similarity would cause dark matter and dark energy to be more or less equal and if there was any difference in their amount of decrease/increase, it would be in the same direction. But we're talking about Mobius loops which are like strips of paper that have been twisted 180 degrees before the ends are joined. This causes their variation to go in different directions (one increases, the other decreases) and the amount of variation is quite significant (+72%, -40%). My guess is that the real-life twist occurs in the temporal segment of the loop, enabling a traveller in time to go in different directions i.e. into the future or into the past. To replenish dark matter in billions of years, we merely have to extend Guth's proposal by using the knowledge of that time to create more matter (or by creating more hyperspace which creates more space and more time).

A real-life Mobius is by no means a featureless loop, however. If, contrary to our impressions, the universe is unified with each particle it's composed of; the WMAP satellite's findings must apply to the quantum world. The figures 72%, 23% and 5% would not only describe the present universe's content of dark energy, dark matter and ordinary matter but also any particle's content of space or ordinary matter (5%), time or dark matter (23% - time is considered to be dark matter here because dark matter is regarded as ordinary matter invisible to us since it's present in another region of the dimension we call time, just as most of a sphere is in another dimension and consequently appears as a dot when first entering Edwin Abbott's 1884 exploration of other dimensions called "Flatland"), and hyperspace (72%: the transmissions from the hyperspace computer create space and matter, cause expansion of space on cosmic scales where there are no forces to overcome the expansion as there is in matter, and are known as dark energy - creating more matter causes that matter's repelling gravity to bring about accelerating expansion).

Look at a picture of a Mobius (thanks to the repeating scales of fractal geometry, the apparently empty interior and exterior of the Mobius universe would actually be the same as the visible loop). Imagine the space/ordinary matter to be situated immediately counterclockwise (perhaps on the bottom of the loop) to the hyperspace segment and the time/dark matter portion to be immediately counterclockwise to the space/ordinary matter (time/dark matter would, moving clockwise, be next to the hyperspace segment).

The hyperspace transmissions flow directly into space/matter (all motion - "flow" and "transmissions" - are actually comparable to individual frames in a movie but are spoken of in everyday terms of motion for convenience, like saying the sun rises and sets) and are responsible for the large and unimpeded 72% increase, since the CMB was emitted, of dark energy. This flow rate of 72% also enters the time/dark matter section adjacent to hyperspace ... but the loop's twist seems to be in the time section. If we were to cut the loop lengthwise with scissors, previously varying the number of half-twists results in things such as two rings

linked together or a knotted ring. So we get barriers to motion and blockages. Returning to the normal loop and twist, matters are less drastic and motion is merely slowed, resulting in a 23% flow rate into the space/ordinary matter section.

If we lived in a non-unified universe of materialism, this is how things would remain (dark matter would have increased so today's content would be a low 23%). On p. 179 of "The Grand Design" by Stephen Hawking and Leonard Mlodinow (Bantam Press, 2010) it's stated

"One requirement any law of nature must satisfy is that it dictates that the energy of an isolated body surrounded by empty space is positive ..."

The only problem with that sentence, in an "everything is everywhere and everywhen" universe, is the word isolated. There can be no such thing as isolated in our cosmic-quantum unification. Page 179 also says "... if the energy of an isolated body were negative ... there would be no reason that bodies could not appear anywhere and everywhere." Does this mean you and I (plus all things in time and space) are a union of both positive and negative energy, able to display both separateness/solidity (isolation) as well as the potential to appear anywhere and everywhere? Dark matter, not being entirely positive, would be anywhere and everywhere as well as having decreased so today's content would be a low 23% (which is what WMAP says is the case).

Acceleration (due to either approaching an appreciable fraction of light's velocity or experiencing massive gravitation, such as from a black hole) mimics the universe's expansion, no doubt because matter and space are both made of "space-time bits" i.e. they're both produced by the binary digits emanating from the hyperspace computer. There would inevitably be mass increase as some of the "dark energy" expanding the universe naturally becomes, according to mass-energy equivalence, particles of matter. More precisely, the increase in dark energy as our subuniverse expands (due to increased transmissions from hyperspace "creating" more space and time) is responsible for the extra particles. There would also be relative length (and volume) contraction since each particle would occupy a smaller proportion of our subuniverse's length/volume as expansion continues (and accelerates). We've seen that spacetime can be twisted into a Mobius strip - picturing spacetime as a length of paper in somebody's hands, it'd be twisted by applying forces in opposite directions viz. by turning one hand away from the body while simultaneously turning the other hand towards the body. In truth, twisting space-time would be a movie-like "special effect" accomplished by the hyperspatial computer. Though there would be an initial increase in time (as noted earlier in this paragraph), this would only be obvious in the so-called "dark matter" portion of the Mobius. The previous paragraph points out that if we lived in a non-unified universe of materialism, increase of time would be the norm but the twist - affecting all parts of a unified universe - means dark matter (time) decreases by the time it reaches the 5% of

the Mobius that is the materialism our physical senses perceive (this “decrease of time” may also be termed “time dilation”).

If everything is a union of positive and negative energy, every matter particle and force-carrying particle would be too. And the strings the Large Hadron Collider might detect (being the parts of particles’ Mobius loops it could see since those parts would be space/ordinary matter) might come in both positive and negative varieties. In 1928 English physicist Paul Dirac (1902-84) proposed that all negative energy states are already occupied by (then hypothetical) antiparticles (particles of antimatter). Building on this results in proposal of strings and antistrings – mathematics has positive and negative quantities, and computers (whether in hyperspace or not) generate maths, causing reality to be both positive and negative; and unconventional cosmologist Max Tegmark is correct when he says mathematical formulas create reality. So when matter and antimatter meet, the positive and negative quantities form zero and neutralise (destroy) each other; and the positive/negative components of everything must avoid direct contact – this separation can either be in space or in time because all things are able to display both separateness/solidity (isolation in space) as well as the potential to appear anywhere and everywhere (in time as well as space). Pauli’s exclusion principle – which was discovered in 1925 and says 2 matter particles cannot have both the same position and the same velocity – does not apply to separation of matter/antimatter since it only applies in an objective, non-unified universe ... though programming in the “cosmic computer” does include it as applicable to the reality we perceive since that appears objective to us; and presents separation and solidity to our physical senses and their extensions, scientific instruments.

Building on Mobius loops and negative energy also explains why electrons don’t spiral into the nucleus of the atom when orbiting it like planets around a star would, according to the theories of Newton and Maxwell, cause the electrons to continuously emit electromagnetic radiation and this loss of energy would result in their crashing into the nucleus. As we’ve noted, fractal geometry tells us that what is outside or inside a Mobius loop is the same as the loop itself. So we can visualise an atom as a Mobius loop (the outside could be the universe and the inside could be a subatomic particle – with those two being One because of unification). We can imagine a 72% flow rate into the “dark matter” part of the atomic Mobius becoming not merely a 23% flow into the ordinary matter but, as discussed above, becoming a negative 23% flow. That is, energy is of course radiated - even from those special orbits or stationary states which Danish physicist Niels Bohr (1885-1962) said radiation would not be continuously emitted and wouldn’t contribute to an electron-nucleus collision. But it isn’t energy as we know it. There is no positive radiation emitted – the energy is “less than nothing” i.e. negative - according to the previous paragraph, mathematics has positive and negative quantities, and computers (whether in hyperspace or not) generate maths. Therefore, Bohr was correct to introduce the quantum into the atom and to “quantise” electron orbits – the “quantum jump” or “quantum

leap” in which an electron’s transition between orbits or energy levels occurs instantaneously without occupying the space between orbits is also explicable by computers in hyperspace generating mathematics and making electrons disappear from one orbit and instantly reappear in another orbit. Since $E=mc^2$ means energy must contain particles and negative energy must contain antiparticles (e.g. electromagnetic energy is composed of photons), anti-photons are emitted from the electrons which are consequently not radiating energy and do not spiral into the nucleus. In his 1988 book “A Brief History of Time”, Stephen Hawking says on p. 68 that “In the case of the force-carrying particles (like the photon), the antiparticles are the same as the particles themselves.” Thus, the “photons” which are emitted during the quantum leaps of electrons from higher to lower energy levels could actually be antiphotons. (thanks to “QUANTUM: Einstein, Bohr and the Great Debate About the Nature of Reality” by Manjit Kumar – Icon Books, 2008)

My essay "Humans and their Universes" tells you how to travel into the future, how to return home, and how to take a trip into our past. Regarding travel beyond our start and into the past ... it can't be denied that these paragraphs imply the possibility of humans from the distant future time-travelling to the distant past and using electronics to create this particular subuniverse's computer-generated Big Bang. An accomplishment such as this would be the supreme example of “backward causality” (effects influencing causes) promoted by Yakir Aharonov, John Cramer and others. However, realising that we live in a cosmic-quantum unification with zero-separation and recalling Isaac Newton’s inverse-square law and what it says about the force between two particles being infinite (does infinite mean 10^{500} , the HUGE number of universes proposed by some versions of string theory?) if the distance of separation goes to zero means there's still room for God (another bit of scientifically objectionable science fiction?) because God would be a pantheistic union of the megauniverse's material and mental parts, forming a union with humans in a cosmic unification.