Title -

Thorne-Zytkow Objects

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Abstract -
Section 1 says that in a Thorne-Zytkow Object, gas from a supergiant companion can spiral around a neutron star and be reshaped into a sphere enveloping the neutron star by gravitational waves converging on that star from every direction. This is followed by an introductory mention of the concentration of gravitational waves.

In section 2, the mechanism of the waves' functioning is proposed. First - as a precise, non-probabilistic version of quantum mechanics that relies on Hidden Variables which take the form of base 2 mathematics (the binary digits 1 and 0). Second - particles with mass are given that mass by the energy of photons and gravitons interacting.

In section 3, a Letter from the journal "Nature" is used to propose how black holes/star-forming nebulae arise; in addition to touching on cosmic expansion, dark energy, and the range from low to high masses corresponding to the gradient of low to high concentration of gravitational waves.

There's a 4th section bounded above and below with the single-line border
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This part includes some of my articles "Binary Digits and Topology Create Hybrid Big-Bang/Steady-State Universe Unified as One Qubit" (http://vixra.freeforums. org/binary-digits-and-topology-create-hybrid-big-bang-steady-sta-t591.html) and "Dark Matter and Travel into the Past" (http://vixra.freeforums.org/post1207.html#p1207). Topics included here are time travel into the past and the future, the origin of life, dark matter, imaginary time, plus uniting electromagnetism with gravitation.

If all the subjects in this article were being presented as parts of a fully developed scientific theory, I'd be very wary of it. The words "exaggeration" and "delusion" would quickly come to mind. Fortunately, it's nothing of the sort. It's just an informal piece intended to point the way to what may be possible in certain areas - it (and my "Qubit" article mentioned above) are definitely not attempts at a formal theory.

CONTENT -

THORNE-ZYTKOW OBJECT

What happens when a neutron star (the remnant of a massive star exploding as a supernova) is in a binary system and closely orbits a supergiant star? The two can

merge to form a TZO (Thorne-Zytkow object; which is named after the astronomers who worked out detailed calculations of the proposed system in 1977, Kip Thorne and Anna Zytkow).

If we limit our understanding of gravity to that currently accepted, the merger must result from the neutron star and supergiant attracting each other, orbiting closer and closer until they eventually merge and the former is at the latter's core.

According to "The weirdest star in the universe" by Yvette Cendes (Astronomy magazine - September 2015), an image from the XMM-Newton satellite shows a neutron-star X-ray source (1E 161348-5055) hidden inside a cloud of gas that's assumed to be a supernova remnant. It seems plausible that this is actually all the gas from a previously independent giant star whose gas spiralled into orbit around the neutron star. This scenario would make it possible to see a nova explosion in visible light at the birth of a TZO, one of the possibilities scientists are exploring.

Over the course of thousands or millions of years, gravitational waves from every outlying region of deep space would converge on the neutron star like laser beams converging on, and imploding, a deuterium pellet in a fusion reactor. The weak gravitational waves push the gas up, down, side to side, and in every possible direction - eventually reshaping the spiral of gas into a sphere. Gas spiralling into supermassive black holes at the centres of galaxies is never sculpted into spheres because the black holes can be billions of solar masses, and the intensity of this concentration of gravitational waves forever maintains the spiralling action.

This last sentence is contingent on mass being the product of a process involving gravitation (plus photons, mathematics and computer science). More will be said about these early in the next section.

MECHANISM OF G-WAVE FUNCTIONS

The following thoughts of mine were inspired by previous articles I've written plus "What is really real?" by Zeeya Merali - Nature, May 21 2015.

May I propose an alternative to the probabilistic understanding of quantum mechanics - one using hidden variables which give exact predictions, in this case by the variables being base-2 mathematics (cosmologist Max Tegmark - director of FQXi, the Foundational Questions Institute which Zeeya Merali belongs to - believes the universe has a mathematical foundation).

This alternative involves binary digits (bits). While reading this, remember that bits are not only inseparable from units of information but also from pulses of energy. To grapple with everything in time and space being unified by bits, see my article "Binary Digits and Topology Create Hybrid Big-Bang/Steady-State Universe Unified as One

Qubit" (http://vixra.freeforums. org/binary-digits-and-topology-create-hybrid-big-bang-steady-sta-t591.html).* The information in BITS or Binary digITS is the result of electrical switching, with currents normally being either "on", usually represented by the binary digit "one" - or "off", by "zero". A binary digit can thus be viewed as a pulse of energy called a virtual particle.

* If nothing in the universe or time is actually separate from any other thing or event, we can know TZOs (and everything) as well as we know ourselves.

String theory says everything's composed of tiny, one-dimensional strings that vibrate. The translation of fluctuating, 1-D bits into the universe's matter and energy could be via photons of electromagnetic waves and gravitons of gravitational waves being ultimately composed of the binary digits of 1 and 0 encoding pi, e, √2 etc.; and matter particles [and even bosons like the Higgs, W and Z particles] being given mass by photons/gravitons interacting in matter particles' "wave packets" (interaction within this term from quantum mechanics results in wave-particle duality).

FROM DUST TO DARK ENERGY

According to a Letter to the journal Nature titled "Rapid formation of large dust grains in the luminous supernova 2010jl" (by Christa Gall, Jens Hjorth, Darach Watson, Eli Dwek, Justyn R. Maund, Ori Fox, Giorgos Leloudas, Daniele Malesani & Avril C. Day-Jones - published online on July 9, 2014 at http://www.nature. com/nature/journal/vaop/ncurrent/full/nature13558.html) -

A supernova blows off some material before exploding and this forms a slower moving, cooler shell which condenses into dust.

Travelling at light speed, gravitational and electromagnetic radiation (consisting of binary digits) from the blast slams into that material. The lower temperature allows the energy of the gravitons to interact with that of the photons, producing mass in the form of dust i.e. dust particles condense in the shell. In the same way, waves from deep space can produce graviton-photon interaction, forming collapsing clouds of dust and gas from which stars form. If there's no interaction as a result of higher temperatures, no matter is created and there is no cloud of gas and dust. A black hole — formed of gravitational waves and their precursors, virtual particles called gravitons - could be the result (supernovas can produce black holes, too).

Gravitational waves radiating from a supernova to its surrounding shell would push against the shell and be repulsive. Similarly, waves originating from warps far out in space and condensing into interstellar clouds would be repelling gravitational waves that might conceivably account for the expansion of our observable portion of the universe which was discovered in 1998. Or maybe the energy of the 1's and 0's forming the waves could be interpreted as different from that of the waves themselves - making

the bits candidates for explaining dark energy, the mysterious force accelerating expansion.^

^ For the info below on Causal Sets, I thank Zeeya Merali and her article "Theoretical physics: The origins of space and time" ("Nature" 500, 516–519 - 28 August 2013).

"Pioneered by Rafael Sorkin, a physicist at the Perimeter Institute in Waterloo, Canada, the theory (causal sets) postulates that the building blocks of space-time are simple mathematical points that are connected by links, with each link pointing from past to future." This article agrees that space-time's building blocks are mathematical (it states that they're base-2 maths' binary digits of 1 and 0).

Back to Zeeya's "origins of space and time" – "In the late 1980s, Sorkin used this framework to estimate the number of points that the observable Universe should contain, and reasoned that they should give rise to a small intrinsic energy that causes the Universe to accelerate its expansion. A few years later, the discovery of dark energy confirmed his guess." This impresses me, but the part about "each link pointing from past to future" doesn't agree with my conviction that the future can influence the past, and that humanity was born from time travel to the past^^ coupled with biotechnology existing centuries from now.

Even though Einstein told us space and time are curved and warped, we insist on limiting ourselves to a purely linear concept of time. Such a concept means Darwinian evolution is the only possible explanation for the origin of species (unless you believe in God). But to stick to science - Einstein's nonlinear time allows evolution to be restricted to adaptations and relatively minor modifications within species. Their origin is plausibly explained by human biotechnology from centuries in the future finding its way into the distant past.^^

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^^ A 2009 electrical engineering experiment at America's Yale University [1], together with the ideas of Albert Einstein, tells us how we could travel to orbits around stars in other galaxies in literally no time. Electrical engineer Hong Tang and his team at Yale demonstrated that, on silicon-chip and transistor scales, light can attract and repel itself like electric charges or magnets. This is the "optical force". For 30 years 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.
Achievement of this# means the microscopic components (gravitons) of warps of space (gravity, according to General Relativity) between spaceships and stars could mimic the Optical Effect and be attracted together, thereby totally eliminating distance (this is similar to traversing a wormhole, or shortcut, between two folds in space-time). If the existence of matter requires constant refreshing by gravitational input [2], collisions are avoided because gravity between the spaceship and its destination would, during the

timeless period of the ship's passage, be unable to function normally and refresh matter. Distance is not only deleted in space. There would no longer be any "distance" in time. Just as we can journey to particular stars, we could take trips to particular years in the past or future.

Deleting external and internal distance between photons and gravitons allows them to exist simultaneously i.e. in "quantum superposition". This unites electromagnetism with gravitation.

Travelling 7 million light years through spacetime instantly enables a spacecraft to immediately arrive at a point which a light beam could only reach by travelling for 7 million years - that is, the ship would be 7 million years in the future.

Einstein said gravitation is the warping of space-time and that it plays a role in constitution of elementary particles. He also believed electromagnetism and gravitation are related. So it's possible gravitons of gravitational waves and photons of electromagnetic waves could produce matter. It's also plausible that matter is composed of space-time. If space-time is curved as a result of being modeled on the Mobius strip, particles of matter and antimatter would also be twisted up to 180 degrees. This gives them a non-classical spin called "quantum spin". There would be the ordinary matter we see and touch, which could be labeled positive. At the extremity of 180 degrees; there would also exist an inverted, negative form of that matter. This would be as invisible to us as the curving of space, and only detectable through its gravitational effects. It would be referred to as Dark Matter
existing in what can only be called a 5th-dimensional hyperspace.##

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Since the time associated with the 3 dimensions of up-down, back-front and side-to-side is often called the 4th dimension, should negative time in a 5th dimensional hyperspace be called the 6th dimension of hypertime? Imagine a spaceship, its occupants and its computers are made of space. Or if you prefer, of the gravity (curvature of space) first spoken of in Einstein's 1919 paper "Do gravitational fields play an essential role in the structure of elementary particles?" Then the space, and time, could be gravitationally warped to the extreme curvature of 180°. The ship etc would be inverted, and would enter hyperspace and hypertime (or if you like words with extra syllables, imaginary time). Here's a scientist who supports the idea of an extra time and an extra space -
"There isn't just one dimension of time," Itzhak Bars of the University of Southern California in Los Angeles tells New Scientist. "There are two. One whole dimension of time and another of space have until now gone entirely unnoticed by us."
("Are we missing a dimension of time?" By Roger Highfield, 10 Oct 2007,
http://www.telegraph.co.uk/news/science ... -time.html)

So hyperspace's dark matter is part of space-time's ordinary matter and physicist Nima Arkani-Hamed would be correct when he said in "Gravity in large extra dimensions" by U.

S. Department of Energy - (http://www.eurekalert.org/features/doe/ ... 053102.php), " ... 'dark matter' might be just ordinary matter ..." (he's saying there could be equal quantities of the two). Dark matter's properties of invisibility and retention of gravitational influences are mimicked by phenomena such as time travel. During this, matter is invisible and the amount of it seems to decrease. Gravity effects remain, and are necessarily attributed to increase of dark matter. At a certain point (the present), there'd appear to be approx. 5 times more dark matter.

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 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. [3] Travelling 7 million light years through hyperspace (instantly) enables a spacecraft to immediately arrive at a point which a light beam could only reach by traversing negative distance for 7 million years - that is, the ship would be 7 million years in the past. Mathematics appears to be built in to the universe, so positive and negative distance would be real though the latter is exceedingly strange to us.

Geometrically, imaginary numbers are found on the vertical axis of the Complex Number Plane, allowing them to be presented perpendicular to the real axis. One way of viewing imaginary numbers is to consider a standard number line, positively increasing in magnitude to the right, and negatively increasing in magnitude to the left. At 0 on this x-axis (the so-called 'real' axis), a y-axis (the
so-called imaginary axis) can be drawn with "positive" direction going up - "positive" imaginary numbers then increase in magnitude upwards, and "negative" imaginary numbers increase in magnitude downwards. So the vertical axis of imaginary time (also referred to as the 6th-dimensional hypertime associated with hyperspace) can be navigated at the familiar rate of time's passing while the horizontal axis of "real" time sees absolutely no change (no time passes in the normal sense and travel is instantaneous).

This reminds us of Special Relativity and properties depending on the motion of observers (in this case, properties depend on whether motion is in imaginary or real time) - in 1911 Vladimir Varićak asserted that length contraction is "real" according to Lorentz, while it is "apparent or subjective" according to Einstein [4]. Einstein replied:

"The author unjustifiably stated a difference of Lorentz's view and that of mine concerning the physical facts. The question as to whether length contraction really exists or not is misleading. It doesn't "really" exist, in so far as it doesn't exist for a comoving observer; though it "really" exists, i.e. in such a way that it could be demonstrated in principle by physical means by a non-comoving observer." [5]

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The concentration of gravitational waves is greatest where the black hole, neutron star, solar mass, or any other object or subatomic particle exists. Any body of lesser mass (such as low-mass dust and gas spiralling into a high-mass black hole, or the smaller Moon orbiting the larger Earth) has a reduced concentration compared to where the concentration of gravitational waves is greatest. This means it's part of the same gradient and is bound to the larger concentration which it orbits or falls onto or spirals into.