Title –

DIGITAL STRING THEORY DELETES QUARK STARS - EXPLAINS BLACK HOLES

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Abstract –
"Eminent Princeton physicist Ed Witten famously conjectured that the true ground state of matter (in the sense of the lowest energy per particle) consists of a mixture of roughly equal numbers of up, down, and strange quarks, with enough electrons thrown in to ensure that this soup is electrically neutral." ("Is it possible for a Quark Star to exist?" by Victoria Kaspi - Astronomy magazine, June 2013) Scientists have never demonstrated this conjecture to be true, and don't have evidence that stars made of such matter ("quark stars") exist. This reminds me of something Stephen Hawking and Leonard Mlodinow wrote on p.49 of “The Grand Design” (Bantam Press, 2010) – “It is certainly possible that some alien beings with seventeen arms, infrared eyes and a habit of blowing clotted cream out their ears would make the same experimental observations that we do (regarding the existence of quarks), but describe them without quarks.” In a similar way, we non-aliens with two arms, eyes that respond to visible light and no clotted cream in our ears could conceive of a quark-electron mixture forming Quark Stars only to find that it actually describes a different mixture (of binary digits) forming black holes instead of quark stars.

E=mc^2 is referred to in the description of the conversion from gravitational energy to the "coherent, organized energy" that is matter; and also in the description of gravitational energy producing mass in black holes. We should remember that E=mc^2 appears to only be partly correct because the highest speed possible is Lightspeed. Physically speaking, it cannot be multiplied. Einstein himself proved this. The equation E=mc^2 can be considered a degenerate form of the mass-energy-momentum relation for vanishing momentum. Einstein was very well aware of this, and in later papers repetitively stressed that his mass-energy equation is strictly limited to observers co-moving with the object under study. The version of the equation applicable here may be E=m/c^2*c^2.

Referring to the paragraph which states “hidden variables called binary digits could … allow time travel into the past by warping a 5D hyperspace” - With a single extra dimension of astronomical size, gravity is expected to cause the solar system to collapse (“The hierarchy problem and new dimensions at a millimetre” by N. Arkani-Hamed, S. Dimopoulos, G. Dvali - Physics Letters B - Volume 429, Issues 3–4, 18 June 1998, Pages 263–272, and “Gravity in large extra dimensions” by U.S. Department of Energy - http://www.eurekalert.org/features/doe/2001-10/dbnl-gil053102.php However, collapse never occurs if gravity accounts for repulsion as well as attraction. It does this not only on astronomical scales but on the subatomic, too. It accounts for dark

energy and familiar concepts of gravity, as well as repelling aspects of the electroweak force [such as placing two like magnetic poles together] and attracting electroweak aspects like the strong force. “Electroweak” and “strong” force can be united in that sentence because, as we’ll see, gravitation and space-time are united with both the weak and strong nuclear forces.

Content –
"Eminent Princeton physicist Ed Witten famously conjectured that the true ground state of matter (in the sense of the lowest energy per particle) consists of a mixture of roughly equal numbers of up, down, and strange quarks, with enough electrons thrown in to ensure that this soup is electrically neutral." ("Is it possible for a Quark Star to exist?" by Victoria Kaspi - Astronomy magazine, June 2013) Scientists have never demonstrated this conjecture to be true, and don't have evidence that stars made of such matter ("quark stars") exist. And they never will demonstrate it to be true, nor will they find Quark Stars. Why? Because the binary digits of 1 and 0 are the ground state or lowest possible energy level - not only of matter but also of space-time.*

* Suppose Albert Einstein was correct when he said gravitation plays a role in the constitution of elementary particles (in “Do Gravitational Fields Play An Essential Part In The Structure of the Elementary Particles?” – a 1919 submission to the Prussian Academy of Sciences). And suppose he was also correct when he said gravitation is the warping of space-time. Then it is logical that 1) gravitation would play a role in constitution of elementary particles, and their mass, and also in the constitution of the nuclear forces associated with those particles, and 2) the warping of space-time that produces gravity means space-time itself plays a role in the constitution of elementary particles, their mass, and the nuclear forces. Electromagnetism is not separate from space but is waves within it - the frequencies and wavelengths of these waves identify them as electromagnetic. Matter can be thought of as “coherent space” that is bound by forces[0]. Gravity, being united with EM** and the nuclear forces, is the ultimate physical source of all repelling and attracting (from the attractive strong nuclear force to the repulsive dark energy).

[0] This makes sense to me because of Einstein's paper saying gravitation may be involved in the structure of particles. Gravity is only the warping of space, which means space (or space-time) itself may be involved in the structure of particles. To understand how this could happen, we need to remember that higher-frequency light (in the visible part of the electromagnetic spectrum) can be converted into lower-frequency infrared light (by being absorbed as visible light and re-emitted at infrared wavelengths by interstellar gas and dust). Similarly, the gravitational waves of space could have a frequency even greater than gamma rays. When converted into lower frequencies, they'd produce all the electromagnetic wavelengths. Einstein's paper suggests these interact with gravity to form particles of matter (E=mc^2 would probably describe the conversion from gravitational energy to the "coherent, organized energy" that is matter).

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. Their identification would lead to problems having exact, instead of merely probabilistic, outcomes – and could also restore a reality that exists independently of observation ("Quantum" by Manjit Kumar – Icon Books 2008, p.379) 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 and the "fitting together" of subuniverses to form a continuous, analog superuniverse.

^ Maybe hidden variables called binary digits could permit time travel into the future by warping positive space-time. And maybe they'd allow time travel into the past by warping a 5D hyperspace that is translated 180 degrees to space-time, and could be labelled as negative or inverted. (The space-time we live in is described by ordinary [or "real"] numbers which, when multiplied by themselves, result in positive numbers e.g. 2x2=4, and -2x-2 also equals 4. Inverted positive space-time becomes negative hyperspace which is described by so-called imaginary numbers that give negative results when multiplied by themselves e.g. i multiplied by itself gives -1.) The past can never be changed from what occurred, and the future can never be altered from what it will be. Both are programmed by the 1's and 0's.

"Empty" space (according to Einstein, gravitation is the warping of this – it is not empty but is filled with the energy of binary digits) 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 – the measurement of particles' properties - 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).

** Gravity would be united with EM if gravitation and electromagnetism are both

products of a mathematical foundation to the universe. Let's borrow a few ideas from string theory's ideas of everything being ultimately composed of tiny, one-dimensional strings that vibrate as clockwise, standing, and counterclockwise currents in a four-dimensional looped superstring. We can visualize tiny, one dimensional binary digits of 1 and 0 (base 2 mathematics) forming currents in a Mobius loop – or in 2 Mobius loops, clockwise currents in one loop combining with counterclockwise currents in the other to form a standing current. Combination of the 2 loops' currents requires connection of the two as a four-dimensional Klein bottle (I like to refer to these ideas combining binary digits, Mobius loops and Klein bottles as "digital string theory"). This connection can be made with the infinitely-long irrational and transcendental numbers. Such an infinite connection translates - via bosons being ultimately composed of 1's and 0's depicting pi, e, $\sqrt{2}$ etc.; and fermions being given mass by bosons interacting in matter particles' "wave packets" – into an infinite number of Figure-8 Klein bottles.[0.1 and 4] Slight imperfections in the way the Mobius loops fit together determine the precise nature of the binary-digit currents (the producers of gravitational waves, electromagnetic waves, the nuclear strong force and the nuclear weak force) and thus of exact mass, charge, quantum spin, and adherence to Pauli's exclusion principle. Referring to a Bose-Einstein condensate, the slightest change in the binary-digit flow (Mobius loop orientation) would alter the way gravitation and electromagnetism interact, and the BEC could become a gas (experiments confirm that it does).

[0.1] A four-dimensional Klein bottle's construction from binary digits would make it malleable and flexible, deleting any gap and molding its border to perfectly fit surrounding subuniverses. This Klein bottle could possibly be a figure-8 Klein bottle because the latter's similarities to a doughnut's shape describes an idea suggested by mathematics' "Poincare conjecture". The conjecture has implications for the universe's shape and says you cannot transform a doughnut shape into a sphere without ripping it. One interpretation follows: This can be viewed as subuniverses shaped like Figure-8 Klein Bottles gaining rips called wormholes when extended into the spherical spacetime that goes on forever (forming one infinite superuniverse which is often called the multiverse when subuniverses - which share the same set of physics' laws - are incorrectly called parallel universes which are wrongly claimed to each possess different laws). 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. If binary digits are strings, and if digits create rips in the space of a universe that obeys fractal geometry, Steven Weinberg would be correct to imagine strings as rips in space ("What String Theory Tells Us About the Universe" by Dr. Sten Odenwald (Astronomy – April 2013, p.35). The boundaries where subuniverses meet could be called Cosmic Strings (they'd be analogous to cracks that form when water freezes into ice i.e. cosmic strings would form as subuniverses cool from their respective Big Bangs).

[4] Each one is a “subuniverse” composing the physically infinite and eternal space-time of the universe (our own subuniverse is 13.8 billion years old). We don’t have to worry about accelerating cosmic expansion – the result of more space being continually produced by binary digits - leaving our galaxy alone in space. As “dark energy” causes known galaxies to depart from view, more energy and matter – also the product of binary digits - can replace them (since the universe obeys fractal geometry, gravity is the source of repelling and attracting not only on a quantum scale but on a cosmic scale, too i.e. it accounts for dark energy – it accounts for dark matter and Kepler’s laws of planetary motion, too [but that’s a long explanation best left in my article “Unified Field, Relativity and Quantum Mechanics Meet String Theory, Parallel Universes, the Mathematical Universe, and TOE” - http://vixra.org/abs/1303.0218]). The Law of Conservation says neither matter nor energy can be created or destroyed (though the quantity of each can change), so a better phrase might be “binary digits recycle spacetime” (when matter changes into energy or energy becomes matter, we commonly say matter or energy has been created). As well, other expanding subuniverses can collide with ours and their galaxies enter our space to keep our galaxy company. (see “Cosmic evolution in a cyclic universe” by Paul Steinhardt and Neil Turok - Phys. Rev. D 65, 126003 (2002) [20 pages] – also see “Will Our Universe Collide With a Neighboring One?” by Zeeya Merali: http://discovermagazine.com/2009/oct/04-will-our-universe-collide-with-neighboring-one#.UY3YTKL-Gbs (from the October 2009 issue of Discover). That speaks of the “axis of evil”, an unexpected alignment of cold and hot [denser and less dense] spots in the cosmic microwave background; one of the possible explanations of this being collision with another universe [other proposals are that the universe’s inflation wasn’t perfectly symmetrical, and that the entire universe is rotating])

So there’s no such thing as a quark-electron mixture forming Quark Stars. But there is a mixture of 1’s and 0’s forming matter, energy, forces, and all space-time. The form binary digits assume that most resembles stars, or masses of perhaps billions of stars, would be that part of space-time called Black Holes. Black holes aren’t composed of matter but do have **mass** because they are meeting-places and “sinks” for the gravitational currents flowing in and between galaxies (see end of 2nd paragraph), and all this gravitational energy produces much mass via E=mc^2 (to use another description, they’re whirlpools of space-time). They possess **charge** because the universe’s mathematical foundation unites gravity/spacetime with electricity/magnetism (see above). Since it has mass, a black hole can naturally possess the 3rd property of holes viz. **spin**.
