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The non-Higgs, revised electroweak unification, revised gravitation, and explained dark energy/dark matter

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Abstract –

Recently, scientists have been excited by the possibility of finding the Higgs particle and Higgs field, which is supposed to give all matter its mass. Fortunately, they're also excited at the possibility of discovering the Higgs doesn't exist. That could open the way for many new things in science – here I'll attempt to describe some of these new things. There's no Standard Model Higgs particle. You can call the following description a non-SM Higgs if you like. It has several consequences which I'll also describe. Consequences for gravity, dark energy, the Weinberg/Glashow/Salam electroweak unification, Einstein's Unified Field Theory ... Addressing this last person, I'll refer to submission 519 (<http://vixra.org/abs/1201.0088> - "Exactly Where Dr. Einstein Went Wrong" by Glenn A. Baxter) in "Relativity and Cosmology" which refers to <http://www.k1man.com/c1.pdf> and the latter's statement that " $E=mc^2$  appears to be incorrect and also much too simplistic". In the 4<sup>th</sup> and 5<sup>th</sup> paragraphs, I'll suggest that the formula is not entirely mistaken but would be more correctly stated as  $E=m^{1+0}$ .

Content –

It begins with the Higgs field being replaced by gravitational waves trapping photons in wave packets to produce particles i.e. matter is produced by the "superimposing" of gravitational and electromagnetic waves. The article refers to a) photons and gravitons being made of antistrings as well as strings, and b) binary digits being generated in 5th-dimensional hyperspace.

First, how do gravitational waves trap photons? One way would be – Gravity waves converge from opposite directions and constructively interfere to produce a wave packet (a wave packet is a short "burst" or "envelope" of wave action that travels as a unit, and is interpreted by quantum mechanics as a probability wave describing the probability that a particle will have a given position and momentum). When they converge, they act like 2 hands coming together and catching a ball. Actually, photons are absorbed and emitted just as in laser cooling but instead of a laser beam slowing down atoms, the envelope slows (and traps) photons.

Another way would be – Every photon and graviton has both positive and negative qualities (in other words, is composed of strings and anti-strings). As an example – when a graviton strikes a photon, the negativity in the graviton can

interact with the photon's negative anti-strings and repel it into or away from a wave packet. Since gravitational waves are a component of all particles of matter, this action is the same as an electron meeting an electron – the hyperspatial computer's generation of binary digits produces gravity waves that repel each other (destructively interfere), and we call this electric repulsion. When the graviton's negativeness interacts with a photon's positive strings and attracts it (they constructively interfere and form a wave packet embracing both), this is the same as an electron meeting a proton – the binary digits produce gravity waves that “do not repel” but are like the refracted gravitational waves that produce “attraction” in the solar system (mentioned later).

Electromagnetism is  $10^{36}$  (a trillion trillion trillion) times the strength of gravitation. So if gravity causes attraction and repulsion within atoms, shouldn't those actions be extremely weak? They would be except for gravitational waves trapping photons in wave packets to produce particles i.e. matter is produced by the “superimposing” of gravitational and electromagnetic waves. Therefore, energy is matter and  $E=m$  – since both are the product of binary digits,  $E=m^{1+0}$ . Naturally, this reinforcement – constructive or positive interference – vastly magnifies gravity's strength. And if gravity waves can constructively interfere with electromagnetic waves perfectly enough to be magnified so incredibly, their respective carriers – theoretical gravitons and discovered photons – may be capable of transforming into each other.

What this comes down to is there's no electromagnetism (no electricity, no magnetism) independently of gravitation since gravity is warped spacetime and electromagnetic warps or waves in spacetime are consequently warps, or modifications, to gravity (which must therefore also travel in waves). It will be shown later that the strong and weak nuclear forces have no existence independently of gravitation or electromagnetism. If no forces (nor matter and antimatter, nor energy since  $E=mc^2$ ) are independent of gravity, and gravity is the warping of space and time, I guess we must be living in a unified universe.

What is the role of gluons (the strong force's carriers) and the  $W^+$ ,  $W^-$  and  $Z^0$  particles (the weak force's carriers)? All four particles have been discovered – but what do they do if the strong and weak nuclear forces don't exist? They could simply be products of graviton-photon interaction: the strong nuclear force could be gravity “added to” electromagnetism (the electromagnetic force combined with 100 gravitons per electromagnetic photon) while the weak nuclear force could be gravity “subtracted from” electromagnetism (the product of the electromagnetic force combined with 100 billion ANTI-gravitons). We can say all particles are the product of gravitational/standing/probability waves or, to put it another way, their properties – such as mass, charge and spin – are determined by different combinations of the flow\* of binary digits (1's and 0's) around a Mobius loop. 2 Mobius loops joined at their edges (to form a figure-8 Klein bottle) would describe the flow more accurately. Picture a Mobius strip in your mind. The bottom looks like part of a circle while the top has a twist. This particular orientation can be

referred to here as “spin 1” – it only looks the same if it’s turned round a complete revolution of 360 degrees, like the Ace of Spades card pictured in Stephen Hawking’s “A Brief History of Time” (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). A photon has spin 1 and when it interacts with a graviton or antigraviton (which has spin 2 and looks the same if turned round 180 degrees or half a revolution, like the double-headed Queen of Spades in “A Brief History of Time”), the particles’ orientations can be the same. (A spin 2 particle would have a twist at the top, like a spin 1, either if it’s rotated 180 degrees or if it’s not rotated at all).

\* A flow of 1’s and 0’s is actually a particular point corresponding to the electrical state of ‘on’ followed by the “off” state – a long “string” of oscillations between on and off has the appearance of a flow. As a simple illustration – on, off, on, off (1,0,1,0) can become or “flow” into off, on, off, on (0,1,0,1)

Einstein is the most famous proponent of “hidden variables” – the idea that there is an underlying layer of reality which contains additional information about the quantum world. I call these variables 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. 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). 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, space-time would not only manifest as supermassive, stellar, and Stephen Hawking's mini, black holes – spacetime would be able to manifest as a black hole of infinite size and duration i.e. as a hole that IS space-time.

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 traveling through time).

Oriented the same way, the electromagnetic and gravity waves form the Mobius loops and undergo constructive interference and reinforce to produce mass – a massive  $W^+$ ,  $W^-$  or  $Z^0$  that must be turned 360 degrees to look identical i.e. it has spin 1. Slight imperfections in the way the Mobius loops fit together determine the precise nature of the binary-digit currents and therefore of exact mass or charge. If oriented dissimilarly, they undergo destructive interference and partly cancel (there's little or no twist now – both top and bottom of the new Mobius resemble parts of a circle) to create masslessness – a massless, chargeless gluon that is identical if turned 360 degrees and similarly possesses spin 1. Quarks combine into protons, mesons and neutrons but are never found in isolation and cannot be observed directly. Should gravitons on Earth always be combined with photons, they'd likewise be incapable of unambiguous detection. Photons may be detectable on Earth because of similarities between this book and the neutrino theory of light. The neutrino theory of light was proposed in 1932 by Louis de Broglie and suggests the photon is a composite particle composed of a neutrino-antineutrino pair. It's based on the idea that emission of a photon corresponds to creation of a particle-antiparticle pair and absorption of the photon to the pair's annihilation. Neutrinos are subatomic particles sometimes called “ghost particles” since they hardly ever interact with matter. My “graviton theory of light” proposes that photons are absorbed when captured in wave packets by gravitons and emitted when graviton-photon pairs come into existence (in black holes; resulting from heat generated by radioactivity in planets; in the sun's core).

\*\* Why is Earth's orbit the shape of a flattened circle – an ellipse?

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As gravitational waves travel from the outer solar system towards the sun (as a starting point, let's say our planet's orbit almost fills your computer screen with the sun close to the centre and the waves are coming from the lower right of your screen), they'd push the orbiting Earth (at the lower left - aphelion, its farthest distance from the sun – 152 million km) to the upper left. But gravity waves are also coming towards the sun from that direction. So Earth's progress to the upper left is stopped and it follows the line of least resistance to waves pushing it from both the lower right and upper left – this corresponds to a path to the upper right. When it reaches perihelion (its closest approach to the sun – 147 million km), the waves from the right are pushing it forwards while waves from the left are pushing it back. Our planet follows the boundary between waves assaulting it from opposite directions and its inertia compels it to follow a path to the lower left. Upon reaching aphelion again, the tug-of-war (oops, I mean push-of-war) continues and Earth's momentum causes it to go right. 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, using the explanation of lower-right and upper-left waves, the planet's tendency to stay in the illustrated orbit. The sun's position is close to the centre of the ellipse since the difference between perihelion and aphelion is about 3%. The existence of this difference might rely on the planet manifesting to us as a multitude of matter-forming wave-packets which divert some gravity waves to the interior – thus slightly upsetting the balance of gravity waves from opposing directions at Earth's particular location relative to the sun.

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Here's a way to visualise gravity causing cosmic expansion while, at the same time, pushing together planets in a star system (combined with this push, their orbiting speeds stabilise the system and produce the solar system we know). Imagine the universe to be an ocean and each star system to be an island. As ocean waves approach an island, part of the wave feels friction with the increasingly shallow sea-bed resulting in wave refraction or bending. This causes part of the wave to travel in the direction of the shore while part continues on parallel to the shoreline. In the same way, as gravitational waves approach a star system, part of the current in the cosmic ocean feels friction with the increasing mass experienced as planets orbit closer to their star. This causes gravitational refraction or bending in which part of the gravity travels in the direction of the star (this is called the negative component and pushes planets together) while the other part continues on (this is called gravitation's positive component and produces universal expansion when it eventually leaves the relevant group of galaxies). The refracted gravity is diverted towards the centre of the planet, giving the impression that objects on that planet are being attracted to the planetary centre. Space would be nothing if it was merely the distances between matter in the universe but can be something, and

curved, if it's a product of binary digits from a 5<sup>th</sup>-dimensional hyperspace (more about this in the next paragraph). Being curved space, the portion of gravitation that's called dark energy (the portion responsible for universal expansion) would have an amplitude – displacement of a wave equal to half the distance from the top of the wave to the bottom – corresponding to the moving layers of the atmosphere which make the stars seem to twinkle.

There is more mass when ocean currents meet land (islands or continents) than when they exist in bodies of water (lakes or oceans) i.e. the density of a land-water mixture is greater than an equal volume consisting of water alone. At the beach, we can see large waves but in Lake Superior, tides are only about 2 inches and are completely masked by changes due to wind and atmospheric pressure (an earthquake underneath the lake would produce large waves). As the refracted gravitational wave heading for the sun passes a planet, part of it is once again diverted by the increased mass (the more mass, the more gravity is diverted; 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 may be unable to escape). Why do tides follow the moon in its orbit around Earth? It isn't because the moon pulls on the earth but can be explained this way – When the moon is at first or third quarter, gravitational waves heading towards the sun from the outer solar system push against the earth and keep the ocean's water level from rising too high (illustrated by the neap or lower tides). On the other side of the planet, a neap tide is experienced because of gravity waves from the opposite side of the solar system which were not diverted into the sun. They traveled past it and are able to push against Earth if they're diverted by the planetary mass. When at the full position, some of those gravity waves from the solar system's edge are diverted by the moon's mass into the lunar interior, and this decrease in gravity's push against the earth permits a spring (high) tide. The Bay of Fundy, on southeast Canada's Atlantic coast, has the highest tides in the world (reaching about 50 feet or 15 metres) but this is due to a combination of the unique shape of the bay, strong winds, low atmospheric pressure ... not any pull by the sun and moon. At new moon, some gravity waves approaching Earth's satellite from the opposite side of the solar system would likewise allow a spring tide if they're diverted into the moon. This pushing from the edge of the solar system would cause the Pioneer spacecraft to be closer to Earth than predicted (they're about 10 billion miles away). Being responsible for the moon's and Earth's orbit and the planet's momentum, gravity's push could also cause the moon's distance from the earth, or the astronomical unit (Earth's distance from the sun) to increase since there would be no pull on the moon by the earth, or on the earth by the sun. Experiments have shown that the Moon is moving away from Earth at a rate

of 38 mm (1.5 inches) per year, and that the astronomical unit is growing by an estimated 5 to 7 cm (2 to 2.8 inches) per year. When gravity waves completely cancel in the middle of planets, they could no longer push on an object at that location. And, just as 17th-century scientist Isaac Newton's Law of Gravitation anticipated, the object would weigh nothing.

The remainder of this article is a discussion of the validation of Einstein's Unified Field Theory. It, and the references, can be viewed at <http://vixra.org/abs/1201.0089>