

Three Essays on A Summary of Forces

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Essay I (August 2018)

Our universe is derived from the "[Multiverse](#)" costing no net energy (the negative energy of gravity exactly balances the positive energy of electromagnetism), and bearing no net charge ([primordial matter - antimatter balance](#)). Our Universe is an asymmetric "breakout" from the perfect symmetry of the Multiverse (see intuitive description in Genesis) [thanks to the Higgs boson\(s\) and its IVBs](#) ("Intermediate Vector Bosons"), and the "[Leptonic Spectrum](#)" (including leptoquarks), and various [Alternative Charge Carriers](#) (which permit charge conservation despite the absence of antimatter).

While the actual mechanism producing our "matter-only" asymmetry is unknown, it clearly depends upon the ability of the partially-charged quarks to form electrically neutral combinations such as neutrons (this is the principle reason why we must have quarks and their partial electrical charges). And this electrical neutrality is also related to the reason why we have three energy levels of elementary particles ([electron, muon, tau, and the 3 quark families](#)): [there are many more ways to form neutral baryons](#) with three energetic families rather than one (presumably 3 is just enough to create our universe, or we would have more such families). ([See: "Higgs Table"](#).)

Neutrons are essential for the weak force asymmetry mechanism -

tri-partite quark charges allow the creation of electrically neutral leptoquarks, which "live" long enough to decay via the asymmetric action of the (notoriously slow) weak force, creating our "matter only" Cosmos. Creation must be symmetric (as in particle-antiparticle pairs), but decay may not be (if particles are electrically neutral).

The Weak Force = the "Information Force" ("identity" charge). Weak force asymmetric decay of electrically neutral primordial leptoquarks is the suspected cause of our cosmic "matter only" asymmetry.

Neutrinos are explicit "identity" charges. Massive leptons carry "hidden" identity charges. Leptoquarks decay to baryons, which carry hidden leptoquark identity charges. Heavy leptoquark antineutrinos are the probable source of "dark matter". (See: "The Particle Table".) The IVBs of the weak force are very massive (80 - 90 GeV) because they recreate the primordial energy density of a specific "symmetric energy state" of the "Big Bang", in which the *single* elementary particles they transform were first created. This mechanism ensures that all elementary particles are identical (within type), no matter when or where they are created. Any electron can "swap out" with any other electron, or annihilate with any positron (anti-electron). This is just one example of symmetry in the service of conservation.

Massive IVBs are not subject to attrition via the entropic expansion of the Cosmos; "identity" charge is crucial to the accurate replication of elementary particles, and their antimatter annihilation partners.

The Electromagnetic (EM) Force = the "Action Force" (electric charge - attraction and repulsion). Magnetic forces are the relativistic effect of electric charges in motion; the conservation role of magnetic force is to maintain the invariance of electric charge. (Charge invariance is an essential adjunct of charge conservation). (See also: Global and Local Gauge Invariance in the Tetrahedron Model).

The Electroweak (EW) Force = action + information (our "real world" domain of the Periodic Table).

The Gravitational Force = a dimensional metric force converting

space into time (and vice versa as in stars) (a conservative and negentropic force) ("location" charge). Time is a necessary metric for energy conservation (and causality) in massive energy forms, due to their variable relative motion. For the same reason, time is not necessary for energy conservation (or causality) in light, whose intrinsic motion at "velocity c" is famously invariant (Einstein). The "black hole" is not just the triumph of gravity over light, but of time over space. However, this victory is ephemeral, as Hawking's "quantum radiance" has shown, and as Noether's Theorem leads us to expect. Paradoxically, due to "Hawking radiation", black holes represent the final triumph of symmetry and light over time, gravity, matter, and asymmetry. This is why black holes are so common in the universe - they are the "desideratum" - the final state of perfect symmetry (and other than "proton decay", the only way to vanish the stubborn "baryon number charge"). Recall that since time stops in the black hole, the final explosion takes place instantaneously from the viewpoint of an internal observer, even though many eons may pass from our (outside) perspective.

The combination of entropy plus symmetry conservation is necessary to understand the dimensional action of gravity. Entropy conservation is seen in the "neg-entropic" character of gravity. Spacetime reduces its expansive entropic dynamic via the inward flow of spacetime. This reduction exactly compensates for the lost outward pos-entropic force of the "intrinsic motion" associated with the light that was converted into atomic bound energy, now composing any gravitating mass. For example, the Earth's mass was once free light (during the primordial era of the "Big Bang") before those photons were converted into massive, asymmetric, "matter-only" atoms. During that conversion, light's intrinsic, pos-entropic expansive dynamic was lost, but since energy must always be associated with some form of entropy, that loss was compensated by neg-entropic gravity, creating time from space as the intrinsic driver of a new 4th dimensional entropic conservation domain (karmic history) for all bound energy forms. Symmetry conservation adds direction to the flow of space (toward the center of the asymmetric mass), and eventually results in

the reconversion of bound EM energy to free EM energy, as in stars and other spontaneous astrophysical processes, culminating in the "Hawking radiation" of black holes and the final triumph of Noether's Theorem, and light and space over matter and time.

"Velocity c " is the "gauge" of a symmetric state of free energy (light); light has no time dimension, no spatial dimension in the direction of motion (light is a 2-dimensional transverse wave - light's 3rd spatial dimension is entropic); light has no mass, bears no charge, and produces no gravitational field in free flight. (The "accelerating expansion of spacetime" is the observational evidence for this latter assertion).

Because light's "clock" is stopped, and light has no third or "distance" dimension, light has forever to go nowhere in its forward "intrinsic" (entropic) motion. This is the basis of light's so-called "infinite" velocity, or light's "non-locality". Light is everywhere within its entropic conservation domain simultaneously. This is a crucial condition of symmetry, which gravitational charge ("location") conserves when light is converted to bound energy of any description.

According to Noether's Theorem, the symmetry of light must be conserved no less than its energy (quality as well as quantity).

This great theorem is the key to Einstein's long sought "Unified Field Theory".

The charges of matter are symmetry debts of light. The "field vectors" of the forces maintain the invariance of the charges; hence they are adjuncts of charge/symmetry conservation.

History is the entropic conservation domain of bound electromagnetic energy (atomic matter), created by "intrinsic motion t "; space is the analogous entropic conservation domain of free electromagnetic energy (light), created by "intrinsic motion c ". These two entropic domains are connected by negentropic gravity, which can create either from the other.

Entropy is a necessary adjunct of energy conservation as it prevents

the same energy from being used twice to produce the same work (no "perpetual motion" machine; energy cannot be produced from nothing). Energy conservation itself is necessary because our universe is "on loan" from the Multiverse, or from "the Void".

The Strong Force = the bound energy (nuclear) force ("color" charge) creating stable, long-lived energy reserves (baryons) which can be built into the 92+ atomic nuclei of the Periodic Table, providing a permanent information base for Life (via the Evolutionary (or "Life" Force) (Darwin x competition)).

Charge conservation is one form of symmetry conservation. An important feature of symmetry conservation is that repayment of a symmetry debt (charge) can take place anytime in the future, unlike raw energy debts, which must be paid immediately (such as thermal energy debts). Charge conservation is the "credit card" of the universe: "buy now, pay later". Hence charge/symmetry conservation provides us with a (mostly) peaceful interval during which we can do something other than "pay the piper" - live our lives constructively, for example.

Life is the "sufficient reason" or rationale for the existence of our universe. Life is the universe becoming aware of, experiencing, and exploring itself on a local level. A possible global expression of this "life force" is suggested by Chardin, and by the 4x3 fractal algorithm of our "Tetrahedron Model". Life itself is the evidence for "God" in the Universe: Information + Action + Conservation + Creativity. Life is the runaway "computer computing itself" - the "Singularity", compounded like a fractal in the case of human science/math/technology and abstract thought/language/creativity. (See: "The Human Connection"). (See: the "Tetrahedron Model").

The "work" of the cosmos is the return of "bound" asymmetric atomic matter to its symmetric free state, light (as in our Sun and the stars). (See also: <http://www.johnagowan.org/higgstable.html>).

Postscript to Essay I

When massless light is converted to massive matter during the "Big Bang", the raw energy of that light is conserved in the mass of the atoms so created ($E = mc^2$). Any symmetry debts are conserved as charge and spin; the "intrinsic" (entropic) motion of the light is conserved as the gravitational field of the new atoms (Gm). The expansive 3-D intrinsic motion of light (creating the entropic domain of space) is conserved as the contractile 3-D intrinsic motion of gravity (creating time and the entropic domain of history). Collapsing space self-annihilates at the center of mass, leaving behind a temporal residue which is the exact metric equivalent of the annihilated space. This residual temporal entity contains negative entropy (time), which has its own intrinsic motion in the historic domain of causal/karmic relations among massive particles (only). (See: "The Conversion of Space to Time by Gravity".) Just as free and bound forms of EM energy have their own characteristic expressions (photons and atoms), so they also have their own entropy "drives" (the "intrinsic motions" of light and time) and their own entropic conservation domains (space, history, and combined historic spacetime) as created by those drives.

The entropic motion of gravity is due to the entropic motion of time, which pulls space along behind it as it moves into the historic domain. But 3-D space cannot follow time into 1-D history, and self-annihilates at the historic threshold, depositing another metrically equivalent temporal entity, repeating the cycle exactly and indefinitely. Hence gravity and time create each other (a reciprocal process on-going in our Sun); a gravitational field is the spatial evidence for the intrinsic motion of time. (See: "A Description of Gravity".)

The creation of the gravitational field is beautiful in its simplicity: all that gravity is (Einstein's "warping" of spacetime), is accomplished by the simple exposure of an inherent temporal (asymmetric) dimension embedded in space (spacetime). We furthermore envision this revealed temporal element as also the source of the former intrinsic spatial motion of light: photons flee from this element to

protect their own symmetry, which, however, they cannot escape as it is embedded in their very nature (wavelength x frequency = c). Paradoxically, the temporal element is therefore the cause of the intrinsic motion of both light and gravity: it is only the difference between the implicit vs explicit presence of time. (Time is a necessary conservation parameter in the case of massive particles which have no intrinsic spatial motion and whose energy varies with their relative and variable velocity. Time is therefore inherently present in the formulation of EM energy which can take either massless or massive interchangeable forms: wavelength x frequency = c.)

In this website, I use two semiotic models to illustrate (represent) the elements of the theory as they interact.

The first is a [4x3 \(or 4x4\) grid or matrix](#), a sort of "[periodic table](#)" of the elements/principles/laws of the Unified Field Theory. These elements are the "bare bones" of the theory, physics in its most basic form. The second model is the "[Tetrahedron Model](#)", in which these same elements/principles/laws are arranged in the form of a geometric tetrahedron, the most simple perfect polyhedron, in which all lines, faces, and angles are equal. Both have their uses and both should be studied. The intent is to discover the simplest set of physical principles that is sufficient to describe the complete theory (one would like to have a "mandala" of the theory). The four principles that emerge from this study are the conservation of energy, the conservation of symmetry, entropy, and information.

Biology and the "life force" (Darwinian evolution) emerge from the information principle and the EM force, via the carbon atom and its electron shell. The Periodic Table is the great example of information in the physical sciences, as is DNA in biology. The 4x3 metric of the General System Fractal welds these two information systems indissolubly together: the alpha particle as the "[brick](#)" of the [Periodic Table](#); the amino acid as the [coding unit of DNA](#). (four nucleons each comprised of three quarks; four nitrogenous bases code in triplets). Life is the rationale, the "sufficient reason" for our universe. [One](#)

could spin together a "spiritual" system out of the interaction between the "trinity" of information, the physical forces, and the General System Fractal, but I will leave that task (the union of Science and Religion) to others younger and stronger than I. I will note here, however, that the great import of Noether's Theorem for biology is that beauty is a conserved property in our universe.

(Note: I have said nothing about the cosmology section of the website, as this subject is so difficult conceptually as well as observationally. Others are welcome to argue about it; I've had my say. We are just entering a "golden age" of cosmology, when our giant telescopes may yet reveal the final secrets of our Cosmos.)

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Essay II April 2019

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Afterthought and Cosmology: (From: [sect14.html](#))
Quantum mechanics is necessary because Nature (including energy itself) is quantized at the structural level of elementary particles and charges. Charges are necessary (especially alternative identity charges), if an asymmetric universe full of information and life is to manifest (via the Higgs boson and its IVBs) - from the all-symmetric

Multiverse. Our Cosmos exists in an asymmetric form which nevertheless can be conserved through time (via the conservation of "symmetry debts" (= "charges")), returning eventually (via charge cancellation/annihilation) to its symmetric energetic origin, light. Relativity is necessary (as in "Einstein's Interval" and "Lorentz Invariance") for the universe to exhibit an extended (and seamless) dimensional/metric network (3 space, 1 time). Our dimensional expressions of spatial/temporal entropy (produced by the intrinsic motions of time, light, gravity), allow energy to take a massive asymmetric form ("matter" only, no "antimatter") comprised of atomic, historic information with relative motion rather than absolute motion at "velocity c". Our spacetime achieves conservation (including causality) for both free and bound forms of electromagnetic energy (light/atoms), simultaneously. Time is created from space via gravitational transformation. The historic entropic domain of matter is therefore produced (and subtracted from) the spatial entropic domain of light by gravitational conversion. Black holes function as the final solution to the difficult problem of symmetry conservation for "baryon number charge" (via the creation of matter-antimatter particle pairs and "Hawking Radiation"). The (recently observed) acceleration of the expansion of spacetime is due to the cumulative effect of universal symmetry conservation: the conversion of matter to light in many astrophysical processes (because free light produces no gravitational field). "Dark Matter" likely consists of heavy leptoquark antineutrinos, produced during the "Big Bang", which balance the "baryon number charge" of our "matter only" Cosmos. The positive electromagnetic energy content of our cosmos is exactly balanced by its negative gravitational energy; charges are balanced by anticharges, originally by antimatter, and today via alternative charge carriers. Our cosmos required no net energy for its creation; charges exist as a strict conservation measure (the "police" of the cosmos), required for its birth and subsequent regulation/evolution, as it begins with nothing (neither energy nor charge) in excess. The charges of matter (including gravity) are symmetry debts of light ("Noether's Theorem"). The Higgs boson and its associated "IVBs" (Intermediate Vector

Bosons) lead the escape into asymmetric freedom from the smothering embrace of the all-symmetric Multiverse. The Higgs Boson identifies the exact energy at which a "lawful" (charge-conserving) escape is possible, complete with IVBs (particles which perform quark and lepton identity transformations), electrically neutral leptoquarks, and alternative identity-charge carrying antileptoquark neutrinos (the probable source of "dark matter"). *The Higgs is the scientific analog of Eve's apple, opening the door to a free-will (contingent), but temporal and karmic, universe.* The Higgs must be a massive particle to exactly reproduce this precise "escape energy", circumventing the enervating effects of entropy in a spatially expanding and temporally ageing universe.

Quark subunits are necessary because only through appropriate arrangements of partially charged quarks can electrically neutral leptoquarks and baryons (neutrons) be created, and only through these electrically neutral particles can our cosmos be produced via the operation of the asymmetric (and slow) weak force. Quarks are subdivisions of primordial, very heavy leptons (leptoquarks). Three energetic families of quarks are evidently required before enough neutral leptoquarks and baryons are created, to permit the formation of our "matter-only" asymmetric universe.

Essay III (revised May, 2014)

Symmetry Principles of the Unified Field Theory (a "Theory of Everything")

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The Charges of Matter are Symmetry Debts of Light

Abstract:

The conceptual basis of the Unified Field Theory as presented in these pages may be deduced from "Noether's Theorem": **The charges of matter are symmetry debts of light.**

The "Big Bang" origin of the cosmos is the conversion of pure, symmetric electromagnetic energy (light) into asymmetric atomic "information" (our "matter only" universe). "[Noether's Theorem](#)" states that in a multicomponent field such as the electromagnetic field (or the metric field of spacetime), symmetries are associated with conservation laws and vice-versa. Hence the symmetry of light (and spacetime) must be conserved. Noether's Theorem provides the key to Einstein's dream of a "Unified Field Theory" through the seminal concept that the symmetry of light, no less than its energy, must be conserved.

(Questions such as "What existed before the "Big Bang"?" (*probably the Multiverse*) and "Why is there something rather than nothing?" (*because of the possibility of life*) are questions for philosophy/religion, not science. In what follows, I conceive of the "Big Bang" as a "breakout" from the all-symmetric Multiverse into the [asymmetric realm of atomic matter](#), information, time, causality, gravity, entropy, charge, etc.)

Our asymmetric "matter-only" Universe was created (in the "Big Bang") from all-symmetric free electromagnetic energy (light), [via an unknown asymmetric weak-force interaction](#), resulting in a loss of cosmic symmetry and a corresponding, compensating gain in symmetry-conserving (charge-conserving) bound energy states ("atomic matter"). For conservation reasons (energy/entropy/symmetry), matter is furthermore embedded in a secondary entropic and causal domain (historic spacetime), created by gravity from light's primary entropic and a-causal domain (space). The [negative](#)

energy of gravity not only creates time from space, it also balances the positive energy of the "Big Bang" such that *no net energy is required to produce our cosmos*. Our "matter-only" Universe is the original "light-only" universe (still with us today as the universal spatial dimension with its 2.7 kelvin "cosmic background radiation"), plus a small portion which (following primordial symmetry-breaking) was "frozen" by symmetry conservation (charge conservation) into various familiar material forms (present today as atomic matter, gravity, and historic spacetime). Today's (low-energy) "matter" atom is exactly one-half of an original (high-energy) charge-balanced (neutral, symmetric) "matter-antimatter" particle-pair, which somehow escaped annihilation by its complementary member (see: [primordial symmetry-breaking by the weak force](#) during the "Big Bang"). Hence *the charges of matter, originally intended to conserve symmetry via matter-antimatter annihilations, remain, due to the absence of antimatter, as unbalanced symmetry debts of light*. In matter, light's (broken) symmetries are conserved by charge and spin; in spacetime, light's metric symmetries are protected by the invariance of "velocity c ", inertial/entropic forces, Einstein's "Interval", causality, "Lorentz Invariance" (phenomena associated with the Special Theory of Relativity), and conserved (when broken) by gravitational forces associated with "local" mass ("Gm" - phenomena associated with the General Theory of Relativity).

All forms of energy originate (directly or indirectly) from light; *matter carries charges (including gravity) which are the symmetry debts of the light which created it*. Charges produce forces which act to return the material system to its original symmetric state (light), repaying matter's primordial symmetry debts. Repayment is exemplified by any spontaneous interaction producing net free energy, including: exothermic chemical reactions and matter-antimatter annihilation

reactions; radioactivity, particle and proton decay; the nucleosynthetic pathway of stars, the gravitational conversion of bound to free energy (as in supernovas and quasars), and Hawking's "quantum radiance" of black holes. Identifying the broken symmetries of light associated with each of the 4 charges and forces of physics (see below) is the first step toward a conceptual "Unified Field Theory".

In weak [gravitational fields](#) (as on planet Earth), gravity only pays the entropy "interest" on the spatial symmetry debt of "local" matter (which is carried as "location charge": Gm), converting space to time, in effect producing an alternative entropic drive and dimension/domain (time/history) in which charge conservation (and causality) are serviced by an indefinitely extended temporal duration and consequential ("karmic") significance. In stronger fields (as in our Sun), gravity additionally pays down the "principal" of matter's spatial symmetry debt, converting asymmetric "local" mass to symmetric "non-local" light. This latter conversion continues in supernovas and quasars, and finally goes to completion via Hawking's "quantum radiance" of black holes. The [conversion of mass to light](#) reduces the total gravitational field of the cosmos, resulting in the apparent "acceleration" of cosmic expansion, recently observed (see: *Science* 7 Oct. 2011 Vol. 334 Page 30). (See: "[A Description of Gravity](#)".)

The symmetry-conserving requirement of *charge invariance*, through time, despite entropy, and despite relative, variable, and contingent forces of motion/acceleration, is the key to understanding the rationale for the *local* action of the "4 forces" ("[global/local gauge forces](#)"), including quantization of charge and the "Lorentz Invariance" and magnetism of Special Relativity. In the mathematical terms of Evariste Galois' "Group Theory", our "[Tetrahedron Model](#)" is a description of the [symmetry group of light](#), including its destruction by [asymmetric weak force decays](#) (resulting in

our asymmetric "matter-only" Cosmos), and the on-going spontaneous restoration of cosmic symmetry in obedience to [Noether's Theorem of symmetry conservation](#) (as in the conversion of bound to free energy in stars). (See: Neuenschwander, Dwight E. *Emmy Noether's Wonderful Theorem*. 2011. The Johns Hopkins University Press.)

Biology is included in our physical unification scheme through the notion of "information": information charts a "lawful" (charge-conserved) pathway for matter's return to light's symmetry, while simultaneously producing a way for the universe to achieve localized consciousness, know itself in part as well as in whole, and diversify its experience and creativity through a multitude of evolutionary forms. *Life is the rationale for the existence of the universe*. While atomic nuclei promote symmetry conservation through high-energy, exothermic nucleosynthetic pathways in stars, their associated electron shells create life through low-energy, neg-entropic chemical pathways on planets. Using energy and heavy elements ultimately provided by gravity, stars, and the galaxy, the "[Information Pathway](#)" of planetary biology is the means whereby the universe comes to life, awakens to itself, [achieves consciousness](#), experiences and elaborates itself, explores new modes of creativity (including abstract/symbolic modes), and evolves new forms of beauty and symmetry. [Carbon's electron shell is the crucial link](#) between the abiotic and biotic information systems of the Cosmos; the concepts of Information and the Multiverse are crucial links between our [scientific and religious world views](#). "We come trailing clouds of glory..." (See also: "[The Higgs Boson and the Alternative Charge Carriers](#)".) (See also: "[The Information Pathway](#)".)

Addendum to the Abstract of Essay III:

Two outstanding (and connected) characteristics distinguish

our universe: 1) it is asymmetric, composed of matter only, lacking its original, balancing complement of antimatter; 2) it contains Life.

The connection between these two asymmetric states of energy is Information. The atomic realm of matter left from the "[Big Bang](#)" origin of our universe is a domain of material information from which the biological realm (characterized (so far as we know) only by molecular information chains of RNA/DNA), arises by an [unknown chemical concatenation, crucially involving the carbon atom.](#)

In essence, Life is a specialized state of information that can, in "friendly" environments, reproduce and maintain itself, and evolve new living forms. The dreaded "computer apocalypse" (in which computers become capable of creating and informing themselves) in fact has already happened naturally eons ago in the form of the biologic genetic material. Earth-life and humanity are the local consequence of that original "information apocalypse", a natural catastrophe foreseen by God (as recorded in Genesis in the story of the "forbidden fruit"). We are witnessing a fractal iteration of this story in humanities' control of evolution, and control of abstract information itself through the computer revolution. (The "zombie apocalypse" is also upon us; they are walking the streets everywhere, staring into their "smart phones". Who controls them?)

Equally mysterious as the [journey from atoms to life](#) is the transition from "[nothing to something](#)", from the "all-symmetric void" (the "Multiverse"), to the asymmetric domain of atomic matter (absent antimatter) during the "Big Bang". The transition apparently passes through several energy levels regulated by ["Higgs"-type "gauge" bosons and their associated "intermediate vector boson"](#) families (all necessary for purposes of conservation). These transitions

begin with the creation (from high energy photons) of heavy particle-antiparticle pairs of elementary leptons, followed by the creation of electrically neutral leptoquarks (heavy leptons subdivided into three quarks), and finally the asymmetric weak force decay of electrically neutral leptoquarks into a residue of familiar matter-only hyperons (heavy baryons) and nucleons (protons and neutrons). Heavy higgs-like bosons and their associated IVBs gauge and regulate all steps in the transformation, ensuring the eventual possibility of conservation (as via the creation of specific antiparticles). The utility/necessity of "identity" charges for conservation purposes (as carried in explicit form by neutrinos) becomes evident when keeping track of all the possible particles and antiparticles in these transformations. This is also where the vital role of alternative charge carriers (leptons, mesons, neutrinos) becomes evident, in that they allow charge conservation despite the absence of anti-matter.

The "break-out" of our asymmetric universe from the all-symmetric "Multiverse" is (apparently) possible only because electromagnetic energy exists in two equivalent forms, waves vs particle-antiparticle pairs (light vs virtual particle-pairs); positive electromagnetic energy is exactly balanced by negative gravitational energy; alternative charge carriers exist to allow charge conservation despite the absence of anti-matter; the subdivision of leptons into quarks makes electrically neutral leptons ("leptoquarks") possible; the weak force provides a slight but essential asymmetry in the decay rate of electrically neutral leptoquarks vs antileptoquarks (such that following the matter-antimatter annihilations of the "Big Bang", sufficient electrically neutral leptoquarks remain to produce (via their decay) the baryons (hyperons, protons, and neutrons) comprising our current universe. The significance of the Higgs boson is that this type of "gauge" particle (apparently more than one exists) offers a conserved pathway of escape from the all-symmetric

Multiverse into the manifest, asymmetric, 4-D realm of time and gravity. [The Higgs boson appears to be strictly analogous to Eve's apple](#). If not the "God particle" itself, the Higgs is at least the "creativity particle". (Abstract revised Nov., 2018.)

See: [The "Tetrahedron Model"](#) (diagram) ["The Fractal Organization of the Universe"](#) (text)

Albert Einstein 1951 Letter to Maurice Solovine (From *Discover* Special Issue Winter 2019 page 42):

"The Unified Field Theory has been put into retirement. It is so difficult to employ mathematically that I have not been able to verify it somehow, in spite of all my efforts. This state of affairs will no doubt last many more years, mostly because physicists have little understanding of logical-philosophical arguments."

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