

[4 Conservation Laws Connected in Triplets = Cosmos](#)

Table No. 1 -- J. A. Gowan and A. T. Jaccaci -- May, 2014

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4 Conservation Laws Connected in Triplets = Cosmos					
3 Particle Classes x 4 Forces					
	Gather (Unit)	Repeat (Pair)	Share (Group)	Transform (Emergent Unit)	
(level)	MICROPHYSICAL REALM (3 families of 4 particles; 3 quarks x 4 charges)				
Particles, Baryons	Light "Big Bang" 4x3 "Higgs Cascade"	Electric-Magnetic; Space-Time; Matter-Antimatter Particle-Wave	Baryons, Gluons; 3 Quarks, 4 Charges (flavor, color, electric, spin) Leptoquarks	Symmetry-Breaking; Leptons, Neutrinos; Higgs, IVBs, Hadrons; Baryons: Hydrogen Atom	G A T H E R
Atoms, Elements	Baryons, Hydrogen Atom	Nucleon Pairs; Quark Pairs; Lepton Pairs	Alpha Particle (Helium Nucleus); 4 Nucleons Each of 3 Quarks; Carbon: 3 Alpha Particles	Periodic Table Elements; Atomic Nucleus; Electron Shell	
Molecules, Crystals	Atoms, Heavy Elements	Atomic Pairs (H ₂); Charge Pairs; Spin Pairs; Magnetic Pairs	Carbon: Tetrahedral Bonding; 4 Bonding Sites in 3rd Shell; 1S ² , 2S ² , 2P ² ; Water: Tetrahedral Bonding	Molecules; Organic Polymers: Crystal Growth and "Cloning"	
Chemical Systems, RNA	Organic Polymers, Crystals	Base Pairing; RNA/DNA: AT, CG; Double Helix	Metabolic RNA/DNA: 4 Nucleotides Each of 3 Chemical Groups	Cyclic Chemical Systems; RNA/DNA: Replication; Competition, Evolution	
(level)	BIOPHYSICAL REALM (DNA: 4 nucleotides each of 3 chemical groups; 4 nucleotides code in triplets;)				
Cell (Life) DNA	Cyclic Chemical Systems	DNA: Reproduction; Genetic Replication	Genetic Code; 4 Nucleotides Code in Triplets; Nucleus, Organelles	Cell: Collective System Identity: "Life"; "Self", Membrane	R E P E A T E
Organism	Cell	Cell Division: Mitosis-Meiosis	Specialized Organs: Chromosomes, Gonads	Organism: Collective Cellular Identity; Skin	
Species	Organism	Sexual Reproduction; Male-Female	Population Genetics; Social Organization; Specialized Professions	Species: Social Identity; Closed Genome	
Gaia (Planet Earth)	Species	Speciation; Tetraploids, Hybrids	Ecosystem Mutualisms; Bio-geochemical Cycles; 4 Seasons of 3 Months	Gaia: Earth-Life Unity, Common Descent, DNA; Atmosphere; Gravity	
(level)	ASTROPHYSICAL REALM (gravitation: 4 third-order equations; Kepler: 3 laws in 4 Dimensions)				
Star	Planet	Earth-Sun Earth-Moon	Planetary System: Kepler's 3 Laws of Planetary Motion in 4-D; Central Sun	Star: Energy and Light; Nuclear Fusion; Gravitational Orbits	S H A R E
Galaxy	Star	Binary Stars; Sun - Jupiter	4x3 Nucleosynthetic Pathway: Main Sequence Stars; Galactic Structure: Spiral Arms, Nucleus, Central Black Hole	Galaxy: Star Nurseries; Supernova Generations; Heavy Element Creation: Disperse, Mix, Recycle	
Universe	Galaxy	Galactic Pairs; Andromeda- Milky Way	Gravitation: Four 3rd Order Equations; Galactic Clusters and "Foam"; Central Massive Galaxies	Electromagnetic Cosmos; Unified Field Theory Spacetime; Light; Particles, Charges, Forces	

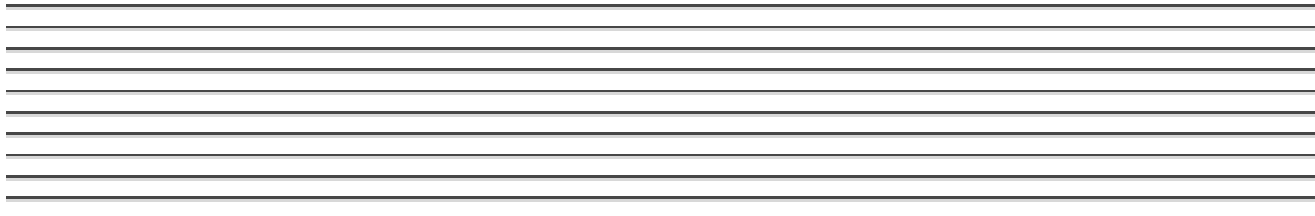
Multiverse, First Cause	Universe (life friendly)	Universe Pairs: Antiuniverse; "Big Bang" (asymmetry parameter)	All Electromagnetic Universes (4x3 Fractal Universes); 4 Conservation Laws in Triplets; Physical Constants; Mass (constants; Higgs)	Multiverse; First Cause; Trinity; Tetragrammaton; All Possible Universes of all Energy Types (energy type and laws)
(level)	METAPHYSICAL REALM - Traditional Supernatural Intuitive: (Spirit; Holy Trinity x 4 Living Creatures; the Tetragrammaton)			
Soul (Earth)	Individual	Soul - Body; Day - Night; Summer - Winter; Life - Death; Saint - Sinner	4 Gospels, 12 Apostles; 12 Labors of Hercules; 12 Houses of Israel; 12 Houses of Astrology; 12 Stations of the Cross	Soul; Salvation vs Damnation
Angel (Solar System)	Soul	Constructive-Destructive; Light - Dark; Angel - Demon	New Jerusalem: 4 Walls Each With 3 Gates; 12 Olympic Gods; 12 Astrological Rulers	Angel; Opportunity vs Temptation
Archangel (Galaxy)	Angel	Positive - Negative; Good - Evil; Michael - Lucifer	12 Zodiac Signs; 3 Norms, Gunas, Fates; 7 Archangels; 7 Virtues, 7 Vices	Archangel; Archetype; Destiny vs Free Will
Divine Being (Universe, Multiverse)	Archangel	Alpha - Omega; Yin - Yang; Unmanifest - Manifest; Heaven - Hell; God - Devil	Four Directions x Three Worlds (Hindu); Tetragrammaton (Judaic); Trinity x 4 Living Creatures (Christian); 4 Elements x 3 Qualities (Astrology); 4 Sets of Trigrams, Male and Female (I Ching)	Divine Being: Ultimate Law, Conservation, Reality, Unity First Cause

TRANSFORM

4 Forces x Light, Matter, Charge, Force

	Electromagnetic	Gravity	Strong	Weak
Free Energy	Light (electromagnetic radiation) $E = hv$ Invariance of "c"	Space The Metric; "Velocity c": Gauge of Spatial Entropy Drive; Gravitational Negative Energy and Entropy; Total Energy = 0	(virtual) Quarks, Gluons, Leptoquarks; Matter-Antimatter Pairs; Total Charge = 0	(virtual) Leptons, Neutrinos; Higgs; IVBs; (Symmetry-Breaking): Matter "Singlets" "Real" Particles
Bound Energy	Mass, Matter; Momentum $hv = mcc$	Time, History, Historic Spacetime; "Velocity T": Gauge of Historical Entropy Drive; Gravity Creates Time	Mass Carriers: Quarks; Baryons; Nucleons; Atomic Nucleus; 92 Elements	Alternative Charge Carriers: Electrons, Neutrinos, Mesons; Electron Shell; Atoms
Charge	Electric Charge: Symmetry Debt: Lost Antimatter: ("The Great Asymmetry") Charge Invariance	"Location" Charge: "Non-Local" Symmetry and Entropy Debt; Time; "Velocity G": Entropy Conversion Gauge	"Color" Charge: Fractional Charges; Whole Quantum Unit Debt; "Flavor" Charge: Least Bound Energy	"Identity" or Number Charge: Symmetry Debt: "Anonymity", Neutrino Parity, Weak Force Decays

			Configuration	
Force	Electromagnetic Force: Photons; Chemistry, Matter-Antimatter Annihilations	Gravitational Force: Gravitons; Stars, Supernovas, Quasars, "Quantum Radiance"	Strong Force: Gluons, Mesons; Fusion, Nucleosynthesis; Proton Decay	Weak Force IVBs: "Z", "W", "X"; Radioactivity, Fission; Particle and Proton Decay
John A. Gowan and August T. Jaccaci May, 2014				



METAPHYSICAL REALM - Expanded Form - Rational Mind: (4 Conservation Laws Connected in Triplets)				
	Gather Unit	Repeat Pair	Share Group or Field	Transform Emergent New Unit
	Electromagnetism	Gravitation	Strong	Weak
Free Energy, Light: electromagnetic radiation; space; symmetric energy; virtual particles; symmetry-breaking; (reprising the "Big Bang"); (incurring the debt); Spatial Energy Forms; (row 1)	Light: $E = h\nu$ (Planck); Invariant Motion "c"; All Charges = 0; Symmetric Free Energy ("c" gauges Light's entropy drive and "non-local" distributional symmetry); Non-local, Acausal, Atemporal Energy	Space; Created by Light's Entropy Drive; Conservation/Entropy Domain of Light; Light's "Interval" = 0; The Spatial Metric; Gravitational Negative Energy and Entropy; Total Energy = 0	(virtual) Composite and Sub-Elementary Particles; "Ylem"; Fractured Leptons; Quarks; Gluons; Particle-Antiparticle pairs; Leptoquarks; Neutral Particles; Particle Symmetry Total Charge = 0	(virtual) Elementary Particles; Neutrinos; Leptons; Leptoquarks; Particle-Antiparticle Pairs; Higgs (Mass Gauge); Intermediate Vector Bosons; Symmetry-Breaking: "Higgs Cascade"; Real Particles
Bound Energy: matter; history; asymmetric energy; massive real particles (consequences of row 1 symmetry-breaking); raw energy conservation; (down payment), "pay now"; Temporal Energy Forms; (row 2)	Mass: $E = mc^2$; $h\nu = mc^2$; (Einstein-deBroglie); Matter, Momentum; Asymmetric Bound Energy Carriers; Charges > 0; Local, Causal, Temporal Energy; "Lorentz Invariance" Special Relativity	Gravitational Creation of Time from Space; Historic Spacetime; Conservation/Entropy Domain of Information; Mass Interval > 0; Metric Asymmetry; ("intrinsic motion T" is bound energy's entropy drive); Relative Motion; General Relativity	Mass Carriers; Quarks, Mesons, Baryons, Nucleons; Atomic Nucleus; (elements); Whole Quantum Charge Units	Alternative Charge Carriers; Leptons, Neutrinos; Electron Shell; (atoms); Higgs and IVBs Mass Scale; Elementary Particle Invariance

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<p>Charges: quantized symmetry debts (carried by particles of row 2); symmetry (charge) conservation; (mortgage, credit), "pay later"; Symmetry Carriers; (row 3)</p>	R o w 3	<p>Electric Charge: Asymmetry: Lost antimatter; ("The Great Asymmetry"); Magnetism; Charge Invariance; Quantum Mechanics</p>	<p>Gravitational Charge: "Location" Charge; "Location" Asymmetry of Bound Energy; Warped Metric; Time; Compound Conservation/Entropy Domain of Free and Bound Energy; ("G" is the entropy conversion gauge)</p>	<p>Fractional Charges: Color Charge (partial charge asymmetry); Asymptotic Freedom; Quark Confinement; Flavor Charge (least bound energy, nucleon "isospin"); "Yukawa Mesons"</p>	<p>"Identity" Charge: Neutrino Parity; (neutrinos are "bare" identity charges); ("anonymity" asymmetry - distinguishable elementary particles), Weak Force Decays</p>
<p>Force Carriers, Field Vectors, Bosons: (produced by charges of row 3) (symmetry restoration via the conversion of bound to free energy); (retiring the debt); Symmetry Conservation/ Restoration Cycles; (row 4)</p>	R o w 4	<p>Photons; Exothermic Chemical Reactions; Matter-Antimatter Annihilation Reactions ("Big Bang" and Suppression of Virtual Particles)</p>	<p>Gravitons: Stars, Supernovas, Quasars; Nucleosynthesis; Black Holes; Hawking's "Quantum Radiance"; Gravitational Conversion of Mass to Light</p>	<p>Gluons, Mesons: Fusion, Nucleosynthesis; Proton Decay</p>	<p>Intermediate Vector Bosons (IVBs: W, Z, X); Fission, Radioactivity; Particle and Proton Decay</p>
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