

## Interaction of 4 Conservation Laws with the 4 Forces of Physics

	Electromagnetic Force	Gravitational Force	Strong Force	Weak Force
<p><b>Entropy</b> 2nd Law of Thermodynamics; (Intrinsic Dimensional Motions) c, T, G (light, time, gravity: primordial entropy drives creating dimensional, entropic conservation domains)</p>	<p>Invariant Motion of Light: <math>E = hv</math>; "Velocity c": Entropy Drive of Light; Positive Spatial Entropy: Creation, Expansion, Cooling of Space; Negative Entropy: Chemical Info. Domain, Biological Domain: Life; Abstract Info., Human Domain</p>	<p>Intrinsic Motion "G"; Negative Spatial Entropy: Contraction and Heating of Space; Positive Temporal Entropy: Creation of Time from Space by Gravity; Expansion of History; Time is the Entropy Drive of Bound energy; ("G" is the entropy conversion gauge) Dilution of Causal Links</p>	<p>Negative Entropy: Nuclear Info. Domain, Periodic Table, Fusion, Nucleosynthesis; Positive Entropy: Attrition of Matter; Conversion of Mass to Light; Proton Decay</p>	<p>Negative Entropy: Symmetry-Breaking, Creation of Matter; Positive Entropy: Radioactivity, Destruction of Matter; Fission; Particle and Proton Decay</p>
<p><b>Causality - Information</b> Law of Cause and Effect: "Karma"; Bound Energy; (Matter); (cosmos is causally connected); Time, History, Historic Spacetime</p>	<p>Mass: <math>E = mcc</math>; <math>h\nu = mcc</math>; (Einstein-de Broglie); Matter, Momentum; Asymmetric Energy; "Velocity c" is Causal Gauge; Matter is Local, Temporal, Causal; Electron Shell; Atoms, Molecules; Chemistry</p>	<p>Time, History, Historic Spacetime; Causality; Evolution; Entropic Conservation Domain of Historic Information: Matter's "Causal Matrix"; "Karma"; "Akashic Record"</p>	<p>Mass Carriers: Quarks, Mesons, Hyperons, Protons, Neutrons, Nucleons; Compound Atomic Nucleus; Meson Binding of Compound Nuclei 92 Elements</p>	<p>Alternative Charge Carriers; Leptons, Neutrinos: (balancing charges in place of antiparticles); Single Elementary Particles; Higgs, IVBs (Intermediate Vector Bosons)</p>
<p><b>Conservation of Symmetry</b> (Charge-Spin Conservation, Inertial Forces); Noether's Theorem (charges = light's symmetry debts); Charge Invariance ("velocity c" is the symmetry gauge of light - vanishing time, mass, gravity, charge) Invariance of "c"</p>	<p>Electric Charge: Asymmetry Debt = Lost Antimatter; Magnetism Protects Electric Charge Invariance; Symmetry Conservation: Exothermic Chemical Reactions; Matter-Antimatter Annihilation Reactions</p>	<p>Gravitational Charge: "Location" Charge; Asymmetry Debt = "Location"; Mass "Interval" &gt; 0; Graviton; Time; Symmetry Conservation: Stars, Supernovas, Quasars, Black Holes, "Quantum Radiance": Conversion of Asymmetric Mass to Symmetric Light</p>	<p>Color Charge: Asymmetry Debt = Quark Fractional Charges; (gluons confine partial charge asymmetry); Flavor Charge: Mesons Bind Heavy Nuclei; Symmetry Conservation: Fusion Releases Free Energy; Proton decay</p>	<p>"Identity" Charge: Neutrinos are "Bare" Identity Charges; Asymmetry Debt = Distinguishable Elementary Particles, Neutrino Parity, Weak Force Decays; Symmetry Conservation: Radioactivity; Fission, Particle, Proton Decay</p>
<p><b>Conservation of Energy;</b> 1st Law of Thermodynamics: Energy Cannot be Created or Destroyed, Only Transformed; Conservation Modes: Raw Energy, Entropy, Symmetry (mass/time/charge)</p>	<p>Electromagnetic Metric; Special Relativity; Velocity c Invariance; "Interval" Invariance Causality Invariance Lorentz Invariance Charge Invariance</p>	<p>Gravitational Metric General Relativity Creation of Time, Spacetime: Compound Metric for Free and Bound Electromagnetic Energy</p>	<p>Mass; <math>E = mcc</math></p>	<p>Elementary Particle Invariance</p>

Principles of the Unified Field Theory in a 4x4 Concept Table: John A. Gowan and August T. Jaccaci May, 2014

Light, free electromagnetic energy, is the primary energy form of our Universe. "Velocity  $c$ ", the intrinsic motion of light, gauges the primordial entropy drive, metric, distributional symmetry, and mass-equivalence of free energy. The intrinsic motion of time is the primordial entropy drive of bound energy (matter - derived from light). Light creates space, the spatial metric, and virtual particle-antiparticle pairs, which are brought into 4-D reality by weak force symmetry-breaking via the Higgs boson and weak force IVBs during the "Big Bang". Quarks function as mass carriers; leptons (and mesons) function as alternative charge carriers, balancing charges in place of antiparticles. Higgs and IVB mass reconstitutes the electroweak force unification symmetric energy state of the "Big Bang", creating invariant, single, elementary particles. The Universe is a conservation/entropy domain for free and bound electromagnetic energy. In matter, light's raw energy is conserved as mass, light's symmetry is conserved as charge, light's entropy is conserved as gravitation and time. Information is conserved in historic spacetime. *The Charges of matter are the symmetry debts of light* (Noether's Theorem). Gravity converts space to time and mass to light, conserving both light's entropy and symmetry. "G" is the entropy conversion gauge, converting light's entropy drive to matter's entropy drive, slowing cosmic expansion, and vice versa. All forces act to return the material system to its state of greatest symmetry and entropy, cold light. Light's symmetry and entropy is ultimately conserved via matter-antimatter annihilation, proton decay, and Hawking's "quantum radiance" of black holes. See: [home page](#)