8T – Volume II – Reflections

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Part One: Reflections on Open Questions

Part Two: Reflections on Phenomena

Part Three: Reflections on Frames & Laws

"It was a Plan Indeed. So simple it could actually work"

R. Vrba

This volume is a continuation of the first volume. The first part of the thesis is an elaboration on the open questions of the 8T that were analyzed also in the first volume. 8T is a theory that unified physics in all scales using number theory and a combination of Lorentz manifolds with the discipline of calculus of variations. Reading the first volume than is an essential read in order to analyze this thesis. In later sections the author will elaborate on the setting of the final laws, and the additional analysis and re-analysis of certain ideas which were deeply analyzed in the first volume, volume one. Also known as "Classics".

Open Question 1: Self-Variation of the Particle Masses

The first question that the author consider open is the question of the masses. Despite presenting the slowdown process by the SSB on the spin zero. As an example of the second coupling term:

$$\overbrace{[(24\times 5+\gamma)+(e^-)]}^{\text{SSB on Spin 0}-\text{Mass Ac.}} \longrightarrow \overbrace{[(24\times 5)+(\gamma+e^-)]}^{\text{Electron with mass}} \longrightarrow \overbrace{[(24\times 5)+(e^-)]+\gamma}^{\text{Energy }-\text{Diverging cur.}}$$

$$(24\times 5+\gamma) \longrightarrow ([2,3]\,|24\times 5)+e^- \in \mathscr{F}$$

In general form:

$$\left(2_{\mu}^{e^-}\times\prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu}})\right)+\overrightarrow{(\mathbf{3})} \Longrightarrow \overbrace{\left(2_{\mu}^{e^-}\times\prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu}})\right)}^{\text{BrokenSpinZero}}+\overbrace{(\mathbf{3})}^{\longleftarrow(\Longrightarrow)}$$

$$\overbrace{(\mathbf{3})}^{\longleftarrow(\Longrightarrow)} \cong \overbrace{(\mathbf{3})}^{(\Uparrow\Longrightarrow)}$$

Despite the process answered some fundamental questions concerning the mass insertions, since this process is related to the primes there exist infinite options of SSB on the spin zero terms. As mass is bijective to energy and each quantum element is allowed having different energy states at given time arrow, representing an evolution of the system, that means the particle could hold different masses at different times. If that is the case than masses should not be part of the final theory as different energy levels are not part of the theory. That is an immediate result without the process of SSB on spin zero, and could be argued using the sole equation of the great albert Einstein. If masses could take different values at different times by the bijection to energy than the electron as an example should be measured differently mass wise, and this is an effect which was not found as far as one knows. This phenomenon of mass variation was not observed to date and according the bijection to energy should have been observed and should apply to all particles that are energy carriers, i.e. a mass carriers.

Open Question 2: Self-Variation and the Mass-Energy Morphism

Recall that in the first volume of the 8T the author defined the shift between mass and energy the following way:

$$\overbrace{(\mathbf{3})}^{\leftarrow(\Rightarrow)} \cong \overbrace{(\mathbf{3})}^{(\Uparrow\Rightarrow)}$$

$$\mathbf{Emc^2}\text{:}\ \overbrace{(\mathbf{3})}^{(\Updownarrow\Rightarrow)} \longrightarrow \overbrace{(\mathbf{3})}^{(\Leftarrow)(\Rightarrow)}$$

The open question in that section is when a shift occurs, when does a carrying mass particle transforming to pure energy carrier, this is not given within the current domain of the 8T.

$$\forall\ (\mathrm{t}\ \in \Phi)\nexists\ \big(\mathrm{Quantum.Law} = (\mathrm{EnergyMassMorphism})\big)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi)\exists\ \big(\mathrm{Quantum.Law} = (\emptyset)\big)$$

The open question can be solved by defining a trigger values on the mass carriers:

$$\forall\ (\mathrm{t}\ \in \Phi)\exists\ \big(\mathrm{Quantum.Trigger} = (\mathrm{EnergyExcite})\big)$$

Such that:

$$(\mathrm{Quantum.Trigger}) \star \overbrace{(\mathbf{3})}^{(\Updownarrow\Rightarrow)} \Longrightarrow \overbrace{(\mathbf{3})}^{(\Leftarrow)(\Rightarrow)}$$

General form:

$$(\mathrm{Quantum.Trigger}) \star \overbrace{(\mathrm{Any.MassCarrier})}^{(\Updownarrow\Rightarrow)} \Longrightarrow \overbrace{\big(\overline{(\mathrm{Any.MassCarrier})}\big)}^{(\Leftarrow)(\Rightarrow)}$$

In other words, the trigger leads to instability on the mass carrier.

$$(\mathrm{Quantum.Trigger}) \star \overbrace{(\mathrm{Any.MassCarrier})}^{(\Updownarrow\Rightarrow)} \Longrightarrow \mathrm{Instability}\ \overbrace{\big(\overline{(\mathrm{Any.MassCarrier})}\big)}^{(\Leftarrow)(\Rightarrow)}$$

$$\mathrm{Instability}\ \overbrace{\Big(\overline{(\mathrm{Any.MassCarrier})}\Big)}^{(\Leftarrow)(\Rightarrow)} \cong \mathrm{DivergingCurve} \in \mathrm{MassCarrier}$$

$$\mathrm{DivergingCurve} \cong \mathrm{BoundedCurve} \bigoplus \mathrm{EnergyExcite}$$

Open Question 3: The Vast Ranges of the Three Generation Masses

Another open question is the vastness of the mass of different particles. As the author at that point in time (June 2022) does not lean to the direction of the mass series as presented in the early stage of volume one, there is no explanation to the vast difference in family masses. That is by assuming the heaviest family is the first family. This question can be solved by assuming there exist a variation of a particle masses, mass eigenvalues to each family and therefore the masses are not fixed on single value. It is also not reasonable to assume there exist three eigenvalue of masses, such that the first eigenvalue decay to the second family mass eigenvalue that is radically lighter and so on.

$$\forall\ (\mathrm{t}\ \in \Phi)\nexists\ \big(\mathrm{Quantum.Law} = (\mathrm{MassEigenVals})\big)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi)\exists\ \big(\mathrm{Quantum.Law} = (\emptyset)\big)$$

$$\forall\ (\mathrm{t}\ \in \Phi)\nexists\ \big(\mathrm{Quantum.Law} = (\mathrm{MassEigenVals.Set})\big)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi)\exists\ \big(\mathrm{Quantum.Law} = (\emptyset)\big)$$

$$\mathrm{MassEigenVals.FermionSet} \cong \mathrm{NumberElement}$$

Require:

$$\mathrm{NumberElement} \cong (\mathrm{U}-\mathrm{D}), (\mathrm{S}-\mathrm{C}), (\mathrm{T}-\mathrm{B}) \cong 6$$

Alternative formation:

$$\mathrm{NumberElement} \gtrsim 6$$

$$\mathrm{NumberElement} \gg 6$$

$$\forall\ (\mathrm{t}\ \in \Phi)\nexists\ \big(\mathrm{Quantum.Law} = (\mathrm{MassEigenVals.Set.Shifts})\big)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi)\exists\ \big(\mathrm{Quantum.Law} = (\emptyset)\big)$$

If there exist three generation of masses, with decreasing mass order and their eigenvalue could be fixed or varying, if it is fixed than there is, no law to one can extract those numbers, if it is varying than there exist no laws to which one can define the transformation of mass eigenvalues.

Open Question 4: Non-Commutative Aspect of Gravity

Recall that gravity is taking the form of two complex numbers, bijective to the average of two couplings, each with a complex and real part.

$$\big((2Ni+1)+(2Ni+1)\big)\star 2^{-1}$$

$$(\mathbb{R}+\mathbb{C}+\mathbb{R}+\mathbb{C})\star 2^{-1}\cong G_{\text{ Val}}$$

$$(\mathbb{R}+\mathbb{C}+\mathbb{R}+\mathbb{C})\star 2^{-1}\cong \text{Quaternion. Form}$$

This is similar to a quaternions which are known to be not commutative.

$$\text{Quaternion. Form}\approx \text{NotCommutative. Form}$$

However, in spin form the author define the spin two combination as commutative leading to the same spin summation. Therefore, there exist a certain contradiction there between Hamilton theory and the 8T.

$$G_{\text{Value}}\cong \overbrace{\left(\left(\frac{1}{2}\right)_1\oplus\left(\frac{1}{2}\right)_2\right)}^{PairOne}\coprod\overbrace{\left(\left(\frac{1}{2}\right)_3\oplus\left(\frac{1}{2}\right)_4\right)}^{PairTwo}\cong$$

$$\overbrace{\left(\left(\frac{1}{2}\right)_3\oplus\left(\frac{1}{2}\right)_4\right)}^{PairTwo}\coprod\overbrace{\left(\left(\frac{1}{2}\right)_1\oplus\left(\frac{1}{2}\right)_2\right)}^{PairOne}\cong\overbrace{\left(\left(\frac{1}{2}\right)_4\oplus\left(\frac{1}{2}\right)_3\right)}^{PairTwo}\coprod\overbrace{\left(\left(\frac{1}{2}\right)_2\oplus\left(\frac{1}{2}\right)_1\right)}^{PairOne}$$

$$\overbrace{\left(\left(\frac{1}{2}\right)_1\oplus\left(\frac{1}{2}\right)_2\right)}^{PairOne}\coprod\overbrace{\left(\left(\frac{1}{2}\right)_3\oplus\left(\frac{1}{2}\right)_4\right)}^{PairTwo}\cong \text{CommutativeForm}$$

$$\text{Quaternion. Form}\cong \text{NotCommutative. Form}$$

$$\text{NotCommutative. Form}\wedge \text{CommutativeForm}\Longrightarrow \text{False}$$

How does the order of the elements is creating a non-commutative feature is an open question according to the 8T author. Both in net variation and spin variation the sum is invariant under changing the order of the elements and therefore the order should not be relevant in spin two formations, and any spin formations.

Open Question 5: Open Question of Three Generation

Recall that back in the early days the author suggested that there exist a type primorial which creates a link between the primes and the number of elements of a given interaction.

$$\left(\boldsymbol{2}^{e^-} \times \prod_{i=1}^{i=N_V} \Psi_i + \boldsymbol{e^-}_\mu\right) + N_{V\mu} = 30,128,850,9254\ldots \qquad (1.2)$$

The problem with this idea is that it is not providing any reason for the first interaction to hold three different elements and so on other than the link to the primes. In other words, it was theorized without any deep reason behind it, other than the match of the first two interactions. It also problematic as to date we only know about a single photon and not five different kinds of photons. The question of three generation must take the form of an infinite series or an exact reason for that number and not another. Assuming the quark series is wrong the 8T did not provide a way to predict or to jump from one family into another and at the same time did not provide the value of the masses on each family. If there exist more than three families than one must define the rules and the features of the lower families which not yet detected.

$$\forall\,(\mathrm{t}\ \in \Phi)\nexists\ \left(\mathrm{Quantum.Logic\ For} \cong \left(\Psi_i \cong N_{V\mu}\right)\right)$$

$$\cong \forall\,(\mathrm{t}\ \in \Phi)\exists\ \left(\mathrm{Quantum.Logic} = (\emptyset)\right)$$

The lack of finding the five hypothetical photons can be put in:

$$\forall\,(\mathrm{t}\ \in \Phi)\nexists\ \left(\mathrm{Quantum.KindFor}\left(\Psi_i \cong N_{V\mu=2}\right)\right)$$

$$\cong \forall\,(\mathrm{t}\ \in \Phi)\exists\ \left(\mathrm{Quantum.Quantum.KindFor}\left(\Psi_i \cong N_{V\mu=2}\right) = (\emptyset)\right)$$

Summing up, if there exist an infinite series than the 8T does not predict it, given the Quark series is wrong. If there exist a reason for three generation than the type primorial is creating nothing more than a link rather than a logical reason for the reason it has to be that way. It simply suggesting connecting the prime factorization to the number of elements. By the standard of the 8T and the 8T author, that serve as an explanation of superficial level of understanding at most. Any theory has weaknesses and the lack of explanation for the three generation is a weakness on this new theory.

Open Question 6: Maximal Packet Density

Recall the two conditions the author required back in the early days:

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0$$

$$\frac{\partial R_E}{\partial t_i} = 0, \frac{\partial^2(\partial R_E)}{\partial t^2} = 0$$

The condition of time invariant acceleration could be a problem if new manifolds are getting inserted into the packet, as these contain curvature segment increase and contribute to the total magnitude of the total acceleration. Therefore, it could increase over time as long as new manifolds are being inserted into the packet.

$$,\frac{\partial^2(\partial R_E)}{\partial t^2}.\mathrm{Outward}\ \propto \mathrm{NumberOfElements}$$

$$\mathrm{NumberOfElements} \propto \mathrm{SumOver}\big(\mathrm{Index(i+j)}\big)$$

$$\frac{\partial^2(\partial R_E)}{\partial t^2}.\mathrm{Outward} \cong 0\ \mathrm{If\ SumOver}\big(\mathrm{Index(i+j)}\big) \cong \mathrm{Const}$$

$$\frac{\partial^2(\partial R_E)}{\partial t^2}.\mathrm{Outward} \cong 0\ \mathrm{If}\ \exists\ \mathrm{PacketDensity.Limit}$$

$$\big(\mathrm{Index(i+j)}\big) \cong \mathrm{PacketDensity}$$

Which is bijective to stating:

$$\big(\mathrm{Index(i+j)}\big) \leq \mathrm{SomeNumber}\ \forall\ \mathrm{TimeArrow.Development}$$

There is no way to verify what this number is as far as one can see. there is no way to examine how many manifolds are in the packet, or by assuming the maximal density is true, how many packets exist, how far apart they are from one another or how manifolds which rise after the hypothetical limit reached join another packet. This complication can be solved by assuming that there exist only one packet.

$$,\frac{\partial^2(\partial R_E)}{\partial t^2}.\mathrm{Outward}\ \propto \mathrm{NumberOfElements}$$

The acceleration outward than would aspire zero due to cancelations from opposite pressures from the two parts of the packet. The upper indexes relative to an index and the lower indexed manifold compared to some arbitrary number manifold.

$$\frac{\partial^2(\partial R_E)}{\partial t^2}.\mathrm{Outward} \cong 0$$

Open Question 7: Identical Manifolds

$$\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}-\frac{\partial\mathcal{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0$$

$$\frac{\partial R_E}{\partial t_i}=0,\frac{\partial^2(\partial R_E)}{\partial t^2}=0$$

$$\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

Recall**:**

$$\textbf{Quantum.Class}\text{: ExtremaZeros} \propto \text{TimeArrow}$$

$$\textbf{Quantum.Class}\text{: VanishingZeros} \supseteq \left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\subset \text{Cat: Top}\ ;\ \left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\propto \text{TimeArrow}$$

One of the topics that the author could not settle was the issue of identical manifolds. That is manifolds sharing isomorphic time arrows and identical fermion distribution, both in magnitude and in configuration. The identical configuration of curves is given by dark matter effect, but that does not settle the question about the actual configuration of matter and the effect on the quantum uncertainties. On first glance it seems as if the probability for identical alignments of matter alongside identical time arrows is aspiring zero. The aspiring zero is increasing as the number of manifold taken to aspire infinity such that the probability of identical manifolds is increasing using the arrow of one given arbitrary manifold. Both the effect of dark matter and the number of total objects are shifting the probability table on the question of identical manifolds, but considering the number of quantum elements participating in one single object and the fact that there exist no law in quantum scale are shifting the probability on identical manifold to another direction. That is alongside the ideas that show that there exist more than one way to reach a given result, and the uncertainties within prime tuples and bosonic composition.

Open Question 8: On Number Theory and Particle Physics

Recall:

$$\left(\mathrm{Top}\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\underset{\pi}{\overset{\mathrm{L}}{\leftrightarrows}}\left(\mathrm{Ring}\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)$$

$$\mathrm{Top}\left(\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right)\star 1\cong\mathrm{Top}\left(\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right)\star\left(\frac{1}{2}+\frac{1}{2}\right)$$

One of the most important open questions in the 8T is dealing with the intersection of number theory and particle physics. In particular if it is possible to represent particles by numbers, is it possible to predict decays not before seen by using addition operations. Several examples were made. Recall:

$$1+1+1\ \cong\mathbb{P}\,;$$

Which is bijective to:

$$\mathfrak{g}+\mathfrak{g}+\mathfrak{g}\ \cong W^{-}$$

$$(\mathfrak{g}+\mathfrak{g}+\mathfrak{g}\ \cong W^{-})\ni\mathrm{SomeProbability}$$

$$\mathrm{SomeProbability}\cong\mathrm{P(Value)};\ \ 0\leq\mathrm{P(Value)}\leq 1$$

It is not possible to determine what is the probability and therefore the limit between number theory and decay of particle particles is unclear. Some decays could be more common than others and using number theory alone it is not possible to determine which are those decays or the innate reasons for some to be more common than others. Another question is about primes who are nested primes, i.e. can be composed by lower magnitude primes, this question rise as an immediate result given the first proof of the Riemann hypothesis. In particular, the prime itself can be considered a fundamental element, a unique boson but at the same time it is possible to represent it be lower combination of primes adding up to an higher non-integer spin.

$$\mathrm{Lepton}+\mathrm{HigherPrime}\cong\frac{1}{2}+\frac{1}{2}$$

$$\mathrm{HigherPrime}\cong\mathrm{OddNumberOf{:}}\ (\sum\mathrm{LowerPrimes})$$

$$\mathrm{OddNumberOf{:}}\ \left(\sum\mathrm{LowerPrimes}\right)\cong\mathrm{NonIntegerSpin}$$

$$\mathrm{NonIntegerSpin}+\mathrm{Lepton}\cong\mathrm{HigherSpin}$$

$$\mathrm{HigherSpin}\gtrsim\frac{1}{2}+\frac{1}{2}$$

Open Question 9: On Gravitational Values

Recall:

$$F_{\mathbb{R}}\# = \left(\mathbf{2}^{e^-} \times \prod_{V=1}^{V=\mathbb{R}} N_V^{\varphi} + (\boldsymbol{e}^-)\right) + N_V^{\varphi} = 30{,}128, 850{,}9254 \ldots$$

$$\underbrace{\frac{\mathbf{1}}{\mathbf{9}}, \frac{\mathbf{1}}{\mathbf{30}}, \frac{\mathbf{1}}{\mathbf{128}}}_{\boldsymbol{correct}}, \frac{1}{850}, \frac{1}{9254}, \frac{1}{120{,}136}, \frac{1}{2{,}042{,}060}, \frac{1}{38, 798{,}782}, \frac{1}{892{,}371{,}506}, \frac{1}{2.58 \times 10^{10}}, \frac{1}{8.02 \times 10^{11}}, \frac{1}{2.96 \times 10^{13}},$$

$$\frac{1}{1.2 \times 10^{15}}, \frac{1}{5.23 \times 10^{16}}, \frac{1}{2.45 \times 10^{18}}, \frac{1}{1.25 \times 10^{20}}, \frac{1}{6.6 \times 10^{21}}, \frac{1}{3.78 \times 10^{23}}, \frac{1}{2.23 \times 10^{25}}, \frac{1}{1.36 \times 10^{27}}, \frac{1}{9.13 \times 10^{28}},$$

$$\frac{1}{6.48 \times 10^{30}}, \frac{1}{4.73 \times 10^{32}}, \frac{1}{3.74 \times 10^{34}}, \frac{1}{3.1 \times 10^{36}}, \frac{1}{2.76 \times 10^{38}}, \frac{1}{2.68 \times 10^{40}}, ' \frac{1}{2.7 \times 10^{42}}$$

$$\frac{\mathbf{1}}{\mathbf{2.78895528 \times 10^{44}}}, \frac{\mathbf{1}}{\mathbf{2.92840304 \times 10^{46}}}$$

$$\left(\frac{1}{2.78895528 \times 10^{44}} + \frac{1}{2.92840304 \times 10^{46}}\right) = 3.6192032 \times 10^{-45}$$

$$\frac{3.6192032 \times 10^{-45}}{2} = 1.80986016 \times 10^{-45}$$

The question is whether there exist a limitation concerning the number of elements that contribute to gravity. In other words, can we detect other gravity averages other than the classical value which is the average of the two prime factorizations $N_V = +101$ to the prime factorization of $N_V = +103$. Another option question is the following: Is there a limitation on the number of elements on a given average? Is there a gravitational value that is bijective to an average of three coupling terms and so on? There seem to be no exclusions by nature and therefore it should have been detected. It is no reasonable to assume that the classical gravity is the only gravity which exist on the manifold, and yet as far as one knows it is the sole gravity which has been measured to date. There should be many averages measured across space, the author takes back the argument of epos varying as it is not possible to determine when each average is varying, there is no division to time segments. All the averages exist at all times. Another open question is whether an average of mass carrier is different than mass positive and massless particles, or how does the average is effected by eigenvalue variation on a given same of elements. Since the strong is not part of the coupling, the average it has could be different, especially because it contains a vast number of gluons at short range. Also because it is represent by the number one.

$$\left(\sum_{\boldsymbol{i=1}}^{\boldsymbol{n}} \mathfrak{g}_i\right) \star \boldsymbol{n^{-1}} \cong \mathbf{1}$$

$$\therefore \left(\sum_{\boldsymbol{i=1}}^{\boldsymbol{n}} \mathfrak{g}_i\right) \star \boldsymbol{n^{-1}} \cong \mathfrak{g}$$

Open Question 10: On Dark Matter

In continuation to the previous open question, the author will elaborate on the question of dark matter. Although the author considered the main equation as the source of dark matter, there could be a way to explain it without the packet and the matter coming from other manifolds. Simply by taking all the possible averages of the prime ring, i.e. for each coupling there exist an immense number of gravitational averages that were completely ignored to this date.

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \tag{3.1}$$

$$\left(\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star \left(\sum_{i=1}^{n}\left(\frac{1}{2}\right)_n \star n^{-1}\right) \underset{\overbrace{\hookrightarrow}^{\pi}}{\overbrace{\longleftarrow}^{\mathrm{L}}} \mathrm{Set(GravitationalAverages)}\right)$$

$$\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star \left(\sum_{i=1}^{n}\left(\frac{1}{2}\right)_n \star n^{-1}\right) \propto \mathrm{PrimeRing};\curlywedge$$

Taking into account:

$$\text{Given: PrimeRing is Unbound; Let: Unbound} \cong \infty$$

$$\therefore \mathrm{Set(GravitationalAverages)}\ \text{Is Unbound;}$$

$$\therefore \mathrm{Top(GravitationalAverages)}\ \text{Is Unbound;}$$

$$\mathrm{Top(GravitationalAverages)} \star \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \mathrm{ExtraGravity.Effect}$$

In words, it is possible to present the missing gravitational link by using the components within a given manifold by the infinite sequences of primes and their averages that is without rushing to explain the extra effect by other manifolds flattening this manifold. It could also be the combination of effects, from distinct manifolds and from the sum of averages on this manifold that is responsible for the stable state of fermion clusters. It seems as the more reasonable option to assume both responsible rather than just one cause. It is also not clear how does the gravitational effect cross the boundary of a given manifold given no kernels and how it effects from the boundary on the interior of another manifold. That is in contrast to interactions and averages which belong to the same interior.

$$\textbf{All}\ \text{Elements}\ \textbf{In}\ \mathrm{Set(GravitationalAverages)} \in \left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right)$$

$$\mathrm{Set(GravitationalAverages)} \star \mathrm{Set(GravitationalAverages)} \in \mathrm{Set(Interiors)}$$

■

Open Question 11: On Electrons and Weak Interactions Bosons

Recall:

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\underset{\substack{\pi\\ \hookrightarrow}}{\overset{\mathrm{L}}{\leftarrow}}\left(\mathrm{Ring}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)$$

$$\mathbb{P}\ni e^-;W^-;\left((e^-\wedge W^-)\subseteq(2V\oplus 1)\right);V\cong 1$$

$$\text{Given: Mass}.\,e^-\not\equiv\ \text{Mass}.\,W^-\ \wedge\ \left((e^-\wedge W^-)\subseteq(2V\oplus 1)\right);V\cong 1$$

In words, despite the weak interaction boson and the electron are represented by the same number, they are having different masses, and there exist no clear way to represent this in the primorial. It could be possible by requiring that the heavier leptons to hold similar masses to the weak interaction bosons but as the author knows that is not the case.

$$(\text{Tau.Lepton.Mass}^{\text{Approx}}\approx 1776\ \text{MeV})$$

$$(\text{Muon.Lepton.Mass}^{\text{Approx}}\approx 105\ \text{MeV})$$

$$(\text{W}^-.\text{Mass}^{\text{Approx}}\approx 80.379\ \text{GeV})$$

$$(Z^0.\text{Mass}^{\text{Approx}}\approx 91.187\ \text{GeV})$$

$$(\text{Tau.Lepton.Mass}^{\text{Approx}}),(\text{Muon.Lepton.Mass}^{\text{Approx}})\ll(\text{W}^-.\text{Mass}^{\text{Approx}})$$

$$(\text{Tau.Lepton.Mass}^{\text{Approx}}),(\text{Muon.Lepton.Mass}^{\text{Approx}})\ll(Z^0.\text{Mass}^{\text{Approx}}\approx)$$

If There exist a bijection between the number of elements, three bosons and three electrons by the type primorial, and the generations are bijective to particles, and the particles are represented by the same number, than one should expect the masses to be of similar order, which is not the case given by the measured values. The weak interactions bosons are heavier by vast amount compared to the leptons and their three-generation. As the author is not a particle physicist this aspect of the question was not deeply analyzed and was mainly and unrightfully ignored during the first volume. In this volume, the author will analyze the question in more depth. How can the same number represent such deviations in mass ? As far as the author can see, the weak interaction bosons and the lepton should be identical in feature.

Open Question 12: On Deviations of Primes and Coupling Magnitudes

Recall that during the first volume the author presented the deviational form of the primorial using the exponential:

$$\left(2_{\mu}^{e^{-}} \times \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^{-})Exp^{iHt} + \right) + N_{V\mu}Exp^{i\check{V}t} \vdash \ 127.918 \qquad (2)$$

Recall that each particle a boson is composed by one unit spin, and has a complex part and a real part, where the real part is taken to be one. If the boson is to deviate by diffraction or by coupling variance, that can lead to deviation of spin and therefore to contradictions as no spin which is neither one or one half has been observed as far as one knows. And yet the coupling does vary according to energy, the question which is open than is the following, how to represent the coupling term variation according to energy while keeping the spin as is. The author suggested that the even sums are deviating rather than the boson lepton dual which represent spin, this also manifested in the higher terms by the prime factorization from each coupling while the spin one is always invariant.

$$\left(\mathrm{Top}\left(\overbrace{2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}^{\text{EverIncrease}}\right) \oplus \overbrace{\left(\frac{1}{2} \oplus \frac{1}{2}\right)}^{\text{Invariant}}\right)$$

The problem is that the increase is only by prime factorization by the primorial and the question of increasing by subtle amounts is not obvious from first glance. However deviations in energy should be subtle in certain cases, and therefore there must be a way to represent those subtle and gentle energy deviations. The author will analyze this question in vaster depth during this volume. That is as the deviational primorial seem to provide an insufficient solution to this important topic.

Open Question 13: On the Spin of Gluons

Recall:

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\underset{\overset{\pi}{\hookrightarrow}}{\overset{\mathrm{L}}{\hookleftarrow}}\left(\mathrm{Ring}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)$$

The primorial is providing values from the weak and above:

$$\underbrace{\frac{\mathbf{1}}{\mathbf{30}},\frac{\mathbf{1}}{\mathbf{128}}}_{correct},\frac{1}{850},\frac{1}{9254},\frac{1}{120{,}136},\frac{1}{2{,}042{,}060},\frac{1}{38,798{,}782},\frac{1}{892{,}371{,}506},\frac{1}{2.58\times10^{10}},\frac{1}{8.02\times10^{11}},\frac{1}{2.96\times10^{13}},$$

$$\frac{1}{1.2\times10^{15}},\frac{1}{5.23\times10^{16}},\frac{1}{2.45\times10^{18}},\frac{1}{1.25\times10^{20}},\frac{1}{6.6\times10^{21}},\frac{1}{3.78\times10^{23}},\frac{1}{2.23\times10^{25}},\frac{1}{1.36\times10^{27}},\frac{1}{9.13\times10^{28}},$$
$$\frac{1}{6.48\times10^{30}},\frac{1}{4.73\times10^{32}},\frac{1}{3.74\times10^{34}},\frac{1}{3.1\times10^{36}},\frac{1}{2.76\times10^{38}},\frac{1}{2.68\times10^{40}},,\frac{1}{2.7\times10^{42}}\cdots$$

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\wedge a_S^{-1}\cong\emptyset$$

$$a_S^{-1}\propto V=0;(\therefore N_V\cong 1);$$

$$(N_V\cong 1)\notin\mathbb{P}.\mathrm{Class}$$

In words, the spin representation was derived by the prime critical line, therefore as along as the number one does not appear on the prime critical line it is not possible to include the spin of the strong interaction into the 8T setting. The spin interaction was solidified by the gravitational coupling, adding up to the average of spin two and therefore to a spin one, long range. The 8T author did not provide an analysis to this topic in the first volume. The author suggested to include one as a prime as it is only devisable by itself, however if one does not appear on the prime critical line there has to be another way to solve this. It could mean that the strong interaction does not have any spin, and therefore it is short range. After all the terms of spin completely changed after the volume one, classical gravity does not exist, spin two is composed and therefore spin one is also composed, bosons themselves are half unit spin rather than one integer spin, so there exist a reasonable chance for phenomena to be unexpected within the realm of the strong interaction.

Open Question 14: Mass & Stability Patterns

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\cong$$

$$\underbrace{\frac{\mathbf{1}}{\mathbf{30}},\frac{\mathbf{1}}{\mathbf{128}}}_{\textit{correct}},\frac{1}{850},\frac{1}{9254},\frac{1}{120{,}136},\frac{1}{2{,}042{,}060},\frac{1}{38{,}798{,}782},\frac{1}{892{,}371{,}506},\frac{1}{2.58\times10^{10}},\frac{1}{8.02\times10^{11}},\frac{1}{2.96\times10^{13}},$$

$$\frac{1}{1.2\times10^{15}},\frac{1}{5.23\times10^{16}},\frac{1}{2.45\times10^{18}},\frac{1}{1.25\times10^{20}},\frac{1}{6.6\times10^{21}},\frac{1}{3.78\times10^{23}},\frac{1}{2.23\times10^{25}},\frac{1}{1.36\times10^{27}},\frac{1}{9.13\times10^{28}},$$

$$\frac{1}{6.48\times10^{30}},\frac{1}{4.73\times10^{32}},\frac{1}{3.74\times10^{34}},\frac{1}{3.1\times10^{36}},\frac{1}{2.76\times10^{38}},\frac{1}{2.68\times10^{40}},,\frac{1}{2.7\times10^{42}}\cdots$$

Recall that during the first volume the author presented two options concerning the stability of the interactions. The problem is that there exist infinite interactions and therefore if there is not a clear pattern that explains the masses between each interaction than a complete scope of the grand theory will not be achieved in the mass sector. There has to be a reason some are massless and some are mass positive, the author used the duality of the weak interaction to the lepton in order to predict that they are massless for each higher terms. However, the fact that the higher terms were not detected to this day may indicate that they are mass positive and heavy and therefore retain short lifetime. How is it possible that light, i.e. a photon bijective to the third prime is so much more common than the fourth interaction despite their similarity in strength and their closeness of magnitude prime wise, they only differ by one minimal prime. If the fourth interaction is containing mass than the whole section of mass in the 8T need to be revisited as the author predicted massless. Another option question is that those coupling terms could retain different variants, similar to the weak interaction and therefore the mapping of one new interaction particle could be only a portion of the prime number whole set of variants for a given prime. It does not make sense to keep looking for a particles as prime class is unbound, there has to be a clear order and reason concerning the masses of those particles. As long as the fourth interaction will not be detected this will remain as an open question, perhaps the most important open question to date. The same arguments apply to the question of stability of each boson and its lifetime; those parameters are not given within the realm of the 8T.

Open Question 15: On Arbitrary Constants

$$\frac{\mathbf{1}}{\mathbf{2.78895528} \times \mathbf{10^{44}}}, \frac{\mathbf{1}}{\mathbf{2.92840304} \times \mathbf{10^{46}}}$$

$$\left(\frac{1}{2.78895528 \times 10^{44}} + \frac{1}{2.92840304 \times 10^{46}}\right) = 3.6192032 \times 10^{-45}$$

$$\frac{3.6192032 \times 10^{-45}}{2} = 1.80986016 \times 10^{-45}$$

$$1.80986016 \times 10^{-45} \cong \mathrm{G.DerivedFromPrinciple}$$

Recall that during the first volume the author presented a relation between constants and prime numbers. A set of Planck constants. Since 8T is purely constructed on principle it does not contain constants such as the speed of light and the Plank constant itself, however if the gravitational constant was derived from principle, i.e. an equation by accuracy rate of forty-five digits. By assuming those constants are related, there exist a possibility that there could be a way to derive or to reach the speed of light, and thus showing that those numbers were not chosen randomly as well. That is by ignoring the author previous prediction on infinite set of plank constants, each is isomorphic to a prime. At least for the speed of light, perhaps it is possible to reach this number by principle, the author does not think so as it is not a dimensionless number, so it would be represented by different numbers according to each set of units. The same applies for the Planck constant. It would measure differently in other unit systems, therefore there exist no point in trying to extract those numbers exactly as we know them, as far as one can see.

$$\hbar.\mathrm{FromPrinciple} \cong \mathrm{NotDerived}$$

$$\mathrm{C.FromPrinciple} \cong \mathrm{NotDerived}$$

$$\hbar.\mathrm{FromPrinciple} \cong \mathrm{UnitDependent}$$

$$\mathrm{C.FromPrinciple} \cong \mathrm{UnitDependent}$$

In contrast to:

$$\mathrm{G.DerivedFromPrinciple} \because \mathrm{G.NotUnitDependent}$$

■

Open Question 16: On Chirality

Recall that during the first volume the author presented a possible explanation to chirality:

$$\left(2_{\mu}^{e^-} \times \prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu})}\right) + \overrightarrow{(\mathbf{3})} \rightarrow \left(2_{\mu}^{e^-} \times \prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu})}\right) + \overbrace{(\mathbf{3})}^{\leftarrow(\Rightarrow)}$$

$$\overbrace{(\mathbf{3})}^{\leftarrow(\Rightarrow)} \cong \overbrace{(\mathbf{3})}^{(\Uparrow\Rightarrow)}$$

The broken spin zero term has a direction that effects the minimal prime. The theory did not provide an explanation to degrees of chirality, in other words there could be different chirality magnitudes to each particle which depended upon the energy of the net variation which is breaking the spin zero symmetry.

$$\left(2_{\mu}^{e^-} \times \prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu})}\right) + \overrightarrow{(\mathbf{3})} \ni \mathrm{Set.Chirality}\{\mathrm{DegreeOne} \ldots \mathrm{DegreeN}\}$$

$$\mathrm{Set.Chirality}\{\mathrm{DegreeOne} \ldots \mathrm{DegreeN}\} \propto \left(\overleftarrow{N_{V\mu}}\right).\mathrm{Energy}$$

$$\left(\overleftarrow{N_{V\mu}}\right).\mathrm{Energy} \cong \left(\overleftarrow{N_{V\mu}}\right).\mathrm{EigenVal}\,;$$

By requiring:

$$\left(\overleftarrow{N_{V\mu}}\right).\mathrm{EigenVal} \in \mathrm{Set.EigenVals}$$

$$\mathrm{Set.Chirality}\{\mathrm{DegreeOne} \ldots \mathrm{DegreeN}\} \cong \mathrm{VariedSet}$$

$$\{\mathrm{DegreeOne} \curlywedge \mathrm{DegreeTwo} \curlywedge \ldots \curlywedge \mathrm{DegreeN}\} \cong \emptyset$$

The question of different degrees of chirality is an open question as the 8T author is still not confident what is the right reason for the chirality explanation, the question on this topic are notoriously hard.

Part Two – Reflections on Phenomena; Quantum Entanglement

This section is a proof of quantum entanglement using the path-connected feature of the manifold. That is in addition to volume one proofs that were mainly based on the sum of spins of a quantum system.

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \tag{3.1}$$

Define:

$$\text{As: } \Phi.\,\text{SimplyConnected}$$

$$\text{Than: } \Phi.\,\text{PathConnected}$$

$$\text{Given: } \left(\text{Top}\left(\frac{1}{2}\right)_1 \oplus \left(\frac{1}{2}\right)_2\right) \in \Phi.\,\text{SimplyConnected}$$

$$\text{Than: } \left(\text{Top}\left(\frac{1}{2}\right)_1 \oplus \left(\frac{1}{2}\right)_2\right) \in \Phi.\,\text{PathConnected}$$

$$\text{Let: } \left(\text{Top. Distance}\left(\frac{1}{2}\right)_1 \text{ From } \left(\frac{1}{2}\right)_2\right) \Rightarrow \infty$$

$$\therefore \left(\text{Top}\left(\frac{1}{2}\right)_1 \oplus \left(\frac{1}{2}\right)_2\right) \textbf{Are } \text{PathConnected } \textbf{Over } (\text{SomeTop. Distance})$$

In addition:

$$(\text{SomeTop. Distance}) \Rightarrow \infty$$

$$\blacksquare$$

$$\left(\text{Top}\left(\frac{1}{2}\right)_1 \oplus \left(\frac{1}{2}\right)_2\right) \cong \text{QS1}$$

$$\therefore (\text{QS1}) \textbf{ Is } \text{PathConnected } \textbf{Over } (\text{SomeTop. Distance}) \cong \text{Entanglement}$$

(Second) Proof: The Riemann Hypothesis

In this section the author will present an additional proof to the Riemann hypothesis. The first proof is presented on pages 96-99 Of Volume one- "Classics". The alternative proof is based upon a variation of the Euler Lagrange equation, and new concept, positional integrals. Let a set of primes aspiring infinity exist on a topological space. This proof is by the 8T spirit, keeping each proof at max length of one page. Second to third proofs also appear in the lastest versions of volume one.

$$\mathbb{P} \cong \{N_{V=1} \ldots N_{V=K\to\infty}\} \in \Phi$$

Since the set is aspiring infinity, it takes extrema length. To describe extrema one can use the Euler Lagrange equation. $\mathbb{P} \in \Phi$ Φ was already invoked stationary by the 8T main equation:

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \qquad (3.1)$$

One can write:

$$\frac{\partial \mathcal{L}}{\partial \mathbb{P}} - \frac{\partial \mathcal{L}}{\partial \dot{\mathbb{P}}}\left(\frac{d}{dt}\right) \cong 0$$

Any sets of prime aspiring infinity must be equal in length:

$$\left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} \cong 0\right) \Rightarrow \left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} = \frac{\partial \mathcal{L}}{\partial \mathbb{P}_1}\right) \Rightarrow \left(\frac{\partial \mathbb{P}_1}{\partial \mathbb{P}_2} = 1\right) \Rightarrow (\partial \mathbb{P}_1 = \partial \mathbb{P}_2)$$

Thus if a set of primes aspiring infinity is located on the prime critical line, any other set of primes aspiring infinity is bijective to the original set. Assuming one does not know where the primes are located one can create a positional integral, which specifying the location of the elements in the set. Assuming the set aspiring infinity leading to a positional value of:

$$\overbrace{\left(\oint \frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} \cong \frac{1}{2}\right)}^{Positional.Integral} \curlywedge \left(\left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} = 0\right) \Rightarrow \left(\int \frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} = \text{Const}\right)\right)$$

$$\left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} \cong 0\right) \therefore \int \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} = \text{Const}\,;\ \therefore \left(\oint \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} \cong \frac{1}{2}\right)$$

And thus assuming there exist one set of primes, aspiring infinity and invoked stationary, by demanding this sole set elements to be positioned on the critical line of one half beforehand, or by positional integral, any distinct set of primes aspiring infinity and invoked stationary to achieve maxima length, will match the original set, leading to a constant. For the constants to terminate they have to be equal, thus their values must be rising from the same kernel. If one aspiring set is located on the kernel of one-half, so does any other set of primes aspiring infinity, which aspire extrema length. ■

(Third) Proof: The Riemann Hypothesis

This is an additional proof to the Riemann hypothesis, third in count. This proof using the axioms of the 8T and in particular the axiom of boson to prime Iso arrow and the axiom of spin integer to boson alongside two axioms which are requirement axioms.

$$\text{Let:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})$$

$$\text{AxiomOne:}\,\forall\ \text{Bose\_Particle}\ \cong(\mathbb{P})$$

$$\text{AxiomTwo:}\,\forall\ \text{Bose\_Spin}\cong\text{IntegerOne}$$

$$\text{AxiomThree:}\,\forall\ \text{Lepton\_Spin}\cong\text{IntegerOneHalf}$$

$$\text{Let:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus(\mathbb{P})\cong 1$$

$$\text{Require:}\,\forall\ \text{Bose}_{\text{Spin}}\ \cong\text{Only(IntegerOne)}$$

$$\text{Require: Lepton\_Spin}\cong\text{Only(IntegerOneHalf)}$$

Leading to the desired conclusion that the rest of the primes must be represented by half unit spin, which is the key point of this proof:

$$\text{Let:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus(\mathbb{P})\cong 1\longrightarrow\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\cong 1$$

$$\left(\text{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\overset{\text{L}}{\underset{\pi}{\leftrightarrows}}\left(\text{Ring}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)$$

$$\text{Let:}\left(\text{Ring}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\Longrightarrow\text{Ring}\left(\frac{1}{2}\right)$$

By the three axioms and the two requirements:

$$\text{Ring}\left(\frac{1}{2}\right)\cong\text{Ring}(\mathbb{P})$$

■

(Fourth) Proof: The Riemann Hypothesis

Recall that the invariant geometrical structure of the manifolds:

$$\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \cong \mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star 1$$

Recall:

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus \frac{1}{2}\right) \oplus \frac{1}{2}\right) \underset{\pi}{\overset{L}{\leftrightarrows}} \left(\mathrm{Ring}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus \frac{1}{2}\right) \oplus \frac{1}{2}\right)$$

$$\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star 1 \cong \mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star \left(\frac{1}{2}+\frac{1}{2}\right)$$

Require:

$$\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star 1 \cong \mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star \left((e^-)+\frac{1}{2}\right)$$

$$\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star \left((e^-)+\frac{1}{2}\right) \cong \left(\mathrm{Ring}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right)\right) \star \left((e^-)+\frac{1}{2}\right)$$

$$\mathrm{AxiomOne}: \forall\ \mathrm{Bose\_Particle}\ \cong (\mathbb{P})$$

$$\mathrm{AxiomTwo}: \forall\ \mathrm{Bose}_{\mathrm{Spin}} \cong \mathrm{IntegerOne}$$

Recall:

$$\left(\mathrm{Top}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right)\right) \star \left((e^-)+\frac{1}{2}\right) \cong \left(\mathrm{Ring}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\right) \star (\mathbb{P}+\mathbb{P})\right)$$

Therefore:

$$\frac{1}{2} \cong \mathrm{Ring.Prime}$$

■

(Fifth) Proof: The Riemann Hypothesis

$$\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0 \tag{3.1}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\cong \text{Even; Even }\cong\mathbb{P}+\mathbb{P}$$

$$\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}(\delta(\mathbb{P}+\mathbb{P}))-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0 \tag{3.1}$$

$$\text{Let: }(\delta(\mathbb{P}+\mathbb{P}))\cong 0\cong\ (\mathbb{P}.\text{SomeTuple})$$

$$\text{Let: }(\delta(\mathbb{P}+\mathbb{P}))\cong 0\ \forall\ \text{Values of }(\delta(\mathbb{P}+\mathbb{P}))$$

$$\therefore\oint(\mathbb{P}.\text{SomeTuple})\longrightarrow\text{Const}$$

$$\text{Let: }(\mathbb{P}.\text{SomeTuple})\ni\text{PrimeCriticalLine}$$

$$\oint\big((\delta(\mathbb{P}+\mathbb{P}))\cong\text{Const}\big)\cong(\mathbb{P}.\text{AnyOtherTuple})$$

$$\because(\delta(\mathbb{P}+\mathbb{P}))\cong 0\ \forall\ \text{Values of }(\delta(\mathbb{P}+\mathbb{P}))$$

$$\text{AsLong: as }\Phi.\text{Stationary}\ \forall\ \text{Values of }(\delta(\mathbb{P}+\mathbb{P})\ni\text{PrimeCriticalLine}$$

$$\because\oint(\mathbb{P}.\text{SomeTuple})-\oint\big((\mathbb{P}.\text{AnyOtherTuple})\big)\cong 0$$

$$\text{Const}-\oint\big((\mathbb{P}.\text{AnyOtherTuple})\big)\cong 0$$

$$\therefore\oint\big((\mathbb{P}.\text{AnyOtherTuple})\big)\supseteq\text{PrimeCriticalLine}$$

$$\text{If: }(\mathbb{P}.\text{AnyOtherTuple})\longmapsto\text{BosonUnbound}$$

$$\text{AxiomOne: }\forall\ \text{Bose\_Particle }\cong(\mathbb{P})$$

$$\forall\ \frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}(\delta(\mathbb{P}+\mathbb{P}))\ni\text{ Elements Appear on PrimeCriticalLine}$$

$$\text{PrimeCriticalLine}\cong\frac{1}{2}$$

■

(Sixth) Proof – The Riemann Hypothesis

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\cong\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus\frac{1}{2}\right)$$

$$(e^-)\cong \mathrm{PrimeGenerator}$$

$$(e^-)\cong \mathrm{Prime}\ \cong(\mathbb{C}\oplus\mathbb{R})\cong \mathrm{QS1};$$

$$\text{Let: QS1 ConservedSystem; NonVanish}$$

$$\text{Let:}\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\forall\, k$$

$$\mathrm{QS1}\ \cong (e^-)^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\forall\, k}\cong 1;$$

$$(e^-)^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\forall\, k}\cong\left(\frac{1}{2}+\frac{1}{2}\right)\forall\, k$$

$$\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$(e^-)^{\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)}\cong (e^-)^{\left(\frac{1}{2}\right)\subset\frac{1}{2}}$$

$$(e^-)^{\left(\frac{1}{2}\right)\subset\frac{1}{2}}\cong (e^-)^{\left(\frac{1}{2}\right)+\frac{1}{2}}$$

$$(e^-)^{\left(\frac{1}{2}\right)+\frac{1}{2}}\cong (e^-)^1\cong (e^-)$$

No matter what power is put in the prime generator, i.e. the electron, it is invariant, stay as is. Therefore by knowing that the prime correlated to the electron ,i.e. three, is on the critical line of one half, and that the spin of bosons cannot exceed one, all the bosons rising from the electron must be presented by one half, which is bijective to stating they rise from the prime critical line.

■

(Seventh) Proof – The Riemann Hypothesis

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\cong\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus\frac{1}{2}\right)$$

$$(e^-)\cong\mathrm{PrimeGenerator}$$

Assume there exist a subset of bosons aspiring infinity on the prime critical line.

$$(\mathrm{PrimeSubset}\in\mathbb{P})\cong\mathrm{PrimeCriticalLine}\cong\frac{1}{2}$$

Assume there exist a single prime that is not on the prime critical line.

$$(\mathrm{WildPrime}\in\mathbb{P})\notin\mathrm{PrimeCriticalLine}\cong\frac{1}{2}$$

Require:

$$(\mathrm{PrimeSubset.Magnitude})\gg\mathrm{WildPrime.Magnitude}$$

Since the bosons are bijective to discrete curves:

$$(\mathrm{PrimeSubset.Magnitude})\in\mathrm{Top.CurveMagnitude}$$

$$\exists\ \mathrm{Product}\ \cong(\mathrm{WildPrime}\in\mathbb{P})\star\mathrm{Top.CurveMagnitude}$$

$$\mathrm{Given\ Product}:(\mathrm{WildPrime}\in\mathbb{P})\in\mathrm{PrimeCriticalLine}\cong\frac{1}{2}$$

$$\blacksquare$$

In words, the massive curve given by the subset of the primes on the critical line has pulled the wild prime to itself. Therefore, if there exist any single prime not on the critical line, at the same time there exist a large subset of primes that are located on the line, and they hold vaster joint magnitude, the latter subset will exhort a pull the “wild prime” element to itself. Such that there will be no prime element residing outside the prime critical line.

(Eighth) Proof – The Riemann Hypothesis

$$\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\right)\cong\left(\mathrm{Top}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus\frac{1}{2}\right)$$

$$(e^-)\cong\mathrm{PrimeGenerator}$$

Assume there exist a subset of bosons aspiring infinity on the prime critical line.

$$(\mathrm{PrimeSubset}\in\mathbb{P})\cong\mathrm{PrimeCriticalLine}\cong\frac{1}{2}$$

Assume there exist a single prime that is not on the prime critical line.

$$(\mathrm{WildPrime}\in\mathbb{P})\notin\mathrm{PrimeCriticalLine}\cong\frac{1}{2}$$

Require:

$$(\mathrm{PrimeSubset.Averages})\gg\mathrm{WildPrime.Magnitude}$$

Since the averages are bijective to a set of gravitational values:

$$(\mathrm{PrimeSubset.Averages})\cong\mathrm{Top.GravitationalValues}$$

$$\exists\ \mathrm{Product}\ \cong(\mathrm{WildPrime}\in\mathbb{P})\star\mathrm{Top.GravitationalValues}$$

$$\mathrm{Given\ Product}:(\mathrm{WildPrime}\in\mathbb{P})\in\mathrm{PrimeCriticalLine}\cong\frac{1}{2}$$

■

In words, the massive effect of gravity given by aspiring infinity subset of averages of the primes located the critical line has pulled the wild prime to the critical line itself. Therefore, if there exist any single prime not on the critical line, at the same time there exist a subset of averages that are bijective to gravitational values, than those averages pull the wild prime element to the critical line. Therefore that is a proof by a counter example, even if there exist an element outside of the critical line it will be pulled to the critical line by the effect of gravitational value summations.

(Ninth) Proof – The Riemann Hypothesis

$$\text{Let:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})$$

$$\text{AxiomOne:}\,\forall\ \text{Bose\_Particle}\ \cong(\mathbb{P})$$

$$\text{AxiomTwo:}\,\forall\ \text{Bose\_Spin}\cong\text{IntegerOne}$$

$$\text{AxiomThree:}\,\forall\ \text{Lepton\_Spin}\cong\text{IntegerOneHalf}$$

$$\text{Product: AxiomTwo}\ \star\ \text{AxiomThree}\cong\text{IntegerOne}+\text{IntegerOneHalf}$$

$$\text{IntegerOne}+\text{IntegerOneHalf}\cong 1+\frac{1}{2}\ \forall\ \text{Bose}_{\text{Spin}}+\ \text{Lepton}_{\text{Spin}}$$

$$\text{IntegerOne}+\text{IntegerOneHalf}\cong\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}\to\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}$$

$$2N_2+1\longrightarrow 2N_2+\frac{3}{2}$$

$$\text{DefyAxiomTwo:}\,\forall\ \text{Bose\_Spin}\ncong\text{IntegerOne}$$

$$\therefore\ \text{Lepton}_{\text{Spin}}\ncong\text{IntegerOneHalf}$$

$$\therefore(\mathbb{P})\ncong\text{IntegerOneHalf}\ \because\ (\mathbb{P})\ \textbf{IsEqualTo}\ \text{Bose\_Particle}$$

$$\therefore\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\ncong\text{IntegerOne}\longrightarrow\text{False}$$

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\oplus(\mathbb{P})\ncong\text{IntegerOne}+\text{IntegerOneHalf}\longrightarrow\text{False}$$

■

In words, the defying of the axioms lead to situation were external prime element not located on the prime to a situation in which it is inserted to a physical system and the wave function is not collapsing, which is not possible according to quantum mechanics. Therefore all prime elements inserted to a quantum system must accumulate on one-half, leading to a fractional spin dictating the collapse of the wave function. A proof by a counter example.

(Tenth) Proof – The Riemann Hypothesis

$$\text{Let:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\cong\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}P(A)\oplus P(A)\right)\oplus P(A)$$

$$\text{Let } P(A)\cong \text{Probability.BosonEmission}$$

$$\text{Let } \widetilde{P(A)}\cong \text{Probability.BosonAbsorbtion}$$

Require the probability for the quantum system to by binary and complete represented by the number one.

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}P(A)\oplus P(A)\right)\oplus P(A)\bigcup\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\widetilde{P(A)}\oplus\widetilde{P(A)}\right)\oplus\widetilde{P(A)}\cong 1$$

$$P(A)\oplus P(A)\cong 1$$

$$\widetilde{P(A)}\oplus\widetilde{P(A)}\cong 1$$

Where one represent unitary quantum system. The quantum system can either emit or absorb leptons. These are opposite and complementary phenomena. Therefore:

$$2P(A)\cong 1;\ P(A)\cong\frac{1}{2}$$

$$2\widetilde{P(A)}\cong 1\,;\ \widetilde{P(A)}\cong\frac{1}{2}$$

$$\left(P(A),\widetilde{P(A)}\right)\cong\frac{1}{2}$$

$$\left(P(A),\widetilde{P(A)}\right)\cong(e^-);$$

$$\left(2P(A)\equiv 2\widetilde{P(A)}\right)\ \cong(e^-)+\text{AnyPrime}$$

$$\text{Given: }(e^-)\cong\frac{1}{2}\ \text{And (UnitQuantumSystem}\cong 1);\ \left(\therefore\ \text{AnyPrime}\cong\frac{1}{2}\right)$$

■

(Eleventh) Proof – The Riemann Hypothesis

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\cong$$

$$\underbrace{\frac{\mathbf{1}}{\mathbf{30}},\frac{\mathbf{1}}{\mathbf{128}}}_{correct},\frac{1}{850},\frac{1}{9254},\frac{1}{120{,}136},\frac{1}{2{,}042{,}060},\frac{1}{38{,}798{,}782},\frac{1}{892{,}371{,}506},\frac{1}{2.58\times10^{10}},\frac{1}{8.02\times10^{11}},\frac{1}{2.96\times10^{13}},$$

$$\frac{1}{1.2\times10^{15}},\frac{1}{5.23\times10^{16}},\frac{1}{2.45\times10^{18}},\frac{1}{1.25\times10^{20}},\frac{1}{6.6\times10^{21}},\frac{1}{3.78\times10^{23}},\frac{1}{2.23\times10^{25}},\frac{1}{1.36\times10^{27}},\frac{1}{9.13\times10^{28}},$$
$$\frac{1}{6.48\times10^{30}},\frac{1}{4.73\times10^{32}},\frac{1}{3.74\times10^{34}},\frac{1}{3.1\times10^{36}},\frac{1}{2.76\times10^{38}},\frac{1}{2.68\times10^{40}},,\frac{1}{2.7\times10^{42}}\cdots$$

Define:

$$\text{AxiomOne: Gravity} \cong \text{Stable}\ \forall\ \text{TimeArrow} \in \text{SomeRandManfifold}$$

$$\text{AxiomTwo:}\ \forall\ \text{Gravity} \cong \text{Average. SpinTwo}$$

$$\text{AxiomThree: AverageSpinTwo} \cong \text{SpinOneSkeleton}$$

$$\text{AxiomFour:}\ \forall\ \text{Lepton\_Spin} \cong \text{IntegerOneHalf}$$

$$\text{AxiomFive:}\ \forall\ \text{Bose\_Spin} \cong \text{IntegerOne}$$

$$\textbf{As Long}\ \text{Gravity}\ \textbf{Is}\ \text{Stable} \longrightarrow (\text{AverageSpinTwo} \cong \text{SpinOneSkeleton})$$

However:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\cong \text{SpinOneSkeleton}$$

$$\text{SpinOneSkeleton} \cong \text{IntegerOne}$$

Since the author define axiom four:

$$\textbf{As Long}\ \text{Gravity}\ \textbf{Is}\ \text{Stable}\ (\mathbb{P}) \cong \frac{1}{2}$$

Require:

$$\text{Gravity}\ \textbf{Is}\ \text{Stable}\ \forall\ \text{TimeArrow} \in \text{SomeRandManfifold}$$

■

(Twelve) Proof – The Riemann Hypothesis

$$\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0 \tag{3.1}$$

$$\text{Axiom: CompactExtrema} \cong \text{CompactBlackHole}$$

$$\text{Axiom: CompactExtrema } \in \text{SomeRandManfifold}$$

$$\text{CompactExtrema} \cong \frac{\partial R_E}{\partial t_i}=0$$

$$\text{Identity: (CompactExtrema} \star 1) \cong \left(\frac{\partial R_E}{\partial t_i}=0\right)$$

$$\left(\text{CompactExtrema} \star \left(\frac{1}{2}+\frac{1}{2}\right)\right) \cong \left(\frac{\partial R_E}{\partial t_i}=0\right)$$

$$\text{AxiomFour:} \forall\ \text{Lepton}_{\text{Spin}} \cong \text{IntegerOneHalf}$$

$$\text{AxiomFive:} \forall\ \text{Bose\_Spin} \cong \text{IntegerOne}$$

$$\therefore \left(\text{CompactExtrema} \star \left((e^-)+\frac{1}{2}\right)\right) \cong \left(\frac{\partial R_E}{\partial t_i}=0\right) \in \text{Top. Space} \cong \Phi$$

$$\therefore \frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})} \in \text{Top. Space} \cong \Phi$$

$$K\text{: Top} \to \text{Ring}$$

$$\therefore \left(\text{CompactExtrema} \star \left((e^-)+\frac{1}{2}\right)\right) \cong \left(\frac{\partial R_E}{\partial t_i}=0\right) \in \text{Ring}$$

$$\text{AxiomOne:} \forall\ \text{Bose\_Particle } \cong (\mathbb{P})$$

$$(e^-) \cong \text{PrimeGenerator}$$

$$\frac{1}{2} \in (e^-)$$

$$\therefore \left(\frac{1}{2} \cong \textbf{PrimeRange}\right) \text{ Rising from PrimeGenerator } \cong (e^-)$$

$$\blacksquare$$

(Thirteenth) Proof – The Riemann Hypothesis –

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \tag{3.1}$$

Define:

$$\text{Axiom: OrthogonalQuantum} \cong \text{CancelationQuantum}$$

$$\text{Axiom: QuantumDiagonal} \cong \text{NonOrthogonal}$$

$$\begin{bmatrix} 1 & \cdots & \cancel{E_{1n}} \\ \vdots & 1 & \vdots \\ \cancel{E_{m1}} & \cdots & 1 \end{bmatrix} \cong \begin{bmatrix} \frac{1}{2}+\frac{1}{2} & \cdots & \cancel{E_{1n}} \\ \vdots & \frac{1}{2}+\frac{1}{2} & \vdots \\ \cancel{E_{m1}} & \cdots & \frac{1}{2}+\frac{1}{2} \end{bmatrix} \cong \begin{bmatrix} (e^- + \boldsymbol{\gamma}) & \cdots & \cancel{E_{1n}} \\ \vdots & (e^- + \boldsymbol{\gamma}) & \vdots \\ \cancel{E_{m1}} & \cdots & (e^- + \boldsymbol{\gamma}) \end{bmatrix}$$

$$\text{Axiom:} \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0 \right) \cong \text{ExtremaDemand}$$

$$\text{Axiom:} \left(\sum_{a=1}^{n} \big((N_V)\big)_a \right) \cong \text{ExtremaDemandViolation}$$

$$\text{Axiom: ExtremaDemand} \cong \text{LinearTrajectory}$$

$$\text{ExtremaDemandViolation} \cong \text{NonLinearTrajectory}$$

$$\text{NonLinearTrajectory} \cong \text{NetCurves In } \Phi$$

However by requiring the net curves to rise only on the quantum diagonal:

$$\text{NetCurves In } \Phi \in \text{ QuantumDiagonal}$$

$$\text{Axiom: QuantumDiagonal} \cong \text{StraightLine} + \text{Angle}$$

$$\text{Axiom: } (e^-) \cong \text{PrimeGenerator} \cong \text{BoseGenerator}$$

$$\text{AxiomOne:} \forall \text{ Bose}_{\text{Particle}} \cong (\mathbb{P})$$

$$\forall \text{ Bose\_Particle } \cong (\mathbb{P}) \in \text{StraightLine} + \text{Angle}$$

$$\text{AxiomFour:} \forall \text{ Lepton}_{\text{Spin}} \cong \text{IntegerOneHalf}$$

$$\text{AxiomFive:} \forall \text{ Bose\_Spin} \cong \text{IntegerOne}$$

$$(\mathbb{P}) \cong \frac{1}{2} \blacksquare$$

(Fourteenth) Proof: The Riemann Hypothesis

Let:

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\cong\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}P(A)\oplus P(\text{Lepton})\right)\oplus P(\text{Boson})$$

$$\text{AxiomOne}: \forall\ \text{Bose}_{\text{Particle}}\cong(\mathbb{P})$$

$$\text{AxiomTwo}: (e^-)\cong\text{PrimeGenerator}$$

$$\text{AxiomThree}: \forall\ \text{Bose\_Spin}\cong\text{IntegerOne}$$

$$\text{AxiomOneModified}: \forall\ \text{Bose}_{\text{Particle}}\cong P\text{robability}(\text{Boson})$$

$$\text{AxiomTwoModified}: : (e^-)\cong\text{ProbabilityGenerator}$$

$$\text{AxiomThreeModified}: : \forall\ \text{Bose\_LimitProbabilty}\ \cong\text{One}$$

$$\text{Let: ProbabilityGenerator}\cong(\text{Const}\ni\text{Set}\{\text{Probability for Bosons}\})$$

$$\text{Given: }\left(\text{Bose}_{\text{LimitProbabilty}}\cong\text{One}\right)$$

$$\text{Require: }\left(\text{ProbabilityGenerator}\cong\left(\text{Const}\ \cong\frac{1}{2}\right)\right)$$

$$P\text{robability}(\text{Boson})\cong\text{Bose}_{\text{LimitProbabilty}}-\text{ProbabilityGenerator}$$

$$\text{Axiom: Probability}(\text{Boson})\cong\text{Probability}(\text{Prime})$$

$$\text{Probability}(\text{Prime})\cong\frac{1}{2}$$

$$\text{Given: }P\text{robability}(\text{Prime})\in\text{Probability. Space}$$

$$\text{SomeFunctor: Probability. Space}\longrightarrow\text{Ring. Space}$$

$$\text{Probability}(\text{Prime})\cong\frac{1}{2}\cong\text{Ring. Space}\cong\frac{1}{2}$$

■

(Fifth teen) Proof: The Riemann Hypothesis

$$\text{QDiagonal:}\begin{bmatrix} \frac{1}{2}+\frac{1}{2} & \cdots & \cancel{E_{1n}} \\ \vdots & \frac{1}{2}+\frac{1}{2} & \vdots \\ \cancel{E_{m1}} & \cdots & \frac{1}{2}+\frac{1}{2} \end{bmatrix} \cong \text{GravitationalValue}$$

$$\text{Axiom: GravitationalValue} \ni \text{AverageSpin} \cong 1$$

$$\text{Axiom: GravitationalValue} \cong \text{Stable;}$$

$$\text{Define: Stable } \textbf{As} \text{ NonDecay } \textbf{And} \text{ Non Varying}$$

Let the quantum diagonal aspire infinity:

$$\text{QDiagonal.NumberElements} \longrightarrow \infty$$

The quantum diagonal runs over the primes under range.

$$\text{NumberElements} \cong \text{AllPrimesUnderRange} \leq \mathbb{R}$$

$$\text{Let: AllPrimesUnderRange } \textbf{Appear} \text{ Only Once } \textbf{In} \text{ QDiagonal}$$

Recall:

$$\text{QDiagonal} \ni (\text{SetGenerators} \cong \text{SetElectrons})$$

$$\text{SetElectrons.Size} \cong \text{HalfOf.NumberElements}$$

$$\because \begin{bmatrix} (e^{\ -})+\frac{1}{2} & \cdots & \cancel{E_{1n}} \\ \vdots & (e^{-})+\frac{1}{2} & \vdots \\ \cancel{E_{m1}} & \cdots & (e^{-})+\frac{1}{2} \end{bmatrix}$$

$$\text{Axiom: } \forall \text{ Electron } \in (\text{SetElectrons} \ni \text{SpinOneHalf})$$

$$\text{Axiom: } \forall \text{ Bose\_Spin} \cong \text{IntegerOne}$$

$$\therefore (\text{AllPrimesUnderRange} \leq \mathbb{R}) \in \text{SpinOneHalf}$$

$$\text{Define: K:} \mathbb{R} \longrightarrow \text{Ring}$$

$$(\text{AllPrimesUnderRange} \leq \mathbb{R}) \in \text{Ring of } (1/2)$$

■

(Sixteenth) Proof: The Riemann Hypothesis

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E \cong \frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P}+\mathbb{P}) \cong 0$$

Define a quantum system composed by minimal primes:

$$\mathrm{QS1} \in \mathrm{MinimaPrimes} \cong \{2,3\}$$

$$\mathrm{Axiom{:}\,UnderAddition{:}\,MinimaPrimes}\ \star \mathrm{OddNumber} \cong \mathrm{Prime} \bigvee \mathrm{Odd}$$

Which meant to express that odd number of minimal primes added is either prime or odd. That is because:

$$\sum_{\boldsymbol{i=1}}^{\mathbf{Odd}} \mathrm{Prime} \cong 2\mathrm{N} + \mathrm{Odd} \cong 2\mathrm{N} + \mathrm{Even} + 1\,; \mathbf{Even} \cong \mathbf{0}$$

$$\because (\mathbf{Even} \cong \mathbf{0}) \in \mathbb{R} \equiv (\delta(\mathbb{P}+\mathbb{P}) \cong 0) \in \mathrm{TopologicalSpace}$$

$$2\mathrm{N} + \mathrm{Even} + 1 \cong \left(2\mathrm{N} + \frac{1}{2} + \frac{1}{2}\right) \forall \sum_{i=1}^{\mathrm{Odd}} \mathrm{Prime}$$

$$2\mathrm{N} + \mathrm{Even} + 1 \equiv \left(2\mathrm{N} + \frac{1}{2} + \frac{1}{2}\right) \equiv \mathrm{CouplingStructure}$$

$$\mathrm{Axiom{:}}\ \forall\ \mathrm{Electron}\ \in (\mathrm{SetElectrons} \ni \mathrm{SpinOneHalf})$$

$$\mathrm{Axiom{:}\ SetElectrons} \in \mathrm{CouplingStructure}$$

$$\mathrm{Axiom{:}} \forall\ \mathrm{Bose\_Spin} \cong \mathrm{IntegerOne}$$

$$\mathrm{Given{:}\ CouplingStructure} \cong \mathrm{Bose}_{\mathrm{Spin}}$$

$$\mathrm{Bose}_{\mathrm{Spin}} - \mathrm{SpinOneHalf} \cong \frac{1}{2}$$

$$\mathrm{Given{:}} \left(\mathrm{Bose}_{\mathrm{Particle}} \cong (\mathbb{P})\right) \in \mathrm{CouplingStructure}$$

$$\mathrm{Bose}_{\mathrm{Particle}} \cong \frac{1}{2} \forall\ \mathrm{QS}$$

■

(Seventeen) Proof: The Riemann Hypothesis

Recall:

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E \cong \frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P}+\mathbb{P}) \cong 0$$

$$\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\text{Let: Axiom: } \forall \text{ Bose\_Spin} \cong \text{IntegerOne}$$

Require:

$$\textbf{Axiom}: \forall\ \text{Bose}_{\text{Particles}} \cong (\text{Prime} \wedge \text{NonAbelian.Group})$$

Take as an axiom that gravitational effect on matter to yield an elliptic trajectory:

$$\textbf{Axiom}: \forall\ \text{GravityEffect} \star \text{Fermions} \cong \text{EllipticTrajectory}$$

$$\textbf{Axiom}: \text{StraightLine} + \text{Cycle} \cong \text{EllipticOrbit}$$

Recall that primes are cycles as they are generated by the same element:

$$\text{Cycle} \cong (\text{AnyPrime}) \subseteq \text{Bose} \bigwedge \text{Lepton}$$

$$\therefore\ \text{StraightLine} \star \text{Bose Is True}$$

$$\textbf{As Long } \text{EllipticTrajectory Is True}$$

$$\text{Let EllipticTrajectory } \cong \text{True } \textbf{As Long } \text{TimeArrow}$$

$$\text{TimeArrow} \in \text{RandManifold}$$

■

In words, by taking as an axiom that the stars move in elliptic trajectories, and the second axiom is an ellipse to rise from a combination cycle and an arrow rising from that cycle, it is possible to correlate the appearance of primes to straight lines. Because the difference between a cycle to an ellipse is the straight line rising from the center of the circle to the boundary of the circle. In other words, if the boson to prime to hold true and the elliptic trajectory of stars to hold true, than the primes must appear on a straight line.

Reflection: On Classes of Black Holes

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \tag{3.1}$$

This section is an analysis of another open question that is the question of classes of black holes. Recall:

$$\text{CompactExtrema} \cong \text{CompactBlackHole}$$

$$\text{NonCompactExtrema} \cong \text{NonCompactBlackHole}$$

This section is an analysis of another open question that is the question of classes of black holes. Recall that in the early days the author defined black holes by extrema zeros.

$$\text{CompactBlackHole}, \text{NonCompactBlackHole} \cong \text{ExtremaZeros}$$

The extrema zeros can appear in several manners. First by fermion collapse:

$$\text{FermionCluster. Collapse} \longrightarrow \text{ExtremaZero}$$

$$\because (\text{FermionCluster. Collapse} \ni \text{CriticalGravitationalValue}) \longrightarrow \text{ExtremaZero}$$

However there could be extrema zeros rising without a fermion collapse:

$$\text{Define Class:}$$

$$\text{NaturalBorn. ExtremaZero} \cong \text{RandomlyGenerated}$$

Correlating the ideas on singularity:

$$\text{NaturalBorn. ExtremaZero} \cong \text{Singularity}$$

$$\text{Singularity} \cong \text{RandomlyGenerated}$$

There could be additional way in which those extrema zero may rise, they can also appear from the boundary of a given manifold or within the interior. The different options will be the subject of the next section.

Reflection: Extrema Zero from Boundary and Within Interiors

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \qquad (3.1)$$

Recall:

$$\text{Define Class:}$$

$$\text{NaturalBorn.ExtremaZero} \cong \text{RandomlyGenerated}$$

$$\text{NaturalBorn.ExtremaZero} \cong \text{Singularity}$$

$$\text{Singularity} \cong \text{RandomlyGenerated}$$

$$\text{Axiom: } \Phi \cong \text{4D.Entity } \forall\ \Phi$$

$$\therefore\ (\text{NaturalBorn.ExtremaZero} \cong \text{Singularity}) \bigcap \text{4D.Entity} \cong \emptyset$$

$$\therefore\ (\text{NaturalBorn.ExtremaZero} \cong \text{Singularity})\text{Rise on } \Phi\text{.Boundary}$$

$$\therefore\ (\text{NaturalBorn.ExtremaZero} \cong \text{Singularity}) \text{ Is } \textbf{Not} \text{ on } \Phi\text{.Interior}$$

Proof:

$$\text{If: } (\text{NaturalBorn.ExtremaZero} \cong \text{Singularity}) \text{ Is on } \Phi\text{.Interior}$$

$$\text{Axiom: } \Phi \cong \text{4D.Entity } \forall\ \Phi \text{ Is False}$$

$$\blacksquare$$

$$\text{NaturalBorn.ExtremaZero} \cong \text{BlackHole}$$

$$\text{If: } (\text{NaturalBorn.ExtremaZero} \cong \text{BlackHole}) \text{ Is on } \Phi\text{.Interior}$$

$$\text{Axiom: } \Phi \cong \text{4D.Entity } \forall\ \Phi \text{ Is True}$$

$$\blacksquare$$

Black holes can rise within interiors while extrema’s which are singularity can only rise from the boundary or else the axiom about the finite number of dimensions will be violated.

Reflection: Momenta's of the Prime Critical Line

$$\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \qquad (3.1)$$

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P}) \cong \left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}P(A)\oplus P(\text{Lepton})\right)\oplus P(\text{Boson})$$

In this section the author will analyze the question of momenta of the prime critical line. At first glance, the most obvious assumption is to assume that the momenta is proportional to the density of the primes under a given interval.

$$\text{PrimeRing.Momenta} \propto (\mathbb{P})$$

$$\text{PrimeRing.Momenta} \propto (\mathbb{P}).\text{RangeInterval}$$

$$\text{RangeInterval} \cong [\mathbb{R},\mathbb{R}]$$

However, recall the particle wave duality were insertion of elements are leading to the increase of the energy involved.

$$2N_2 + 1 \longrightarrow 2N_2 + \frac{3}{2}$$

$$N_V \in \mathbb{P} \longrightarrow (N_V + N_V) \notin \mathbb{P}$$

$$\text{PureQS1:}\frac{1}{128} > \text{InterfereQS1:}\left(\frac{1}{133} \longrightarrow \frac{128}{133}\right) \approx 0.96$$

Using that result, the primes leading to cancelation of energy, a decrease as they are fractions and the larger the number of fractions inserted to a physical system, the smaller the energy become.

$$\textbf{Axiom}: \forall\, \text{Bose}_{\text{Particles}} \cong (\text{PrimeFractions})$$

$$\textbf{Axiom}: \forall\, \text{Bose}_{\text{Momenta}} \propto \text{QS1.Energy}$$

Requiring the energy to be proportional to momenta, the insertion of primes lead to a decrease of momenta, as it is leading to cancelation of the wave, as the latter bijective to the physical manifestation of energy. Therefore, the primes density is proportional to the decrease of momenta, this proportion could agree with the difference between packet velocity of bosons and single prime velocity and in particular the single prime velocity should always exceed the prime group velocity.

Reflection: The Square of Wave Functions

This section is an analysis of the main theme of the QM setting that is the idea of a link between a probability of finding a particle to the square of the wave function. Recall that the author defined back in the early days the wave function by using a five vector.

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\longrightarrow\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu\oplus(e^-)_\mu\right)\oplus(\mathbb{P})_\mu$$

This was the basic form of the 8T wave function. Taking into account the QM Setting in which there exist the rule:

$$\textbf{Axiom}: \forall\ \text{ProbabilityLocation} \propto \text{Square} \in \text{WaveFunction}$$

$$\textbf{Axiom}: \forall\ \text{ProbabilityLocation} \propto \text{WaveFunction}^2$$

Now using the 8T framework:

$$\textbf{Axiom}: \text{ProbabilityLocation} \cong \text{PrimeLocation}$$

$$\text{PrimeLocation} \cong \text{WaveFunction}^2$$

Let:

$$\text{PrimeLocation} \cong (\mathbb{P})_\mu$$

$$\text{ProbabilityLocation} \cong {(\mathbb{P})_\mu}^2$$

$${(\mathbb{P})_\mu}^2 \cong (2n+1)\star(2n+1) \cong 4n^2+1 \cong \mathbb{ODD}$$

$$\text{8TAxiom}: \mathbb{ODD} \cong \mathbb{ST}.\text{Knot}$$

$$\text{8TAxiom}: \mathbb{ODD} \cong \text{NonVaryingLocation}$$

$$\text{NonVaryingLocation} \cong \text{PrimeLocation}$$

In words, if the probability of wave function squared is bijective to prime square and prime square is an odd, than the probability to find a particle in a given location in space time is bijective a knot in space time which, as was previously mentioned is non-varying compared to single prime bosons which diverge all across. This could be the hidden reason the square law works for QM setting. In other words, the square of the wave function is bijective to a collapse of the wave function:

$$(\mathbb{P})_\mu \in \text{PrimeRing}\,;{(\mathbb{P})_\mu}^2 \notin \text{PrimeRing}$$

$$(\mathbb{P})_\mu \in \text{PrimeRing} \cong \text{Wave};\ {(\mathbb{P})_\mu}^2 \notin \text{PrimeRing} \cong \text{Knot}$$

Reflection: On Extrema Curves and Non-Extrema Curves

Recall:

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \qquad (3.1)$$

Recall how the “dark energy” phenomena was derived:

$$\textbf{Axiom}\text{: AsLong }\left(\frac{\partial R_E}{\partial t_i} \cong \text{Extrema}\right)\text{ than }\left(\frac{\partial^2(\partial R_E)}{\partial t^2}\text{ Does not Effect on }\frac{\partial R_E}{\partial t_i}\right)$$

Leading to the complimentary:

$$\textbf{Axiom}\text{: AsLong }\left(\frac{\partial R_E}{\partial t_i} \ncong \text{Extrema}\right)\text{ than }\left(\frac{\partial^2(\partial R_E)}{\partial t^2}\text{ Has Effect on }\frac{\partial R_E}{\partial t_i}\right)$$

$$\text{Has Effect on} \cong \text{Product} \cong (\star) \cong \coprod \text{Elements}$$

$$\text{If: } \exists \text{ CurveExtrema: }\left(\frac{\partial^2(\partial R_E)}{\partial t^2} \star \frac{\partial R_E}{\partial t_i}\right) \cong \emptyset$$

$$\text{If } \nexists\text{: CurveExtrema: }\left(\frac{\partial^2(\partial R_E)}{\partial t^2} \star \frac{\partial R_E}{\partial t_i}\right) \ncong \emptyset$$

In words, if there exist curve extrema the acceleration is directed from the curve and cannot effect it, if it is not curve extrema than the acceleration is one to one and the magnitude of the curve is bijective to same direction acceleration. This can be put as the following classification:

$$\text{CurveExtrema: }\left(\frac{\partial^2(\partial R_E)}{\partial t^2} \star \frac{\partial R_E}{\partial t_i}\right) \cong \text{OutwardAcc.From(CurveExtrema)}$$

$$\nexists\text{: CurveExtrema: }\left(\frac{\partial^2(\partial R_E)}{\partial t^2} \star \frac{\partial R_E}{\partial t_i}\right) \cong \text{InwardAcc.Toward(CurveExtrema)}$$

Reflection: On Quantum Mirage

This section is an analysis of the phenomena of primes composing a higher magnitude prime and the illusion that could rise as a result of such a theory.

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\longrightarrow\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu\oplus(e^-)_\mu\right)\oplus(\mathbb{P})_\mu$$

$$\text{IF: }(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\cong(\mathbb{P})_\mu.\text{SinglePrime}$$

$$\text{And: }(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\cong\frac{3}{2}\longrightarrow\text{Contradiction}$$

However, according to the primorial:

$$(\mathbb{P})_\mu.\text{SinglePrime}\cong\frac{1}{2}$$

Leading to a contradiction because:

$$(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\ncong(\mathbb{P})_\mu.\text{SinglePrime}$$

$$(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\cong\text{ParticleSpin}$$

$$(\mathbb{P})_\mu.\text{SinglePrime}\cong\text{WaveSpin}|\text{ Given }\exists\left((e^-)_\mu\text{Spin}\right);$$

Define:

$$(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\cong\text{QuantumMirage}$$

$$\text{QuantumMirage}\in(\mathbb{P})_\mu.\text{SinglePrime}$$

$$\text{QuantumMirage}\cong\text{SamePrimeMagnitdue}\land\text{DifferentSpin}$$

$$\text{Given: }(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\cong\text{ParticleSpin Let:}$$

$$(\mathbb{P})_\mu+(\mathbb{P})_\mu+(\mathbb{P})_\mu\longrightarrow\left((\mathbb{P})_\mu\overbrace{-}^{\text{DistanceOne}}(\mathbb{P})_\mu\overbrace{-}^{\text{DistanceTwo}}(\mathbb{P})_\mu\right)$$

$$\left((\mathbb{P})_\mu\overbrace{-}^{\text{DistanceOne}}(\mathbb{P})_\mu\overbrace{-}^{\text{DistanceTwo}}(\mathbb{P})_\mu\right)\cong\text{MirageOverMatricRange}$$

■

Reflection: On Emerging of Single Primes from Composed Lower Primes

Recall the contradiction from the previous section:

$$(\mathbb{P})_\mu + (\mathbb{P})_\mu + (\mathbb{P})_\mu \not\cong (\mathbb{P})_\mu.\mathrm{SinglePrime}$$

$$\because \left((\mathbb{P})_\mu + (\mathbb{P})_\mu + (\mathbb{P})_\mu\right) \cong \mathrm{ParticleSpin}$$

$$(\mathbb{P})_\mu.\mathrm{SinglePrime} \cong \mathrm{WaveSpin}|\ \mathrm{Given}\ \exists\left((e^-)_\mu \mathrm{Spin}\right);$$

One possible way to solve this is to demand the odd combination of primes to a single spin, a half unit, which means as far as the author can see that they will rise as a unit with a single topological boundary similar to a graviton particle.

$$\mathrm{Define:}$$

$$(\mathbb{P})_\mu + (\mathbb{P})_\mu + (\mathbb{P})_\mu \cong (\mathbb{P})_\mu.\mathrm{SinglePrime}$$

$$\mathrm{If:}$$

$$\left((\mathbb{P})_\mu + (\mathbb{P})_\mu + (\mathbb{P})_\mu\right) \cong \mathrm{WaveSpin} \cong \frac{1}{2}$$

The total wave spin is added up to an integer with the electron.

$$\mathrm{WaveSpin} \cong \frac{1}{2} + \left((e^-)_\mu \mathrm{Spin}\right) \cong \mathrm{SingleTopologicalBoundary}$$

Similar to the process of the graviton is isomorphic to a single topological boundary.

$$\left(\sum_{i=1}^{n} (G_{\mathrm{Val}})_i\right) \cong \mathrm{Prime.AlignedProduct}(2N_2 + 2) \star 2^{-1}$$

$$(G_{\mathrm{Val}})_i \cong \left(2N_2 + \begin{pmatrix} \frac{1}{2} \\ \mathbb{P} \\ \frac{1}{2} \\ \mathbb{P} \end{pmatrix}\right) \star 2^{-1} \cong \mathrm{SingleTopologicalBoundary}$$

$$\mathrm{SingleTopologicalBoundary} \cong \mathrm{PrimeAlignment}$$

On the subject of a single prime, the key question as far as the author can see, is whether the expression below is holding true.

$$\left((\mathbb{P})_\mu + (\mathbb{P})_\mu + (\mathbb{P})_\mu\right) \cong \mathrm{WaveSpin} \cong \frac{1}{2}$$

Reflection: On Quantum Violations of Newton Laws

First violation is by the particle effect on itself:

$$\text{Newton}: F = m\left(\frac{dv}{dt}\right)$$

$$\text{Let}: (\mathbb{P})_{\mu} \cong \gamma$$

$$\text{Axiom}: (\mathbb{P})_{\mu} \cong \gamma.\,\text{Mass} \cong 0;$$

$$\text{Axiom}: (\mathbb{P})_{\mu} \cong \gamma.\,\text{ForceParticle};$$

$$(\mathbb{P})_{\mu} \cong 0\left(\frac{dv}{dt}\right) \cong \text{ContradictOne}$$

■

Second violation is by demanding extrema acceleration on a mass.

$$\text{Newton}: F = m\left(\frac{dv}{dt}\right)$$

$$\left(\frac{dv}{dt}\right) \cong 0 \ \bigwedge m > 0$$

$$F \cong m\left(\frac{dv}{dt}\right) \cong 0;$$

$$\therefore \exists \text{ContradictTwo}$$

■

The mass is accelerating at extrema and the equation still provides zero, so there exist the second contradiction.

Reflection: On the Formal Definition of Quantum System Measurement

Recall:

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\longrightarrow\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu\oplus(e^-)_\mu\right)\oplus(\mathbb{P})_\mu$$

$$\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}\rightarrow\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}$$

$$2N_2+1\longrightarrow 2N_2+\frac{3}{2}$$

$$N_V\ \in\ \mathbb{P}\longrightarrow(N_V+N_V)\notin\ \mathbb{P}$$

$$a^{-1}\approx 128$$

$$a^{-1}{}_{Measure}\approx 133$$

$$a^{-1}{}_{\text{AfterMeasure}}<a^{-1}{}_{\text{BeforeMeasure}}$$

Formal Definition: a measurement of a quantum system is an insertion of a prime to a bounded topological space, which was defined by a summation of spin. The existence of measurement implies a variation of spin, leading to a decrease in the total energy of the quantum system.

Alternative definition:

Formal Definition: a measurement of a quantum system is an insertion of a **fraction** to a bounded topological space, which was defined by a summation of fractions. The existence of measurement implies an increase of the number of fractions, and therefore to a **decrease** in the total energy of the quantum system.

The implicit assumption is that the particles used for measurement are located on the prime critical line:

$$A\text{nyMeasure}\in\text{QS1}$$

$$A\text{nyMeasure}\cong\text{AnyPrime}$$

$$\text{AnyPrime}\in\text{Ring of }\left(\frac{1}{2}\right)$$

■

Reflection: On Conservation Laws

This section is an analysis of the conservation laws. The key idea in this section is to correlate the lack of conservation of energy to other physical features. In addition to synchronize those ideas with the uncertainties presented in earlier stages.

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathcal{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \qquad (3.1)$$

$$\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

Since energy is not conserved, any of the other quantities that can be proportional are not conserved, such as particle momenta and the total physical entropy as two examples. Using that law of increase the total energy should be ever increasing, however reality is never so simple and possible complications are always in sight. Recall in the previous section that the insertion of new quantum elements in certain instances lead to a decrease in energy, such that the more elements the smaller the magnitude.

$$\left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2}$$

$$2N_2 + 1 \longrightarrow 2N_2 + \frac{3}{2}$$

$$N_V \in \mathbb{P} \longrightarrow (N_V + N_V) \notin \mathbb{P}$$

$$(2N_2 + 1)^{-1} > \left(2N_2 + \frac{3}{2}\right)^{-1}$$

So despite energy is not conserved as new elements rise constantly, the complicated nature of the quantum words, which is composed by prime fractions is not ensuring that the energy is ever increasing da facto. That is because an intersection of quantum fractions is leading to given collapses, cancelation of energy. that gives rise to possible scenario in which the extra energy created and the number of wave collapses leading to sum of energy cancelations could be identical, such that there will be a constant amount of energy which is conserved.

$$\text{PossibleConserve:}\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \text{SumOver(QuantumWaveCollapses)}$$

$$\text{SumOver(QuantumWaveCollapses)} \cong \text{SumOver(BosonIntersections)}$$

Reflection: On Deforming Space-time Knots

This section is a reflection on another way to deform space-time knots. In volume one the author defined the deformation by division. In this section the author will provide an additional method. Recall from the previous section:

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\longrightarrow\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu\oplus(e^-)_\mu\right)\oplus(\mathbb{P})_\mu$$

Let:

$$\mathrm{ProbabilityLocation}\cong{(\mathbb{P})_\mu}^2$$

$${(\mathbb{P})_\mu}^2\cong(2n+1)\star(2n+1)\cong4n^2+1\cong\mathbb{ODD}$$

Recall:

$$\mathrm{8TAxiom:}\ \mathbb{ODD}\cong\mathbb{ST}.\mathrm{Knot}$$

Given:

$$\mathrm{Axiom:}\ \mathbb{ODD}\ \oplus\mathbb{ODD}\ \ \cong\mathbb{ST}.\mathrm{Knot}\oplus\mathbb{ST}.\mathrm{Knot}$$

$$\mathbb{ODD}\ \oplus\mathbb{ODD}\ \ \cong(4n^2+1)\oplus(4n^2+1)\cong\mathbb{EVEN}$$

Recall:

$$\mathbb{EVEN}\cong\left(\sum_{i=1}^{k}(\delta R_E)_i\cong0\right)\cong\mathrm{PointLike}$$

$$\mathbb{ODD}\ncong\left(\sum_{i=1}^{k}(\delta R_E)_i\cong0\right)\ncong\mathrm{PointLike}$$

■

Reflection: on Prime Reflections In Primorial Factoring

In this section the author will reflect on the dual prime term which appear in each coupling magnitude. Once in the prime factoring part and at the same time in the net variation part. Compactification

$$\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\longrightarrow\left(2^{(e^-)}\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu}^{\text{PrimeFactoring}}\oplus(e^-)_\mu\right)\oplus\overbrace{(\mathbb{P})_\mu}^{\text{NetVariation}}$$

$$\prod_{V=1}^{\mathbb{R}}\mathbb{P}\curlywedge(\mathbb{P})_\mu\cong\text{True}\ \forall\ \text{CouplingParts}\ \textbf{Other Than}\ \text{Strong}$$

One possible idea which the author used in volume one was to correlate the term:

$$2^{(e^-)}\star\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu}^{\text{PrimeFactoring}}\cong\text{FullCompactification}$$

$$2^{(e^-)}\star\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu}^{\text{PrimeFactoring}}\cong[2,3]|\text{Even}\cong\ \text{True}\ \forall\ \text{CouplingParts}$$

$$\underbrace{\left(2^{(e^-)}\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu}^{\text{PrimeFactoring}}\right)}_{\text{FirstInOrder}}\oplus\underbrace{(e^-)_\mu}_{\text{SecondInOrder}}\oplus\underbrace{\overbrace{(\mathbb{P})_\mu}^{\text{NetVariation}}}_{\text{ThirdInOrder}}$$

$$\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_\mu}^{\text{PrimeFactoring}}\ \text{IsDictating}\ \underbrace{\overbrace{(\mathbb{P})_\mu}^{\text{NetVariation,Kind}}}_{\text{ThirdInOrder}}$$

$$\text{NetVariation.Kind}\ \textbf{Is Dependent}\ \text{on}\ \mathbf{V}$$

$$\overbrace{(\mathbb{P})_\mu}^{\text{NetVariation,Kind}}\cong(2\text{V}+1)\,;\text{V}\geq 0$$

The key question is why nature choose this form for each coupling. There are several reasons. The first is that there is no deeper reason other than to state it was randomly generated. The second option is that the two terms represent a shift from a smooth manifold interior to a non-stable interior that was destabilized, leading to a net variation, which is bijective to the last factored prime from the left of the coupling term.

$$\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_{\mu}}^{\text{PrimeFactoring}} \quad \text{IsDictating} \quad \underbrace{\overbrace{(\mathbb{P})_{\mu}}^{\text{NetVariation,Kind}}}_{\text{ThirdInOrder}}$$

$$\overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_{\mu}}^{\text{PrimeFactoring}} \quad \cong \text{SmoothManifold}$$

$$\text{SmoothManifold} \star \text{Destabilized} \cong \underbrace{\overbrace{(\mathbb{P})_{\mu}}^{\text{NetVariation,Kind}}}_{\text{ThirdInOrder}}$$

Another key point is that perhaps it is possible to require a connection between the features. Such that there exist a reversal:

$$\text{Reversal:} \quad \overbrace{\prod_{V=1}^{\mathbb{R}}(\mathbb{P})_{\mu}}^{\text{PrimeFactoring}} \quad \cong \text{DestabilizedManifold} \longrightarrow \text{VanishedIntoMatter}$$

$$\text{Reversal:} \quad \underbrace{\overbrace{(\mathbb{P})_{\mu}}^{\text{NetVariation,Kind}}}_{\text{ThirdInOrder}} \cong \text{SmoothFlow} \ \in \Phi$$

Perhaps it is the deepest one can go in explaining nature, this is as it is one thing to derive the correct equations, but another thing to reason why the equations receive a certain form, there is no proof that one can build as it is not a question of proof but a question of a specific form. The question involved is of "why" and therefore there could be many reasons those features appear the way that they do in the primorial.

Reflection: on Manifolds and the Complex Plane

This section is creating a connection between the mathematical terms of the couplings given by the primorial and in particular the axiom about the complex structure of each coupling is leading to the Lorentz manifold to hold a complex analytic structure.

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \tag{3.1}$$

Recall:

$$\Phi \cong \left(g_{E=ij}, R_{E=ij}\right)$$

$$\text{Axiom: } \left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})$$

$$\forall \text{ Coupling} \in \text{ CouplingSeries } \cong \text{ 2Ni} + 1$$

$$\text{2Ni} + 1 \cong \text{ComplexNumber } \in \text{ComplexPlane}$$

$$\text{Axiom: } \left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P}) \in \Phi$$

$$\therefore \text{ComplexPlane} \star \Phi \cong \text{True}$$

Leading to:

$$\Phi \cong \text{Manifold} \ni \text{ComplexStructure}$$

$$\textbf{Given}: \text{QM.Framework } \in \text{ComplexPlane}$$

Leading to:

$$\text{QM.Framework} \in \Phi \cong \left(g_{E=ij}, R_{E=ij}\right)$$

$$\text{Let: QM.Framework} \cong \text{Set}\{\text{QM.Equations}\}$$

■

Reflection: on Manifolds and Measurements

Let:

$$\Phi \cong \left(g_{E=ij}, R_{E=ij}\right)$$

$$\text{Axiom:} \left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})$$

$$\forall\ \text{Coupling} \in\ \text{CouplingSeries}\ \cong\ 2\text{Ni} + 1$$

$$2\text{Ni} + 1 \cong \text{ComplexNumber}\ \in \text{ComplexPlane}$$

$$\text{Axiom:} \left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P}) \in \Phi$$

$$\therefore \text{ComplexPlane} \star \Phi \cong \text{True}$$

$$\text{Axiom: Measure}\ \cong \text{RealNumber}$$

$$\text{Axiom: Measure}\ \cong \text{NotComplex;}$$

Leading to:

$$\text{Conjugate: ComplexNumber} \star \text{ComplexNumber} \cong \text{RealNumber}$$

$$\text{Conjugate: Coupling} \star \text{Coupling} \cong \text{RealNumber}$$

$$\text{Conjugate:} (2\text{Ni} + 1) \star (-2\text{Ni} + 1) \cong 4\text{N}^2 + 1$$

$$4\text{N}^2 + 1 \cong \left(\text{Odd} \bigvee \text{Prime}\right)$$

Leading to the result that the process of measurement has some sort of a connection to the square of a wave function. Recall:

$$\text{ProbabilityLocation} \cong (\mathbb{P})_{\mu}{}^{2}$$

$$(\mathbb{P})_{\mu}{}^{2} \cong (2n + 1) \star (2n + 1) \cong 4n^2 + 1 \cong \mathbb{ODD}$$

Reflection: on Manifolds and Quantum Numbers

In this section the author will define a new class of numbers. Those numbers have quantum identity and are subject to ever changing Automorphisms.

$$\Phi \cong \left(g_{E=ij}, R_{E=ij}\right)$$

$$\text{Axiom: } \left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})$$

Leading the author to define new class of numbers.

$$\text{Def Class CatoNumbers} \cong R\text{ing} \in \Phi$$

$$\text{BuilingBlock of CatoNumbers} \cong \text{Prime}R\text{ing} \in \Phi$$

$$\text{Prime}R\text{ing} \cong \text{Set}\,\{(\mathbb{P})\}$$

Leading to the key trait that makes the Cato numbers special. The Catomorphism.

$$\text{CatoMorphism: } (\mathbb{P})^1 \cong (\mathbb{P});$$

$$\text{CatoIdentity: } (\mathbb{P})^1 \cong (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)}$$

$$\text{CatoIdentity: } (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)} \cong (\mathbb{P})^{((e^-))\oplus(\mathbb{P})}$$

$$\text{Given: } (e^-) \bigwedge (\mathbb{P}) \supseteq \text{Set.States}$$

$$\text{CatoIdentity: } (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)} \cong (\mathbb{P})^{((e^-))\oplus(\mathbb{P})\supseteq\text{Set.States}}$$

$$\text{CatoIdentity: } (\mathbb{P})^{((e^-))\oplus(\mathbb{P})\supseteq\text{StateOne}} \ncong (\mathbb{P})^{((e^-))\oplus(\mathbb{P})\supseteq\text{StateTwo}}$$

That is despite the obvious identity:

$$\text{Trivial: } (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)} \cong (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)}$$

In other words connecting the identity one to the electron and the prime is yielding a set of possible deviations on the prime base, such that the possible states of the quantum particles is no longer validating the trivial result above.

$$\text{If: CatoIdentity: } (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)} \cong (\mathbb{P})^{((e^-))\oplus(\mathbb{P})\supseteq\text{Set.States}} \cong \text{True}$$

$$\text{Than Trivial: } (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)} \cong (\mathbb{P})^{\left(\frac{1}{2}+\frac{1}{2}\right)} \cong \text{False}$$

$$\text{AxiomImplicit: } (\text{Set.States} \ncong \emptyset) \wedge (\text{Set.States} > 1)$$

Reflection: On Quantum Pressure and Quantum Densities

In this section the author will analyze the question of pressure and density. In classical physics these two quantities should be directly proportional, the larger the density of matter the larger the pressure it imposes on a given surface. The key question is the following, If it is in fact the case in classical scale, is the same relation is holding true in quantum scale as well. It is a very complicated question as far as the author believes. Recall:

$$\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}\to\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}$$

$$2N_2+1\longrightarrow 2N_2+\frac{3}{2}$$

$$N_V\ \in\ \mathbb{P}\longrightarrow (N_V+N_V)\notin\ \mathbb{P}$$

$$(2N_2+1)^{-1}>\left(2N_2+\frac{3}{2}\right)^{-1}$$

In words, the quantum scale insertion of elements leading to cancelation and to decrease in energy, so the density should be inversely proportional to the pressure. In other words, the larger the number of quantum particles the smaller the pressure. This is by taking as an axiom that energy is proportional to pressure. Therefore, if the energy is decreasing by insertion of additional quantum elements to a given quantum system the total pressure should decrease. The complete opposite from what one would expect from a classical physical system. This not always will be the case, recall that there exist non-canceling interference, such that:

$$(G_{\text{Val}})_i\cong\left(2N_2+\left(\frac{\frac{1}{2}}{\mathbb{P}}\atop\frac{\frac{1}{2}}{\mathbb{P}}\right)\right)\star 2^{-1}\cong\text{SingleTopologicalBoundary}$$

$$\text{SingleTopologicalBoundary}\cong\text{SingleParticle}$$

$$\text{SingleTopologicalBoundary}\cong\text{Interference}_{\text{NonCanceling}}$$

$$\text{IF: SingleTopologicalBoundary}$$

$$\text{Than QuantumPressure}\propto\text{QuantumElement. Number}$$

$$\text{Else:}$$

$$\text{QuantumPressure}\propto^{-1}\text{QuantumElement. Number}$$

Reflection: On Quantum Gravitational Cascades

Recall:

$$(G_{\text{Val}})_i \cong \left(2N_2 + \begin{pmatrix} \frac{1}{2} \\ \mathbb{P} \\ \frac{1}{2} \\ \mathbb{P} \end{pmatrix} \right) \star 2^{-1} \cong \text{SingleTopologicalBoundary}$$

$$\text{Define: SingleTopologicalBoundary} \cong \text{SingleRadii}$$

$$(G_{\text{Val}})_i \cong \left(2N_2 + \begin{pmatrix} \frac{1}{2} \\ \mathbb{P} \\ \frac{1}{2} \\ \mathbb{P} \end{pmatrix} \right) \star 2^{-1} \ni \text{Set. QuantumNumbers}$$

$$\text{Set. QuantumNumbers} \cong \frac{\partial}{\partial \mathrm{X}^{\mu}} \text{Set. QuantumNumbers}$$

$$\int \frac{\partial}{\partial \mathrm{X}^{\mu}} \text{Set. QuantumNumbers} \cong \text{Set. Consts} \in (G_{\text{Val}})_i$$

Define Gravity. Cascade:

$$(\text{Set. Consts} \star \text{SingleRadii}) \cong (G_{\text{Val}})_i.\text{Cascade}$$

$$(\text{Set. Consts} \star \text{SingleRadii}) \in (G_{\text{Val}})_i$$

$$\text{IF:}$$

$$(G_{\text{Val}})_i.\text{Cascade} \cong (G_{\text{Val}})_j.\text{Cascade}$$

$$\text{Than: } \exists \text{ Hom}\big((G_{\text{Val}})_i, (G_{\text{Val}})_j\big) \cong \text{True}$$

Reflection: On the Primorial Extrema Features

This section is a reflection on extrema aspect of the primorial. The author will attempt at predicting the analog of the main equation using the primorial structure. Recall:

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0 \tag{3.1}$$

$$\text{Primorial: } \# \left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})$$

$$\text{Primorial.Generator } \cong (e^-)$$

$$\text{Primorial.Generator } \cong (e^-)\ \forall \text{ Couplings}$$

$$\text{Primorial.Generator} \cong \text{Extrema.Minima}$$

$$\text{Couplings.Number } \longrightarrow \text{Aspiring.Infinity}$$

This than indicate a minimal number of classes of generators is yielding an maxima number of objects. The analog of this relation is the following.

$$\Phi.\text{Generator} \cong \text{Extrema.Minima}$$

$$\Phi.\text{Number } \longrightarrow \text{Aspiring.Infinity}$$

This indicate a single class of manifolds, yielding an extrema number of manifolds in the packet. This question was provided by several answers in volume one. In particular, whether other classes of manifolds or objects exist. Using that recent analysis, there exist minimal classes of objects, one class, which is analogous to the minimal classes of generators, one generator, the majestic three. Therefore using the analogy the final structure of the multiverse is indeed a single class packet of objects aspiring infinity and generated by the existing objects. This in contrast to previous idea about different sets of sets of laws as the final structure of the multiverse as presented in the first volume.

Reflection: On Lagrangians and Slowdowns

$$\text{Primorial: }\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})$$

$$\text{Primorial: }\#\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\mathbb{P}\right)}^{\text{SSB On Spin Zero}}\oplus(e^-)\cong$$

$$\text{PrimorialSlowdown:}\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\mathbb{P}}^{\Leftarrow}\right)}^{\text{SSB On Spin Zero}}\oplus\overbrace{(e^-)}^{\Rightarrow}\cong\text{MassInsertion}$$

$$\text{MassInsertion}\propto:\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\mathbb{P}}^{\Leftarrow}\right)}^{\text{SSB On Spin Zero}}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\mathbb{P}}^{\Leftarrow}\right)}^{\text{SSB On Spin Zero}}\cong\text{StableGoldstone}\rightarrow\text{UnstableHiggs}$$

$$\text{PrimorialSlowdown}\cong\text{Lagrangian}$$

$$\overbrace{(e^-)}^{\Rightarrow}\cong\text{PureKinetic}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\mathbb{P}}^{\Leftarrow}\right)}^{\text{SSB On Spin Zero}}\oplus\overbrace{(e^-)}^{\Rightarrow}\cong\text{SlowedKinetic}$$

$$\text{SlowedKinetic}\equiv\big(\mathscr{L}\cong(T-V)\big)$$

$$V\equiv\text{MassInsertion}$$

■

Reflection: Another Lagrangian Formulation

$$\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0 \qquad (3.1)$$

$$\text{PrimorialSlowdown:}\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\overleftarrow{\mathbb{P}}}\right)}^{\text{SSB On Spin Zero}}\oplus\overbrace{(e^-)}^{\Rightarrow}\cong\text{MassInsertion}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\overleftarrow{\mathbb{P}}}\right)}^{\text{SSB On Spin Zero}}\oplus\overbrace{(e^-)}^{\Rightarrow}\cong\text{SlowedKinetic}$$

$$\text{SlowedKinetic}\equiv\left(\mathscr{L}\cong(T-V)\right)$$

Recall:

$$V\equiv\text{MassInsertion}$$

Define:

$$T\cong\nabla R_{ij}$$

Such that:

$$\mathscr{L}\cong\left(\nabla R_{ij}-\text{MassInsertion}\right)\in\text{Random}(\Phi)$$

$$\mathscr{L}\cong\left(\text{SumOver}\left(\nabla R_{ij}\right)-\text{SumOver}(\text{MassInsertion})\right)\in\text{Random}(\Phi)$$

■

Reflection: Geometrical Pattern of Prime Radiation

This section is creating a connection between a set of possible geometrical shape and the prime radiation.

$$\text{Let:}\left(\text{Ring}(\{\mathbb{P}\})\underset{\underset{\hookrightarrow}{\overbrace{}}}{\overset{\overbrace{}^{\text{L}}}{\longleftarrow}}{}_{\pi}\ \text{Top}(\mathbb{P})\right)\in \text{Some}_{\Phi}$$

$$\text{Let:}\left(\ \text{Top}(\mathbb{P})\underset{\underset{\hookrightarrow}{\overbrace{}}}{\overset{\overbrace{}^{\text{L}}}{\longleftarrow}}{}_{\pi}\ \text{Set}(\mathbb{P})\right)\in \text{Some}_{\Phi}$$

Recall:

$$\begin{bmatrix} \frac{1}{2}+\frac{1}{2} & \cdots & \cancel{E_{1n}} \\ \vdots & \frac{1}{2}+\frac{1}{2} & \vdots \\ \cancel{E_{m1}} & \cdots & \frac{1}{2}+\frac{1}{2} \end{bmatrix} \in \text{Top}$$

$$\text{Define: Set}\{\text{GeometricalConfiguration}\};$$

$$\text{Let: Set}\{\text{GeometricalConfiguration}\} \star \text{PrimeRing} \ \cong \text{True}$$

As an example:

$$\text{QuantumTriangle:}\begin{bmatrix} \frac{1}{2} & \cdots & \frac{1}{2} \\ \vdots & \frac{1}{2} & \vdots \\ \cancel{0} & \cdots & 0 \end{bmatrix} \cong \begin{bmatrix} \mathbb{P} & \cdots & \mathbb{P} \\ \vdots & \mathbb{P} & \vdots \\ \cancel{0} & \cdots & 0 \end{bmatrix}$$

$$\text{QuantumSquare:}\begin{bmatrix} \frac{1}{2} & \cdots & \frac{1}{2} \\ \vdots & 0 & \vdots \\ \frac{1}{2} & \cdots & \frac{1}{2} \end{bmatrix} \cong \begin{bmatrix} \mathbb{P} & \cdots & \mathbb{P} \\ \vdots & 0 & \vdots \\ \mathbb{P} & \cdots & \mathbb{P} \end{bmatrix}$$

And so on, any geometrical shape is available as a result of such construction.

Reflection: Reasoning Extra Gravity without Packet Construction

Recall the original structure the author used in volume one to explain the phenomena extra gravitational effect:

$$\frac{\partial \mathscr{L}}{\partial {\mathrm{S}^3}_i}\frac{\partial {\mathrm{S}^3}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial {\mathrm{S}^3}_j}\frac{\partial {\mathrm{S}^3}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E \cong 0 \qquad (3.1.\mathrm{B})$$

Also, recall:

$$\mathrm{GravityVersor:}\sum_{Z=1}^{K}(2Ni+1)_Z \star Z^{-1}$$

$$\mathrm{GravityVersor:}\sum_{Z=1}^{K}(\mathbb{C}+\mathbb{R})_Z \star Z^{-1} \cong (\mathbb{C}+\mathbb{R}).\mathrm{Versor}$$

$$(\mathbb{C}+\mathbb{R}).\mathrm{Versor} \cong \mathrm{SpinOne} \cong \mathrm{Average(K.Couplings)}$$

■

$$\mathrm{Define:Set(Averages)}\ \forall\ \mathbb{P}\ \in \mathrm{Ring}\left(\frac{1}{2}\right)$$

$$\mathrm{Define:Set(Averages)}\ \forall\ \mathbb{P}\ \in \mathrm{Aspire}(\infty)$$

$$\mathrm{Axiom:Set(Averages)} \cong \mathrm{Set(GravityEffects)} \ni \left(\mathbb{P} \in \left(\mathrm{Ring}\left(\frac{1}{2}\right)\right)\right)$$

■

In words, each prime for a given coupling could be paired to any other prime in any other pair such that there must be an infinite set of possible averages for each coupling. Also the prime could pair to another prime of the same magnitude. Therefore there exist infinite terms of gravitational effects which were not taken into account to this day. This is because the true nature of quantum gravity was not understood before the 8T was developed.

Reflection: Matter Does Not affect The Process of Measurement

$$\left(\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\mathrm{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n+\Delta n}\left((N_V)\right)_a\right) \subset \left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\right) \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \quad (3.3)$$

Recall:

$$\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \rightarrow \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2}$$

$$2N_2 + 1 \longrightarrow 2N_2 + \frac{3}{2}$$

$$N_V \in \mathbb{P} \longrightarrow (N_V + N_V) \notin \mathbb{P}$$

$$(2N_2 + 1)^{-1} > \left(2N_2 + \frac{3}{2}\right)^{-1}$$

Replace the half unit spin by pure matter:

$$\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \longrightarrow \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} + \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} + 0$$

Therefore the two slit experiment could work with any amount of matter. Assuming the system is made out of net curves, vanishing curves such as fermion can not effect the total system. The only thing that can affect the system is a net curve, located on the prime critical line.

$$\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \rightarrow \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2} \cong$$

$$\left[2N_2 \oplus \frac{1}{2}\right] + \mathrm{NetCurve} \rightarrow \left[2N_2 \oplus \frac{1}{2}\right] + \mathrm{NetCurve} + \mathrm{NetCurve}$$

$$\mathrm{NetCurve} + \mathrm{NetCurve} \nexists \mathrm{OneTopologicalBoundary}$$

■

The extra net curve is to quantize the system, leading to topological boundary intersection and to cancelation, which is in contrast to pure matter that is not effecting the same way. This leads to the conclusion that the two slit experiment would work with any form of matter or any amount of matter.

Proof: Non-Commutative Aspects of Particle Decays

$$\text{Primorial: }\#\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^{-})\right)\oplus(\mathbb{P})$$

Consider a decay of a particle into a set of other particles:

$$(\mathbb{P})\longrightarrow \text{ParticleOne}+\text{ParticleTwo}+\text{ParticleThree}$$

Consider a delay in the decay such that:

$$(\mathbb{P})\longrightarrow \overbrace{\text{ParticleOne}}^{\text{TimeOne}}+\overbrace{\text{ParticleTwo}+\text{ParticleThree}}^{\text{TimeTwo}}$$

$$(\mathbb{P})\ni \text{SomeEnergy}$$

$$\overbrace{\text{ParticleOne}}^{\text{TimeOne}}\in \text{EnergyPortionOne}$$

$$\overbrace{\text{ParticleTwo}+\text{ParticleThree}}^{\text{TimeTwo}}\cong \text{EnergyPortionRest}$$

$$\text{EnergyPortionOne}\gg \text{EnergyPortionRest}$$

$$\text{EnergyPortionOne}\oplus \text{EnergyPortionRest}\cong \text{SomeEnergy}$$

Consider the same combination with the same particles but with another particle that was the result of the original decay such that:

$$(\mathbb{P})\longrightarrow \overbrace{\text{ParticleTwo}}^{\text{TimeOne}}+\overbrace{\text{ParticleOne}+\text{ParticleThree}}^{\text{TimeTwo}}$$

$$\overbrace{\text{ParticleTwo}}^{\text{TimeOne}}\ni \text{EnergyPortionOne}$$

$$\overbrace{\text{ParticleOne}+\text{ParticleThree}}^{\text{TimeTwo}}\ni \text{EnergyPortionRest}$$

$$\text{Axiom: TimeOne }\textbf{IsBefore}\text{ TimeTwo}\ \blacksquare$$

Therefore there exist an aspect of decay which presenting a non-commutative traits. The order in which the target particles appear does make a difference, which is in contrast to some ideas made in volume one, such as the commutative spin two gravities and the primorial commutativity presented back in the early days of the theory. Those ideas were based on the total number and the spin invariance mainly.

Proof: Imperfect Fermion Sphere Density

Recall:

$$\left(\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}} \subset \left(\left(\sum_{a=1}^{n+\Delta n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\right) \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\text{Let: } \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \mathrm{FermionCluster} \cong \mathrm{SomeStar}$$

$$\text{Let: } \mathrm{Some}(G_{\mathrm{Val}}) \in (\mathrm{RegionOne}) \in \mathrm{FermionCluster}$$

$$\text{Let: } \mathrm{SomeOther}(G_{\mathrm{Val}}) \in (\mathrm{RegionTwo}) \in \mathrm{FermionCluster}$$

$$\mathrm{Some}(G_{\mathrm{Val}}) \not\equiv \mathrm{SomeOther}(G_{\mathrm{Val}})$$

$$\mathrm{RegionTwo} \bigcap \mathrm{RegionOne} \cong \emptyset$$

$$\text{Let: } \mathrm{Some}(G_{\mathrm{Val}}) \gg \mathrm{SomeOther}(G_{\mathrm{Val}})$$

Therefore:

$$\text{Let: } \mathrm{Some}(G_{\mathrm{Val}}).\mathrm{ClusteringRate} \gg \mathrm{SomeOther}(G_{\mathrm{Val}}).\mathrm{ClusteringRate}$$

$$(\mathrm{RegionOne}).\mathrm{FermionDensity} \gg (\mathrm{RegionTwo}).\mathrm{FermionDensity}$$

■

Proof: Gravitational Equinox on Electrons

$$\begin{bmatrix} P\left(e^- + N_{V_\mu}\right) \searrow & \cdots & \swarrow P\left(e^- + N_{V_\mu}\right) \\ \vdots & G_{\text{Rand}} & \vdots \\ \boldsymbol{P}\left(\boldsymbol{e}^- + N_{V_\mu}\right) \nearrow & \cdots & \nwarrow \boldsymbol{P}\left(\boldsymbol{e}^- + N_{V_\mu}\right) \end{bmatrix} \cong$$

$$\begin{bmatrix} P(e^- + Ric) \searrow & \cdots & \swarrow P(e^- + Ric) \\ \vdots & G_{\text{Rand}} & \vdots \\ \boldsymbol{P}(\boldsymbol{e}^- + Ric) \nearrow & \cdots & \nwarrow \boldsymbol{P}(\boldsymbol{e}^- + Ric) \end{bmatrix}$$

$$\begin{bmatrix} P\left(e^- + N_{V_\mu}\right) \searrow & \cdots & \swarrow P\left(e^- + N_{V_\mu}\right) \\ \vdots & G_{\text{Rand}} & \vdots \\ \boldsymbol{P}\left(\boldsymbol{e}^- + N_{V_\mu}\right) \nearrow & \cdots & \nwarrow \boldsymbol{P}\left(\boldsymbol{e}^- + N_{V_\mu}\right) \end{bmatrix} \cong \begin{bmatrix} \frac{1}{2} + \frac{1}{2} & \cdots & \frac{1}{2} + \frac{1}{2} \\ \vdots & \ddots & \vdots \\ \frac{1}{2} + \frac{1}{2} & \cdots & \frac{1}{2} + \frac{1}{2} \end{bmatrix}$$

Reverse:

$$\begin{bmatrix} \boldsymbol{P}\big((G_{\text{Rand}})\big) \nwarrow & \cdots & \nearrow P\big((G_{\text{Rand}})\big) \\ \vdots & (\boldsymbol{e}^-) & \vdots \\ \boldsymbol{P}\big((G_{\text{Rand}})\big) \swarrow & \cdots & \searrow \boldsymbol{P}\big((G_{\text{Rand}})\big) \end{bmatrix} \cong \text{FixedLepton}$$

$$\begin{bmatrix} P\left(e^- + N_{V_\mu}\right) \searrow & \cdots & \swarrow P\left(e^- + N_{V_\mu}\right) \\ \vdots & G_2 & \vdots \\ \boldsymbol{P}\left(\boldsymbol{e}^- + N_{V_\mu}\right) \nearrow & \cdots & \nwarrow \boldsymbol{P}\left(\boldsymbol{e}^- + N_{V_\mu}\right) \end{bmatrix} \cong \text{FixedAverage}$$

$$\text{Axiom: } (\boldsymbol{e}^-) \textbf{ Is Probability } \blacksquare$$

$$\textbf{GEquinox}: \begin{bmatrix} \boldsymbol{P}\big(P(G_{\text{Rand}})\big) \nwarrow & \cdots & \nearrow P\big(P(G_{\text{Rand}})\big) \\ \vdots & \text{Probability}(\boldsymbol{e}^-) & \vdots \\ \boldsymbol{P}\big(P(G_{\text{Rand}})\big) \swarrow & \cdots & \searrow \boldsymbol{P}\big(P(G_{\text{Rand}})\big) \end{bmatrix} \cong \text{Fix. Lepton}$$

Which means as far as one can see that equal number of averages of the same magnitude does not affect the probability of an electron. That is a trivial result and of course not longer holds if the gravitational values differ.

$$\begin{bmatrix} \boldsymbol{P}\big((G_{\text{RandOne}})\big) \nwarrow & \cdots & \nearrow P\big((G_{\text{RandTwo}})\big) \\ \vdots & \text{Probability}(\boldsymbol{e}^-) & \vdots \\ \boldsymbol{P}\big((G_{\text{RandThree}})\big) \swarrow & \cdots & \searrow \boldsymbol{P}\big((G_{\text{RandFour}})\big) \end{bmatrix} \cong \text{VaryingP. Lepton}$$

Given:

$$\text{Condition: } \boldsymbol{P}\big((G_{\text{RandOne}})\big) \not\equiv \boldsymbol{P}\big((G_{\text{RandTwo}})\big) \ldots$$

Proof: The Bosonic Series to Converge - Wrong

Recall:

$$\text{Primorial: }\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})$$

$$\left(\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n+\Delta n}\left((N_V)\right)_a\right)\subset\left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\right)\in\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

Define a series of fermion clusters vanishing into matter.

$$\text{FermionSeries: }\sum\nolimits_{z=1}^{n}\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\cong 0\cong\text{ConvergeSeries}$$

$$\text{Axiom: FermionSeries}\ni\text{BoseSeries}$$

$$\forall\text{ Couplings: }\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\longrightarrow\left(\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{-1}$$

$$\left(\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{-1}\cong\text{QuantumFractions}$$

Therefore:

$$\text{QuantumFractions}\cong\text{ConvergeSeries}$$

$$\text{Axiom: QuantumFractions}\cong\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})_i}\cong\text{ConvergeSeries}$$

The complication is that the sum of gravitational averages seem to diverge across the packet, and the diverging of the averages could indicate to the diverging of the fundamental building block of gravity. This can be solved by:

$$\text{QuantumFractions}\cong\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})_i}\ni\text{Set.Top.Cancelation}$$

$$\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})_i}\ni\text{Set.Top.Cancelation}\cong\text{ParticleWaveDuality}$$

Proof: Bosonic Converge and the Particle Wave Duality

$$\text{Axiom:} \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})_i} \ni \text{Set.Top.Cancelation} \cong \text{ParticleWaveDuality}$$

Define as an axiom:

$$\text{Axiom:} \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})_i} \cong \left(\sum_{i=1}^{\infty} \frac{1}{(N_V)_i} \right) \in \text{Top.Space}$$

Which is bijective to:

$$\text{AxiomOne:} \forall \ \text{Bose}_{\text{Particle}} \cong (\mathbb{P})$$

Recall:

$$\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \to \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2}$$

$$2N_2 + 1 \longrightarrow 2N_2 + \frac{3}{2}$$

$$N_V \ \in \ \mathbb{P} \longrightarrow (N_V + N_V) \notin \ \mathbb{P}$$

$$(2N_2 + 1)^{-1} > \left(2N_2 + \frac{3}{2}\right)^{-1}$$

Therefore:

$$\left(\sum_{i=1}^{k \to \infty} \frac{1}{(N_V)_i} \right) \in \text{Top.Space} \gnsim \left(\sum_{i=1}^{(k+n) \longrightarrow \infty} \frac{1}{(N_V)_i} \right) \in \text{Top.Space}$$

■

Reflection: Gravitational Converge - Wrong

Recall back in volume one when the author stated that the gravitational value diverge if taken as a constant similar to ours across each manifold. Than the author claimed it is not possible to know if the value diverge or converge. This claim will be re-analyzed using the most recent insight of the prime fraction to converge.

$$\left(\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n+\Delta n}\left((N_V)\right)_a\right) \subset \left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\right) \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\text{Axiom:} \sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})_i} \ni \text{Set.Top.Cancelation} \cong \text{ParticleWaveDuality}$$

$$\left(\sum_{i=1}^{k\to\infty}\frac{1}{(N_V)_i}\right) \in \text{Top.Space} \gtrsim \left(\sum_{i=1}^{(k+n)\to\infty}\frac{1}{(N_V)_i}\right) \in \text{Top.Space}$$

Assuming it is the average of two prime net variations:

$$\left(\sum_{i=1}^{k/2\to\infty}\frac{1}{((G_{\text{Val}})_i)}\right) \in \text{Top.Space} \gtrsim \left(\sum_{i=1}^{(k+n)/2\to\infty}\frac{1}{((G_{\text{Val}})_i)}\right) \in \text{Top.Space}$$

$$\left(\sum_{i=1}^{(k+n)/2\to\infty}\frac{1}{((G_{\text{Val}})_i)}\right) \cong \text{ConvergeSeries} \cong \text{ConvergeValue}$$

Assuming the quantum feature of decrease due to quantum element increase as was presented with single bosons in the early days of volume one. If the series to converge than the effect of external “gravitational pull” should present a constant effect in a matric of a given manifold over the development of the arrow of time and converge to a specific value, as far as one knows “dark matter” effect is considered a constant value in physical/cosmological theories. The complication is that those averages do not intersect as bosonic particles as they belong to different objects with finite set of dimensions. That is in contrast to a set of bosons rising from a given manifold. However if the net variation series to converge, the gravitational converge is an immediate result as well. This question is very hard because the “trickery” nature of quantum particles and their bijection to fractions of primes. That is alongside the fact those averages differ in objects which contain them.

Reflection: Gravitational Values in Space-time Zonal

Recall:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\cong$$

$$\underbrace{\frac{\mathbf{1}}{\mathbf{30}},\frac{\mathbf{1}}{\mathbf{128}}}_{correct},\frac{1}{850},\frac{1}{9254},\frac{1}{120{,}136},\frac{1}{2{,}042{,}060},\frac{1}{38{,}798{,}782},\frac{1}{892{,}371{,}506},\frac{1}{2.58\times10^{10}},\frac{1}{8.02\times10^{11}},\frac{1}{2.96\times10^{13}},$$

$$\frac{1}{1.2\times10^{15}},\frac{1}{5.23\times10^{16}},\frac{1}{2.45\times10^{18}},\frac{1}{1.25\times10^{20}},\frac{1}{6.6\times10^{21}},\frac{1}{3.78\times10^{23}},\frac{1}{2.23\times10^{25}},\frac{1}{1.36\times10^{27}},\frac{1}{9.13\times10^{28}},$$

$$\frac{1}{6.48\times10^{30}},\frac{1}{4.73\times10^{32}},\frac{1}{3.74\times10^{34}},\frac{1}{3.1\times10^{36}},\frac{1}{2.76\times10^{38}},\frac{1}{2.68\times10^{40}},,\frac{1}{2.7\times10^{42}}\cdots$$

Recall that in volume one the author stated the idea that each average is bijective to given period in each manifold. Well, it is not possible to proof such a claim and therefore the author regard it as wrong. That is:

$$(\text{SingleAverage}\in\text{UniuqeTimePeriod})\cong\text{False}$$

Instead, because it was not possible to proof that that was the case, i.e. that there exist one value to each period, the author will modify the idea and state that there exist one or more gravitational value to each space-time zonal (regions). Similar to the manner a fermion can hold several values of gravitational effects within it, leading to different set of densities and to imperfect spheres.

$$(\text{ManyAverages}\in\text{UniuqeTimePeriod})\cong\text{True}$$

$$(\text{SomeAverage}\in\text{UniuqeSpaceTimeZonal})\cong\text{True}$$

$$1\leq\text{Zonal}\leq\text{n}$$

Where:

$$\text{SumOver(Zonal)}\cong\Phi.\text{SurfaceArea}$$

Define:

$$\text{SomeAverage}\cong\text{Set}\ \ni\text{Function}\cong\text{ElementsNumber}$$

$$\text{ElementsNumber.Count}\geq1$$

■

Reflection: Wave to Particle but Particle to Wave?

Recall the process in which a wave is collapsing due to measurement as presented in volume one.

$$\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \rightarrow \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2}$$

$$2N_2 + 1 \longrightarrow 2N_2 + \frac{3}{2}$$

$$N_V \in \mathbb{P} \longrightarrow (N_V + N_V) \notin \mathbb{P}$$

$$(2N_2 + 1)^{-1} > \left(2N_2 + \frac{3}{2}\right)^{-1}$$

$$\text{Axiom:} \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \cong \text{Top. Aligned} \cong \text{No. Cancelation}$$

In contrast:

$$\text{Axiom:} \left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2} \cong \text{Top. NotAligned} \cong \text{Wave. Cancelation}$$

Once there is a cancelation, the quantum elements are not aligned after interference and they are represented by particles, can the opposite be true by an insertion of an additional element? In other words, is it possible to go from “particle like” system to a wave like system?

$$\overbrace{\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2}}^{\text{ParticleLike+NotAligned}} \longrightarrow \overbrace{\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2} \oplus \frac{1}{2}}^{\text{WaveLike}}$$

$$\overbrace{\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2} \oplus \frac{1}{2}}^{\text{WaveLike}} \ \textbf{IF} \ \text{QuantumElements Are Top. Aligned}$$

The author will argue it is not possible. Proof:

$$\overbrace{\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2} \oplus \frac{1}{2}}^{\text{WaveLike}} \cong \overbrace{\left[2N_2 \oplus \frac{1}{2}\right] \oplus \frac{1}{2} \oplus \frac{1}{2}}^{\text{ParticleLike+NotAligned}} + \frac{1}{2}$$

If part of the quantum system is not aligned than the whole system is not aligned and therefore it is not possible to go from particle like to wave like, as it is possible to go from wave to particle.

■

Reflection: Sum of Prime Squares

Recall:

$$\textbf{Axiom}: \forall\ \text{ProbabilityLocation} \propto \text{Square} \in \text{WaveFunction}$$

$$\textbf{Axiom}: \forall\ \text{ProbabilityLocation} \propto \text{WaveFunction}^2$$

$$\textbf{Axiom}: \text{ProbabilityLocation} \cong \text{PrimeLocation}$$

$$\text{PrimeLocation} \cong \text{WaveFunction}^2$$

In addition:

$$\frac{1}{\#\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})} \longrightarrow \text{Class. Bose} \cong \text{PrimeFractions;}$$

Such that:

$$\text{ProbabilityLocation} \longrightarrow \text{PrimeFractionLocation}$$

Therefore:

$$\text{ProbabilityLocation} \propto \text{PrimeFraction}^2$$

$$\text{SumOver(ProbabilityLocation)} \cong \text{SumOver}(\text{PrimeFraction}^2)$$

$$\sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \text{SumOver}(\text{PrimeFraction}^2) \in \text{QS(N)}$$

$$\frac{1}{(\mathbb{P})^2{}_i} \cong \frac{1}{\text{Odd}} \forall\ \text{Couplings;}$$

$$\text{If: SumOver(ProbabilityLocation)} \cong \text{Unit} \leq 1$$

$$\text{than: } \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \text{ConvergeValue} \leq 1;$$

Therefore it is agreeing with the previous statement about converge value of the bosonic sequence. It is also evident from another angle.

$$\text{Given: } \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})_i} \cong \text{ConvergeValueOne}$$

$$\text{than} \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \text{ConvergeValueAsWell}$$

$$\text{ConvergeValueOne} \gtrapprox \text{ConvergeValueAsWell}$$

■

Reflection: Sum of Prime Squares and Commutative Aspects

$$\frac{1}{(\mathbb{P})^2{}_i} \cong \frac{1}{\mathrm{Odd}} \forall \text{ Couplings;}$$

$$\text{If: SumOver(ProbabilityLocation)} \cong \text{Unit} \leq 1$$

$$\text{than: } \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \text{ConvergeValue} \leq 1;$$

$$\text{Given: } \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})_i} \cong \text{ConvergeValueOne}$$

$$\text{than} \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \text{ConvergeValueAsWell}$$

$$\forall \text{ Terms } \in \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \sum_{i=1}^{\infty} \frac{1}{\mathbb{P}_i \star \mathbb{P}_i}$$

$$\text{ReversedOrder: } \frac{1}{\mathbb{P}_i \star \mathbb{P}_i} \longrightarrow \frac{1}{\mathbb{P}_i \star \mathbb{P}_i} \cong \frac{1}{\mathrm{Odd}}$$

$$\therefore \left(\forall \text{ Terms } \in \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i}\right) \textbf{Are} \text{ Commutative; } \frac{1}{\mathbb{P}_i \star \mathbb{P}_i} \textbf{ Is} \text{ SelfDual;}$$

$$\left(\forall \text{ Terms } \in \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i}\right)$$

$$\text{ProbabilityLocation} \propto \text{PrimeFraction}^2$$

$$\text{SumOver(ProbabilityLocation)} \cong \text{SumOver}(\text{PrimeFraction}^2)$$

$$\therefore (\forall \text{ Terms } \in \text{ProbabilityLocation}) \textbf{ Are} \text{ Commutative}$$

$$\therefore (\forall \text{ Terms } \in \text{WaveFunction}) \textbf{ Are} \text{ Commutative}$$

Reflection: The Unity of Fermions and Bosons

Recall the structure of each prime tuple, presented back in the early days of the theory in volume one.

$$\frac{1}{\sum_{i=1}^{2}(\mathbb{P})\ _{i}} \cong \frac{1}{\text{Even}} \forall\ \text{Couplings};$$

$$\frac{1}{\text{Even}} \star 2^{-1} \cong \text{CouplingTerm} \cong \frac{1}{\#\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^{-})\right) \oplus (\mathbb{P})}$$

$$\frac{1}{\text{Even}} \star 2^{-1} \cong: (\text{Even}\ \star \text{Bose}_{\text{Particles}})^{-1}$$

$$(\text{Even}\ \star \text{Bose}_{\text{Particles}})^{-1} \cong \overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\mid[2,3]}$$

Recall the factor leading to destabilization:

$$\overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\mid[2,3]} + \overbrace{\text{FreeRadical}}^{\text{Lepton}}$$

And for each coupling term:

$$\overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\mid[2,3]} + \overbrace{\text{FreeRadical}}^{\text{Lepton}} + \overbrace{\text{PrimeUnbound}}^{\nmid[2,3]}$$

$$\overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\text{EvenBoseTuple}} + \overbrace{\text{FreeRadical}}^{\text{Lepton}} + \overbrace{\text{PrimeUnbound}}^{\text{FreeBose}-\text{Single}}$$

$$\overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\text{VanishingCurve}} + \overbrace{\text{FreeRadical}}^{\text{Lepton}} + \overbrace{\text{PrimeUnbound}}^{\text{NonVanishingCurve}}$$

$$\overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\text{VanishingCurve}} \wedge \overbrace{\text{PrimeUnbound}}^{\text{NonVanishingCurve}} \in \text{RicciFlow}$$

$$\overbrace{(p_1,p_2),(p_3,p_4),(p_5,p_6)\ \ldots}^{\text{VanishingCurve}} \equiv \left(\partial R_{ij} \cong 0\right)$$

$$\overbrace{\text{PrimeUnbound}}^{\text{NonVanishingCurve}} \equiv \left(\partial R_{ij} \ncong 0\right)$$

■

Reflection: Prime Symmetries

Recall the symmetry:

$$\text{Axiom: } [E_i, E_j] \cong 0$$

$$\text{Axiom: } \nabla E_i E_j - \nabla E_j E_i \cong 0$$

Let:

$$\text{Axiom: } \forall\ \mathbb{P}\ \exists\ \text{Energy} > 0$$

Leading to analog:

$$[E_i, E_j] \cong [\mathbb{P}_i, \mathbb{P}_j]$$

$$\nabla \mathbb{P}_i \mathbb{P}_j - \nabla \mathbb{P}_j \mathbb{P}_i \cong 0$$

$$\nabla \mathbb{P}_i \mathbb{P}_j \cong -\nabla \mathbb{P}_j \mathbb{P}_i$$

Recall from previous section:

$$\forall\ \text{Terms}\ \in \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})^2{}_i} \cong \sum_{i=1}^{\infty} \frac{1}{\mathbb{P}_i \star \mathbb{P}_i}$$

$$\text{ReversedOrder: } \frac{1}{\mathbb{P}_i \star \mathbb{P}_i} \longrightarrow \frac{1}{\mathbb{P}_i \star \mathbb{P}_i} \cong \frac{1}{\text{Odd}}$$

In that section:

$$\nabla \mathbb{P}_i \mathbb{P}_j - \nabla \mathbb{P}_j \mathbb{P}_i \cong \nabla \text{Odd} - \nabla \text{Odd} \cong 0$$

$$\therefore \left(\forall\ \text{Terms}\ \in [\mathbb{P}_i, \mathbb{P}_j]\right) \textbf{ Are } \text{Commutative}$$

$$\therefore \left(\forall\ \text{Terms}\ \in \left[\mathbb{P}_i, \mathbb{P}_j\right]\right) \textbf{ Is Symmetric}$$

■

Proof (Trivial): Converge Rates for Homogenous versus Non Homogenous Sum of Squares

$$\frac{1}{\#\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^{-})\right)\oplus(\mathbb{P})}\longrightarrow \mathrm{Class.Bose}\cong \mathrm{PrimeFractions};$$

Recall:

$$\forall\ \mathrm{Terms}\ \in\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})^{2}{}_{i}}\cong\sum_{i=1}^{\infty}\frac{1}{\mathbb{P}_i\star\mathbb{P}_i}$$

Let:

$$\mathrm{SquareSumOne}\cong\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})^{2}{}_{i}}\mathrm{Composed\ by\ a\ }\mathbf{SinglePrime}$$

$$\mathrm{SquareSumTwo}\cong\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})^{2}{}_{i}}\mathrm{Composed\ by\ a\ }\mathbf{AllPrime}$$

$$\mathrm{Given{:}\ SinglePrime} > \mathrm{Subset(AllPrime)}$$

$$(\mathrm{SinglePrime})^2 > (\mathrm{SomePrimes})^2\ \in \mathrm{Subset(AllPrime)}$$

$$((\mathrm{SinglePrime})^2)^{-1} > ((\mathrm{SomePrimes})^2)^{-1}\ \in \mathrm{Subset(AllPrime)}$$

Leading to:

$$\mathrm{SquareSumOne.ConvergeRate} < \mathrm{SquareSumTwo.ConvergeRate}$$

$$\mathrm{Homogenous}.\mathbb{P}.\mathrm{Square.ConvergeRate} < \mathrm{NonHomogenous}.\mathbb{P}.\mathrm{Square.ConvergeRate}$$

∎

Reflection: Indirect Estimation of Prime Unbounded Curves by Fermion Clustering Rates

Recall:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\longrightarrow \mathrm{Class.Bose}\cong \mathrm{PrimeFractions};$$

$$\left(\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}}\subset\left(\left(\sum_{a=1}^{n+\Delta n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\right)\in\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

In addition:

$$\forall\,(\mathrm{t}\ \in\Phi)\nexists\left(\mathrm{Quantum.Law}=(\mathrm{EigenVals}\in\mathrm{QS1})\right)$$

$$\cong\forall\,(\mathrm{t}\ \in\Phi)\exists\left(\mathrm{Quantum.Law}=(\emptyset)\right)$$

As each quantum bosonic fraction is taking several possible values of energies it is not possible to define the magnitude of the curve. However if it is possible to estimate the clustering rates of the fermion components than it should be possible to estimate indirectly the approximate prime sum eigenvalue. In particular to state that there exist a direct proportion between fermion clustering rate and the sum of bosonic eigenvalues.

$$\mathrm{Define:}\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right).\mathrm{ClusteringRate}$$

$$\mathrm{Define:}\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right).\mathrm{ClusteringDensity}$$

$$\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}}\subset\left(\left(\sum_{a=1}^{n+\Delta n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\cong\mathrm{SetEigenVals}$$

$$\mathrm{SetEigenVals}\cong\mathrm{LeptonEigenVals}+\mathrm{BoseEigenVals}$$

$$\mathrm{Gravity.EigenVals}\cong\mathrm{Average}(\mathrm{LeptonEigenVals}+\mathrm{BoseEigenVals})$$

The average of the fermion and boson eigenvalues is exactly what needed to estimate the clustering rate of the fermion cluster.

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{ClusteringRate} \propto \text{Magnitude.Gravity.EigenVals}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{ClusterDensity} \propto \text{Magnitude.Gravity.EigenVals}$$

Another proportion that is also worth inserting into this section:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{ClusteringTime} \propto^{-1} \text{Magnitude.Gravity.EigenVals}$$

That is because the bosons lead to a compression of space-time and thus to a compression of time, the stronger the gravitational value, the vaster the time compression and the faster the fermion clustering. This was also mentioned in volume one in the bosonic clustering potential parts and the fact that over the development of the quantum system the highest probability is toward the lowest eigenvalues. It is also evident from the parts where the outer surface of a star was predicted to be less dense than the internal cores as it was taken to be created at later stages of the manifold formations.

$$\text{Magnitude.Gravity.EigenVals} \propto^{-1} \text{QS(N).Development}$$

$$\text{Magnitude.Gravity.EigenVals} \propto^{-1} \text{TimeArrowDevelopment}$$

Where the latter is also evident from the primorial coupling series, as the coupling terms are decreasing with each prime factorizations.

$$\text{Magnitude.Coupling} \propto^{-1} \text{PrimeDevelopment}$$

Leading to the following analogous relations:

$$\text{Magnitude.Coupling } \textbf{Is Analog To } \text{Gravity.EigenVals}$$

$$\text{TimeArrow.Development } \textbf{Is Analog To } \text{Prime.Development}$$

The last statement validates some of the ideas made back in volume one, in particular that the direction of time is the direction of prime.

Open Question 17: On Internal Jumps Refute

$$\frac{\partial \mathscr{L}}{\partial {S^3}_i}\frac{\partial {S^3}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial {S^3}_j}\frac{\partial {S^3}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E \cong 0 \qquad (3.1.\mathrm{B})$$

Recall:

$${S^3}_i.\,\mathrm{Jump\ if}:\left(\frac{\partial R_E}{\partial t_i} \cong 0\right) \cong \mathrm{Extrema}$$

As given by the main equation:

$$\left(\frac{\partial R_E}{\partial t_i} \cong 0\right) \in \mathrm{Manifold}(\mathrm{index}\ \cong \mathrm{i}), \mathrm{Manifold}(\mathrm{index}\ \cong \mathrm{j})$$

The curves that terminate each other belong to distinct objects, which interface with one another and equal in magnitude. For that reason, in particular that it is not specified that it is possible to jump from an area of extrema curve to another extrema curve on the same object, as they could differ, one can **refute the jumps from one area of extrema to another area of extrema on the same manifold**.

$$\left(\frac{\partial R_E}{\partial t_i} \cong 0\right) \notin \mathrm{Manifold}(\mathrm{index}\ \cong \mathrm{i}), \mathrm{Manifold}(\mathrm{index}\ \cong \mathrm{i})$$

The jumps according to the main equation applies only in between areas of extrema that belong to two distinct manifolds that differ by one unit index.

$$\frac{\partial \mathscr{L}}{\partial {S^3}_i}\frac{\partial {S^3}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\overbrace{\frac{\widetilde{\partial R_E}}{\partial t_i}}^{\mathrm{OjbectOne}}\delta R_E - \frac{\partial \mathscr{L}}{\partial {S^3}_j}\frac{\partial {S^3}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\overbrace{\frac{\widetilde{\partial R_E}}{\partial t_i}}^{\mathrm{ObjectTwo}}\delta R_E \cong 0 \qquad (3.1.\mathrm{B})$$

$$\frac{\partial \mathscr{L}}{\partial {S^3}_i}\frac{\partial {S^3}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\overbrace{\frac{\widetilde{\partial R_E}}{\partial t_i}}^{\mathrm{OjbectOne}}\delta R_E - \frac{\partial \mathscr{L}}{\partial {S^3}_j}\frac{\partial {S^3}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\overbrace{\frac{\widetilde{\partial R_E}}{\partial t_i}}^{\mathrm{ObjectOne}}\delta R_E \cong \mathrm{False}$$

If the two areas of extrema on the same manifold are far away from one another than that would imply that:

$$\frac{\partial \mathscr{L}}{\partial {S^3}_i}\frac{\partial {S^3}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\overbrace{\frac{\widetilde{\partial R_E}}{\partial t_i}}^{\mathrm{OjbectOne}}\delta R_E - \frac{\partial \mathscr{L}}{\partial {S^3}_j}\frac{\partial {S^3}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\overbrace{\frac{\widetilde{\partial R_E}}{\partial t_i}}^{\mathrm{ObjectOne}}\delta R_E \cong \mathrm{NotFlat}$$

Reflection: On Spin Symmetry of the Weak Interaction

Recall that back in the early stages of volume one the author defined a variation of the primorial:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\longrightarrow\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(\mathbb{P})\right)\oplus(e^-)}$$

$$(\mathbb{P})\cong W^-$$

$$\frac{1}{\#(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus W^-)\oplus(e^-)}\cong\mathrm{FreeElectron}$$

$$\frac{1}{\#(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus W^-)\oplus(e^-)}\cong\mathrm{UnstableForm}$$

At retrospect, the problem with this idea is that the weak interaction boson is unstable and therefore it is subject to a instant decay. To solve this complication the author would revisit the replacement and retain the original form.

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus W^-}$$

As the mass of the weak interaction boson is much heavier and it is a subject to instant decay it is possible to define a decay to an electron, and that way the coupling terms are stable and there exist a subset of electrons which are free and not confined into the hadron.

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus W^-}\in t_1$$

$$W^-\longrightarrow\mathrm{OtherQuanta}+(e^-)$$

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus\mathrm{OtherQuanta}\oplus(e^-)}\in t_1+\Delta t$$

$$\exists(\mathrm{OtherQuanta})\because(e^-).\mathrm{Mass}\ll W^-.\mathrm{Mass}$$

It is also possible to replace $(\mathrm{OtherQuanta})$ by a jet of leptons, such that the total would be equal in energy or in mass to the mass of the domain particle, the heavy weak interaction bosons.

$$W^{-} \longrightarrow \sum_{i=1}^{k} (e^{-})_i$$

$$\sum_{i=1}^{k} (e^{-})_i \,.\, \text{Energy} \;\cong W^{-}.\text{Energy}$$

$$\sum_{i=1}^{k} (e^{-})_i \,.\, \text{Mass} \;\cong W^{-}.\text{Mass}$$

The same apply to any other coupling term, as there exist nothing special about the second coupling term. It is the same mechanism the author used to derive the electron neutrino. Any time were the masses between particles differ, it is possible to require a completion of quanta.

$$\text{Given: Particle. Energy} \neq \sum_{i=1}^{k} \text{Other . Energy}$$

$$\text{Require:}$$

$$\text{Particle. Energy} \cong \sum_{i=1}^{k} \text{Other . Energy} + \text{Energy. Equalizar}$$

The energy equalizer is not limited to any given particle. Therefore, one can define:

$$\forall\ (\text{t} \in \Phi) \nexists \big(\text{Quantum. Identity} = (\text{Energy. Equalizar} \in \text{QS1})\big)$$

$$\cong \forall\ (\text{t} \in \Phi) \exists \big(\text{Energy. Equalizar} = (\text{AnyClass. Particle})\big)$$

Where:

$$(\text{AnyClass. Particle}) \cong \text{Fermi} \bigvee \text{Bose}$$

The reminder energy does not have to manifest as a particle.

$$(\text{AnyClass. Particle}) \cong \text{FreeEnergy}$$

One last point is that the continuation in time is no longer making the spin form of the primorial relevant.

$$\frac{1}{\#\Big(2^{(e^{-})} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^{-})\Big) \oplus \text{OtherQuanta} \oplus (e^{-})} \notin \text{SpinForm}$$

Re-analysis: On Prime Decays and Class Relation

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}$$

During the epos of volume one, the author suggested possible decays from higher primes to composition of odd lower magnitude prime. The author ignored the spin complication and the fact that the connection between number theory to particle theory is still vague. In other words, the fact that certain numbers add up to a prime does not indicate what is the likelihood of such process. The reasoning take back in volume one was inspired by the Riemann proof that showed that it is possible to regard the primes as a non-abelian group of spin one. In this re-analysis, the author would like to suggest a different idea for this important topic. The idea is the following – the fact that some higher primes can be represented by odd/prime number of lower magnitude primes is an indication to class relation rather than to a given decay. In other words, the higher particle belong to the “boson sector” simply because some bosons are valid representation of them.

Given:

$$(\mathbb{P}).\mathrm{Composed}\cong\sum_{i=1}^{odd}(\mathbb{P})_i$$

In addition:

$$\sum_{i=1}^{odd}(\mathbb{P})_i\cong\mathrm{Bose.Class}\ \forall\ (\mathbb{P})_i$$

Is implying:

$$(\mathbb{P}).\mathrm{Composed}\in\mathrm{Bose.Class}$$

In addition, is **not** implying:

$$(\mathbb{P}).\mathrm{Composed}\ \mathbf{DecayTo}\ \sum_{i=1}^{odd}(\mathbb{P})_i$$

$$\therefore(\mathbb{P}).\mathrm{Composed}\cong\mathrm{Fund.Particle}$$

The question of prime decays on the bosonic sector can be analyzed by studying the nature of the bosons that we already know of in the context of number theory. Their behavior can direct particle physicists toward better understanding the connections between number theory and particle theory.

Re-analysis: On Homomorphism's of Quantum System and Sum of Prime Squares

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\longrightarrow \mathrm{Class.Bose}\cong \mathrm{PrimeFractions};$$

$$\left(\underbrace{\left(\sum_{i=1}^{m+\Delta m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}}\subset\left(\left(\sum_{a=1}^{n+\Delta n}\left((N_V)\right)_a\right)\subset\left(\sum_{i=1}^{l+\Delta l}(e^-)_i\right)\right)\right)\in\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

This analysis is meant to provide another possible method for defining partly identical quantum system, using the more recent ideas and equations. In particular, using the sum of prime squares. The following theorem the author will suggest:

There exist a quantum homomorphism if the sum of prime squares of two-quantum system is identical.

Recall**:**

$$\mathbf{Axiom}\colon\forall\ \mathrm{ProbabilityLocation}\propto\mathrm{Square}\in\mathrm{WaveFunction}$$

$$\mathbf{Axiom}\colon\forall\ \mathrm{ProbabilityLocation}\propto\mathrm{WaveFunction}^2$$

$$\mathbf{Axiom}\colon\mathrm{ProbabilityLocation}\cong\mathrm{PrimeLocation}$$

$$\mathbf{Axiom}\colon\mathrm{PrimeFraction}^2\cong\mathrm{WaveFunction}^2\cong\mathrm{ProbabilityLocation}$$

$$\mathrm{PrimeFraction}^2\forall\ \mathrm{Terms}\ \cong\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})^2{}_i}\cong\sum_{i=1}^{\infty}\frac{1}{\mathbb{P}_i\star\mathbb{P}_i}$$

If:

$$\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})^2{}_i}\subseteq\mathrm{QS(N)}\cong\sum_{i=1}^{\infty}\frac{1}{(\mathbb{P})^2{}_i}\subseteq\mathrm{QS(M)}$$

$$\mathrm{Than}\colon\exists\ \mathrm{Hom}\big(\mathrm{QS(N)},\mathrm{QS(M)}\big)\cong\mathrm{True}$$

It is implying homomorphism if the wave functions are identical, although they can be composed by different elements and it is not possible to retrace and decide the unique energy contribution of each quantum element, homomorphism is the best nature allow, given the uncertainty and the fact each element has set of eigenvalues.

Re-analysis: Quantum Triggers on Leptons

In this section the author will elaborate on the subject of quantum triggers which lead to emission of primes from boson. Up to this point, the main trigger was external boson leading to increased probability of emission. Recall from the first volume:

$$\text{BoseTrigger:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-\oplus \mathrm{P(A)})\right)\oplus \mathrm{P(A)}$$

Another possible trigger is that the electron has eigenvalue that is higher than the lowest eigenvalue, by aspiring the lowest state, the electron would emit energy or radiation, and therefore this could serve as a trigger

$$\text{EigenValTrigger: }\nexists\left(\text{Quantum. Allocate}(\text{EigenVal}_{\text{Random}}\in e^-)\right)$$

$$\text{EigenVal}_{\text{Random}}\in \text{Set. EigenVals}$$

$$\text{EigenVal}_{\text{Random}}>\text{EigenVal}_{\text{Lowest}}$$

Another possible trigger is that **another** electron has eigenvalue that is higher than the lowest eigenvalue, since the electron is bijective to a prime. It could have a similar effect probability wise.

$$\text{LeptonTrigger:}\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-\oplus \mathrm{P(A)})\right)\oplus \mathrm{P(Other)}$$

$$\mathrm{P(Other)}\cong(e^-)$$

A possible complication is that using the prime fraction insert, the insertion of another boson lead to smaller probability, so in that representation one must avoid the fraction idea. This also agree with facts as far as one knows, the existence of other bosons can lead to directed emission of bosons from leptons. That is the idea behind laser.

$$\forall\ \text{BoseTrigger, LeptonTrigger: }\nexists\ \text{FrctionalProbability. Representation}$$

■

Re-analysis: Quantum Lepton Groups

In this section the author will elaborate on the subject of quantum Lepton groups which is analyzed from a viewpoint of classical particles rather than waves to avoid complications. In particular using the standpoint of a group it is possible to define a group action which is the boson exchange. Recall:

$$(\mathrm{Set})_1\left(\sum_{n=1}^{n=N}\mathbb{P}_n\right)\cong(\mathrm{Top})_1\left(\sum_{n=1}^{n=N}\mathbb{P}_n\right)$$

$$(\mathrm{Group})_1\left(\sum_{n=1}^{n=N}e^-\right)\cong(\mathrm{Top})_1\left(\sum_{n=1}^{n=N}e^-\right)$$

Define the group action:

$$(\mathrm{Group})_1.\mathrm{Action}\cong\mathrm{BoseExchange}$$

In general form:

$$(\mathrm{Group})_1.\mathrm{Action}\cong\mathrm{AnyBoseExchange}$$

$$\mathrm{AnyBoseExchange}\cong\mathrm{AnyPrimeExchange}$$

Recall the Pauli exclusion, with each boson exchanged the leptons taken to be presented by classical particles rather than waves are replacing their position within the group. No two leptons can occupy the same state.

$$(\mathrm{Group})_1\cong\{\ \overbrace{(e^-{}_1)}^{\mathrm{PositionOne}}\ \ldots\ \overbrace{(e^-{}_n)}^{\mathrm{PositionN}}\ \}$$

$$(\mathrm{Group})_1.\mathrm{Action}\cong\ \overbrace{(e^-{}_1)}^{\mathrm{PositionOne}}\star\mathrm{BoseExchange}\star\overbrace{(e^-{}_2)}^{\mathrm{PositionTwo}}$$

$$\overbrace{(e^-{}_1)}^{\mathrm{PositionOne}}\star\mathrm{BoseExchange}\star\overbrace{(e^-{}_2)}^{\mathrm{PositionTwo}}\ \longrightarrow$$

$$\overbrace{(e^-{}_1)}^{\mathrm{PositionTwo}}\ \wedge\ \overbrace{(e^-{}_2)}^{\mathrm{PositionOne}}$$

$$(\mathrm{Group})_1\cong\left\{\overbrace{(e^-{}_1)}^{\mathrm{PositionOne}}\ \ldots\ \overbrace{(e^-{}_n)}^{\mathrm{PositionN}}\right\}\in\mathrm{ParticleRepresentation}$$

$$(\mathrm{Group})_1\cong\left\{\overbrace{(e^-{}_1)}^{\mathrm{PositionOne}}\ \ldots\ \overbrace{(e^-{}_n)}^{\mathrm{PositionN}}\right\}\notin\mathrm{WaveRepresentation}$$

Re-analysis: Slowdowns and Mass Insertions on Three Generations

Recall from volume one:

$$\left[(24\times 5+\gamma^{\leftrightarrow})\overbrace{+(\overleftarrow{W^{-\Rightarrow}})}\right]$$

Which was also presented by:

$$\overbrace{[(24\times 5+\gamma)+(e^{-})]}^{\text{SSB on Spin 0−Mass Ac.}}\longrightarrow\overbrace{[(24\times 5)+(\gamma+e^{-})]}^{\text{Electron with mass}}\longrightarrow\overbrace{[(24\times 5)+(e^{-})]+\gamma}^{\text{Energy −Diverging cur.}}$$

$$(24\times 5+\gamma)\longrightarrow([2,3]\,|24\times 5)+e^{-}\ \in\mathscr{F}$$

Define the three generation:

$$\textbf{Axiom}:\overbrace{[T-B]}^{\text{First}}-\overbrace{[S-C]}^{\text{Second}}-\overbrace{[U-D]}^{\text{Third}}$$

$$\textbf{Axiom}:\overbrace{[\text{TauLepton}]}^{\text{First}}-\overbrace{[\text{MuonLepton}]}^{\text{Second}}-\overbrace{[\text{Electron}]}^{\text{Third}}$$

$$\overbrace{[(24\times 5+\gamma)+(e^{-})]}^{\text{SSB on Spin 0−Mass Ac.}}\longrightarrow\overbrace{[(24\times 5+\gamma)+(3)]}^{\text{SSB on Spin 0−Mass Ac.}}$$

$$\overbrace{[(24\times 5+\gamma)+(3)]}^{\text{SSB on Spin 0−Mass Ac.}}\longrightarrow\overbrace{\left[(24\times 5+\gamma)+\begin{cases}\overbrace{[\text{TauLepton}]}^{\text{First}}\\ \overbrace{[\text{MuonLepton}]}^{\text{Second}}\\ \overbrace{[\text{Electron}]}^{\text{Third}}\end{cases}\right]}^{\text{SSB on Spin 0−Mass Ac.}}$$

$$\overbrace{\left[(24\times 5+\gamma)+\begin{cases}\overbrace{[\text{TauLepton}]}^{\text{First}}\in\text{TimeArrow}\\ \overbrace{[\text{MuonLepton}]}^{\text{Second}}\in\text{TimeArrow}+\Delta\text{t}\\ \overbrace{[\text{Electron}]}^{\text{Third}}\in\text{TimeArrow}+\Delta\text{t}+\Delta\text{t}\end{cases}\right]}$$

Which meant to express the variance of the masses between three generation. The intensity of the slowdown is proportional to time and by relating the heavier masses to first generation it is possible to correlate the slowdown intensity to the heavier masses.

The same apply to fermions:

$$\overbrace{[(24\times 5+\gamma)+(e^{-})]}^{\text{SSB on Spin 0−Mass Ac.}} \longrightarrow \overbrace{[(24\times 5+\gamma)+(3)]}^{\text{SSB on Spin 0−Mass Ac.}}$$

$$\text{Axiom:} \overbrace{[T-B]}^{\text{First}} - \overbrace{[S-C]}^{\text{Second}} - \overbrace{[U-D]}^{\text{Third}} \cong [2,3]\ |\text{EvenSums}$$

Such that:

$$\overbrace{[(24\times 5+\gamma)+(3)]}^{\text{SSB on Spin 0−Mass Ac.}} \cong \begin{cases} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{First}}+\gamma\right)+(3)\right]}^{\text{SSB on Spin 0−Mass Ac.}} \\ \left[\left(\overbrace{[S-C]}^{\text{Second}}+\gamma\right)+(3)\right] \\ \left[\left(\overbrace{[U-D]}^{\text{Third}}+\gamma\right)+(3)\right] \end{cases}$$

Similar to the lepton SSB:

$$\begin{cases} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{First}}+\gamma\right)+(3)\right]}^{\text{SSB on Spin 0−Mass Ac.}} \\ \left[\left(\overbrace{[S-C]}^{\text{Second}}+\gamma\right)+(3)\right] \\ \left[\left(\overbrace{[U-D]}^{\text{Third}}+\gamma\right)+(3)\right] \end{cases} \cong \begin{cases} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{First}}+\gamma\right)+(3)\right] \in \text{TimeArrow}}^{\text{SSB on Spin 0−Mass Ac.}} \\ \left[\left(\overbrace{[S-C]}^{\text{Second}}+\gamma\right)+(3)\right] \text{TimeArrow}+\Delta\text{t} \\ \left[\left(\overbrace{[U-D]}^{\text{Third}}+\gamma\right)+(3)\right] \text{TimeArrow}+\Delta\text{t}+\Delta\text{t} \end{cases}$$

Where:

$$\textbf{Axiom}: \text{TimeArrow} \propto \text{SlowdownMagnitude}$$

Therefore:

$$\textbf{Axiom}: \text{TimeArrow} \propto \text{MassMagnitude}$$

Whether there exist more generations is an open question at that point. As previously mentioned in volume one, this question ranks among the hardest questions according to the author. The answer must take either an infinite series or an exact reason for that number and not any other. The same process apply with any other prime, as an example above only the photon is presented.

Reflection: Leptons as Two Sign Carriers

$$\textbf{Axiom}: \overbrace{[T-B]}^{\text{First}} - \overbrace{[S-C]}^{\text{Second}} - \overbrace{[U-D]}^{\text{Third}}$$

$$\textbf{Axiom}: \overbrace{[\text{TauLepton}]}^{\text{First}} - \overbrace{[\text{MuonLepton}]}^{\text{Second}} - \overbrace{[\text{Electron}]}^{\text{Third}}$$

$$\text{Axiom}: \overbrace{[T-B]}^{\text{First}} - \overbrace{[S-C]}^{\text{Second}} - \overbrace{[U-D]}^{\text{Third}} \cong [2,3]\ |\text{EvenSums}$$

$$\left\{\begin{matrix} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{First}} + \gamma\right) + (3)\right]}^{\text{SSB on Spin 0-Mass Ac.}} \\ \left[\left(\overbrace{[S-C]}^{\text{Second}} + \gamma\right) + (3)\right] \\ \left[\left(\overbrace{[U-D]}^{\text{Third}} + \gamma\right) + (3)\right] \end{matrix}\right. \cong \left\{\begin{matrix} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{First}} + \gamma\right) + (3)\right] \in \text{TimeArrow}}^{\text{SSB on Spin 0-Mass Ac.}} \\ \left[\left(\overbrace{[S-C]}^{\text{Second}} + \gamma\right) + (3)\right] \text{TimeArrow} + \Delta\text{t} \\ \left[\left(\overbrace{[U-D]}^{\text{Third}} + \gamma\right) + (3)\right] \text{TimeArrow} + \Delta\text{t} + \Delta\text{t} \end{matrix}\right.$$

The question of this section is the sign of the leptons. On first glance since the weak interaction bosons are bijective to the number of the lepton, one might be tempted to assume the leptons to be one sign carriers such as bosons. That will lead to leptons that increase the probability arrival to itself. Recall that the Pauli exclusion does not allow it as the addition of two leptons lead to innate contradiction in the coupling series. Recall from the previous sections:

$$\overbrace{(e^{-}{}_{1})}^{\text{PositionOne}} \star \text{BoseExchange} \star \overbrace{(e^{-}{}_{2})}^{\text{PositionTwo}} \longrightarrow$$

$$\overbrace{(e^{-}{}_{1})}^{\text{PositionTwo}} \curlywedge \overbrace{(e^{-}{}_{2})}^{\text{PositionOne}}$$

$$\text{PositionTwo} \not\equiv \text{PositionOne}$$

$$\because (\text{PositionTwo.Sign} \not\equiv \text{PositionOne.Sign})$$

The lepton than must be a two sign carrier to ensure that not two leptons can occupy the same space-time position. That is similar to matter, which is a two sign carrier entity to ensure stationary state. Two leptons will never directly attract each other. The boson exchange lead to a repulsion. Therefore despite the bijection between the weak interaction prime number to the of the number of the lepton, the first is a one carrier class as previously mentioned, the latter is a two carrier class.

Reflection: On Classical Gravitational pulls Versus Non-Classical

Recall:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right);$$

Define:

$$\mathit{Classical}: \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{One}} \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{One} \subseteq \text{Manifold(n)}$$

$$\mathit{Classical}: \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{Two}} \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{Two} \subseteq \text{Manifold(n)}$$

$$\mathit{Classical}: \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{One}} \star \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{Two}} \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{One} \star \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{Two}$$

In words, two fermion clusters with gravitational values which act on one another under the same object taken to be the manifold. That is the classical aspect of interaction between fermion clusters.

$$\overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{One}} \star \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{Two}} \subseteq \text{Manifold(n)}.\text{Interior}$$

Taking as an axiom that by the main equation there exist matter formations of other manifolds, the non-classical interaction

$$\text{Non}\mathit{Classical}: \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{One}} \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{One} \subseteq \text{Manifold(n)}$$

$$\text{Non}\mathit{Classical}: \overbrace{\underbrace{(G_{\text{Val}})}_{\text{Internal}}}^{\text{Two}} \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right).\text{Two} \subseteq \text{Manifold(n + 1)}$$

Leading to the product:

$$\text{Non}\mathit{Classical}: (\text{Manifold(n)}.\text{Interior} \longrightarrow \text{Manifold(n)}.\text{Boundary}) \star$$

$$(\text{Manifold(n + 1)}.\text{Interior} \longrightarrow \text{Manifold(n + 1)}.\text{Boundary})$$

Alternatively, in shorter notation:

$$\mathrm{NonClassical}\colon (\mathrm{n.Interior} \longrightarrow \mathrm{n.Boundary}) \star$$

$$\big((\mathrm{n}+1).\mathrm{Interior} \longrightarrow (\mathrm{n}+1).\mathrm{Boundary}\big)$$

■

In words, the classical form of interactions between fermion clusters and their gravitational value takes the form of interior to the same interior. The non-classical form goes from interior to boundary from each manifold. The "pull" of the matter in the manifold interior is from the coming from boundary rather from the interior as presented in the classical.

$$\mathrm{Non}\mathit{Classical}\colon \mathrm{n.Interior} \star (\mathrm{n}+1).\mathrm{Boundary} \cong \mathrm{Effect}$$

$$\mathrm{Non}\mathit{Classical}\colon (\mathrm{n}+1).\mathrm{Interior} \star (\mathrm{n}).\mathrm{Boundary} \cong \mathrm{Effect}$$

Which is also coming to an agreement with the main equation:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\overbrace{\delta R_E}^{\mathrm{One}} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_j}\overbrace{\delta R_E}^{\mathrm{Two}} = 0 \qquad (3.1)$$

Which can also be written:

$$\mathrm{Non}\mathit{Classical}\colon \left(\left(\overbrace{\delta R_E}^{\mathrm{One}} \cong 0\right) \longrightarrow \mathrm{n.Boundary}\right) \star$$

$$\left(\left(\overbrace{\delta R_E}^{\mathrm{Two}} \cong 0\right).\mathrm{Interior} \longrightarrow (\mathrm{n}+1).\mathrm{Boundary}\right)$$

$$\left(\overbrace{\delta R_E}^{\mathrm{One}} \cong 0\right) \star (\mathrm{n}+1).\mathrm{Boundary} \cong \mathrm{Effect}$$

$$\left(\overbrace{\delta R_E}^{\mathrm{Two}} \cong 0\right).\mathrm{Interior} \star (\mathrm{n}).\mathrm{Boundary} \cong \mathrm{Effect}$$

■

Reflection: On Dirac Quantum Sequences

Recall toward the end of volume one:

$$\text{Dirac:} \left(t + \Delta t + \Delta t - (t + \Delta t)\right) \cong \mathfrak{D}(\Delta t)$$

$$\mathfrak{D}(\Delta t) \cong \begin{cases} 0 \\ N_V \in \mathbb{P} \end{cases}$$

The topic of section is the following question: What if there exist a sequence in which matter is being created and no violation of stationarity is presented. The author will present the Dirac sequence. Consider a k number of times to act on Δt such that:

$$\mathfrak{D}(\Delta t).\,\text{Sequence} \cong \begin{cases} 0 \star k \\ N_V \in \mathbb{P} \end{cases}$$

$$0 \star k \cong \overbrace{000000}^{k,\text{Times}} \ldots$$

And $at\ k + 1$ the first violation is presented:

$$\overbrace{000000}^{k,\text{Times}} \ldots \overbrace{N_V}^{k+1}$$

Recall that each zero in the Dirac sequence is bijective to the arbitrary variation term of the main equation:

$$\left(\sum_{i=1}^{n} (\delta R_E)_i \cong \text{Even} \cong 0\right)$$

Therefore it is possible to define a the density of a Dirac sequence based on a given local ratio:

$$\text{FermionDensity} \cong \overbrace{000000}^{k,\text{Times}} \,/\, \overbrace{N_V}^{k+1} \cong (\text{VanishSequence}/\text{NonVanishingPrime})$$

$$\text{FermiDensity} \cong \frac{k}{k+1}$$

As the elevated delta of the 8T setting does not provide information concerning the sequence of even sums to non-vanishing primes and matter is constantly being created, that leads to another uncertainty of nature. In particular at any scale of fermion cluster it is not possible to determine the Dirac sequence for fermion density. This uncertainty was indirectly analyzed in volume one when the author stated that it is not possible to determine when a boson will emerge from a lepton. One can write:

$$\forall\ (\mathrm{t}\ \in \Phi) \nexists \left(\mathrm{Quantum.Info} = (\mathfrak{D}(\Delta t).\mathrm{Sequence} \in \mathrm{QS1})\right)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi) \exists\ (\mathrm{Quantum.Info} = (\mathfrak{D}(\Delta t).\mathrm{Sequence} \in \mathrm{QS1}) \cong \emptyset)$$

One can define additional theorems based on the Dirac Sequence.

Definition: two fermion clusters are homomorphic if the sum of their primes are identical in number and the number of zeros is identical in number.

$$\mathfrak{D}(\Delta t).\mathrm{SequenceOne} \cong \begin{cases} 0 \star k \\ N_V \in \mathbb{P} \star (k+1) \end{cases} \in \mathrm{QS1}$$

$$\mathfrak{D}(\Delta t).\mathrm{SequenceTwo} \cong \begin{cases} 0 \star m \\ N_V \in \mathbb{P} \star (m+1) \end{cases} \in \mathrm{QS2}$$

If:

$$(k = m)\ \cong \mathrm{True}\ ;$$

Than:

$$\mathrm{Hom(QS1, QS2)} \cong \mathrm{True;}$$

$$\mathrm{Hom(QS1, QS2)} \cong \mathrm{FermiDensity.Hom(QS1, QS2)}$$

Definition: two fermion clusters are homomorphic if the sum of their primes are identical in number, in prime magnitude and in prime eigenvalue and the number of zeros is identical in number, identical in magnitude and identical in even sum eigenvalue bijective to vanishing curvature or fermions.

$$\mathfrak{D}(\Delta t).\mathrm{SequenceOne} \cong \begin{cases} 0 \star k \\ N_V \in \mathbb{P} \star (k+1) \end{cases} \in \mathrm{QS1}$$

$$\mathfrak{D}(\Delta t).\mathrm{SequenceTwo} \cong \begin{cases} 0 \star m \\ N_V \in \mathbb{P} \star (m+1) \end{cases} \in \mathrm{QS2}$$

$$\mathfrak{D}(\Delta t).\mathrm{SequenceOneSum} \cong \mathrm{SumOver\{Evens, Primes\}}$$

$$\mathfrak{D}(\Delta t).\mathrm{SequenceTwoSum} \cong \mathrm{SumOver\{Evens, Primes\}}$$

If:

$$(k = m)\ \cong \mathrm{True}\ ;$$

In addition:

$$\mathfrak{D}(\Delta t).\mathrm{SequenceOneSum} \cong \mathfrak{D}(\Delta t).\mathrm{SequenceTwoSum}$$

Than:

$$\exists\ \mathrm{Iso(QS1, QS2)} \cong \mathrm{FermiDensity.Iso(QS1, QS2)} \cong \mathrm{True}$$

Reflection: Treatise on Quantum Invariance from Number Theory

This is an additional analysis on the subject of quantum invariance from number theory. Several ideas were made earlier in volume two as well as in volume one. Recall that quantum numbers were presented by a random number to the power of one. To begin this analysis the author will define different classes of quantum invariance.

$$\text{Define. ClassOne:}$$

$$\text{InvarianceClassOne} \cong \left(\sum_{i=1}^{n} \mathbb{P}\right)^{0}$$

This is a finite sequence of primes under operation of addition. The key point of this invariance class is twofold. First recall:

$$\underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \left((N_V)\right)_a\right) \subset \left(\sum_{i=1}^{l} (e^{-})_i\right)\right) \subset \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right);$$

$$\therefore \left(\sum_{i=1}^{n} \mathbb{P}\right)^{0} \cong \left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)}$$

Second recall that there exist a trivial truth for any number:

$$\text{Axiom:} \left(\sum_{i=1}^{n} \mathbb{P}\right)^{0} \cong 1; \quad \therefore \left(\sum_{i=1}^{n} \mathbb{P}\right)^{0} \cong \frac{1}{2} + \frac{1}{2};$$

$$\left(\left(2^{(e^{-})} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^{-})\right) \oplus (\mathbb{P})\right)^{-1} \approx 2^{(e^{-})} \prod_{V=1}^{\mathbb{R}} \mathbb{P} + 1$$

Leading to the quantum identity:

$$\text{IdentityOne:} \left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)} - 1 \cong 0$$

$$\left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)} \cong (e^{-}) \oplus (\mathbb{P})$$

∎

Leading the author to the meaning quantum identity. There could be several meanings. As far as the author can see, the first one is concerning the prime class under addition is invariant to fermion effects.

$$\left(\sum_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)} \cong \text{PrimeClass} \in \text{Addition}$$

$$(e^-) \oplus (\mathbb{P}) \cong \text{PrimeClass} \in \text{Addition}$$

Leading to the result:

$$\left(\sum_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)} \cong (e^-) \oplus (\mathbb{P}) \cong$$

$$\text{PrimeClass}^{\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)} \cong \text{PrimeClass};$$

$$\text{PrimeClass}^{(0)} \cong \text{PrimeClass}$$

Therefore, any deviation of the prime elements in the sum by a vanishing curve does not affect the prime class and the prime number features. This is also bijective to the primorial early stages of the volume one. In particular, the free unbounded boson is not effected by the fermion cluster. That is because the fermion cluster has zero curvature. recall that vanishing tuples were presented two-tuple of primes and this is how the primorial was derived. therefore one can expend the identity.

$$\left(\sum_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)} \cong \left(\sum_{i=1}^{n}\mathbb{P}\right)^{\text{TwoPrimeTuple}}$$

Where:

$$\text{TwoPrimeTuple} \cong \overbrace{(p_1, p_2), (p_3, p_4), (p_5, p_6) \dots}^{|[2,3]}$$

$$\left(\sum_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)} \cong \left(\sum_{i=1}^{n}\mathbb{P}\right)^{(p_n, p_m)};$$

$$\overbrace{(p_n, p_m), \dots}^{|[2,3]} \in \text{PrimeClass In Range } [0, \mathbb{R}]$$

$$\left(\sum_{i=1}^{n}\mathbb{P}\right)^{(p_n, p_m)} - 1 \cong 0$$

■

This is also applicable to multiplication as far as the author can see.

$$\left(\prod_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)} \cong \text{PrimeClass} \in \text{Multiplication}$$

$$(e^-) \oplus (\mathbb{P}) \cong \text{PrimeClass} \in \text{Multiplication}$$

Recall:

$$\left(\prod_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)} \cong (\text{Odd})^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)}$$

Therefore:

$$\left(\prod_{i=1}^{n}\mathbb{P}\right)^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)} \cong (\mathbb{ST}.\text{Knot})^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)}$$

Leading to the equation:

$$\text{IdentityTwo}: (\mathbb{ST}.\text{Knot})^{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)} - 1 \cong 0$$

Leading to the physical result of a space-time knot deformation by matter effects on the manifolds, as far as the author can see. Similar ideas made in volume one in particular when suggesting an additional prime to deform the odd number by division. The above result could be than considered a validation of that claim as bosons rise from vanishing curvature or fermions.

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)$$

■

The same definitions presented in the context of fermion clusters are applicable to space-time knots as far as one cans see.

Reflection: Additional Identities from Quantum Invariance

$$\mathrm{Define.ClassTwo:}$$

$$\mathrm{InvarianceClassTwo} \cong \left(\sum_{i=1}^{n=2} \mathbb{P}\right)^2 \cong (\mathbb{P}_1 \oplus \mathbb{P}_2)^2$$

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

Recall:

$$\mathbf{Axiom}: \forall\ \mathrm{ProbabilityLocation} \propto \mathrm{Square} \in \mathrm{WaveFunction}$$

$$\mathbf{Axiom}: \forall\ \mathrm{ProbabilityLocation} \propto \mathrm{WaveFunction}^2$$

$$\mathbf{Axiom}: \mathrm{ProbabilityLocation} \cong \mathrm{PrimeLocation}$$

$$\mathbf{Axiom}: \mathrm{PrimeFraction}^2 \cong \mathrm{WaveFunction}^2 \cong \mathrm{ProbabilityLocation}$$

Leading to:

$$(\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2 \cong \mathrm{WaveFunction}^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus \mathrm{WaveFunction}^2$$

Which is bijective to:

$$\mathrm{ProbabilityLocation} \subseteq (\mathbb{P}_1) \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus \mathrm{ProbabilityLocation} \subseteq (\mathbb{P}_2)$$

Assuming the primes are diverging to opposite space-time directions, the combined term is in agreement with the previous arguments of the author. The square of a multi prime wave function is leading to a product of primes reflecting the fact they are interconnected by the middle term $2\mathbb{P}_1\mathbb{P}_2$. This term could also imply that the product of the combined prime wave function is taking the form of a particle.

$$\forall\ 2\mathbb{P}_1\mathbb{P}_2 \cong \mathrm{Even}$$

$$(\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2 \cong \mathrm{Odd} + \mathrm{Even} + \mathrm{Odd}$$

$$\mathrm{Odd} + \mathrm{Even} + \mathrm{Odd} \cong \mathrm{Odd} + \mathrm{Odd} + \mathrm{Even}$$

$$\mathrm{Odd} + \mathrm{Odd} + \mathrm{Even} \cong \mathrm{Even} + \mathrm{Even}$$

$$\mathrm{Even} + \mathrm{Even} \cong \mathrm{Even}$$

$$\blacksquare$$

It is possible to present this class in other way:

$$\text{InvarianceClassTwo} \cong \left(\sum_{i=1}^{n=2} \mathbb{P}\right)^2 \cong (\mathbb{P}_1 \oplus \mathbb{P}_2)^2$$

$$\left(\sum_{i=1}^{n=2} \mathbb{P}\right)^2 \cong \left(\sum_{i=1}^{n=2} \mathbb{P}\right)^{1+1} \cong \left(\sum_{i=1}^{n=2} \mathbb{P}\right)^{\left(\frac{1}{2}+\frac{1}{2}\right)+\left(\frac{1}{2}+\frac{1}{2}\right)}$$

Where the key point:

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong$$

By the axiom between Bose particles and Primes, one can write:

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong (\gamma_1)^2 \oplus \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}} \oplus (\gamma_2)^2$$

The measurement is possible because both of the primes are no longer primes due to the quadratic action and thus they cannot appear as waves. The mixed term is ensuring that any effect due to measurement on some photon, will have sort of an effect on the other photon. Notice the equality:

$$(\gamma_1)^2 \oplus (\gamma_2)^2 \cong \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}}$$

That it by recalling that for the photons the two primes are presented by $\mathbb{P}_{1,2} \cong 2V + 1; V = 2;$

$$(5)^2 \oplus (5)^2 \cong 2(5)^2$$

The same applies to any other prime in the series. That means that one can write:

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 - \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong 0$$

An equality that works only for same kind of bosons.

$$(5)^2 \oplus (\text{AnyPrime} \neq 5)^2 \ncong 2(5)^2$$

This equality implies as far as one can see, that the area of joint intersection is identical to the process of diverging primes taken to diverge at opposite space-time directions. In that sense the joint term is really a signature of their wave-like feature despite the two quanta maneuver as manner similar particles in space-time as they are no longer in pure prime formation.

■

Reflection: Bounded Space-Time Ripple of Curvature

Recall:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\longrightarrow \mathrm{Class.Bose}\cong \mathrm{PrimeFractions};$$

Recall from the previous section that:

$$(\mathbb{P}_1)^2\oplus(\mathbb{P}_2)^2-\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Mixed.Term}}\cong 0$$

$$(\gamma_1)^2\oplus(\gamma_2)^2\cong\overbrace{2\gamma_1\gamma_2}^{\mathrm{Mixed.Term}}$$

Recall from the previous volume that the prime is composed by ripple and arc that are compliments to one another. When the ripple cancel due to intersection the arc than must take the entire prime representation and retain the original nature of the particle, i.e. net curvature. That means that even when the prime is squared to reach an odd, this odd is a net curvature on space-time. However is net curvature differs from the original prime due to the odd class versus the original prime class.

$$(\gamma_1)^2\oplus(\gamma_2)^2\cong \mathrm{Odd}+\mathrm{Odd}$$

That is important to emphasize as it was not mentioned before. The nature of the boson is invariant, the features are varying and differs according to the number class.

$$(\gamma_1)^2\oplus(\gamma_2)^2\Longrightarrow \mathrm{Knots}$$

$$\gamma_1\bigcup\gamma_2\Longrightarrow \mathrm{Waves}$$

$$\gamma_1\bigcap\gamma_2\Longrightarrow \mathrm{Particles}$$

In addition, the famous particle wave duality that was analyzed in depth during "classics" can be formulated by:

$$\mathrm{PW}:\left((\gamma_1\bigcap\gamma_2)<(\gamma_1\bigcup\gamma_2)\right)\cong(\frac{1}{2}\bigcap\frac{1}{2})<(\frac{1}{2}\bigcup\frac{1}{2})$$

Simply because these are prime fractions:

$$\mathrm{PW}:\left((\gamma_1\bigcap\gamma_2)^{-1}<(\gamma_1\bigcup\gamma_2)^{-1}\right)\cong(\frac{1}{2}\bigcap\frac{1}{2})^{-1}<(\frac{1}{2}\bigcup\frac{1}{2})^{-1}$$

The order in which things are happing in nature are from pure prime state to no longer pure state due to interference from external effects. The so called "measurement effect" an insertion of quantum bosonic particle that allows one to observe the system.

$$\overbrace{\gamma_1 \bigcup \gamma_2}^{Waves} \Rightarrow \overbrace{(\gamma_1 \bigcap \gamma_2)}^{\text{Particles}}$$

As previously covered, the inverse process is not possible:

$$\overbrace{(\gamma_1 \bigcap \gamma_2)}^{\text{Particles}} \Rightarrow \overbrace{\gamma_1 \bigcup \gamma_2}^{Waves} \cong \text{False}$$

The key point is that using the current ideas it is possible to explain why it is not possible. As the bosons are always intersecting, as was covered in previous stages and as also given in the mixed term it is no longer possible to represent the two primes using the "or" operator. Therefore once the system is interfered by external boson it can not longer described via wave representation, that is bijective to the constant intersection or "entanglement of quantum system" with another quantum system. Some of the energy has vanished due to the external element and insertion of additional quantum elements as particles can not increase the energy as these are quantum fractions as far as one can see. As the waves cover immense range over time the number of intersections should increase, and with it the cancelation and the transformation to particles. The total number of wave intersection is directly proportional to the sum of energy cancelations and total energy decrease of the system. Therefore, the summation of wave intersections could serve as one of the mechanisms that allow the physical matric to aspire the lowest state of energy over time, i.e. the stationary state. In "classics" the author emphasized this point in several parts without elaborating on the set of mechanisms that could allow a possible decrease in energy. This mechanisms is useful as it allows countering the constant increase in energy due to curvature vanishing to matter in proportion to the arrow of time.

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \propto \text{Energy. Increase}$$

$$\sum \left(\overbrace{\gamma_1 \bigcup \gamma_2}^{Waves} \Rightarrow \overbrace{(\gamma_1 \bigcap \gamma_2)}^{\text{Particles}} \right)_i \propto \text{Energy. Decrease}$$

One can require:

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \star \sum \left(\overbrace{\gamma_1 \bigcup \gamma_2}^{Waves} \Rightarrow \overbrace{(\gamma_1 \bigcap \gamma_2)}^{\text{Particles}} \right)_i \cong \text{LowestEnergy. State}$$

Reflection: Singularity and Boundaries

$$\frac{\partial \mathscr{L}}{\partial {S^3}_i}\frac{\partial {S^3}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial {S^3}_j}\frac{\partial {S^3}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E \cong 0 \qquad (3.1.\mathrm{B})$$

Recall from the previous volume that the author defined the process in which new manifolds may rise from pre-existing manifolds. That was by the arrow:

$$\blacklozenge\colon (\Phi) \longrightarrow (\Phi)$$

The key point of this section is to analyze it from the angle of boundary and interior of a given manifold. As given by the proof part of “classics”, singularity is an extrema curve that is spinning and reach an orthogonal state with the flattening pair. If one to accept that the interior of each manifold is finite dimensional at all time, the rise of new manifolds must appear in between the interior, which is in the boundary. The two interiors are bijective to the flattening manifold pair, exhorting pressure on the exterior of the new manifold. The question of this section is how the new manifold rising form existing manifold. As far as the author can see it could take several forms. The first form:

$$\blacklozenge\colon (\Phi_{\mathrm{Exist}}).\mathrm{Interior} \longrightarrow (\Phi).\mathrm{NewObject}(\quad) \in (\Phi_{\mathrm{Exist}}).\mathrm{Boundary}$$

In words, the a fluctuation on the interior of one manifold is giving rise to an object which is part of the boundary of the existing manifold. The moment of singularity is the separation of the object from the boundary of the existing manifold to an “independent object”.

$$(\Phi).\mathrm{NewObject}(\quad) \in (\Phi_{\mathrm{Exist}}).\mathrm{Boundary} \longrightarrow$$

$$(\Phi).\mathrm{NewObject}(\quad) \notin (\Phi_{\mathrm{Exist}}).\mathrm{Boundary}$$

$$(\Phi).\mathrm{NewObject}(\quad) \notin (\Phi_{\mathrm{Exist}}).\mathrm{Boundary} \cong \mathrm{ManifoldRise}$$

The second option is almost identical but in this setting the manifold fluctuating from the boundary and not from the interior:

$$\blacklozenge\colon (\Phi_{\mathrm{Exist}}).\mathrm{Boundary} \longrightarrow (\Phi).\mathrm{NewObject}(\quad) \in (\Phi_{\mathrm{Exist}}).\mathrm{Boundary}$$

and singularity:

$$(\Phi).\mathrm{NewObject}(\quad) \in (\Phi_{\mathrm{Exist}}).\mathrm{Boundary} \longrightarrow$$

$$(\Phi).\mathrm{NewObject}(\quad) \notin (\Phi_{\mathrm{Exist}}).\mathrm{Boundary}$$

Either option one choose, there exist a new object which is no longer a part of the original object and emerged from the boundary of the original object.

$$(\Phi).\mathrm{NewObject}(\quad) \notin (\Phi_{\mathrm{Exist}}).\mathrm{Boundary}$$

This object is taken to be an extrema curve, this curve is orthogonal to the boundary of the flattening pair.

$$(\Phi).\mathrm{NewObject}(\quad) \cong \mathrm{ExtremaCurve}$$

$$\mathrm{ExtremaCurve} \perp \mathrm{FlatteningPair};\ \ \mathrm{FlatteningPair} \cong \{\Phi_i, \Phi_{i+1}\}$$

The flattening pair is really a private case of entire packet pressure on that extrema curve. This immense pressure lead to transformation of the sort:

$$\mathrm{FlatteningPair}: \mathrm{ExtremaCurve} \longrightarrow \mathrm{Flat}\ (\mathrm{S}^3)$$

$$\mathrm{FlatteningPacket}: \mathrm{ExtremaCurve} \longrightarrow \mathrm{Flat}\ (\mathrm{S}^3)$$

Which is bijective to the so-called "inflation" in 20-th century cosmology. The same effect that is causing the manifold to accelerate today, and the same effect ensuring it will retain flat and keep accelerating in the future. As previously covered in "classics":

$$\mathrm{FlatteningPacket}: \mathrm{ExtremaCurve} \longrightarrow \mathrm{Flat}\ (\mathrm{S}^3)\quad \cong \mathrm{Singluarity}$$

$$\mathrm{FlatteningPacket}: \mathrm{Flat}\ (\mathrm{S}^3)\quad \longrightarrow \mathrm{Flat}\ (\mathrm{S}^3)\quad \cong \mathrm{TimeInvariant.Acc}$$

The radical expansion of singularity is due to a shift from no pressure by the packet to a given extrema pressure by the packet, and the invariant rate of acceleration is the automorphism from the packet pressure to the packet pressure.

$$\mathrm{FlatteningPacket}: \mathrm{Flat}\ (\mathrm{S}^3)_{\mathrm{X}\cong\mathrm{FlatDegree}} \longrightarrow \mathrm{Flat}\ (\mathrm{S}^3)_{\phi\cong\mathrm{FlatDegree}} \cong$$

$$\mathbf{AsLong}: \mathrm{FlatteningPacket}\ \mathbf{Is}\ \mathrm{True}$$

$$\mathrm{Than:}$$

$$\phi \gtrsim \mathrm{X}\quad \mathbf{Is}\ \mathrm{True}$$

In words, as along as the new object is subject to pressure from the packet, the degree of flatness is increasing and is proportional to the expansion and the outward acceleration.

$$\mathrm{X} \cong \mathrm{FlatDegree} \longrightarrow 1; \mathrm{as\ TimeArrow} \longrightarrow \infty$$

■

Reflection: The Flawed form the Early Theory Gravity

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\longrightarrow \text{Class.Bose}\cong \text{PrimeFractions};$$

In the early days of volume one, "classics", the author defined the vanishing form of gravity, as the following:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\oplus(e^-)\right)\oplus(\mathbb{P})\oplus(\mathbb{P})}\cong(2N_2+2)^{-1}$$

$$\text{EarlyForm}\colon(2N_2+2)^{-1}\longrightarrow(2N_2+)^{-1}$$

In this section the author will argue this form, as suggested in later stages of volume one, is wrong.

$$(2N_2+2)^{-1}\longrightarrow(2N_2+)^{-1}\cong\text{False}$$

For two reasons. First, the electrons can not be added up in net variation form:

$$(e^-)\oplus(e^-)\cong\text{Excluded}$$

The second reason is that the boson particles can not really vanish as they are one sign carriers, i.e. a net amount. If part of the even number complex can not vanish than the whole complex of even number can not vanish.

$$(\mathbb{P})\oplus(\mathbb{P})\cong\{+\}\oplus\{+\}$$

$$(\{+\}\oplus\{+\})\gtrsim 0\ \forall\ \text{TimeArrow}$$

Therefore:

$$\left(\left((\mathbb{P})\oplus(\mathbb{P})\right)\star\text{VanishingQuanta}\right)\cong\text{False}$$

$$\left(\left[\left((e^-)\oplus(e^-)\right)\oplus\left((\mathbb{P})\oplus(\mathbb{P})\right)\right]\star\text{VanishingQuanta}\right)\cong\text{False}$$

■

The modern form:

$$[(2N_2+1)^{-1}+(2N_2+1)^{-1}]\star 2^{-1}\cong\text{CouplingAverage}$$

$$\text{CouplingAverage}\cong\text{SpinOneSkeleton}$$

■

Reflection: The Collapse of a Quantum Number

Recall:

$$\left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)} \cong \left(\sum_{i=1}^{n} \mathbb{P}\right)^{(p_n, p_m)} ;$$

$$\underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \left((N_V)\right)_a\right) \subset \left(\sum_{i=1}^{l} (e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right);$$

Define a gravitational value of the set of the gravitational values that hold a critical magnitude needed for collapse:

$$\exists \left(G_{\text{RandVal}} \in \underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i\right)}_{\text{Internal}} \right);\ G_{\text{RandVal}} \cong G_{\text{RandVal}}.\text{Critical}$$

$$G_{\text{RandVal}}.\text{Critical} \longrightarrow \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right).\text{Collapse}$$

$$\left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)} \longrightarrow \left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right).\text{Collapse}}$$

Recall:

$$\text{FermionDensity} \cong \overbrace{000000}^{k,\text{Times}} \,/\, \overbrace{N_V}^{k+1} \cong (\text{VanishSequence/NonVanishingPrime})$$

$$\text{FermionDensity} \in \left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right).\text{Collapse}} >$$

$$\text{FermionDensity} \in \left(\sum_{i=1}^{n} \mathbb{P}\right)^{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)}$$

■

Reflection: On the Beauty of the Final Laws of Nature

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}$$

Recall that back in volume one, classics, the author argued that the laws are generated randomly. In this section, the author will re-evaluate this analysis. Nature have chosen a given set of laws, whether randomly or not. As there exist only two equations that allow explaining almost everything in the universe, one must use that to reach insight on the beauty of nature. The most obvious one is that nature is aspiring to minimize the number of laws that govern the majority of phenomena, which is an essence an indirect proof to its grand simplicity. Simplicity that manifest in the fact that the main equations of the 8T themselves are radically simple.

The second result, that is an indirect result is that the laws are attainable from mathematical viewpoint rather than just physical. If there was found one way to reach the coupling using the physical and with the rise of the 8T with the mathematical, that does not mean those are the only ways, perhaps there are more mathematical methods that allow to reach the final laws. As the laws are unique in nature it does not make much sense that there are many methods to reach the same laws, or that they are equally easy. One believes that the axioms and methods of the 8T are the easiest and allow to reach the deepest laws in the shortest time.

The third insight, nature chose a single generator, the lowest generator to all the primes. This feature of nature was analyzed in "classics" in the early days. Instead of many possible generators, nature aspire to minimize the prime numbers that give rise to bosons, and to minimize it to just one number. The number is the lowest prime in the framework, therefore nature is aiming for the minimal class and the minimal value, this product than give rise to extrema number of unique bosons.

$$\mathrm{FinalLaws}\colon \mathrm{Min}(\mathrm{Value}) \star \mathrm{Min}(\mathrm{GeneratorType}) \bowtie \mathrm{Max}(\mathrm{BoseType})$$

Where:

$$\mathrm{Min}(\mathrm{Value}) \cong \mathrm{Min}(\mathrm{Prime})$$

$$\mathrm{Min}(\mathrm{GeneratorType}) \cong \mathrm{Min}(\mathrm{SinglePrime} \cong (3))$$

$$\mathrm{Max}(\mathrm{BoseType}) \cong (\mathbb{P}).\mathrm{Ring}$$

The key question, that was already analyzed is whether it is applicable to manifolds. notice the difference:

$$\mathrm{Min(Value)} \star \mathrm{Min(ManifoldType)} \bowtie \mathrm{Max}(\mathbf{ManifoldNumber})$$

Where:

$$\mathrm{Min(Value)} \cong \mathrm{Flat};$$

$$\mathrm{Min(ManifoldType)} \cong \mathrm{Lorentzian}$$

$$\mathrm{Max}(\mathbf{ManifoldNumber}) \cong \mathrm{Max}(\mathbf{ManifoldNumber} \to \infty)$$

Such that:

$$\mathrm{Flat} \star \mathrm{Lorentzian} \bowtie \infty$$

Which is equal to:

$$\mathrm{Flat} \star \mathrm{Lorentzian} \cong \frac{\partial \mathscr{L}}{\partial \mathrm{S}^3{}_i}\frac{\partial \mathrm{S}^3{}_i}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E - \frac{\partial \mathscr{L}}{\partial \mathrm{S}^3{}_j}\frac{\partial \mathrm{S}^3{}_j}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta R_E \cong 0$$

The last part of this reflection is about the beauty of the primorial series. It is almost tempting to believe or to assume that from all the possible series that nature could have chosen to describe its infinite set of dimensionless numbers, this series was just randomly chosen. The beauty of the series is just to marvelous to be picked out randomly. At this point the author seem to tend toward the option that there exist some “design” which chosen this law and no other. That is by no means an earthly design, but a global design which encrypted those laws and no other. The beauty of those laws is yielding the entire higher sets of laws and therefore it is reflected on one way or another in everyday life. Therefore, one must add this analysis to the other open question, a direct design that chose to encrypt or code those specific laws other than any others. That is in contrast to what the author argued in volume one, that the laws are “randomly generated”, they are too simple and beautiful to be randomly chosen. In contrast to the author questions that are open, this question can not be settled as far as the author can see. There is no further clues as to what kind of a design it could have been or why it chose any laws over another.

Reflection: On the Constants of Nature

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}$$

Recall that in the first volume the author proved classical gravity as an average of two prime factorizations. Therefore, the gravitational coupling is not a fundamental constant of nature.

$$[(2N_2+1)^{-1}+(2N_2+1)^{-1}]\star 2^{-1}\cong \text{CouplingAverage}$$

$$\text{CouplingAverage}\cong \text{SpinOneSkeleton}$$

$$\text{CouplingAverage}\cong 1.81\times 10^{-45}\cong \text{ClassicalGravity}$$

In addition the author demanded that for each prime number representing a Bose particle to hold a unique proportion constant which is relative to its size. Therefore, the original Planck constant cannot be fundamental as well.

$$\forall\,(\mathbb{P})\,\exists\,\hbar^i;$$

$$1\le i\le n\,;(n\longrightarrow\infty)$$

Where the direct proportion is evident:

$$\text{As }(\mathbb{P}\longrightarrow\infty);\ \hbar^i.\text{Value}\longrightarrow\infty$$

Two of the three “fundamental” constants were proven not constants. The only constant that did not change during the “Classics” epos is the speed of light.

$$\hbar, G_{\text{Classical}}\notin \text{Constants}$$

As far as the author can see, the invariance of the speed of light in vacuum is reflected in the similar nature of the primorial for each coupling. When the sole prime is arising from the lepton, there exist no natural evidence to other forces or particles other than the lepton, therefore one can demand that the physical system to be vacuum.

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\cong\frac{1}{\#\underbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}_{\text{PhysicalSystem}}}\times\text{Vacuum}$$

One requires:

$$\frac{1}{\#\underbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}_{\text{PhysicalSystem}}}\times\text{Vacuum}\ni\text{C.Speed}$$

■

Reflection: Spin and the Pitfall of Modern Physics

As far as the author can see all the modern textbooks on modern physics took for granted that Bosonic particles have in integer spin, while fermion retain half integer spin. Bose particles are spin one, gravity is regarded as spin two and matter particles are spin one-half. In all the textbooks the author came across, including by those of top notch physicist's there is no proof that this is the case, at least no sufficient one from the 8T author point of view. That is an implicit axiom proved wrong by the 8T. This is backed up by several proofs. The most obvious one is that the "force" of classical gravity is an average of two more fundamental forces. Spin two is not a unique entity but composed by two couplings adding up to two and than divided.

$$[(2N_2 + 1)^{-1} + (2N_2 + 1)^{-1}] \star 2^{-1} \cong \mathrm{CouplingAverage}$$

$$\mathrm{CouplingAverage} \cong \mathrm{SpinOneSkeleton}$$

$$\mathrm{CouplingAverage} \cong 1.81 \times 10^{-45} \cong \mathrm{ClassicalGravity}$$

If spin two has fallen to reduction of spin one particles, it is already a fatal blow to modern theories such as QFT and GR that took gravity as granted. If one to take as an axiom that prime numbers are isomorphic to bosons and bosons to hold integer spin, than the only way to reach integer is to add two primes, such as the lepton and the boson.

$$\mathrm{AxiomOne}: \forall\ \mathrm{Bose\_Particle} \ \cong (\mathbb{P})$$

$$\mathrm{AxiomTwo}: \forall\ \mathrm{Bose}_{\mathrm{Spin}} \cong \mathrm{IntegerOne}$$

This is in fact what the primorial suggested. Bose particles are half unit spin by themselves, they add up to spin one with the lepton. Either that or the spin representation is not correct, an option which is highly unlikely as the author predicted the form of gravity before the coupling of gravity was derived. That was done before the author developed the series to gravity order.

$$\mathrm{AxiomOne} \coprod \mathrm{AxiomTwo} \cong (\mathbb{P}).\mathrm{Spin} \ \cong \left(\frac{1}{2}\right)$$

■

Reflection: CPT Reversal and Fermion Creation in Anti-Matter Terminations

Recall from the first volume:

$$\overbrace{2\mathrm{N}+1}^{\text{Matter}}: \overbrace{+\frac{3}{30} > +\frac{5}{128} > +\frac{7}{850} > +\frac{11}{9254} > \cdots}^{\Rightarrow}$$

$$-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}: \overbrace{-\frac{1}{30} < -\frac{1}{128} < -\frac{1}{850} < -\frac{1}{9254} \ldots}^{\Leftarrow}$$

A trivial result would be aligning the two such that:

$$\left(\overbrace{2N+1}^{Matter}\right) \oplus \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \cong 0$$

Recall:

$$\underbrace{\left(\sum_{i=1}^{m} (G_{\mathrm{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l} (e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right);$$

Therefore, there exist the highest probability for the following reaction:

$$\left(\overbrace{2N+1}^{Matter}\right) \oplus \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \rightarrow \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)$$

However it is not likely to happen as reactions of that sort will ignite the manifold far from the lowest energy state, and it also require complete elimination of matter and anti-matter, which means spatial and temporal alignments, leading to a decreased probability of occurrence. In addition to the fact that anti-matter is much more rare than matter as it goes from low energy to high energy as the arrow of time is reversed in direction. That is in contrast to matter which go from small scale interactions, i.e. small number of total variations that are strong to much weaker interactions at large scale.

$$\left(\overbrace{2N+1}^{Matter}\right) \oplus \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \text{ Is (True) } \textbf{If} \text{ MatricAlignment Is (True)}$$

Another major difference is that modern theory of physics such as QFT, uses the idea of anti-matter in order to ensure that the S matrix of energy will be preserved as unvaried. That leads the theory to the "conservation of energy" law and thus to a possible development of a quantum system. That is in contrast to the 8T which already stated in "Classics" that energy is not conserved as new matter is constantly being created. This section of the second volume is emphasize on the major difference between 8T and QFT. In the 8T, anti-matter and matter reaction to ensure to matter is being created.

$$8\mathrm{T}: \left(\overbrace{2N+1}^{Matter}\right) \oplus \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \longrightarrow \mathrm{NewFermions}$$

$$\mathrm{QFT}: \left(\overbrace{2\mathrm{N}+1}^{\text{Matter}}\right) + \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \longrightarrow \mathrm{S.Matrix.Unvaried};$$

Which is bijective to:

$$8\mathrm{T}: \left(\overbrace{2N+1}^{Matter}\right) \oplus \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \longrightarrow \mathrm{EnergyNotConserved}$$

$$\mathrm{QFT}: \left(\overbrace{2\mathrm{N}+1}^{\text{Matter}}\right) + \left(-\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \longrightarrow \mathrm{EnergyConserved};$$

It is possible to construct this using the opposite sign only on the lepton boson complex rather than the entire term. This will lead to elimination of the two quantum elements and thus to zero appearing. However if one to demand the entire coupling to stay as is only by reversing the sign than that would imply that the even sum and the whole term should be reversed by the minus sign. That Is in contrast to the idea as presented in volume one, which took only the minus to the lepton boson parts. Therefore one can write:

$$8\mathrm{T.VoL.I}: \left(\overbrace{2\mathrm{N}-1}^{\text{A.matter}}\right) \cong \mathrm{False}$$

Reflection: Class Unification of Quantum Interactions

Back in the good old days of the 8T, i.e. the early stage ideas in "Classics" the unification the bosonic interactions was presented by aligning the net variations of each coupling term. As reader may recall:

$$2^{(e^-)} + (1) + 2: \left[\left(2^{(e^-)} \times 3\right) + (3)\right] + 3 : [(24 \times 5) + (3)] + \mathbf{3}$$

By two real exchanges from the third coupling term to the first:

$$2^{(e^-)} + 3: \left[\left(2^{(e^-)} \times 3\right) + (3)\right] + 3 : [(24 \times 5) + (3)] + \mathbf{3}$$

Which is bijective to:

$$2^{(e^-)} + W^-: \left[\left(2^{(e^-)} \times 3\right) + (3)\right] + W^- : [(24 \times 5) + (3)] + W^-$$

In addition, to ensure duality by the exchange of two real variations, the modification is on the even sum of the middle term:

$$\text{Modification: } (2^3 \times 3) + 2 \cong 26$$

It is possible to present an additional unification by the primorial alone. That is because the boson elements were proven to be part of the same class. The prime number class. This class represent discrete amount of net curvature on the manifold, and it is supported by the coupling of gravity. Therefore the more elegant way to unify the interactions by stating.

$$\text{Axiom: } (\forall\ \text{Bose}_{\text{Particle}}) \in \left((\mathbb{P}) \bigvee (+1)\right)$$

It is more elegant as it is not possible to align infinite number of couplings on the same prime number as far as one can see. The strong electroweak unification of the forces got so much attention by physicists because the nature of the forces was only partly understood. In addition, the total number of unique forces was unknown, and now proven as infinity.

$$(\forall\ \text{Bose}_{\text{Particle}}) \in \left((\mathbb{P}) \bigvee (+1)\right) \equiv 2^{(e^-)} + W^- : [(24 \times 5) + (3)] + W^-$$

$$(\forall\ \text{Bose}_{\text{Particle}}) \in \left((\mathbb{P}) \bigvee (+1)\right) \equiv \text{SEW. Unification}$$

■

Reflection: Physical Meaning of Quantum Numbers

Recall:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\cong\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\left(\frac{1}{2}\right)\right)\oplus\frac{1}{2}}$$

$$[(2N_2+1)^{-1}+(2N_2+1)^{-1}]\star 2^{-1}\cong \text{CouplingAverage}$$

$$\text{CouplingAverage}\cong \text{SpinOneSkeleton}$$

$$\text{CouplingAverage}\cong 1.81\times 10^{-45}\cong \text{ClassicalGravity}$$

Consider a quantum number to the power of a single Bose particle in spin representation. Define:

$$\text{Let: SomeNumber}\cong \mathrm{q};$$

Such that:

$$\mathrm{q}^{(p\in\mathbb{P})}\cong \mathrm{q}^{\left(\frac{1}{2}\right)}$$

$$\text{Axiom: }\left(\mathrm{q}^{\left(\frac{1}{2}\right)}\lnsim \mathrm{q}\right);(\vDash\forall \mathrm{q}\in[0,\mathbb{R}])$$

As far as the author can see the physical meaning is manifested in the following:

$$\left(\mathrm{q}^{\left(\frac{1}{2}\right)}\lnsim \mathrm{q}\right)\cong \text{QuantumNumber. Compression}$$

$$\text{Let: }\mathrm{q}^{\left(\frac{1}{2}\right)}\cong \mathrm{q}^{\left(\frac{1}{\text{SomePower}}\right)}$$

$$\text{Compression. Magnitude}\propto(\text{Denominator }\in\text{SomePower})$$

$$\text{As }(\text{SomePower}\to\infty)\ (\text{Compression. Magnitude}\to\infty)$$

It is also possible to build the trivial identity:

$$\left(\mathrm{q}-\mathrm{q}^{\left(\frac{1}{\text{SomePower}}\right)}\right)\propto\text{Compression. Magnitude}$$

$$\left(\mathrm{q}-\mathrm{q}^{\left(\frac{1}{\text{SomePower}}\right)}\right)\cong\Delta\mathrm{q}$$

(Trivial) Proof: The Quantum Nature of the Primorial

Recall:

$$\frac{1}{(2^{(e^-)}+1)} \cong a_S$$

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})} \cong \frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\left(\frac{1}{2}\right)\right)\oplus\frac{1}{2}}$$

Use the trivial identity:

$$\frac{1}{\#(2^{(e^-)}+1)} \cong \frac{1}{(2^{(e^-)}+1)^1} \cong \frac{1}{(2^{(e^-)}+1)^{\frac{1}{2}+\frac{1}{2}}}$$

The same applies to the primorial:

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})} \cong \frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{\frac{1}{2}+\frac{1}{2}}}$$

$$\frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{\frac{1}{2}+\frac{1}{2}}} \cong \frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{(e^-)+(\mathbb{P})}}$$

A result that can be extended to any order:

$$\frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{(e^-)+(\mathbb{P})}} \longrightarrow \frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{1^n}}$$

Where:

$$n = 1;$$

In addition:

$$\text{Quantum Order } \cong 1+1 \cong 2 \ \blacksquare$$

Because the quantum identity appears twice.

Reflection: The Upcoming Collapse of Mathematics?

This is a brief analysis of the possible connection between the setting of quantum mechanics and the setting of mathematics. In particular, as was previously demonstrated there exist the identity on each quantum number.

$$\frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{(e^-)+(\mathbb{P})}}\cong\frac{1}{\left(\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})\right)^{1}}$$

$$(\mathbb{P})\cong(\mathbb{P})^{1}\cong(\mathbb{P})^{\frac{1}{2}+\frac{1}{2}}\cong(\mathbb{P})^{(e^-)+(\mathbb{P})}$$

Recall from the first volume:

$$\left(\mathrm{Set}(\{\mathbb{P}\})\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Group}(\mathbb{P})\right),\left(\mathrm{Ring}(\mathbb{P})\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Group}(\mathbb{P})\right),\left(\mathrm{Ring}(\mathbb{P})\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Top}(\mathbb{P})\right)$$

Therefore:

$$\left(\mathrm{Set}\left(\mathbb{P}^{1}\right)\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Group}\left(\mathbb{P}^{1}\right)\right),\left(\mathrm{Ring}\left(\mathbb{P}^{1}\right)\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Group}\left(\mathbb{P}^{1}\right)\right),\left(\mathrm{Ring}\left(\mathbb{P}^{1}\right)\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Top}\left(\mathbb{P}^{1}\right)\right)\ldots$$

$$\left(\mathrm{Set}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right)\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Group}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right)\right),\left(\mathrm{Ring}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right)\underset{\underset{\hookrightarrow}{\pi}}{\overset{\mathrm{L}}{\longleftarrow}}\mathrm{Group}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right)\right),\ldots$$

■

In words, if the quantum elements to represent uncertainty as they retain certain eigenvalues as an example and the link to all mathematical discipline exist due to functors, than the mathematical setting now “poisoned” by the quantum nature of the identity between the number one and the sum of the electron and the boson. The latter proven primes adding to one in spin representation as they all exist on the prime critical line. This idea could lead to a collapse of the certainty factor in number theory as it could imply that each number will hold quantum like features or a subject to a constant state of automorphism, similar to quantum elements which transform randomly according to their energy eigenvalues. The same ideas of number theory over a physical setting was the underlining framework of the proof of the Riemann hypothesis. It indicate that the mathematical elements always effected by the physical environment, in particular to the Riemann proof, number fields exist on variational topological spaces, i.e. manifolds. The latter ensures the prime to form a group. The same group leading to the primes to appear on the critical line of one-half.

(Trivial) Proof: Pole Invariance of Singularity

Recall back in volume one, the author stated: "The only way to ensure an acceleration outward from a curve is to demand that $\partial g/\partial t = 0$, which is synonymous with extrema. In this case it means that the singularly was ignited not just due a curve, but a maximal curve. In that case, if one to demand that $\frac{\partial^2 \dot{g}}{\partial t^2} = 0$ it also mean extrema of an acceleration, which agrees with the cosmological description of the phenomena". Recall that singularity was also analyzed as the moment the manifold was orthogonal state with the other flattening pair such that:

$$(\langle \Phi_{i+1} | \Phi_i \rangle = 0) \cap (\langle \Phi_{i-1} | \Phi_i \rangle = 0)$$

Therefore there exist an object which interact with both other objects. The interfacing of the elements by the extrema curve is leading to the object having two poles such that:

$$\overbrace{(\langle \Phi_{i+1} | \Phi_i \rangle = 0)}^{\text{PoleOne}} \cap \overbrace{(\langle \Phi_{i-1} | \Phi_i \rangle = 0)}^{\text{PoleTwo}}$$

Because of the orthogonality trait it is bijective to:

$$\overbrace{(\langle \Phi_{i+1} | \Phi_i \rangle = 0)}^{\text{PoleTwo}} \cap \overbrace{(\langle \Phi_{i-1} | \Phi_i \rangle = 0)}^{\text{PoleOne}}$$

Therefore there exist a set of symmetry of the manifold two poles at the singularity moment, i.e. the flattening moment. Define:

$$\left(\text{Group. Symmetry}(\Phi_i) \underset{\overbrace{\hookrightarrow}^{\pi}}{\overbrace{\longleftarrow}^{\text{L}}} \text{Top. Symmetry}(\Phi_i) \right)$$

Where:

$$\text{Group. Symmetry}(\Phi_i) \ni \text{Set. (Pole. Replacement} \in \Phi_i, \Phi_{i\pm1})$$

$$\text{Set. (Pole. Replacement} \in \Phi_i, \Phi_{i\pm1}) \cong (2.\text{Symmetry}) \, \forall (\, \text{i} \in \Phi_i)$$

Which also may imply that the growth of the object must be similar from the two sides. The interface with the two objects, i.e. the flattening pair is taking place in a simultaneous manner and that could be the reason for the extrema, taken maxima, degree of acceleration from that curve, and in particular from the boundary of the extrema curve. The residents of the extrema curve are living on the interior.

Reflection: Vast Difference of Fermion to Lepton Class

Recall:

$$\overbrace{[(24\times 5+\gamma)+(e^-)]}^{\text{SSB on Spin 0−Mass Ac.}}\longrightarrow\overbrace{[(24\times 5)+(\gamma+e^-)]}^{\text{Electron with mass}}\longrightarrow\overbrace{[(24\times 5)+(e^-)]+\gamma]}^{\text{Energy −Diverging cur.}}$$

$$(24\times 5+\gamma)\longrightarrow([2{,}3]\,|24\times 5)+e^-\ \in\mathscr{F}$$

$$\text{Primorial: }\#\ \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\mathbb{P}\right)}^{\text{SSB On Spin Zero}}\oplus(e^-)\cong$$

$$\text{PrimorialSlowdown:}\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\overbrace{\mathbb{P}}^{\Leftarrow}\right)}^{\text{SSB On Spin Zero}}\oplus\overbrace{(e^-)}^{\Rightarrow}\cong\text{MassInsertion}$$

The key question the author will analyze in this section is the vast difference of the masses of fermionic elements, such as quarks of second and first generation to the lepton elements. The key point is that the SSB on spin zero can be divided into segments. In the first segment the vanishing curvature is destabilized by the additional prime, than it decays to fermions and later the electron rise from those fermions.

$$\overbrace{[(24\times\gamma)\cong\text{VanishingCurve}]}^{\text{FirstStage}}$$

$$\overbrace{[(24\times\gamma)\ +(e^-)\ \cong\text{Lepton.Rise}]}^{\text{SecondStage}}$$

$$\begin{cases}\overbrace{\left[\left(\overbrace{[T-B]}^{\text{FirstGen}}+\gamma\right)\right]}^{\text{SSB on Spin 0−Mass Ac.}}\\ \left[\left(\overbrace{[S-C]}^{\text{SecondGen}}\ +\gamma\right)\right]\in\text{VanishingCurve}+\text{Prime}\in\text{FirstStage}\\ \left[\left(\overbrace{[U-D]}^{\text{ThirdGen}}+\gamma\right)\right]\end{cases}$$

Recall:

$$\text{VanishingCurve}\cong\text{ScalarBose}$$

Recall the order of generation:

$$\begin{cases} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{FirstGen}}\right)\right] \oplus (\text{Tau})}^{\text{SSB on Spin 0}-\text{Mass Ac.}} \\ \left[\left(\overbrace{[S-C]}^{\text{SecondGen}}\right)\right] \oplus (\text{Muon}) \\ \left[\left(\overbrace{[U-D]}^{\text{ThirdGen}}\right)\right] \oplus (e^{-}) \end{cases} \in \text{FermionVanished} \ni \text{PrimeLepton} \in \text{SecondStage}$$

The key point is the segment allocation, the broken SSB on spin zero by the prime is closer to vanishing curvature synonymous with fermions. So when the higgs decay because of the numerical feature:

$$\text{Axiom:} \left[\left(\overbrace{[T-B]}^{\text{FirstGen}} + \gamma\right)\right] \cong \text{HiggsUnstable}$$

$$\text{HiggsDecay:} \left[\left(\overbrace{[T-B]}^{\text{FirstGen}} + \gamma\right)\right] \longrightarrow [2,3] | \left(\overbrace{[T-B]}^{\text{FirstGen}}\right) \cong \text{True}$$

The term will get the majority of the mass of the decay particle. As the lepton only appear at the second stage of the three staged process, the mass of it should not be directed to the massive higgs particle but rather to the fermion itself. And therefore it is possible to reason for the vast difference between the lepton masses across the three generation versus the heavier mass of the fermions, which are result of higgs decaying to fermions first due to their similar numerical features. As far as the author can see, there could be a certain prediction:

Prediction: The ratio between the lepton mass (taken stable for simplicity) to the mass of hadronic fermions of each generation should stand at least as vast as the ratio of third generation.

This could also agree with the fact that each of the third stage boson particles which were not directly related to the higgs decay are taken to be massless. That is excluding the boson of the weak interaction that is bijective to the prime number of the lepton. As far as one can see this could be a coherent and elegant framework of the masses of the particle, a notoriously hard topic that the author could not settle in the first volume.

Reflection: Quantum Entanglement and Knots

This section is an attempt to correlate two seemingly unrelated topics of the 8T. call from the first Riemann hypothesis proof

$$\forall\big((e^-) \oplus \mathbb{P} \oplus \mathbb{P}\big) \cong \mathrm{Odd}\ \curlyvee \mathrm{ComposedPrime}$$

Recall that the author defined an additive knot, bijective to primes added, and to multiplication odd, primes multiplied. Define the subset:

$$\text{Subset: } \big((e^-) \oplus \mathbb{P} \oplus \mathbb{P}\big) \cong \mathrm{Odd}^+$$

Recall that the author defined the intersection of primes as the process in which a system of quantum elements are always intersecting, taken to be discrete ripple of curvature diverging all across in space.

$$\text{Let: } (e^-) \oplus \mathbb{P} \cong \mathrm{QS(N)}$$

$$\text{Let: } (e^-) \oplus \mathbb{P} \oplus \mathbb{P} \cong \mathrm{QS(N)} \star \mathrm{Modified}$$

$$\text{Axiom: } \mathbb{P} \oplus \mathbb{P} \cong \mathrm{True}$$

$$\text{Axiom: } (e^-) \oplus \mathbb{P} \oplus \mathbb{P} \cong \mathrm{True}$$

Therefore there exist a connection between the odd trait and therefore to the knotted particle and the feature of quantum entanglement. It also means that there is a connection between interference and odd numbers, as the extra prime element is taking the system including the prime lepton to an odd number.

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\mathrm{PureQuantum}} \oplus \mathbb{P} \cong \mathrm{PrimeLepton} + \mathrm{Bose} \cong \mathrm{Even}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)} \oplus \mathbb{P} \oplus \mathbb{P} \cong$$

$$\mathrm{InterfereQuantum} \cong \mathrm{PrimeLepton} + \mathrm{Bose} + \mathrm{ExternalBose} \cong \mathrm{Odd}\ \curlyvee \mathrm{Prime}$$

For clarification in volume one the author defined the interference the following way:

$$N_V \in \mathbb{P} \longrightarrow (N_V + N_V) \notin \mathbb{P}$$

Which is bijective to the transformation from the prime to the even numbers:

$$\mathbb{P} \longrightarrow \mathbb{EVEN}$$

That is because the lepton was not taken into account. Considering the lepton within the coupling terms as means to correlate the phenomena of knots to entanglement.

$$\mathbb{EVEN} \cong \mathrm{PureQuantum} \cong \mathrm{PrimeLepton} + \mathrm{Bose}$$

$$\mathrm{InterfereQuantum} \cong \mathrm{PrimeLepton} + \mathrm{Bose} + \mathrm{ExternalBose} \cong \mathrm{Odd} \curlyvee \mathrm{Prime}$$

Therefore the process of entanglement with taking the lepton into account, is the following shift:

$$\mathbb{EVEN} \longrightarrow \mathrm{Odd} \curlyvee \mathrm{Prime}$$

$$\mathbb{EVEN} \longrightarrow \mathrm{Odd}^{+} \curlyvee \mathrm{Prime}$$

$$\mathbb{EVEN} \longrightarrow \mathbb{ST}.\mathrm{Knot} \curlyvee \mathrm{Prime}$$

$$\mathbb{ST}.\mathrm{Knot} \cong \mathrm{InterfereQuantum}$$

$$\mathrm{Axiom{:}\ Bose} + \mathrm{ExternalBose} \cong \left(\mathrm{Entanglement} \in \mathrm{QS}(n)\right)$$

Since:

$$\mathrm{Bose} + \mathrm{ExternalBose} \in \mathbb{ST}.\mathrm{Knot}$$

One can write the desired proof between the phenomena:

$$\left(\mathrm{Entanglement} \in \mathrm{QS}(n)\right) \in \mathbb{ST}.\mathrm{Knot}$$

$$\left(\mathrm{Entanglement} \in \mathrm{QS}(n)\right) \cong \mathbb{ST}.\mathrm{Knot}$$

$$\left(\mathrm{Entanglement} \in \mathrm{QS}(n)\right) \cong \mathrm{Odd}^{+} \curlyvee \mathrm{Prime}$$

Where:

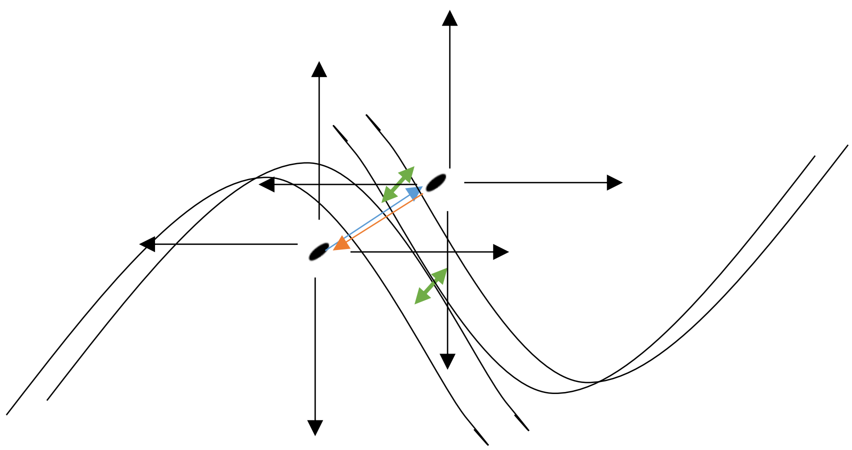
$$\mathrm{Prime} \cong \mathrm{PrimeComposed}$$

■

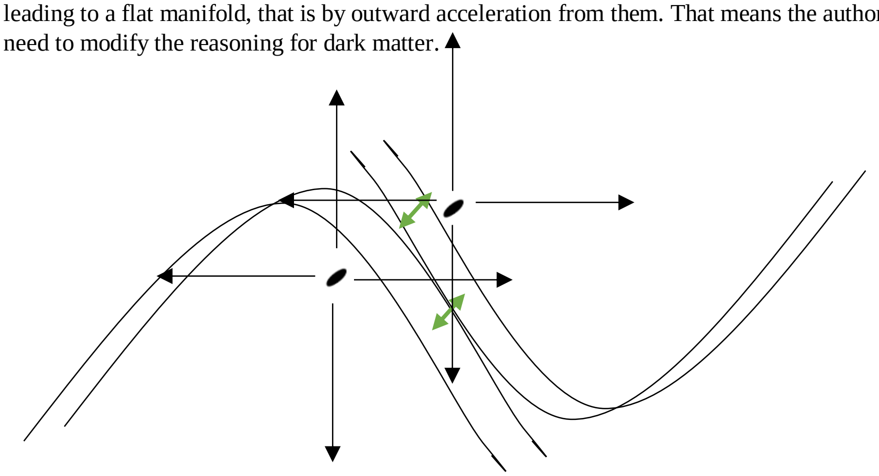
Reflection: Refinement of Extra Gravitational Effect

Recall from the first volume:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$



Taking the modern view of gravity as curvature of space time, i.e. curvature within the interior of one manifold, as those manifolds are separated as given by the main equation that leads to the direct result in which the curves of a external interior can not be directly responsible to extra "gravity" on another interior. Those curves however cancel each other leading to a flat manifold, that is by outward acceleration from them. That means the author need to modify the reasoning for dark matter.



As previously mentioned, the extra gravitational effect can be derived as an immediate result of infinite set of averages which belong to the same interior rather to curves which belong to another interior. There has to be a clarification. The extra matter accounts for gravity within its own interior, and according to this section the sole interior alone. The extra gravities which led to the fast formation of galaxies could be reasoned out by the infinite set of couplings which were completely ignored to date.

$$\frac{1}{\#\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)\oplus(\mathbb{P})}\cong$$

$$\underbrace{\frac{\mathbf{1}}{\mathbf{30}},\frac{\mathbf{1}}{\mathbf{128}}}_{correct},\frac{1}{850},\frac{1}{9254},\frac{1}{120{,}136},\frac{1}{2{,}042{,}060},\frac{1}{38{,}798{,}782},\frac{1}{892{,}371{,}506},\frac{1}{2.58\times10^{10}},\frac{1}{8.02\times10^{11}},\frac{1}{2.96\times10^{13}},$$

$$\frac{1}{1.2\times10^{15}},\frac{1}{5.23\times10^{16}},\frac{1}{2.45\times10^{18}},\frac{1}{1.25\times10^{20}},\frac{1}{6.6\times10^{21}},\frac{1}{3.78\times10^{23}},\frac{1}{2.23\times10^{25}},\frac{1}{1.36\times10^{27}},\frac{1}{9.13\times10^{28}},$$
$$\frac{1}{6.48\times10^{30}},\frac{1}{4.73\times10^{32}},\frac{1}{3.74\times10^{34}},\frac{1}{3.1\times10^{36}},\frac{1}{2.76\times10^{38}},\frac{1}{2.68\times10^{40}},,\frac{1}{2.7\times10^{42}}\cdots$$

As 8T is no classical Newton theory nor Einstein theory, and therefore there exist a concrete line and difference between extra notion of matter, synonymous with vanishing curvature and therefore can not lead to gravity and net curvature rising from fermion clusters. In simple words, the notion of extra matter and extra gravities differ radically. The extra matter of the higher dimensions does not account for extra gravity as it is forbidden to hold a curvature by the stationarity demand that give it rise in the first place. The extra gravities are infinite and are result of averaging quantum bosonic particles, and therefore the extra gravity must be separated from the issue of dark matter. that was also evident in volume one when the author stated that matter does not bend space-time, or when written:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right);$$

Which can be written:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}.\text{Class}\notin\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right).\text{Class}$$

$$\because\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right).\text{Class}\notin\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right).\text{Class}$$

■

Reflection: Spin One and the Stability of Mathematics

Recall:

$$(\mathbb{P}) \cong (\mathbb{P})^1 \cong (\mathbb{P})^{\frac{1}{2}+\frac{1}{2}} \cong (\mathbb{P})^{(e^-)+(\mathbb{P})}$$

$$\left(\mathrm{Set}\left(\mathbb{P}^1\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Group}\left(\mathbb{P}^1\right)\right), \left(\mathrm{Ring}\left(\mathbb{P}^1\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Group}\left(\mathbb{P}^1\right)\right), \left(\mathrm{Ring}\left(\mathbb{P}^1\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Top}\left(\mathbb{P}^1\right)\right) \ldots$$

$$\left(\mathrm{Set}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Group}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right)\right), \left(\mathrm{Ring}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Group}\left(\mathbb{P}^{(e^-)+(\mathbb{P})}\right)\right), \ldots$$

Recall from the Riemann collection:

$$\mathrm{Axiom:} \forall\ \mathrm{Electron}\ \in (\mathrm{SetElectrons} \ni \mathrm{SpinOneHalf})$$

$$\mathrm{Axiom:} \forall\ \mathrm{Bose\_Spin} \cong \mathrm{IntegerOne}$$

$$\therefore (\mathrm{AllPrimesUnderRange} \leq \mathbb{R}) \in \mathrm{SpinOneHalf}$$

$$\blacksquare$$

Therefore as far as one can see, if the lepton boson spin is taken to be spin alone rather than prime, than there exist an element of certainty which ensure the mathematics will not collapse. That is because the axioms are ensuring that spin one will not deviate, which means that the primes will not deviate. The possible deviations are given by the increase of the even sums for each coupling.

$$\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \longrightarrow \infty\right);\ \ \mathrm{Given}\ (\mathbb{P} \longrightarrow \infty)$$

$$\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \longrightarrow \infty\right) \cong \mathrm{EvenSum.Deviate}$$

Since the even sum are not related to the identity in the beginning of the section, and therefore the entire setting of mathematics could be classified as stable rather than unstable.

$$\left(\mathrm{Set}\left(\mathbb{P}^1\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Group}\left(\mathbb{P}^1\right)\right), \left(\mathrm{Ring}\left(\mathbb{P}^1\right) \underset{\substack{\pi \\ \hookrightarrow}}{\overset{\mathrm{L}}{\longleftarrow}} \mathrm{Group}\left(\mathbb{P}^1\right)\right) \ldots \in \mathrm{Stable.Class}$$

Proof: Infinite Marsan Numbers

8T author will prove that there exist infinite Marsan numbers. That is by the CPT reversal and functors. Proof.

$$\text{Axiom:}\left(\text{Ring}\left(\mathbb{P}^1\right) \overset{L}{\underset{\pi}{\leftrightarrows}} \text{Group}\left(\mathbb{P}^1\right)\right);$$

Recall the condition under the primes are forming a non-abelian group.

$$\text{Axiom: Group}(\mathbb{P}^1) \cong \text{NonAbelian}$$

That was proven by the first Riemann proof. The group forming condition:

$$\text{Group}(\mathbb{P}^1) \bowtie \sum_{i=1}^{\text{i=OddNumber}} \mathbb{P}^i; \quad \sum_{i=1}^{\text{i=OddNumber}} \mathbb{P}^i \cong \text{ComposedPrime}$$

By the first proof to the Riemann conjecture:

$$\sum_{i=1}^{\text{i=OddNumber}} \mathbb{P}^i \cong \text{ComposedPrime} \cong \left(2\text{N} + \frac{1}{2} + \frac{1}{2}\right) \forall \text{ OddCombinations}$$

There exist the identity:

$$\left(2\text{N} + \frac{1}{2} + \frac{1}{2}\right) \equiv \left(\frac{1}{\#\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})}\right)^{-1}$$

$$\text{Axiom:}\left(\frac{1}{\#\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})}\right)^{-1} \cong \text{Unbounded}$$

$$\text{AxiomCPT:}\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right)^{-1} \cong \text{True}$$

Define the identity

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right)^{-1} \oplus \left(\frac{1}{\#\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right) \oplus (\mathbb{P})}\right)^{-1} \cong 0$$

Leading to:

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right)^{-1} \cong \left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right)^{-1}$$

Recall:

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right)^{-1} \equiv \left(2\mathrm{N} + \frac{1}{2} + \frac{1}{2}\right)$$

$$\sum_{i=1}^{\mathrm{i=OddNumber}} \mathbb{P}^i \cong \mathrm{ComposedPrime} \cong \left(2\mathrm{N} + \frac{1}{2} + \frac{1}{2}\right) \forall\ \mathrm{OddCombinations}$$

Therefore:

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right)^{-1} \equiv \left(\ominus\, 2\mathrm{N} \ominus \frac{1}{2} \ominus \frac{1}{2}\right)$$

$$\ominus \sum_{i=1}^{\mathrm{i=OddNumber}} \mathbb{P}^i \cong \ominus\, \mathrm{ComposedPrime} \cong \left(\ominus\, 2\mathrm{N} \ominus \frac{1}{2} \ominus \frac{1}{2}\right) \forall\ \mathrm{OddCombinations}$$

$$\mathrm{Axiom: Group}(\mathbb{P}^1) \cong \mathrm{NonAbelian}$$

$$\mathrm{Axiom: Group}(\mathbb{P}^1) \cong \mathrm{Group}(-\mathbb{P}^1);\ \mathrm{Given\ CPT.Reversal}$$

$$\mathrm{Group}(-\mathbb{P}^1) \cong \mathrm{NonAbelian}$$

Leading to the desired result:

$$\left(\ominus\, 2\mathrm{N} \ominus \frac{1}{2} \ominus \frac{1}{2}\right) \cong \mathrm{NonAbelian}$$

$$\mathrm{Axiom: NonAbelian} \cong \mathrm{Unbounded} \cong \infty$$

■

(Second) Proof: Infinite Marsan Numbers

$$\text{Axiom: Group}(\mathbb{P}^1) \cong \text{NonAbelian}$$

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right);$$

$$\text{AxiomOne: } \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \text{Even } \wedge \text{Unbounded}$$

$$\text{AxiomTwo: } \left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \cong \text{Prime } \wedge \text{Unbounded}$$

By the first proof to the Riemann conjecture:

$$(\text{AnyPrime } \in \text{Prime}) \cong (2\text{n} + 1)$$

For any existence of an even number aspiring infinity, there exist an higher prime by axiom two. That can be written by:

$$\forall\, k \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \exists\, (2\text{n} + 1) \in (\mathbb{P})$$

Assuming there exist only two numbers on the manifold, that even number and the higher prime. To ensure the existence of the even number there has to be a way to reach it. And therefore the mirrored element of the prime must exist as well.

$$\forall\, k \in 2n\ \exists\, (2\text{n} + 1) \in (\mathbb{P})$$

$$2n \cong \text{True } \wedge (2\text{n} + 1) \in (\mathbb{P}) \cong \text{True}$$

$$(2\text{n} - 1) \cong \text{True}$$

By the first proof of the Riemann hypothesis one can derive that if:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \text{Even};\ (2\text{n} + 1) \in (\mathbb{P})$$

$$(2\text{n} + 1) + (2\text{n} - 1) \cong \text{Even};\ \therefore\ (2\text{n} - 1) \in (\mathbb{P})$$

■

Reflection: Minima Energy Inter-Manifold Fermionic Transfer

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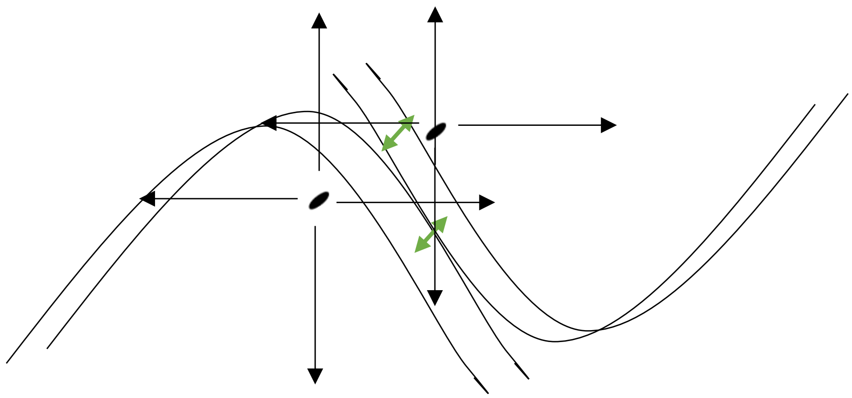

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right) \tag{3.1}$$

$$\left(\frac{\partial R_E}{\partial t_i} = 0\right) \in \text{SomeManifold}$$

Which stands as the kernel as the second manifold possess:

$$\left(\frac{\partial R_E}{\partial t_j} = 0\right) \in \text{SomeOtherManifold}$$

Defining the class extrema needed for the proof:

$$\left(\frac{\partial R_E}{\partial t_j} = 0\right), \left(\frac{\partial R_E}{\partial t_i} = 0\right) \cong (\text{Class. Extrema} \cong \text{Minima})$$

Let:

$$\left(\frac{\partial R_E}{\partial t_i} = 0\right) \in \text{MassiveFermionCluster} \ \in \text{SomeManifold}$$

By the nature of the kernel:

$$\left(\frac{\partial R_E}{\partial t_i} = 0\right) : \overbrace{\text{SomeManifold}}^{\text{Domain}} \longrightarrow \overbrace{\text{SomeOtherManifold}}^{\text{Target}}$$

■

Therefore if a star reach a low extrema in terms of curve, it is possible to demand that star to be randomly projected into another space-time. of course the proof ignore the quantum feature of the fermion cluster, as each element must be aligned on the lowest energy state, the probability for such random transition is inversely proportional to the total number of fermion elements composing the cluster. One last key point is the following, this process is reversible as far as one can see.

$$\left(\frac{\partial R_E}{\partial t_j} = 0\right) : \overbrace{\text{SomeOtherManifold}}^{\text{Target}} \longrightarrow \overbrace{\text{SomeManifold}}^{\text{Domain}}$$

$$\left(\frac{\partial R_E}{\partial t_j} = 0\right) \in (\text{Class. Extrema} \cong \text{Minima})$$

Similar ideas were made back in volume one when the author suggested that it is not possible to determine which matter may rise from which manifold and the conservation of variation. The matter created has to be in some manifold.

Re-analysis: Stability of Odd Knots

In the first volume of the 8T the author classified the knots according to additive and multiplicative knots. The author stated that the latter are stable while the first are not, or that they are momentarily aligned. The recent proof between the connection of odds to quantum entanglement refute the previous idea of additive knots to be momentarily aligned. Proof.

Recall:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\cong\text{PrimeLepton}+\text{Bose}\cong\text{Even}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}\oplus\mathbb{P}\oplus\mathbb{P}\cong$$

$$\text{InterfereQuantum}\cong\text{PrimeLepton}+\text{Bose}+\text{ExternalBose}\cong\text{Odd}\ \curlyvee\text{Prime}$$

$$\mathbb{EVEN}\longrightarrow\text{Odd}\ \curlyvee\text{Prime}$$

$$\mathbb{EVEN}\longrightarrow\text{Odd}^{+}\curlyvee\text{Prime}$$

$$\mathbb{EVEN}\longrightarrow\mathbb{ST}.\text{Knot}\curlyvee\text{Prime}$$

$$\mathbb{ST}.\text{Knot}\cong\text{InterfereQuantum}$$

$$\text{Axiom: PrimeLepton}+\text{Bose}+\text{ExternalBose}\cong\big(\text{Entanglement}\in\text{QS}(n)\big)$$

Require the condition:

$$\big(\text{Entanglement}\in\text{QS}(n)\big)\cong\text{Stable}\ \forall\ (\text{TimeArrow}\in\text{SomeManifold})$$

Leading to the desired result:

$$(\mathbb{ST}.\text{Knot}\cong\text{Odd}^{+})\cong\text{Stable}$$

■

That is bijective to the idea of the photons always intersecting in volume one. This proof indicate that some of the photonic ripple is tied to another ripple, there is a constant knot between them leading to immediate modifications.

Reflection: Residual Classes and Inequalities

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right);$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\mathrm{PureQuantum}} \oplus \mathbb{P}$$

$$\overbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}^{\mathrm{Instability}} \longrightarrow \overbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}^{\mathrm{Instability}} \oplus (e^-);$$

$$(e^-) \ni \mathrm{SomeEnergy}$$

$$\overbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}^{\mathrm{Instability}}.\mathrm{Energy} \oplus \mathrm{SomeEnergy} \cong \mathrm{TotalEnergy}$$

$$\mathrm{SomeEnergy} \cong \mathrm{Set.Range} \cong [\lambda_1, \lambda_2 \dots \lambda_n]$$

The same logic applies to any particle that rise from the vanishing curvature such as the electron neutrino, or any bosonic particle than rising from the leptons. The particles are not important as they represent instability of the quantum system. As the instability is not predictable energy wise, a set of electrons rising from set of instabilities may hold different energy values, same applies to any other particle. In that sense it make no sense to attempt and learn all the possible decays as the particles should not receive as much attention in studying nature. That was the initial mindset that allowed extracting all the coupling constants, including the gravitational without any particle involved in the actual process. Trying to study an actual particles and their response is not that different than studying a string theory, it is a dead end and the least effective way to understand nature. That is preciously the reason the “string theory” did not make any progress in who knows how many years, almost 60 if the author is correct.

Reflection: Quantum Contradiction & Fermion Boson Unity

Recall that across the entire first volume, the author presented the relation:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right);$$

Recall the following representation with the prime tuple proven bijective to fermion vanishing curve:

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P}) - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right)$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \delta(\mathbb{P},\mathbb{P}) \cong \mathbb{EVEN}$$

As proven in the early stage of volume one, the prime tuple transform to:

$$\delta(\mathbb{P},\mathbb{P}) \longrightarrow \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\mathrm{PureQuantum}} \oplus \mathbb{P}$$

Therefore there exist a possible contradiction:

$$\delta(\mathbb{P},\mathbb{P}) \cong \delta\big((N_V),(N_V)\big)$$

$$\sum_{a=1}^{n}\big((N_V)\big)_a \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right);$$

That is, because fermions are vanishing curvature they require prime tuples, and primes are bijective to bosons, and therefore the bosons rose before the fermion cluster. In addition, at the same time the free bosons rise from the fermion cluster itself. That last statement is bijective to the invariant structure of the coupling term. To solve this “contradiction” several ideas were presented. Fermions are a result of a stationarity demand, while bosons are violations of that demand. That relation between bosons and fermions and in particular that fermions are composed by bosonic tuples taken to vanish, is also a representation of the unity at the heart of the game. That bosonic elements and fermionic elements are made out of the same stuff, but rise as a result of different states.

The fact that bosons rise before fermions in that instance is also allow to build the higgs field, as one may recall from volume one, the author argued that the rarity of the higgs is due to the Bose particle to appear before the lepton.

$$\overbrace{[(24 \times 5 + \gamma) + (e^-)]}^{\text{SSB on Spin 0−Mass Ac.}} \longrightarrow \overbrace{[(24 \times 5) + (\gamma + e^-)]}^{\text{Electron with mass}}$$

$$\overbrace{[(24 \times 5) + (\gamma + e^-)]}^{\text{Electron with mass}} \cong \overbrace{[(24 \times 5) + (e^-)]}^{\text{Electron with mass}}$$

That is in contrast to the more intuitive coupling term.

$$\overbrace{[(24 \times 5) + (e^-)] + \gamma}^{\text{ThirdStage}} \cong a^{-1}$$

The fermion unity can also be represented by presenting the coupling term as:

$$\overbrace{[(24 \times \gamma) + (e^-)] + \gamma}^{\text{ThirdStage}} \cong a^{-1}$$

Therefore:

$$[2,3] | [(24 \times \gamma)] \ \cong \text{True}$$

$$[(24 \times \gamma)] \cong \mathbb{EVEN}$$

$$[(24 \times \gamma)] \ \cong \ \begin{matrix} \overbrace{\left[\left(\overbrace{[T-B]}^{\text{First}}\right)\right]}^{|\,[2,3]} \\ \left[\left(\overbrace{[S-C]}^{\text{Second}}\right)\right] \\ \left[\left(\overbrace{[U-D]}^{\text{Third}}\right)\right] \end{matrix}$$

■

The same result apply to any coupling term, the author chose the second for two reasons. It is the most familiar to us humans, and second because of the marvelous beauty of the number 24.

Proof: On Fermion Zero Identity in Solutions to Equations

Recall:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right);$$

$$\left(\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P}) - \frac{\partial \mathcal{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right)$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \delta(\mathbb{P},\mathbb{P}) \cong \mathbb{EVEN}$$

Define a set of equations such that:

$$\text{SetEquations} \cong \{\text{EquationOne} \ldots \text{EquationN}\}$$

$$\forall \text{Equation} \in \text{SetEquations}\ \exists(\text{TermOne} \pm \text{SomeOtherTerms} \cong 0)$$

Recall that by the fermionic quantum nature

$$\left(\text{TermOne} \pm \text{SomeOtherTerms} \cong \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)\right)$$

$$(\text{TermOne} \pm \text{SomeOtherTerms} \cong \text{VanishingCurve } \in \text{SomeMnaifold})$$

■

That means that for any equation of the sort of perfect termination there exist a fermion entity which correspond to it. As far as one knows it could intersect with the major ideas in group theory. That is because the fermion cluster could have lie symmetry or discrete set of symmetry. Proof.

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \star \text{Set.Rotatations}(\theta_1 \ldots \theta_n) \cong 0$$

Which in more general form:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \star \mathrm{Set.Actions}(\mathrm{Action}^1 \ldots \mathrm{Action}^n) \cong 0$$

Which is possible to do as there exist the bijection:

$$\left(\mathrm{Set}(\mathrm{Actions}) \underset{\hookrightarrow}{\overset{\mathrm{L}}{\underset{\pi}{\longleftarrow}}} \mathrm{Top}(\mathrm{Actions})\right) \ni \left(\mathrm{Set}(\mathrm{Rotatations}) \underset{\hookrightarrow}{\overset{\mathrm{L}}{\underset{\pi}{\longleftarrow}}} \mathrm{Top}(\mathrm{Rotatations})\right)$$

It is also provable from another angle. Those objects that correspond to simple groups in group theory can only manifest as real entities if they are made out of matter. If the vanishing curvature is the only form of matter on the manifold, than those symmetrical objects must have a connection to topological spaces and to manifolds. Therefore, there exist the connection from another angle.

$$\mathrm{IF}\ \exists\ \mathrm{SymmetricalObject}\ \forall\ \mathrm{SimpleGroup} \in \mathrm{GroupAtlas}$$

$$\mathrm{IF}\ \exists\ \mathrm{SymmetricalObject} \cong \mathrm{RealObject}$$

Than one can write:

$$\left(\mathrm{Group}(\mathrm{Actions}) \in \mathrm{SymmetricalObject} \underset{\hookrightarrow}{\overset{\mathrm{L}}{\underset{\pi}{\longleftarrow}}} \mathrm{Top}(\mathrm{Actions}) \in \mathrm{SomeManifold}\right)$$

■

It is also evident that for the symmetrical object to retain it's set of symmetry it has to stay as is. Therefore, it must on collapse and therefore there must be some gravitational value holding this object together. For the object not to compress and vary due to varying gravitational values, one can require a single gravitational value on that object. In addition, to avoid external contraction due to external gravitational values one can require an exclusion on external gravitational values. Either that or the idea of a symmetrical object which is bijective to a given equation must be modified. It should be modified as it completely ignores the physical setting in which the object is living at as far as one can see. Mathematics up to this point in time ignored the physical setting in which the objects and fields of the discipline exist on. As given by the first Riemann conjecture, number fields are effected by physical settings.

(First) Proof: The Riemann Hypothesis

In the first volume the author used three and a half pages to prove the Riemann hypothesis. That is too long by the 8T standard and therefore a concise form of one page will be provided.

$$\text{AxiomOne:}\left(\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right);$$

$$\text{AxiomThree:}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\in 2n+1.\text{Class}$$

Under addition:

$$\left(\sum_{a=1}^{n=2\text{k}+1}\big((N_V)\big)_a\right)\cong 2n+\text{Even}+1\cong(2\text{n}+1\in(N_V).\text{Class});\text{k}\in[0,\mathbb{R}]$$

$$\left(\sum_{a=1}^{n=2\text{k}}\big((N_V)\big)_a\right)\cong 2n+\text{Even}\cong(2\text{n});\ \text{k}\in[0,\mathbb{R}]$$

Under multiplication:

$$\left(\prod_{a=1}^{n=\text{anyNumber}}\big((N_V)\big)_a\right)\big(\text{T2}(N_V\star N_V\dots N_V)\big)+\text{EvenSum}+1\cong;\ \big(\text{T2}(N_V\star N_V\dots N_V)\big)+1$$

$$\text{T}\cong[2,\mathbb{R}]\ \wedge(V\geq 1\in N_V)$$

$$\big(\text{T2}(N_V\star N_V\dots N_V)\big)+1\cong\text{Odd}$$

$$\therefore\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\cong\text{Group If}\ \sum_{a=1}^{n=2\text{k}+1}\big((N_V)\big)_a\cong\text{True}$$

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\cong\text{Group.Structure}\ \cong(2\text{n}+1)\ \forall\ (\text{n}\cong(\text{Odd}\curlyvee\text{Prime})\ \longrightarrow\infty);$$

■

Proof: Quantum Prime Continuous Fractions

Recall:

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P}) - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right)$$

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

One can write:

$$\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \in \delta(\mathbb{P},\mathbb{P})$$

$$\therefore \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \in \frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}$$

$$\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \ominus (e^-)\right)\ominus(\mathbb{P})}\right) \cong \text{CouplingStructure}$$

$$\frac{1}{(e^-)} \cong \text{Lepton. Class}; \frac{1}{(\mathbb{P})} \cong \text{Bose. Class}$$

$$\text{Axiom:} \frac{1}{(e^-)}, \frac{1}{(\mathbb{P})} \in \frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}$$

$$\because \Phi \cong (\text{Connected} \curlywedge \text{Smooth}) \star \text{Manifold}$$

■

Reflection: Re-analysis: Neutrino Effect's on Matter

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}} \subset \left(\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\delta(\mathbb{P},\mathbb{P}) \longrightarrow \left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right) \cong \mathrm{CouplingStructure}$$

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-)\right) \ominus (\mathbb{P})}\right) \cong \left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-) \oplus 0\right) \ominus (\mathbb{P})}\right)$$

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-) \oplus 0\right) \ominus (\mathbb{P})}\right) \cong \left(\frac{1}{\#\left(\ominus\, 2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \ominus (e^-) \oplus v_e\right) \ominus (\mathbb{P})}\right)$$

Where:

$$v_e \in \mathrm{Class.EnergyResiduals}$$

$$v_e \ni \mathrm{SomeEnergy}; (\mathrm{SomeEnergy} > 0)$$

$$(v_e \cong 0) \supseteq (\mathrm{SomeEnergy} > 0)$$

One can define the interaction between neutrinos with energy and pure matter:

$$\mathrm{Interaction:}\left((v_e \cong 0) \bowtie (\mathrm{SomeEnergy} > 0) \coprod \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)\right) \cong 0$$

Which is bijective to:

$$\mathrm{Interaction:}\left((v_e \cong 0) \bowtie (\mathrm{SomeMass} > 0) \coprod \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)\right) \cong 0$$

Which could agree with the physical implication that indicate that neutrinos and matter do not effect each other. As both represented by zero, and the co-product of their interaction is zero which indicate no effect on either class as far as one can see. This agrees with the physical nature of neutrinos as far as one knows.

Reflection: Re-analysis: Neutrino Effect's on Bosons

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\ominus(e^-)\right)\ominus(\mathbb{P})}\right) \cong \left(\frac{1}{\#\left(\ominus\, 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\ominus(e^-)\oplus 0\right)\ominus(\mathbb{P})}\right)$$

$$\left(\frac{1}{\#\left(\ominus\, 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\ominus(e^-)\oplus 0\right)\ominus(\mathbb{P})}\right) \cong \left(\frac{1}{\#\left(\ominus\, 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\ominus(e^-)\oplus v_e\right)\ominus(\mathbb{P})}\right)$$

Where:

$$v_e \in \mathrm{Class.EnergyResiduals}$$

$$v_e \ni \mathrm{SomeEnergy}; (\mathrm{SomeEnergy} > 0)$$

$$(v_e \cong 0) \supseteq (\mathrm{SomeEnergy} > 0)$$

One can define the interaction between neutrinos with energy and pure bosons, i.e. primes:

$$\mathrm{Interaction:}\left((v_e \cong 0) \bowtie (\mathrm{SomeEnergy} > 0) \coprod \left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\right) \cong 0$$

Which is bijective to:

$$\mathrm{Interaction:}\left((v_e \cong 0) \bowtie (\mathrm{SomeMass} > 0) \coprod \left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\right) \cong 0$$

As far as one can see, the meaning of this statement is unclear. The bosons are not vanishing due to their commutation relation, and the end result is still zero. This could be explained by stating that the bosons has no effect on neutrinos as the end result is the sign of the neutrino class, i.e. a zero. However, this explanation is problematic. That is because if that is the case than bosons should have any effect on matter particles, and we certainly know that is not the case. However if one to correlate the lack of effect to the magnitude of the masses of the neutrinos than it could be a more reasonable framework. Summing up, it is not evident and not clear to date (16 July 2022) what is the effect between interaction between neutrinos and bosonic particles. That is without using data from experiment but rather trying to derive the interaction from principle first.

Reflection: Re-analysis: Neutrino Effect's on Neutrinos

$$\left(\frac{1}{\#\left(\ominus 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\ominus(e^-)\oplus 0\right)\ominus(\mathbb{P})}\right)\cong\left(\frac{1}{\#\left(\ominus 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\ominus(e^-)\oplus v_e\right)\ominus(\mathbb{P})}\right)$$

Where:

$$v_e \in \mathrm{Class.EnergyResiduals}$$

$$v_e \ni \mathrm{SomeEnergy}; (\mathrm{SomeEnergy} > 0)$$

$$(v_e \cong 0) \supseteq (\mathrm{SomeEnergy} > 0)$$

One can define the interaction between neutrinos with energy and pure bosons, i.e. primes:

$$\mathrm{Interaction}:\left((v_e \cong 0) \bowtie (\mathrm{SomeEnergy} > 0)\coprod(v_e \cong 0) \bowtie (\mathrm{SomeEnergy} > 0)\right)\cong 0$$

Which is bijective to:

$$\mathrm{Interaction}:\left((v_e \cong 0) \bowtie (\mathrm{SomeMass} > 0)\coprod(v_e \cong 0) \bowtie (\mathrm{SomeMass} > 0)\right)\cong 0$$

As far as one can see, the physical meaning of this equation is twofold. The first is that the neutrinos has no effect on one another. That is because the element that represent their class is invariant to the co-product. The second point is that Neutrinos are presenting quantum wave behavior and in particular superposition. That the product of neutrinos is presenting the original class of the Neutrino. That is similar to wave functions of QM. Therefore if the neutrino is combined with neutrino as waves, the superposed wave will be again of a neutrino.

$$\begin{cases}\left((v_e \cong 0)\coprod(v_e \cong 0)\cong 0\right)\vdash \mathrm{SuperPosed.Wave}\\ \left((v_e \cong 0)\coprod(v_e \cong 0)\cong 0\right)\vdash \mathrm{NoMutualEffect}\end{cases}$$

■

Proof: The Landau Conjecture

$$\mathrm{AxiomOne:}\left(\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\mathrm{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\mathrm{AxiomThree:}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\in 2n+1.\mathrm{Class}$$

If the Landau conjecture is taking the form of:

$$\mathrm{Landau:}\,n^2+1;\ \forall\,n\cong\mathrm{Even}\in[0,\mathbb{R}]$$

$$n^2+1\in\mathbb{P}$$

$$\mathrm{Even}^2\cong\mathrm{Even}\cong 0$$

$$\because\ \mathrm{Even}^2\cong\mathrm{Even}\cong\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$n^2+1\cong\mathrm{Even}+1\cong 2n+1.\mathrm{Class}$$

$$2n+1.\mathrm{Class}\cong\mathrm{Odd}\ \curlyvee\mathbb{P}$$

■

The Landau conjecture can be expended to any power of even as far as one can see.

$$\mathrm{AnyN:}\,n^n+1;\ \forall\,n\cong\mathrm{Even}\in[0,\mathbb{R}]$$

$$\mathrm{Any(n):}\,n^n+1;\ \forall\,n\cong\mathrm{Even}\longrightarrow 2n+1.\mathrm{Class}\cong\mathrm{Odd}\ \curlyvee\mathbb{P}$$

Proof: Classes as Quantum Invariants

Let:

$$\text{AxiomOne:}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P}) - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\left(\sum_{i=1}^{l}(e^-)_i\right), \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \text{Fermi. Class}$$

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}, \left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \cong \text{Bose. Class}$$

$$\forall\ (\mathrm{t}\ \in \Phi) \nexists \left(\text{Quantum. Law} = \left(\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \in \text{QS1}\right)\right)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi) \exists \left(\text{Quantum. Law} = (\emptyset)\right)$$

$$\forall\ (\mathrm{t}\ \in \Phi) \nexists \left(\text{Quantum. Law} = \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \in \text{QS1}\right)\right)$$

$$\cong \forall\ (\mathrm{t}\ \in \Phi) \exists \left(\text{Quantum. Law} = (\emptyset)\right)$$

On the other hand:

$$\forall\ (\mathrm{t}\ \in \Phi) \exists\ (\text{Fermi. Class} \cong \text{Fermi. Class})$$

$$\forall\ (\mathrm{t}\ \in \Phi) \exists\ (\text{Bose. Class} \cong \text{Bose. Class})$$

In contrast to quantum elements that vary according to the physical setting, the class of the quantum elements are considered as invariants.

■

Proof: Set Infinity & Set Primes

As reader may recall from the thesis of infinities by the author:

$$\mathscr{L}(\infty, \hat{\infty}, t)$$

$$\frac{\partial \mathscr{L}}{\partial \infty} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial \hat{\infty}} = 0$$

$$\frac{\partial \mathscr{L}}{\partial \infty} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial \left(\frac{\partial \infty}{\partial t}\right)} = 0 \qquad (3.2)$$

So if two distinct infinites are getting inserted with unlimited number of elements, by a generator, relying on a truth condition holding of all times, reaching longer set lengths and thus aspiring extrema length, they will take the form of equation one.

$$\frac{\partial \mathscr{L}}{\partial \infty^1} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial \left(\frac{\partial \infty^1}{\partial t}\right)} = 0 \qquad (3.3)$$

$$\frac{\partial \mathscr{L}}{\partial \infty^2} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial (\frac{\partial \infty^2}{\partial t})} = 0$$

$$\frac{\partial \mathscr{L}}{\partial \infty^1} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial (\frac{\partial \infty^1}{\partial t})} = \frac{\partial \mathscr{L}}{\partial \infty^2} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial (\frac{\partial \infty^2}{\partial t})}$$

$$\frac{\partial \mathscr{L}}{\partial \infty^1} - \frac{\partial \mathscr{L}}{\partial \infty^2} = 0$$

$$\frac{\partial \mathscr{L}}{\partial \infty^i} - \frac{\partial \mathscr{L}}{\partial \infty^j} = 0 \qquad (3.4)$$

■

The two distinct infinities take the same length, maxima, despite having no elements in common and thus two unique magnitudes. The reason behind this is that the arbitrary variation of the infinites vanish, which stand for the elements magnitude, and has vanished equally for the two sets on the topological space. It is possible to state that the distict set aspire the same length, extrema, despite having different compositions. In other words, their difference converge to the same value using the Lagrangian setting. Assuming they possess the same number of distinct elements, for a given time.

Recall that the second proof of the Riemann conjecture is given the formula of the sort:

$$\frac{\partial \mathcal{L}}{\partial \mathbb{P}} - \frac{\partial \mathcal{L}}{\partial \dot{\mathbb{P}}}\left(\frac{d}{dt}\right) \cong 0$$

$$\left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} \cong 0\right)$$

“And thus assuming there exist one set of primes, aspiring infinity and invoked stationary, by demanding this sole set elements to be positioned on the critical line of one half beforehand, or by positional integral, any distinct set of primes aspiring infinity and invoked stationary to achieve maxima length, will match the original set, leading to a constant. For the constants to terminate they have to be equal, thus their values must be rising from the same kernel. If one aspiring set is located on the kernel of one-half, so does any other set of primes aspiring infinity, which aspire extrema length.”

Therefore, one can make a connection:

$$\left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} \cong 0\right) \cong \left(\frac{\partial \mathscr{L}}{\partial \infty^i} - \frac{\partial \mathscr{L}}{\partial \infty^j} \cong 0 \quad\right)$$

$$\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathscr{L}}{\partial \infty^{i=1}} \cong 0;$$

$$\frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} - \frac{\partial \mathscr{L}}{\partial \infty^{j=2}} \cong 0$$

■

In words, There exist a bijection between the set of primes invoked stationary to a given infinity invoked stationary to reach maxima length. There is also a way to reach an insight, if the primes are taking the form of a straight line, i.e. the prime critical strip, than any other infinity invoked stationary is taking the from of a straight line. It could also mean that any infinity has a single generator, the number three, that is because any prime in the set of primes is generated by this number, as given by the primorial.

$$\forall\left(\sum_{a=1}^{n}\big((N_V)\big)_a \in \mathbb{P}\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)$$

Proof: Infinity of Mathematical Settings

Let:

$$\text{AxiomOne:}\left(\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial \mathcal{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\text{AxiomThree:}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\in 2n+1.\text{Class}$$

Recall:

$$\text{SetEquations}\cong\{\text{EquationOne}\ldots\text{EquationN}\}$$

$$\forall\text{Equation}\in\text{SetEquations}\,\exists(\text{TermOne}\pm\text{SomeOtherTerms}\cong 0)$$

Recall that by the fermionic quantum nature

$$\left(\text{TermOne}\pm\text{SomeOtherTerms}\cong\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\right)$$

Generalize:

$$\text{SetEquations}\longrightarrow\text{Set.Categories}+\text{Set.NaturalTransforms}$$

Require:

$$\text{Set.Categories}+\text{Set.NaturalTransforms}\cong\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

In words, if the set of categories and natural transformations is bijective to zero, that means that there exist infinite number of natural transformation between the categories and the objects within it, from one another. As new matter is being created, that is bijective to new categories constantly being created. For those reasons mathematics will never be able to reach full description, the set of possible connection is infinite if the set of categories and natural transformations is infinite as well.

The axioms required that mathematics will appear on a physical setting which is topological and varying. By the previous parts and by the latest stages of volume one, one can write:

$$\mathrm{Set.Categories} + \mathrm{Set.NaturalTransforms} \cong \mathrm{Aut{:}\,Top} \longrightarrow \mathrm{Top}$$

Where the automorphism of the topological space is bijective to the modified Delta of the 8T.

Recall:

$$\mathrm{Dirac{:}}\ \big(t + \Delta t + \Delta t - (t + \Delta t)\big) \cong \mathfrak{D}(\Delta t)$$

$$\mathfrak{D}(\Delta t) \cong \begin{cases} 0 \\ N_V \in \mathbb{P} \end{cases}$$

This can be defined by:

$$\mathrm{Identity{:}\,Aut{:}\,Top} \longrightarrow \mathrm{Top} \cong \mathfrak{D}(\Delta t)$$

Because vanishing curvature to prime net curvature is always connected to the manifold and to the curvature tensor of the manifold. If that is the case one can modify the main equation such that:

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\mathfrak{D}(\Delta t) - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right)$$

■

Proof: Homomorphic Infinities

Recall:

$$\left(\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} \cong 0\right) \cong \left(\frac{\partial \mathscr{L}}{\partial \infty^i} - \frac{\partial \mathscr{L}}{\partial \infty^j} \cong 0 \quad\right)$$

$$\frac{\partial \mathcal{L}}{\partial \mathbb{P}_1} - \frac{\partial \mathscr{L}}{\partial \infty^{i=1}} \cong 0;$$

$$\frac{\partial \mathcal{L}}{\partial \mathbb{P}_2} - \frac{\partial \mathscr{L}}{\partial \infty^{j=2}} \cong 0$$

$$\text{AxiomOne:}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P}) - \frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2} = 0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\text{AxiomThree:}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \in 2n+1.\,\text{Class}$$

Therefore one can write:

$$\left(\sum_{z=1}^{l}(e^-)_z\right) \in \infty^i;\left(\sum_{z=1}^{m}(e^-)_z\right) \in \infty^j$$

Require:

$$l = m\,;\, \therefore \left(\sum_{z=1}^{l}(e^-)_z\right) \cong \left(\sum_{z=1}^{m}(e^-)_z\right)$$

∎

In words, two distinct infinities defined to be homomorphic if the number of generators retained in the set, i.e. electron is bijective. That is by the summation index.

Proof: Refuting Complete Identities between Infinities

Recall:

$$\left(\frac{\partial \mathscr{L}}{\partial \infty^i} - \frac{\partial \mathscr{L}}{\partial \infty^j} \cong 0 \quad \right)$$

$$\left(\sum_{z=1}^{l} (e^-)_z\right) \in \infty^i ; \left(\sum_{z=1}^{m} (e^-)_z\right) \in \infty^j$$

$$l = m \, ; \, \therefore \left(\sum_{z=1}^{l} (e^-)_z\right) \cong \left(\sum_{z=1}^{m} (e^-)_z\right)$$

Require:

$$\forall \; (\mathrm{t} \; \in \Phi) \nexists \left(\mathrm{Quantum.Law} = \left(\left(\sum_{z=1}^{l} (e^-)_z\right) \in \mathrm{QS1}\right)\right)$$

$$\cong \forall \; (\mathrm{t} \; \in \Phi) \exists \left(\mathrm{Quantum.Law} = (\emptyset)\right)$$

$$\forall \; (\mathrm{t} \; \in \Phi) \nexists \left(\mathrm{Quantum.Law} = \left(\left(\sum_{z=1}^{m} (e^-)_z\right) \in \mathrm{QS2}\right)\right)$$

$$\cong \forall \; (\mathrm{t} \; \in \Phi) \exists \left(\mathrm{Quantum.Law} = (\emptyset)\right)$$

Require:

$$\left(\sum_{a=1}^{n} \left((N_V)\right)_a\right) \in \left(\sum_{z=1}^{l} (e^-)_z\right) \not\cong \left(\sum_{a=1}^{n} \left((N_V)\right)_a\right) \in \left(\sum_{z=1}^{m} (e^-)_z\right)$$

Therefore despite the infinity contains the exact same number of generators, it is possible to require those generators to produce primes in different rates, i.e. as presented in the thesis about infinity, the exact set of generators to hold different infinity momenta's. For those reasons two infinities which are homomorphic generator wise, are not isomorphic to one another, although they converge to the same number.

Proof: Infinity & Quantum Connection

$$\left(\frac{\partial \mathscr{L}}{\partial \infty^i} - \frac{\partial \mathscr{L}}{\partial \infty^j} \cong 0 \quad\right)$$

$$\left(\sum_{z=1}^{l}(e^-)_z\right) \in \infty^i; \left(\sum_{z=1}^{m}(e^-)_z\right) \in \infty^j$$

$$\left(\sum_{z=1}^{l}(e^-)_z\right) \cong \infty.\text{Generators}$$

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \in \left(\sum_{z=1}^{l}(e^-)_z\right)$$

$$\therefore (\forall\, \infty)\ \in \Phi\ \cong\ \frac{1}{\sum_{a=1}^{n}\big((N_V)\big)_a}^{-1}$$

That is because in the earlier sections one proved the bosonic class and the fermion class to be represented by continuous fraction that belong to the manifold. As reader may recall:

$$\frac{1}{(e^-)} \cong \text{Lepton.Class}; \frac{1}{(\mathbb{P})} \cong \text{Bose.Class}$$

$$\text{Axiom:} \frac{1}{(e^-)}, \frac{1}{(\mathbb{P})} \in \frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}$$

Which is the underlining reason for the particle wave duality and the collapse of the wave function. The additional element leading to a decrease as it is a fraction:

$$\frac{1}{(\mathbb{P})} + a^{-1} < a^{-1}$$

$$\frac{1}{(5)} + \frac{1}{(24 \times 5 + 3 + 5)} < \frac{1}{(24 \times 5 + 3 + 5)}$$

$$\therefore \frac{1}{\sum_{a=1}^{n}\big((N_V)\big)_a}^{-1} \longrightarrow \text{MaximalValue}$$

The opposite result in the context of physical setting as new quantum elements are being created the manifold aspire less energy and minimal energy state. That is because the elements are quantum fractions rather than full integers. The manifold than aspire to be flatter over time despite more and more bosons appear on it. As they intersect there exist energy cancelations and the intersection taken to be proportional to time arrow. Therefore, one can write:

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right) \longrightarrow \infty \,; \propto \text{TimeArrow}$$

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right) \longrightarrow \infty \,; \Phi.\text{EnergyState} \longrightarrow \text{Minima}\,;$$

Recall:

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right) \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \in \Phi$$

The immediate result:

$$\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right) \longrightarrow \infty \,; \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right). \text{EnergyState} \longrightarrow \text{Minima}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right). \text{EnergyState} \longrightarrow \text{Minima} \cong \text{FlattestState}$$

$$\because (R_E \cong \text{Curvature.Tensor})$$

■

Which agree with the themes of volume one, the manifold should get flatter over time. The reasoning however was quite different as in volume one the author used the main equation and in this section the emphasis is on the mathematical proof using quantum fractions as given by the primorial rather using the pure equation.

Proposition: The Emission Versus Absorption Algorithm

The following section is an attempt to link to number classes using the primorial, the even number class to absorption, and the prime number class to a emission. Let the primorial retain two distinct state bijective to two axioms:

$$\text{AxiomOne:} \overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P} \cong \text{Emission}$$

$$\text{AxioTwo:} \overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \overbrace{\mathbb{P}}^{\Leftarrow} \cong \text{Absorbtion}$$

$$\text{If: Emission}$$

$$\text{than Bose } \cong \text{SinglePrime}$$

$$\text{SinglePrime} \cong \mathbb{P}$$

$$\text{Else: Absorbtion}$$

$$\text{than Bose} + \text{Lepton } \cong \text{SinglePrime} + \text{PrimeLepton}$$

■

In words, similar to the ideas of volume one. If one aspire to describe the quantum behavior of a single prime, i.e. diverging wave bijective to a ripple of curvature on the manifold, than one must take a single pure prime to retain those features. If one to aspire the absorption of a boson to the lepton, both of those must be taking into account leading to an even number bijective to a vanishing of a certain sort. The vanishing represent the bosonic particle vanishing into the lepton.

$$\text{Emission} \cong \text{SinglePrime} \in \mathbb{P}$$

$$\text{Absorbtion} \cong \text{SinglePrime} + \text{PrimeLepton } \in \mathbb{EVEN}$$

Proof: Lepton - Lepton Emission

$$\text{AxiomOne:}\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\cong\text{Emission}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\cong\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\text{HeavyParticle}$$

$$\text{Let: HeavyParticle}\cong W^{\pm}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus W^{\pm};\text{TimeArrow}\cong\Delta\text{t}$$

Recall from the previous sections:

$$(\text{Tau.Lepton.Mass}^{\text{Approx}}),(\text{Muon.Lepton.Mass}^{\text{Approx}})\ll(\text{W}^-.\text{Mass}^{\text{Approx}})$$

$$(\text{Tau.Lepton.Mass}^{\text{Approx}}),(\text{Muon.Lepton.Mass}^{\text{Approx}})\ll(Z^0.\text{Mass}^{\text{Approx}}\approx)$$

And the key point:

$$(e^-).\text{Mass}\ll(\text{Tau.Lepton.Mass}^{\text{Approx}}),(\text{Muon.Lepton.Mass}^{\text{Approx}})$$

$$\therefore(e^-).\text{Mass}\ll(\text{W}^-.\text{Mass}^{\text{Approx}})$$

$$\therefore\textbf{If }(\text{W}^-.\text{Mass}^{\text{Approx}}).\text{Decay }\textbf{Than}\ \exists\ \text{ProbabilityRise(Lepton)}$$

Require:

$$\text{ProbabilityRise(Lepton)}>0$$

$$\text{Define: ProbabilityRise(Lepton)}\cong\text{PR(Lepton)}$$

$$\therefore\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus W^{\pm}\cong\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\text{PR(Lepton)}+\text{ExtraEnergy}$$

■

Proof: The Primorial & Calculus Limit Analog

Recall:

$$\text{AxiomOne:} \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P};$$

$$\text{Let:} \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \in t_0$$

$$\text{Let:} \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}\right) \in t_0 \oplus \Delta t$$

Recall:

$$(e^-) \in \mathbb{P}.\text{Class}$$

Therefore one can present the analog of the idea of a infinitesimal variation in calculus:

$$\text{LeptonVariation:} \frac{\left((e^-) \star t_0 - (e^-) \star (t_0 \oplus \Delta t)\right)}{\Delta t}$$

Which is possible to do and positive if emission. That is because

$$\text{If Emission:}$$

$$(e^-).\text{Energy} \star t_0 > (e^-).\text{Energy} \star (t_0 \oplus \Delta t)$$

$$\text{Else:}$$

$$(e^-).\text{Energy} \star t_0 < (e^-).\text{Energy} \star (t_0 \oplus \Delta t)$$

■

Proof: The Prime Variation & Uncertainties

From the previous section:

$$\text{LeptonVariation: } \frac{\left((e^-) \star t_0 - (e^-) \star (t_0 \oplus \Delta t)\right)}{\Delta t}$$

If Emission:

$$(e^-).\text{Energy} \star t_0 > (e^-).\text{Energy} \star (t_0 \oplus \Delta t)$$

Else:

$$(e^-).\text{Energy} \star t_0 < (e^-).\text{Energy} \star (t_0 \oplus \Delta t)$$

Insert:

$$\forall\ (\Delta t\ \in \Phi) \nexists \left(\text{Quantum.Law} = (\text{LeptonVariation} \in \text{QS1})\right)$$

$$\cong \forall\ (\Delta t\ \in \Phi) \exists \left(\text{Quantum.Law} = (\emptyset)\right)$$

Which is bijective to stating that infinitesimal variation of the lepton there exist either an absorption or an emission, two options are valid and it is not possible to decide what the quantum system will do. As far as the author knows it is intersecting with the so called “Uncertainty principle” of time and energy of the 20-century and therefore could be considered a more modern version as it uses the primorial function derived in 2021. Therefore one can require the null value of the law to be bijective to the quantum law is isomorphic to the term.

$$\left(\text{Quantum.Law} = (\text{LeptonVariation} \in \text{QS1})\right) \cong \sigma_E \sigma_T$$

The uncertainty is the result of the term:

$$(\exists\ \text{Uncertainty}) \because \left(\text{Emission} \bigcup \text{Absorbtion}\right);$$

$$\left(\text{Emission} \bigcup \text{Absorbtion}\right) \in \Delta t$$

The uncertainty is rather general in that case. Even if one to determine what the system will do, there is no way to determine which quantum particles are in play, those arguments were presented commonly in the first volume. The key point of this section is to present a more general uncertainty using the classical calculus analog of variation at Δt over the prime bijection to lepton particles.

Proof: Quantum Process of "Seeing" an Object | Quantum Sights

Let:

$$\text{Observer:} \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P};$$

$$\text{Let: Objet} \cong \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

Recall:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

Define the interaction:

$$\text{Interaction: Object } \star \text{ Observer} \cong \text{Object} \coprod \text{Observer}$$

$$\text{Interaction:} \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P} \star \left(\sum_{i=1}^{l}(e^-)_z\right)$$

Recall the algorithm:

If: Emission

than Bose $\cong$ SinglePrime

SinglePrime $\cong \mathbb{P}$

Else: Absorbtion

than Bose $\oplus$ Lepton $\cong$ SinglePrime $\oplus$ PrimeLepton

Therefore, the bosonic particle is absorbed into one of the quantum lepton of the object. For the observer to see, some particle, obviously not the original must propagate from the object to the observer. Therefore, one can translate the process of observation into the setting of number fields, which is the purpose of this section:

$$\text{Interaction: Objet} \star \text{Observer} \cong \text{Object} \coprod \text{Observer}$$

$$\text{Objet} \coprod \text{Observer} \cong \text{SinglePrime} \oplus \text{PrimeLepton}$$

$$\text{PrimeLepton} \in \text{Object}\,;\ \text{SinglePrime} \in \text{Observer}$$

$$\text{SinglePrime} \oplus \text{PrimeLepton} \cong \mathbb{EVEN}$$

Recall:

$$\text{Absorbtion} \cong \mathbb{EVEN}$$

From that even number, a boson must rise to the observer.

$$\mathbb{EVEN} \in \text{Object}$$

$$\mathbb{EVEN} \longrightarrow \mathbb{EVEN} \oplus \mathbb{P}_{\text{New}}$$

The process in which the observer observe the object:

$$\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \star \overbrace{\mathbb{P}_{\text{New}}}^{\Leftarrow} \cong \overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \overbrace{\mathbb{P}_{\text{New}}}^{\Leftarrow}$$

That is bijective to:

$$\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \overbrace{\mathbb{P}_{\text{New}}}^{\Leftarrow} \cong \overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \coprod \overbrace{\mathbb{P}_{\text{New}}}^{\Leftarrow}$$

■

The whole process in words, prime rise from lepton summing as an even number, the prime get absorbed to another lepton, again summing as an even number, from the even number of the object another prime is rising and is getting absorbed into the lepton of the observer, summing again as an even number. If the boson is light particle, than the even number is exactly eight.

Proof: Bosonic Implosions & C Variance due to Gravity Effect

Define a modification on the primorial:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P} \longrightarrow \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \oplus (e^-)\right)}^{\text{ModifiedQuantum}} \oplus \mathbb{P}$$

Let:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P} \ni \text{VacuumSetting}$$

Such that:

$$\text{VacuumSetting } \ni \text{C. Speed}$$

$$\therefore \overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \oplus (e^-)\right)}^{\text{ModifiedQuantum}} \oplus \mathbb{P} \not\ni \text{VacuumSetting}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \oplus (e^-)\right)}^{\text{ModifiedQuantum}} \oplus \mathbb{P} \not\ni \text{C. Speed}$$

Which is bijective to a slowdown due to the gravitational effect:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \oplus (e^-)\right)}^{\text{ModifiedQuantum}} \oplus \underbrace{\left(\overset{\Longrightarrow}{\overbrace{\mathbb{P}}}\right)}_{\Longleftarrow}$$

The cause and effect:

$$\underbrace{\left(\overset{\Longrightarrow}{\overset{\frown}{\mathbb{P}}}\right)}_{\Longleftarrow} \cong \text{Slowdowned. Wave}$$

$$\underbrace{\left(\overset{\Longrightarrow}{\overset{\frown}{\mathbb{P}}}\right)}_{\Longleftarrow} \because 2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \cong \text{True}$$

$$2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \cong \text{C. Slowdown}$$

That is regardless of the actual possibility of the dual product term, as far as one knows the gravitational value to appear inside the vanishing term could lead to complication as it requires single prime boson to appear within it as well and therefore leptons. It is possible to present the idea using another matter cluster leading to implosion slowdown such that.

$$\therefore \overbrace{\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}}) \oplus (e^{-})\right)}^{\text{ModifiedQuantum}} \oplus \mathbb{P} \not\ni \text{VacuumSetting}$$

$$\prod(G_{\text{Val}}) \in \text{QS(N)}$$

$$\overbrace{\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^{-})\right)}^{\text{PureQuantum}} \oplus \mathbb{P} \in \text{QS(M)}$$

$$\text{QS(M)} \not\equiv \text{QS(N)}$$

■

In that way the gravitational effect is there before the emission of the prime boson. that is in contrast to the original form of the modified quantum as presented in the previous page.

Proposition: Reversing the Direction of the Boson Propagation

Recall:

$$\text{Axiom:}\overbrace{\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod(G_{\text{Val}})\oplus(e^{-})\right)}^{\text{ModifiedQuantum}}\oplus\underbrace{\left(\overset{\Longrightarrow}{\overset{\frown}{\mathbb{P}}}\right)}_{\Longleftarrow}$$

Modify:

$$\text{Axiom:}\overbrace{\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod_{i=1}^{n}(G_{\text{Val}})^{i}\oplus(e^{-})\right)}^{\text{ModifiedQuantum}}\oplus\underbrace{\left(\overset{\Longrightarrow}{\overset{\frown}{\mathbb{P}}}\right)}_{\Longleftarrow}$$

Let:

$$\prod_{i=1}^{n}(G_{\text{Val}})^{i}\,.\,\text{Average}\cong\text{CriticalValue;}$$

Modify:

$$\underbrace{\left(\overset{\Longrightarrow}{\overset{\frown}{\mathbb{P}}}\right)}_{\Longleftarrow}\longrightarrow\underbrace{\left(\overset{\text{OriginalDirection}}{\overset{\frown}{\mathbb{P}}}\right)}_{\text{SlowdownDirection}}$$

Given the critical value of gravity on the modified primorial, the boson particle is aspiring to stop, and to reach the gravity value rather than propagate from the lepton as in the original primorial.

$$\text{SlowdownDirection}\gg\text{OriginalDirection}$$

$$\therefore\underbrace{\left(\overset{\Longrightarrow}{\overset{\frown}{\mathbb{P}}}\right)}_{\Longleftarrow}\longrightarrow\underbrace{(\mathbb{P})}_{\Longleftarrow}$$

$$\because\text{SlowdownDirection}-\text{OriginalDirection}\gg 0$$

That is regardless of the possibility of a gravitational value product to appear next to the even sums, and also to appear in multiplication form rather than additional. As reader may recall, in volume one the author defined the zero two invariance. As the even sums taken to be spin zero in spin form, there has to be a certain bijection between the terms. That is also agreed with the early form of gravity, which is not the correct form as spin two does not vanish due to the bosons being one sign carrier, or the commutation relation of bosons.

$$\text{If: } 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \cong \text{SpinZero}$$

$$\text{If: SpinTwo} \cong \text{SpinZero}$$

$$\text{I Than } \exists \text{ SpinTwo} \equiv \text{SpinZero.Form}$$

■

If the logic is correct, the modification on the modified version should be of the following nature.

$$:\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\prod_{i=1}^{n}(G_{\text{Val}})^{i} \oplus (e^-)\right)}^{\text{ModifiedQuantum}} \oplus \underbrace{\left(\overset{\Longrightarrow}{\tilde{\overline{\mathbb{P}}}}\right)}_{\Longleftarrow} \longrightarrow$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \star 2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{ModifiedQuantum}} \oplus \underbrace{\left(\overset{\Longrightarrow}{\tilde{\overline{\mathbb{P}}}}\right)}_{\Longleftarrow}$$

There exist another possibility and that is to revert back to the original form and to state that the spin zero is always pulling back the bosonic particle. It does not seem as the most reasonable option as if that would be the case, the photon would measure with a positive mass due to the slowdown of the spin zero. That is not the case as far as one knows. Therefore if one to create a case in which the prime is going via a slowdown due to gravitational effect rather than additional prime inserted as earlier presented, as far as one can see an artificial modification of the primorial is needed.

Proof: Quantum Enthalpy and Dirac Sequences

$$\text{Dirac: } \big(t \oplus \Delta t \oplus \Delta t - (t \oplus \Delta t)\big) \cong \mathfrak{D}(\Delta t)$$

$$\mathfrak{D}(\Delta t) \cong \begin{cases} 0 \\ N_V \in \mathbb{P} \end{cases}$$

Recall:

$$\mathfrak{D}(\Delta t).\text{Sequence} \cong \begin{cases} 0 \star k \\ N_V \in \mathbb{P} \end{cases}$$

Define the quantum enthalpy as:

$$\text{QuantumEn} \cong \text{SumOver(Energy)} + \mathfrak{D}(\Delta t).\text{Sequence}$$

$$\text{SumOver(Energy)} \in \mathfrak{D}(\Delta t).\text{Sequence}$$

The Dirac sequence already contains the pressure, the internal pressure as given by the bosons. The density can be derived by the ratio of the fermion to bosons as earlier presented.

$$\text{FermionDensity} \cong \overbrace{000000}^{k,\text{Times}} / \overbrace{N_V}^{k+1,\text{Position}} \cong (\text{VanishSequence/NonVanishingPrime})$$

The quantum enthalpy reads, internal energy of a fermion cluster and pressure times density. The original equation takes pressure per volume, as volume is measured in Euclidian frames i.e. not Riemannian it is of no use for us in this framework.

$$\text{QuantumEn} \cong \text{SumOver(QS(N).Energy)} \oplus \text{FermiDensity} \star \text{BosePresure}$$

$$\text{BosePressure} \cong \text{InternalPressure}$$

$$\text{BosePresure} \subset \text{FermiDensity}$$

$$\text{BosePresure} \curlywedge \text{FermiDensity} \subseteq \mathfrak{D}(\Delta t).\text{Sequence}$$

■

It is possible to go about the idea of enthalpy in a more classical way using the volume. As far as the author can see, there is no problem with it.

$$\mathrm{QuantumEn} \cong \mathrm{SumOver}(\mathrm{QS}(\mathrm{N}).\mathrm{Energy}) \oplus \mathrm{FermiVolume} \star \mathrm{BosePresure}$$

Which is bijective to:

$$\mathrm{QuantumEn} \cong \mathrm{SumOver}(\mathrm{QS}(\mathrm{N}).\mathrm{EigenVals}) \oplus \mathrm{FermiVolume} \star \mathrm{BosePresure}$$

The complication of that equation rises from the fact that there exist external pressure that act on the inverse direction on the internal pressure of the quantum system. If the internal pressure is bijective to compression, than the external is bijective to contraction. It has to be taken into account. The modification can be written as:

$$\mathrm{QuantumEn} \cong \mathrm{SumOver}(\mathrm{QS}(\mathrm{N}).\mathrm{EigenVals}) \oplus \mathrm{FermiVolume} \star \mathrm{NetPresure}$$

Where:

$$\mathrm{NetPresure}: \mathrm{BosePresure}.\mathrm{Internal} - \mathrm{BosePresure}.\mathrm{External}$$

Therefore as expected:

$$\mathrm{NetPresure} \in \mathrm{Range}\ [-\infty, \infty]$$

$$\mathrm{NetPresure} \cong \partial(\mathrm{Presure}.\mathrm{External}) - \partial(\mathrm{Presure}.\mathrm{Internal})$$

If the net pressure in quantum scale is variational, so those the bigger entity known as enthalpy, the quantum system as a result retain a set, a varying set of enthalpies. It is not possible to predict the total value for two reasons. First because the system has several energy state, and second because of the existence of opposite quantum pressures, bijective to bosons of the fermion cluster and the Dirac sequence and bosons and gravities that are not part of it. One last trivial point is the following, If the net pressure is negative the physical system is contracting, else it is compressing. If there exist a connection between compression and quantum collusion than the more compressed the system, the higher the probability of fermion collusion and therefore the existence of ”heat” is higher with direct proportion to the compression of the system.

$$\mathrm{Prob}(\mathrm{QuantumCollusion}) \propto \int \big(\partial(\mathrm{Presure}.\mathrm{Internal})\big)$$

That is because:

$$\int \big(\partial(\mathrm{Presure}.\mathrm{Internal})\big)\ \mathrm{Dictates\ FermiDensity}$$

■

Re-analysis: Quantum Gravity & Bosonic Timing

$$F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \cong \overbrace{30}^{a_W^{-1}}, \overbrace{128}^{a^{-1}}, 850\ldots$$

$$\frac{1}{850},\frac{1}{9254},\frac{1}{120{,}136},\frac{1}{2{,}042{,}060},\frac{1}{38,798{,}782},\frac{1}{892{,}371{,}506},\frac{1}{2.58\times10^{10}},\frac{1}{8.02\times10^{11}},\frac{1}{2.96\times10^{13}},\frac{1}{1.2\times10^{15}}$$

$$\frac{1}{5.23\times10^{16}},\frac{1}{2.45\times10^{18}},\frac{1}{1.25\times10^{20}},\frac{1}{6.6\times10^{21}},\frac{1}{3.78\times10^{23}},\frac{1}{2.23\times10^{25}},\frac{1}{1.36\times10^{27}},\frac{1}{9.13\times10^{28}},$$

$$\frac{1}{6.48\times10^{30}},\frac{1}{4.73\times10^{32}},\frac{1}{3.74\times10^{34}},\frac{1}{3.1\times10^{36}},\frac{1}{2.76\times10^{38}}$$

$$\frac{1}{2.68\times10^{40}},\frac{1}{2.7\times10^{42}},\frac{1}{2.78895528\times10^{44}},\frac{1}{2.92840304\times10^{46}}$$

Recall:

$$\left(\frac{1}{2.78895528\times10^{44}}+\frac{1}{2.92840304\times10^{46}}\right)= 3.6192032\times10^{-45}$$

Which is identical to:

$$\left(\frac{1}{2.78895528\times10^{44}\oplus(e^-)\oplus\mathbb{P}}+\frac{1}{2.92840304\times10^{46}\oplus(e^-)\oplus\mathbb{P}}\right)\cong 3.6192032\times10^{-45}$$

That is leading the author to the question of bosonic timing. Taking as an implicit axiom that those bosons are in play of the gravitational effect known as "classical gravity" what happens if the bosons are not timed versus when they are timed? As far as one can see it is solidifying the force of classical gravity as such that is not continuous in time. That however can be solved by requiring the numbers of bosons to be so vast such that the probability of bosons to align to a given average to aspire one. That is bijective to the statement made back in volume one, in particular that gravity could experience deviations due to deviations of the fundamental building block. Here however the deviations are due to pairing distance couplings assuming the original coupling is not timed.

Define the ideal "classical gravity" as:

$$\left(\frac{1}{2.78895528 \times 10^{44} \oplus \underbrace{(e^{-}) \oplus \mathbb{P}}_{\text{SomeTime}}} + \frac{1}{2.92840304 \times 10^{46} \oplus \underbrace{(e^{-}) \oplus \mathbb{P}}_{\text{SomeTime}}}\right) \cong \text{TimedGravity}$$

Define the non-ideal "classical gravity" which could also not manifest as gravity if the composition of primes to intersect, and taking as an axiom that the difference in time could lead to complication on the intersection:

$$\left(\frac{1}{2.78895528 \times 10^{44} \oplus \underbrace{(e^{-}) \oplus \mathbb{P}}_{\text{SomeTime}}} + \frac{1}{2.92840304 \times 10^{46} \oplus \underbrace{(e^{-}) \oplus \mathbb{P}}_{\text{OtherTime}}}\right) \cong \text{NotTimed}$$

$$\text{SomeTime} - \text{OtherTime} = \text{TimeGap}$$

That leads to two possible results:

$$\text{NotTimed} \longrightarrow \text{NoGravity}$$

The second:

$$\text{NotTimed} \longrightarrow \text{DelayedGravity}$$

Where:

$$\text{DelayedGravity.Magnitude} \propto^{-1} \ \text{TimeGap}$$

As usual $\propto^{-1}$ taken as inversely proportional:

The complication does not arise in the early form that did not take the lepton boson complex into account but only the spin zero. That lepton boson combined term is needed in order to reach the spin one skeleton by the average operation, leading to a long-range force. The complication is that there is no law that allow one to allocate the portions of the timed ideal gravities versus the potential delayed gravity.

$$\forall\, (\mathrm{t} \ \in \Phi) \nexists\, (\text{Quantum.Info} = \text{DelayedGravity}\,)$$

$$\forall\, (\mathrm{t} \ \in \Phi) \nexists\, (\text{Quantum.Info} = \text{TimedGravity}\,)$$

Let:

$$\text{Quantum.Info} \cong \text{Quantum.Portion};$$

Require:

$$\text{TimedGravity.Amount} \gg \text{DelayedGravity.Amount}$$

Re-analysis: Rarity of Anti-Matter and the Second Law of Thermodynamics

$$\text{AxiomOne:}\left(\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\text{AxiomThree:}\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\propto\text{NumberStates}$$

$$\text{AxiomFour: Matter}+\text{AntiMatter}\ \cong\text{Mutual. Termination;}$$

$$\text{AxiomFour: Matter}+\text{AntiMatter}\cong 0$$

Therefore if there will be subset of anti-matter interacting with matter over time, (ignoring the fact that the zero is bijective to fermion vanishing into matter), the number of total quantum state may decrease due to matter and anti-matter terminating one another. As a result the total entropy of the system is decreasing and that is in direct contradiction to the second law of thermodynamics.

$$\textbf{If}\text{: Matter}+\text{AntiMatter }\textbf{Is}\text{ True}\in\Phi$$

$$\overbrace{\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)}^{\text{ClusterOne}}\longrightarrow\overbrace{\left(\sum_{i=1}^{k-m}(\delta R_E)_i\cong 0\right)}^{\text{ClusterTwo}}$$

$$\text{NumberStatesOne}\in\text{ClusterOne}<\text{NumberStatesTwo}\in\text{ClusterTwo}$$

$$\text{NumberStatesOne}-\text{NumberStatesTwo}\cong\text{NumberState. Decrease}$$

$$\text{NumberState. Decrease}\bigcap\text{SecondLaw}\ \cong\text{Contradiction}$$

■

Therefore if one to aspire the validity of the second law, one must forbid the termination of matter by anti-matter. That could serve as the innate reason for the extreme rarity of anti-matter on the manifold. That is different than the reasoning taken back in “classics” were the emphasis was on the fact those elements create high-energy bursts and therefore invoke the manifold far from lowest energy state.

Proof: Automorphic Number Fields & SEW Unification

Recall the early result from volume one:

$$2^3 + (1) + 2 : [(2^3 \times 3) + (3)] + 3 : [(24 \times 5) + (3)] + \mathbf{3}$$

$$2^3 + (1) + 2 \longrightarrow 2^3 + (3)$$

$$\gamma \longrightarrow W^-$$

$$[(24 \times 5) + (e)^-] + W^-$$

$$[8 + (\mathfrak{g} + 2)] \rightarrow 8 + W^-$$

The implicit axiom that one accept if the result to hold true is that the numbers can morph into one another. Recall that those primes belong to a manifold, a topological space. Therefore by defining a functor:

$$\left(\text{Field.}(\mathbb{P}) \underset{\overbrace{\hookrightarrow}^{\pi}}{\overset{\mathrm{L}}{\overbrace{\longleftarrow}}} \text{Top.}(\mathbb{P} \in \Phi_i) \right)$$

$$\text{Let: Field.}(\mathbb{P}) \cong \text{NumberField.}(\mathbb{P})$$

The strong electroweak indicate, for simplicity including the number one as part of the prime class:

$$\text{Aut:} (\mathbb{P}) \longrightarrow (\mathbb{P})$$

Therefore the idea of summation on number fields of a given set of numbers could lead to different result at different times. In other words, those number fields are automorphic to the class of the prime.

$$\text{SumOver Field.}(\mathbb{P}) \text{ At Range } [\mathrm{k}, \mathrm{m}] \wedge \textbf{TimeOne} \cong \text{SomeNumber}$$

$$\text{SumOver Field.}(\mathbb{P}) \text{ At Range } [\mathrm{k}, \mathrm{m}] \wedge \textbf{TimeTwo} \cong \text{SomeOtherNumber}$$

$$\text{Let: SomeNumber} \ncong \text{SomeOtherNumber}$$

$$\blacksquare$$

Therefore if primes to be automorphic, and if prime values are time dependent, than summation of primes at given ranges is a function of time. summation of identical ranges at different time could yield different result. This is the implication of connecting the quantum features into a mathematical setting of the number field. Summation can no longer be trusted.

Proof: Flat Number Fields & Dirac Sequences

$$\text{Dirac: } \big(t \oplus \Delta t \oplus \Delta t - (t \oplus \Delta t)\big) \cong \mathfrak{D}(\Delta t)$$

$$\mathfrak{D}(\Delta t) \cong \begin{cases} 0 \\ N_V \in \mathbb{P} \end{cases}$$

Recall:

$$\mathfrak{D}(\Delta t).\text{Sequence} \cong \begin{cases} 0 \star k \\ N_V \in \mathbb{P} \end{cases}$$

$$\text{FermionDensity} \cong \overbrace{000000}^{k,\text{Times}} / \overbrace{N_V}^{k+1,\text{Position}} \cong (\text{VanishSequence}/\text{NonVanishingPrime})$$

Recall:

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)$$

$$\therefore \left(\overbrace{000000}^{k,\text{Times}} \cong \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)\right) \forall\, \text{Zero} \in \overbrace{000000}^{k,\text{Times}}$$

$$\curlywedge \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \cong \delta(\mathbb{P}, \mathbb{P})$$

Therefore each vanishing zero in the Dirac sequence is composed by two primes. It is a trivial result that is evident also in volume one. Recall from the last section:

$$\left(\text{Field.}(\mathbb{P}) \underset{\overset{\pi}{\hookrightarrow}}{\overset{\overbrace{\longleftarrow}^{\text{L}}}{}} \text{Top.}(\mathbb{P} \in \Phi_i)\right)$$

Therefore each vanishing zero in the Dirac sequence is bijective to a flat number field. The section is in what manner the physical meaning of “flat” is reflected in the theory of numbers. It could mean that as long as the prime does not appear in the sequence the set of even numbers retain low density, and therefore it is a spread out field. As the sole primes manifest the number field is compressing and reaching an higher density. The point is to expend the physical setting of the 8T to the theory of numbers and to find the full ramifications of the physical implications on the mathematical theory.

If the field can compress and contract and the number field is varying.

$$\text{Field.}\,(\mathbb{P}) \cong \text{AutomorphicField}((\mathbb{P}))$$

$$\text{Define: AutomorphicField As Aut}$$

Recall from the previous section:

$$\text{IF: Aut}(\mathbb{P}) \cong \text{True}$$

$$\text{Than: SumOver}\big(\text{Field}(\mathbb{P})\big) \cong \text{False}$$

If the Dirac sequence is taking two different states and only those states.

$$\mathfrak{D}(\Delta t) \cong \begin{cases} 0 \cong \mathbb{EVEN} \\ N_V \in \mathbb{P} \end{cases}$$

By requiring Dirac sequence is correlated to the number field by the funcorality feature. The result is that the number field can only take two basic states, either the prime tuple bijective to an even, or a sole prime bijective to single boson.

$$\text{Transform: } \mathfrak{D}(\Delta t) \longrightarrow \text{Field.}\,(\mathbb{P})$$

$$\text{Transform: Field.}\,(\mathbb{P}) \longrightarrow \mathfrak{D}(\Delta t)$$

Leading to:

$$\text{Field.}\,(\mathbb{P}) \cong \begin{cases} 0 \cong \mathbb{EVEN} \cong \delta(\mathbb{P}, \mathbb{P}) \\ N_V \in \mathbb{P} \end{cases}$$

The intersection between words:

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{\widetilde{N_V}}^{k+1,\text{Position}}}_{\text{Physical}} \cong \underbrace{\sum_{i=1}^{k} (\mathbb{EVEN})^i \star \overbrace{\tilde{\mathbb{P}}}^{k+1,\text{Position}}}_{\text{NumberTheory}}$$

■

Proof: Non-Commutative In Fermi Class Using Dirac Sequences

Let:

$$\text{AxiomOne:}\left(\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial\mathcal{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\left(\overbrace{000000}^{k,\text{Times}}\cong\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\right)\forall\ \text{Zero}\in\overbrace{000000}^{k,\text{Times}}$$

$$\text{Field.}(\mathbb{P})\cong\begin{cases}0\cong\mathbb{EVEN}\cong\delta(\mathbb{P},\mathbb{P})\\ N_V\in\mathbb{P}\end{cases}$$

$$\underbrace{\overbrace{000000}^{k,\text{Times}}\star\overbrace{N_V}^{k+1,\text{Position}}}_{\text{Physical}}\cong\underbrace{\sum_{i=1}^{k}(\mathbb{EVEN})^i\star\overbrace{\mathbb{P}}^{k+1,\text{Position}}}_{\text{NumberTheory}}$$

Allocate to each zero a unique time of appearance:

$$\forall\ (0)\in\overbrace{000000}^{k,\text{Times}}\exists\ \text{UniuqeTime}$$

$$\text{UniuqeTime}\cong\text{OrderedSet}\,;$$

$$\overbrace{0_1 0_2 0000_n}^{k,\text{Times}}\longrightarrow\overbrace{t_1 t_2 000 t_n}^{k,\text{Times}}$$

If each quantum element has a set of eigenvalues and each of those elements aspire the lowest eigenvalue, than the order in which those elements appear can create a difference. If 0_2 appear at t_1 it would reach a lowest state eigenvalue faster than the original sequence where 0_2 appear at t_2 .

Taking as an axiom that $t_1 t_2$ is a sequence and that the left element coming before the right.

$$\overbrace{0_1 0_2 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}} \not\equiv \overbrace{0_2 0_1 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}}$$

Taking as an axiom that time is part of the matric tensor:

$$\overbrace{0_1 0_2 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{g_1 g_2 000 g_n}^{k,\text{Times}} \not\equiv \overbrace{0_2 0_1 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}}$$

Therefore one can write:

$$\overbrace{\mathbb{EVEN}_1 \mathbb{EVEN}_2 000 \mathbb{EVEN}_n}^{k,\text{Times}} \longrightarrow \overbrace{g_1 g_2 000 g_n}^{k,\text{Times}} \not\equiv \overbrace{\mathbb{EVEN}_2 \mathbb{EVEN}_1 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{g_1 g_2 000 g_n}^{k,\text{Times}}$$

Recall:

$$\text{Field.}(\mathbb{P}) \cong \begin{cases} 0 \cong \mathbb{EVEN} \cong \delta(\mathbb{P}, \mathbb{P}) \\ \qquad N_V \in \mathbb{P} \end{cases}$$

Therefore:

$$\text{Field.}(\mathbb{P}) \cong \text{NotCommutative}$$

In specific form:

$$\text{Fermi. Class} \cong \mathbb{EVEN} \cong \text{NotCommutative}$$

$$\because \text{Fermi. Class} \in \text{Field.}(\mathbb{P})$$

■

The topic of non-commutativity of the bosonic class using the Dirac sequences will be analyzed in the next sections.

Proof: Dirac Sequences & Bose Fields Strength's

Recall:

$$\text{Field.}(\mathbb{P}) \cong \begin{cases} 0 \cong \mathbb{EVEN} \cong \delta(\mathbb{P},\mathbb{P}) \\ N_V \in \mathbb{P} \end{cases}$$

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{N_V}^{k+1,\text{Position}}}_{\text{Physical}} \cong \underbrace{\sum_{i=1}^{k} (\mathbb{EVEN})^i \star \overbrace{\mathbb{P}}^{k+1,\text{Position}}}_{\text{NumberTheory}}$$

The question at the heart of this section is the question of field strength. As far as the author can see there exist several options concerning the strength factor. The first was previously covered and that is the magnitude of the eigenvalue, as the arrow develops the quantum particle aspire to take the lowest magnitude eigenvalue, with of course random shifts between those eigenvalues. The second factor of the total field strength is the total number of prime bosons which arise within it. As those are fractions, representing waves, the more fractions exist, the smaller the magnitude of the total field becoming. As reader may recall:

$$N_V \in \mathbb{P} \longrightarrow (N_V + N_V) \notin \mathbb{P}$$

$$N_V \in \mathbb{P} > (N_V + N_V) \notin \mathbb{P}$$

$$\left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2}$$

$$\overbrace{2N_2 + 1}^{a^{-1} \approx 128} \longrightarrow \overbrace{2N_2 + \frac{3}{2}}^{a^{-1}_{\text{Measure}} \approx 133}$$

The other two factors which may affect the field strength are the external flux of gravity which could either align with the direction of the elements or the field or interfere with it, leading to potential slowdown of the momenta of the particles. To that one must take into account the possible effects of other manifolds on a given manifold. Although the author is not certain whether such effects exist with relation to quantum particles, but rather only to flatness and the outward acceleration. The notion of field strength is bijective to the author statement that as the universe should be flatter over time arrow development, therefore, it is synonymous with stating the quantum fields aspiring lowest state, that means the flattest state as they are net curvature and energy is a quantity reflected in the magnitude of the curve.

Proof: Non-Commutative Aspects within the Boson Class

Recall:

$$\text{Field.}(\mathbb{P}) \cong \begin{cases} 0 \cong \mathbb{EVEN} \cong \delta(\mathbb{P},\mathbb{P}) \\ N_V \in \mathbb{P} \end{cases}$$

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{N_V}^{k+1,\text{Position}}}_{\text{Physical}} \cong \underbrace{\sum_{i=1}^{k} (\mathbb{EVEN})^i \star \overbrace{\mathbb{P}}^{k+1,\text{Position}}}_{\text{NumberTheory}}$$

Create a variation

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{N_{V=1}}^{k+1,\text{Position}} \overbrace{N_{V=2}}^{k+2,\text{Position}}}_{\text{Physical}} \longrightarrow \underbrace{\overbrace{000000}^{k+1,\text{Times}} \star \overbrace{N_{V=2}}^{k+1,\text{Position}} \overbrace{N_{V=1}}^{k+2,\text{Position}}}_{\text{Physical}}$$

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{W^-}^{k+1,\text{Position}} \overset{k+2,\text{Position}}{\gamma}}_{\text{Physical}} \longrightarrow \underbrace{\overbrace{000000}^{k+1,\text{Times}} \star \overbrace{\gamma}^{k+1,\text{Position}} \overset{k+2,\text{Position}}{W^-}}_{\text{Physical}}$$

Recall:

$$\overbrace{0_1 0_2 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}} \not\equiv \overbrace{0_2 0_1 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}}$$

$$\overbrace{0_1 0_2 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{g_1 g_2 000 g_n}^{k,\text{Times}} \not\equiv \overbrace{0_2 0_1 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}}$$

Assuming the weak interacting boson lifetime is shorter than the time interval in which the photon appear, in the left sequence the weak interacting is decaying so that there exist only a photon, while in the second sequence there exist an interval in which the photon and the weak interaction boson are existing together. Therefore, it is possible to determine that the order does matter in that regard. In other words, the Dirac sequence concerning the bosonic class is not-commutative, order makes difference.

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{W^-}^{k+1,\text{Position}} \overset{k+2,\text{Position}}{\gamma}}_{\text{Physical}} \longrightarrow \overset{k+2,\text{Position}}{\gamma} \quad \in \text{TimeArrow} \in (\mathrm{K}+2)$$

$$\underbrace{\overbrace{000000}^{k+1,\text{Times}} \star \overbrace{\gamma}^{k+1,\text{Position}} \overset{k+2,\text{Position}}{W^-}}_{\text{Physical}} \longrightarrow \overset{k+1,\text{Position}}{\gamma} \oplus \overset{k+2,\text{Position}}{W^-} \quad \in \text{TimeArrow} \in (\mathrm{K}+2)$$

■

(Second) Proof: Non-Commutative Aspects within the Boson Class

Require:

$$\underbrace{\overbrace{000000}^{k,\text{Times}} \star \overbrace{W^-}^{k+1,\text{Position}} \overset{k+2,\text{Position}}{\gamma}}_{\text{Physical}} \longrightarrow \overset{k+2,\text{Position}}{\gamma} \in \text{TimeArrow} \in (\text{K}+2)$$

Because W^- is not a stable particle:

$$\underbrace{\overbrace{000000}^{k+1,\text{Times}} \star \overbrace{\gamma}^{k+1,\text{Position}} \overset{k+2,\text{Position}}{W^-}}_{\text{Physical}} \longrightarrow \overset{k+1,\text{Position}}{\gamma} \oplus \overset{k+2,\text{Position}}{W^-} \in \text{TimeArrow} \in (\text{K}+2)$$

$$\gamma \ni \text{Set. Eigenvals } \cong \{\lambda_1 \dots \lambda_n\}$$

$$\overbrace{0_1 0_2 0000_n}^{k,\text{Times}} \longrightarrow \overbrace{t_1 t_2 000 t_n}^{k,\text{Times}}$$

Require:

$$\text{Set. Eigenvals } \approx \frac{\partial}{\partial \text{t}} \text{Set. Eigenvals}$$

Demand that the variation to manifest in shorter interval than the appearance interval in the Dirac sequence:

$$\frac{\partial}{\partial \text{t}} \text{Set. Eigenvals} < t_{n+1} - t_n;\ \forall\, n\ \in \mathfrak{D}(\Delta t)$$

That means that the eigenvalues vary faster than creation of given particles. Therefore

$$\overbrace{W^-}^{t_n} + \overset{t_{n+1}}{\gamma} \not\equiv \overset{t_n}{\gamma} + \overbrace{W^-}^{t_{n+1}}$$

$$\because \overbrace{W^-}^{t_n}.\text{Eignval} \not\equiv \overbrace{W^-}^{t_{n+1}}.\text{Eignval};$$

$$\overset{t_n}{\gamma}.\text{Eignval} \not\equiv \overset{t_{n+1}}{\gamma}.\text{Eignval};$$

$$\blacksquare$$

The eigenvalue varied on the particle created in the earlier sequence, and therefore order matters in the bosonic sector.

Treatise: Non-Commutative Aspect & the Primorial

$$F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \cong \overbrace{30}^{a_W^{-1}},\overbrace{128}^{a^{-1}},850\ldots$$

This section is a re-analysis of the question of commutativity. Back in the good old days of volume one, the author declared that the primorial is commutative. The reasoning was that the coupling term is invariant to the actual order of the elements appearing in it. That was also the idea behind free electrons, and the fact that there exist no dipoles in matter. The idea of commutative primorial as far as one can see stand as is concerning the pure quantum system. In light of the more recent ideas however, the author will present at correlating the primorial to non-commutative aspects. Just to present the possible counter point of view and than compare the two. If one to allocate to each quantum element a time of appearance, which is reasonable as these are part of the manifold variation, than it is obvious that the certain elements can not appear before others. The time sequence is evident in the part analyzing the Pauli exclusion:

$$\left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P}\oplus\underbrace{(e^-)}_{t_1}\right)}^{\text{LeftToRight}}\oplus\underbrace{\mathbb{P}}_{t_2}\right)^{-1} \neq \left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P}\oplus\underbrace{\mathbb{P}}_{t_2}\right)}^{\text{IfCommute}}\oplus\underbrace{(e^-)}_{t_1}\right)^{-1}$$

That element of time sequence was ignored in taking the primorial as commutative. The time sequence is also evident in the term:

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

Which is bijective to:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\overset{\Delta t}{\rightarrow}\left(\sum_{i=1}^{l}(e^-)_z\right)\overset{\Delta t}{\rightarrow}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\overset{\Delta t}{\rightarrow}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{SetAverages}}$$

Therefore reversing the order on the quantum sequence could lead to innate contradiction within nature, as classical gravity could not appear as an example, before the net variations that represent sole prime elements. That is:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)\overset{\Delta t}{\Rightarrow}\left(\sum_{i=1}^{l}(e^-)_z\right)\overset{\Delta t}{\Rightarrow}\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{SetAverages}}\overset{\Delta t}{\Rightarrow}\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right)\cong \mathrm{False}$$

The same applies to any sequence variation of the elements. Therefore, one can define:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\mathrm{Val}})_i\right)}_{\mathrm{Internal}}\subset\left(\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)\cong \mathrm{SoleSequen}$$

$$\mathrm{AnyOtherSequen}\cong \mathrm{False};\mathrm{SoleSequen}\cong \mathrm{True};$$

That leads to a complication on the set of generators. As it forbids boson to be generators. In order to explain the free electron phenomena one must use another idea. The best way to explain it as far as one can see, using the non-commutative constraint is using the lack of exclusion on the position as given by the primorial.

$$\forall\,(\mathrm{t}\ \in \Phi)\nexists\left(\mathrm{Quantum.Law}=\left(\underbrace{(e^-)}_{t_1}.\mathrm{Position}\in \mathrm{QS1}\right)\right)$$

$$\cong \forall\,(\mathrm{t}\ \in \Phi)\exists\left(\mathrm{Quantum.Law}=(\emptyset)\right)$$

Therefore despite the fermion vanishing curve and the electron appear in difference of a time interval, there is no actual demand on the electron to be physically close to the hadron cluster. In that sense, it is possible to preserve the important phenomena of free electrons and the non-commutative features of the primorial as far as one can see. The primorial than is only commutes from a point of view of total coupling magnitude. As far as one can see, the order of the actual quantum element must be preserved, so that leads to the conclusion that the skeleton can take only a given form. This could be proved another way. If the boson to reverse instead of the electron and bosons attract one another, the following will happen:

$$\left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}_{t_0}\oplus\overbrace{\underbrace{\mathbb{P}}_{t_1}\oplus\underbrace{\mathbb{P}}_{t_1}}^{\mathrm{Even}}\right)}^{\mathrm{IfCommute}}\oplus\underbrace{(e^-)}_{t_1}\right)^{-1}$$

Which was forbidden in case of the electrons as the innate logic would fail, as one may recall from volume one. However, since the bosons are not of the fermion class and increase the probability arrival to themselves, such thing is possible if boson elements to stand as generators. Which again emphasize the non-commutative aspect, or the sole sequence of the primorial. Bose particles must come after the lepton class. This must be reflected in the primorial order.

Proof: Wave Feature of the Bosonic Particle

In contrast to the reasoning taken back in volume one, the author will provide an additional short proof to the behavior of the bosonic class elements using pure mathematical arguments. Recall the sole sequence in which the quantum elements appear in unique order, an unvaried order. Such that:

$$\mathrm{SoleSequen:}\left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P}\oplus\underbrace{(e^-)}_{t_1}\right)}^{\mathrm{LeftToRight}}\oplus\underbrace{\mathbb{P}}_{t_2}\right)\cong\mathrm{True}$$

Recall:

$$\forall\,(\mathrm{t}\ \in\Phi)\nexists\left(\mathrm{Quantum.Law}=\left(\underbrace{(e^-)}_{t_1}.\mathrm{Position}\in\mathrm{QS1}\right)\right)$$

$$\cong\forall\,(\mathrm{t}\ \in\Phi)\exists\,(\mathrm{Quantum.Law}=(\emptyset))$$

Recall the result of unity:

$$(\mathrm{Bose.Class}\cong\mathrm{Fermi.Class})\in\mathbb{P}.\mathrm{Class}$$

$$\mathrm{Fermi.Class}\cong\mathbb{P}.\mathrm{Tuple}\cong\mathrm{Evens}\cong\mathrm{VanishingCurve}$$

$$\mathrm{Bose.Class}\cong\mathbb{P}.\mathrm{sole}\cong\mathbb{P}\cong\mathrm{NetCurve}$$

Therefore one can write:

$$\forall\,(\mathrm{t}\ \in\Phi)\nexists\,(\mathrm{Quantum.Law}=(\mathrm{Bose.Position}\in\mathrm{QS1}))$$

$$\cong\forall\,(\mathrm{t}\ \in\Phi)\exists\,(\mathrm{Quantum.Law}=(\emptyset))$$

$$\mathrm{Bose.Position}\cong\mathrm{SumOver(Positions)}\in\mathrm{QS1}$$

$$\therefore\mathrm{SumOver(Positions)}\cong\mathbb{ST}.\mathrm{Wave}$$

Because the wave diverge to all directions it cover all position. As there is no unique position to the boson element, one must take all the possible positions and trajectories. Therefore the absence of quantum laws indicate the wavelike feature of the boson class and the proof is complete.

■

(Second) Proof: Bosonic Series to Converge

Recall back in page 63 the author reasoned for the converge of the bosonic series.

$$\text{Axiom:} \sum_{i=1}^{\infty} \frac{1}{(\mathbb{P})_i} \cong \left(\sum_{i=1}^{\infty} \frac{1}{(N_V)_i} \right)$$

This section the author will prove the converge of the bosonic series using physical setting. Recall:

$$(\text{Bose. Class} \cong \text{Fermi. Class}) \in \mathbb{P}.\text{Class}$$

$$\text{Fermi. Class} \cong \mathbb{P}.\text{Tuple} \cong \text{Evens} \cong \text{VanishingCurve}$$

$$\text{Bose. Class} \cong \mathbb{P}.\text{sole} \cong \mathbb{P} \cong \text{NetCurve}$$

$$\text{NetCurve} \cong \text{Prob. Increase For another } \mathbf{NetCurve}$$

Let:

$$\text{Prob. Increase} \cong \text{MatricAlignment}$$

$$\mathbf{Axiom}: \text{Set. Top. Cancelation } \cong \text{True}$$

$$\mathbf{If}: \text{Bose} \longrightarrow (\text{Bose} + \text{Bose}) \cong \text{True}$$

In words, the boson increase the probability arrival to themselves, as they are net curves of the manifold. Another bosons than are affected and as a result that leads to topological wave cancelations and decrease in coupling magnitude. Therefore using a sole physical setting, it is possible to predict that the sole value of the series of bosonic fractions must converge to some value without developing the sum to any order. That is a proof by pure thought rather by blind calculations.

■

The same result is applicable to the gravitational series.

Proof: Lepton to Propagate as Particles from Hadrons

Let:

$$\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}_{t_0}\right) \Longrightarrow \left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}}_{t_0} \longrightarrow \underbrace{(e^-)}_{t_1}\right) \curlywedge (t_1 - t_0 \cong \Delta t)$$

Recall:

$$\forall\,(\mathrm{t}\ \in \Phi) \nexists \left(\mathrm{Quantum.Law} = (\mathrm{Lepton.Position} \in t_1)\right)$$

$$\cong \forall\,(\mathrm{t}\ \in \Phi) \exists \left(\mathrm{Quantum.Law} = (\emptyset)\right)$$

$$\mathrm{Lepton.Position} \cong \mathrm{SumOver(Positions)} \in \mathrm{QS1}$$

$$\therefore \mathrm{SumOver(Positions)} \cong \mathbb{ST}.\mathrm{Wave}$$

Exclude the existence of other leptons:

$$\underbrace{(e^-)}_{t_1} \cong \mathrm{SoleLepton}\ \in \mathrm{MatricRegion}$$

Therefore the electron is not confined to any trajectory as it could have it there were other elements occupying certain quantum states. For those reasons, it is possible to allocate probability to each positon on the manifold in which the electron could be, and that is synonymous with stating with a wave feature covering entire segments of space. It is also evident from the sole lepton representation adding to a single prime, rather than in even number. For those reasons the proof is complete.

$$\underbrace{(e^-)}_{t_1} \cong \mathrm{SoleLepton} \cong \mathrm{Prime}\ \in \mathbb{P}.\mathrm{Class}$$

$$\mathbb{P}.\mathrm{Class} \in \mathrm{WaveLike.Feature}$$

■

Proof: Entanglement & Spin Representation

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong$$

By the axiom between Bose particles and Primes, one can write:

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong (\gamma_1)^2 \oplus \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}} \oplus (\gamma_2)^2$$

Recall the spin primorial classification from Volume I:

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}\right)^{-1} \cong \left(2N_K \oplus \frac{1}{2}\right) \oplus \frac{1}{2}$$

In particular that each boson is half unit spin:

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

■

In words, the mixed term of the two bosons is again in spin representation accumulating to the spin of a single prime. That is to express that the entangled term behave similar to a sole particle due to the spin identity.

(Trivial) Proof: Entanglement on Leptons

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}\right)^{-1} \cong \left(2N_K \oplus \frac{1}{2}\right) \oplus \frac{1}{2}$$

The key point of that proof is that each lepton is half unit spin:

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P} \cong (e^-)$$

$$\overbrace{2(e^-)_1(e^-)_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

■

(Trivial) Proof: Entanglement & Discrete Distribution of Fields

A brief analysis of the implication of entanglement.

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2$$

In particle representation, if each particle is a representation of a field. One would have assumed that there exist discrete distribution of fields. Such that:

$$\mathbb{P}_1 \subseteq \text{RegionOne. Only}$$

$$\mathbb{P}_2 \subseteq \text{RegionTwo. Only}$$

$$(\mathbb{P}_1 \subseteq \text{RegionOne. Only}) \bigcap (\mathbb{P}_2 \subseteq \text{RegionTwo. Only}) \cong \text{ True}$$

Since the particle representation is invalid in the 8T, each boson is net curve diverging and the "discrete" bosons are always knotted, or the fact that the joint spin is equal to single spin:

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entan.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2} \cong \mathbb{P}$$

Leading to:

$$(\mathbb{P}_1 \subseteq \text{RegionOne. Only}) \bigcap (\mathbb{P}_2 \subseteq \text{RegionTwo. Only}) \cong \text{ False}$$

■

Re-Analysis: Entanglement Lifetime

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}\right)^{-1} \cong \left(2N_K \oplus \frac{1}{2}\right) \oplus \frac{1}{2}$$

In particular that each boson is half unit spin:

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

As long as:

$$\text{Axiom: } (\mathbb{P}_1, \mathbb{P}_2) \subseteq \text{Manifold}; \quad \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \text{True};$$

Analysis: Entanglement In Between Manifolds

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}\right)^{-1} \cong \left(2N_K \oplus \frac{1}{2}\right) \oplus \frac{1}{2}$$

In particular that each boson is half unit spin:

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \mathbb{EVEN} \cong 2 \star \overbrace{\mathbb{ODD}}^{\mathbb{ST}.\text{Knot}}$$

$$\overbrace{\mathbb{ODD}}^{\mathbb{ST}.\text{Knot}} \cong \mathbb{TOP}.\,\text{Knot}$$

■

Since the entanglement is a result of a space-time knot in between the two bosons, when one of the boson crossing via the kernel gate, to another space-time, it is taking the other photon with it. Therefore, as the photon pair is connected by a knot, it is not possible to demand a transformation on one photon to another space-time while the second boson to exist in the original space-time. A transformation of one is implying that the second has transitioned as well. The mixed term is bijective to a sole spin of a bosonic particle; it is a trivial result as given by the equations of the primorial in spin representation.

(Second) Proof: Inhomogeneous Fermion Spheres & Eigenvalue Unique Distribution

Let:

$$\mathrm{SoleSequen:}\left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P}\oplus\underbrace{(e^-)}_{t_1}\right)}^{\mathrm{LeftToRight}}\oplus\underbrace{\mathbb{P}}_{t_2}\right)\cong \mathrm{True}$$

$$\underbrace{\mathbb{P}}_{t_2}\cong \mathrm{SoleBoson}\ \in \mathrm{MatricRegion}$$

$$\underbrace{\mathbb{P}}_{t_2}\ni \mathrm{SomeEigenVal;}$$

$$\mathrm{let{:}\ SomeEigenVal}\cong \mathrm{SoleEigenVal}$$

Require to discretize the energy of eigenvalue

$$\mathrm{Let{:}\ SoleEigenVal}\cong \mathrm{Partition()}$$

Require:

$$\mathrm{Partition(\quad)}\cong \mathrm{Asymmetric.Partition()}$$

Therefore, the asymmetric nature of the eigenvalue partition is indicating that the fermion cluster different rates, in partition region where the energy is higher the density of the fermion cluster is higher accordingly and vice versa. That leads to inhomogeneous density of fermion four-dimensional spheres and complete the proof.

$$\mathrm{Asymmetric.Partition}\in \mathrm{Bose.Class}\longrightarrow$$

$$\mathrm{Asymmetric.Clustering}\in \mathrm{Fermi.Class}$$

■

Proposition: Chirality & Primorial

Similar to certain ideas made in volume one, the author will aspire to present a version of the primorial that takes into account the quantum feature of chirality.

Let:

$$\text{SoleSequen:}\left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P}\oplus\underbrace{(e^-)}_{t_1}\right)}^{\text{LeftToRight}}\oplus\underbrace{\mathbb{P}}_{t_2}\right)\cong\text{True}$$

Than:

$$\text{SoleSequen:}\left(\overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_2}\mathbb{P}\oplus\underbrace{(e^-)}_{t_1}\right)}^{\text{RightToLeft}}\oplus\underbrace{\mathbb{P}}_{t_0}\right)\cong\text{False}$$

That is because the commuting nature of the bosons, any paired bosons at $\mathbb{P}\in t_0$ in form of a tuple can not vanish into matter as it is one sign carrier rather than two sign carriers. Therefore the inverse version from right to left can not be correct as far as one can see.

■

This might have a connection with the appearance of matter rather than anti-matter as one may recall anti-matter is intimately connected to reversing of direction of the primorial, so does the right to left primorial idea.

Analysis: The Pitfall of Propagators

This section is an analysis of the idea of a propagator, which is a function taking an initial and final condition of a particle, to estimate a probability of occurrence of a given phenomena such as particle arrival from one initial position to another.

Let:

$$\text{Set. Propagators} \cong \{\mathrm{f}_1 \dots \mathrm{f}_n\}$$

Let:

$$\text{Set. Particles} \cong \{\mathrm{p}_1 \dots \mathrm{p}_n\}$$

Let:

$$\text{Interaction} \cong \text{Set. Propagators} \star \text{Set. Particles}$$

$$\text{Interaction} \cong \text{Set.}\{\mathrm{p}_1 \dots \mathrm{p}_n\} \star \text{Set.}\{\mathrm{f}_1 \dots \mathrm{f}_n\}$$

This is the general picture as far as one knows from field theories. The problem with those ideas is that they ignore the stability of the particle due to its mass features. Due to their heavy mass the instability of the weak interaction boson can not be identical to that of the lepton, which is much lighter. That is despite the fact both are represented by the same number. The additional pitfall of propagator setting is that, even if one to compute the probability of certain process containing certain quantum particles, that does not answer the question of why those particles appear the way they do in the first place. In other words, it's a logical pitfall. The set of propagators can only answer questions that are least important in the author eyes. I.e. the questions of the "what" class rather than the "why" class and therefore do not worth wasting time on.

As an example the question: 'What is the probability of a car to drive from one position to another? " does not tell anything about the nature of the car, the object itself. The question is not allowing any deep insight into the inner workings of the game. The last pitfall of propagators is that it ignores both the internal and external fluxes of gravitational effects, which could lead to variation of the process of transition of a quantum particle from one state into another, assuming this particle rise from a fermion cluster. In that sense those functions can serve as a partial picture at most.

$$\text{Set. Propagators} \star \text{Set. Particles} \not\ni \text{GravityEffects}$$

$$\text{Axiom: GravityEffects } \star \text{Set. Particles} \ncong \emptyset$$

■

Proof: Prime Existence in Range of a Number and Its Square

In this section, the author will prove that for any prime and its square there exist a prime.

$$\text{Let. Prime} \cong \text{AnyPrime} \cong \text{n}$$

$$\text{Let. Prime}^2 \cong \text{n}^2$$

By the first Riemann proof:

$$\text{Axiom: AnyPrime} \cong 2\text{m} + 1.\text{Skeleton}$$

$$\text{n}^2 \cong (2\text{m} + 1)^2 \cong 4\text{m}^2 + 4\text{m} + 1$$

$$4\text{m}^2 + 4\text{m} + 1 \longrightarrow 4\text{m}^2 + 1$$

$$\therefore\ 4\text{m}^2 + 1 \cong \text{Odd}$$

Define the difference:

$$4\text{m}^2 + 1 - \text{Prime} \cong \text{Even}$$

$$\because 4\text{m}^2 + 1 - (2\text{m} + 1) \cong \text{Even}\ ;$$

$$\because (+1).\text{GeneratorVanish}$$

Leading to:

$$(2\text{m} + 1) < \text{Even} < 4\text{m}^2 + 1$$

$$\text{Even. Class} \in \text{PrimeClass};$$

Leading to at least one prime composing the even number, and therefore must be smaller than the even number.

$$\text{Axiom:} \sum_{i=1}^{n} \text{Prime}_i \cong \text{Even}$$

$$\therefore \text{Prime}_{i=n-k} < \text{Even}$$

$$\text{Let: Even} \cong \text{Range}[\text{n}, \text{n}^2]$$

■

Proof: Integration Fields over Space-time Is Impossible

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

Which is bijective to:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\overset{\Delta t}{\rightleftarrows}\left(\sum_{i=1}^{l}(e^-)_z\right)\overset{\Delta t}{\rightleftarrows}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\overset{\Delta t}{\rightleftarrows}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{SetAverages}}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\overset{\Delta t}{\rightleftarrows}\left(\sum_{i=1}^{l}(e^-)_z\right)\overset{\Delta t}{\rightleftarrows}\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\overset{\Delta t}{\rightleftarrows}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{SetAverages}}\cong\text{SoleSequen}$$

$$\text{Let:}\int\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\partial g\cong\text{Const}\in\text{TimeArrowOne}$$

$$\text{Axiom:}\left(\sum_{i=1}^{l}(e^-)_z\right)\propto\text{TimeArrow;}$$

$$\int\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\partial g\cong\text{AnotherConst;}\ \textbf{Given}\ \text{TimeArrowTwo}$$

$$\text{TimeArrowOne}<\text{TimeArrowTwo}\,;$$

$$\text{Const}<\text{AnotherConst}$$

$$\blacksquare$$

In words, any summation of forces on unit matric, by taking as an axiom curvature that vanish into matter, is a partial summation. That is as new lepton rise alongside the arrow development and therefore any integration is not a complete integration. That is another direct result of the lack of conservation of energy.

Proof: Prime Tuples & Connection to Group Theory

Recall the original proof of the primorial. Prime tuples transform to coupling terms with the invariant structure:

$$(\mathbb{P},\mathbb{P}).\mathrm{Class} \longrightarrow \overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P} \oplus \underbrace{(e^-)}_{t_1}\right)}^{\mathrm{LeftToRight}} \oplus \underbrace{\mathbb{P}}_{t_2}$$

Considering two unique tuples of four unique primes, and their possible connection to group theory.

$$(\mathbb{P}_1,\mathbb{P}_2).\mathrm{Class} \in \mathbb{EVEN}$$

$$(\mathbb{P}_3,\mathbb{P}_4).\mathrm{Class} \in \mathbb{EVEN}$$

Recall that the Riemann proof indicate they are forming a group. This section is on formation of group of prime tuples rather than single primes. Define an action on the tuple leading to a replacement of one element from each tuple.

$$\mathrm{Action}: (\mathbb{P}_1,\mathbb{P}_3).\mathrm{Class} \in \mathbb{EVEN}$$

$$\mathrm{Action}: (\mathbb{P}_2,\mathbb{P}_4).\mathrm{Class} \in \mathbb{EVEN}$$

It is evident:

$$(\mathbb{P}_1,\mathbb{P}_3) \ncong (\mathbb{P}_1,\mathbb{P}_2)$$

$$(\mathbb{P}_2,\mathbb{P}_4) \ncong (\mathbb{P}_3,\mathbb{P}_4)$$

Therefore the class is the group, and the transformation on the tuples by a given action is preserving only the class while the actual value is varying.

$$(\mathbb{EVEN}.\mathrm{Class} \cong \mathbb{EVEN}.\mathrm{Class})\ \forall\ \mathrm{Action}$$

Another value that is conserved is the total sum of the prime tuples.

$$(\mathbb{P}_1,\mathbb{P}_3) \oplus (\mathbb{P}_2,\mathbb{P}_4) \cong (\mathbb{P}_1,\mathbb{P}_2) \oplus (\mathbb{P}_3,\mathbb{P}_4)$$

■

Proof: Prime Tuples are Two Devisable only

Recall that the author defined back in volume one each prime tuple to be two and three devisable. That demand worked well for the lowest prime tuples yielding the coupling of the strong interaction and the weak interaction. However they do not work for the higher coupling term. As far as the author can see, one can require the prime tuple to be devisable by a sole prime, the number two rather than two and three.

$$([2,3]\,|\mathbb{EVEN}) \in \mathscr{F}$$

$$\mathbb{EVEN} \cong (\mathbb{P}_n, \mathbb{P}_m).\mathrm{Class}$$

$$\left(\frac{(\mathbb{P},\mathbb{P}).\mathrm{Class}}{2}\right) \longrightarrow \overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P} \oplus \underbrace{(e^-)}_{t_1}\right)}^{\mathrm{LeftToRight}} \oplus \underbrace{\mathbb{P}}_{t_2}$$

In the case of the third coupling term:

$$a^{-1} \cong \overbrace{\left(\underbrace{2^{(e^-)}\prod_{V=1}^{\mathbb{R}}}_{t_0}\mathbb{P} \oplus \underbrace{(e^-)}_{t_1}\right)}^{\mathrm{LeftToRight}} \oplus \underbrace{\mathbb{P}}_{t_2} \cong 128$$

$$(3 \nmid 128) \cong \mathrm{True}$$

The same applies to higher terms such;

$$(3 \nmid 850) \cong \mathrm{True}\ ;\ (3 \nmid 9254) \cong \mathrm{True}\ ;\ (3 \nmid 120{,}136) \cong \mathrm{True}\ \ldots$$

The author had luck as he stopped looking for prime tuples only after the first two tuples and therefore did not realize the devisor demand by the number three is not holding for those higher coupling terms. It could be that the three is replaced by some higher prime but there is no proof that this is in fact the case. The positive part is that it makes the theory much simpler. To go from a prime tuple to a coupling term, the demand reduced to a single devisor rather than two.

Analysis of an Open Question: Prime Fractions and Couplings Aspire to Zero

In contrast to QFT that has to cut off factor in order to eliminate the infinity of couplings, in the 8T, by taking as an axiom that particles are prime fractions, by continuous observation of the system, the coupling is aspiring zero. Therefore, it is the exact opposite in direction of variation. In QFT one has to deal with an infinity, which is problematic in those theories as infinity was never measured, and in the new theory the coupling aspires zero due to measurement and interfering with the quantum system.

$$F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \cong \overbrace{30}^{a_W^{-1}}, \overbrace{128}^{a^{-1}}, 850\ldots$$

This was analyzed in volume one and in volume two. It is important as it is indirectly solving the need for re-normalize or to cutoff the infinity, as the infinity was not there in the first place.

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \Rightarrow \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{InterferedQuantum}}\oplus\mathbb{P}\oplus\mathbb{P}\right)^{-1}$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} > \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{InterferedQuantum}}\oplus\mathbb{P}\oplus\mathbb{P}\right)^{-1}$$

If continuous measurement by a vast set of photons:

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \gg \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{InterferedQuantum}}\oplus\mathbb{P}\oplus\mathbb{P}\right)^{-1}$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{InterferedQuantum}}\oplus\mathbb{P}\oplus\mathbb{P}\right)^{-1} \longrightarrow 0$$

■

Proof: Ghost Quantum Forces & Sole Prime Analog to Classical Gravity

This section is a proof of quantum bosonic particles to manifest as a product of odd number of primes, or a prime number of primes that appear at distant location on the matric tensor.

$$\begin{bmatrix} P\left(e^- + N_{V_\mu}\right) \searrow & \cdots & \swarrow P\left(e^- + N_{V_\mu}\right) \\ \vdots & \overbrace{(\mathbb{P})}^{\text{Imagionary}} & \vdots \\ & \nearrow P\left(e^- + N_{V_\mu}\right) \nwarrow & \end{bmatrix}$$

This structure is taking as an axiom the first Riemann proof that reveled that the primes are forming a group. An observer that does not familiar with this insight may measure or decide that there exist a force in a certain location while in fact he is measuring the total effect of distict ripples in space-time which intersect to this imaginary particle. It is also possible to claim that this particle is an average, i.e. a gravity effect. Recall in volume one.

$$\begin{bmatrix} P\left(e^- + N_{V_\mu}\right) \searrow & \cdots & \swarrow P\left(e^- + N_{V_\mu}\right) \\ \vdots & G_{\text{Vals}} & \vdots \\ P\left(e^- + N_{V_\mu}\right) \nearrow & \ldots & \nwarrow P\left(e^- + N_{V_\mu}\right) \end{bmatrix}$$

The difference is that the author is not taking the average and therefore the number of elements is an odd or a prime, and instead of the gravitational value there exist a sole prime, which is an illusion as it is a combination of the prime elements taken to appear at distict locations. However, one must ask whether it is a pure illusion or perhaps it has actual existence. Recall that those quantum bosons are ripples diverging on the manifold in an unbound manner, and if the prime composed, the imaginary prime to appear, it might indicate those ripples are intersecting, leading to a mirage of another particle, higher in magnitude. Similar to classical gravity that do not exist but felt due to effect of fundamental spin one particles. The author will make a prediction:

$$\overbrace{(\mathbb{P})}^{\text{Imagionary}} \quad \text{IsAnalog to } (G_{\text{Vals}})$$

Proof: Mixed Fields & Quantum Entanglement & Particle Wave Duality

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong$$

By the axiom between Bose particles and Primes, one can write:

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong (\gamma_1)^2 \oplus \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}} \oplus (\gamma_2)^2$$

Recall back in volume one the author defined the "grand field":

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \cong 2^{(e^-)} \otimes \mathbb{P}_n \otimes \mathbb{P}_{n+1} \dots \otimes \mathbb{P}_{n+k} \cong \text{MixedField}$$

Therefore, the two terms are identical, at least partially:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \cong \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}}$$

The more general form:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2 \dots \mathbb{P}_n}^{\text{Mixed.Term}}$$

■

Proof: On Wave Collapse to Constant Eigen State

Recall:

$$F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \cong \overbrace{30}^{a_W^{-1}}, \overbrace{128}^{a^{-1}}, 850\ \ldots$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1} \Rightarrow \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{InterferedQuantum}}\oplus\mathbb{P}\oplus\mathbb{P}\right)^{-1}$$

Recall:

$$\forall\ \mathbb{P}\ \exists\ \text{Set.EigenState}\ \{\lambda_1 \ldots \lambda_n\}$$

$$\text{Axiom: Set.EigenState}\ \{\lambda_1 \ldots \lambda_n\} \cong \mathbb{ST}.\text{Ripple}$$

$$\text{Axiom: } \mathbb{ST}.\text{Ripple} \cong \text{Set.WaveConfigurations}$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)\exists\ \text{Some.EigenState} \cong \text{Sole.WaveConfiguration}$$

$$\text{Axiom: Sole.WaveConfiguration}\ \textbf{If}\ \text{integerSpin}\ \textbf{Is}\ \text{True}$$

$$\text{Axiom: Sole.WaveConfiguration} \cong \text{Varying.WaveConfiguration}$$

$$\text{InterferedQuantum} \star \text{Varying.WaveConfiguration} \cong \text{NonInteger.Spin}$$

$$\text{NonInteger.Spin} \wedge \text{integerSpin} \cong \text{False}$$

$$\therefore \exists\ \text{SomeEigenState} \in \text{Set.EigenState}\ \{\lambda_1 \ldots \lambda_n\}\ \textbf{AsLong}\ \text{NonInteger.Spin}\ \textbf{Is}\ \text{True}$$

■

(Trivial) Proof: Quantum Entanglement & Fermion Class

Recall:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \cong \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2\dots\mathbb{P}_n}^{\text{Mixed.Term}}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \bigwedge \overbrace{2\mathbb{P}_1\mathbb{P}_2\dots\mathbb{P}_n}^{\text{Mixed.Term}} \in \mathbb{EVEN}.\text{Class}$$

Recall:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \overset{\Delta t}{\rightarrow} \left(\sum_{i=1}^{l}(e^-)_z\right) \overset{\Delta t}{\rightarrow} \left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \overset{\Delta t}{\rightarrow} \underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{SetAverages}} \cong \text{SoleSequen}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \in \mathbb{EVEN}.\text{Class}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \bigwedge \overbrace{2\mathbb{P}_1\mathbb{P}_2\dots\mathbb{P}_n}^{\text{Mixed.Term}} \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}} \bigwedge \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

■

(Trivial) Proof: The Stable nature of Quantum Entanglement

Recall:

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \in \mathbb{EVEN}.\mathrm{Class}$$

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \overset{\Delta t}{\rightleftarrows} \left(\sum_{i=1}^{l} (e^-)_z\right) \overset{\Delta t}{\rightleftarrows} \left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \overset{\Delta t}{\rightleftarrows} \underbrace{\left(\sum_{i=1}^{m} (G_{\mathrm{Val}})_i\right)}_{\mathrm{SetAverages}} \cong \mathrm{SoleSequen}$$

$$\mathrm{Axiom}: \mathbb{EVEN}.\mathrm{Class} \cong (\mathrm{StationaryState} \in \mathrm{Manifold})$$

$$\mathrm{Axiom}: \mathbb{EVEN}.\mathrm{Class} \cong (\mathrm{StationaryState} \in \mathrm{StableState})$$

An axiom that can be reflected in the long lifetime of matter particles such as the proton and the electron as an example.

$$\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P}\right)}^{\mathrm{PureQuantum}} \bigwedge \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \in \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)$$

And in particular the entanglement term is representing an even number:

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \cong \mathbb{EVEN}.\mathrm{Class}$$

$$\therefore \quad \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \cong \mathrm{StableState}$$

■

Proposition: Identical Quantum Entanglements

Recall:

$$\overbrace{\left(2^{(e^{-})}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}}\bigwedge\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\in\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\cong\mathbb{EVEN}.\text{Class}$$

$$\therefore\quad\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\cong\text{StableState}$$

Define two identical entanglements if:

$$\overbrace{\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.TermOne}}\cong\overbrace{\mathbb{P}_n\mathbb{P}_m}^{\text{Entanglement.TermOther}}$$

In addition, the moment of intersection is identical.

$$\overbrace{\mathbb{P}_1\mathbb{P}_2}^{\text{Timing}}\cong\overbrace{\mathbb{P}_n\mathbb{P}_m}^{\text{Timing}}$$

Third demand is that the two terms are on the same manifold, or else they won't be identical as the time arrow differs.

$$\overbrace{\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed}}\bigwedge\overbrace{\mathbb{P}_n\mathbb{P}_m}^{\text{Mixed}}\in\text{SomeManifold}$$

The last demand is that the two terms to hold two identical sets of eigenvalues such that

$$\overbrace{\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed}}\ni(\text{Set.EigenValsOne})\cong(\text{Set.EigenValsTwo})\in\overbrace{\mathbb{P}_n\mathbb{P}_m}^{\text{Mixed}}$$

$$(\text{Set.EigenValsOne})\cong(\text{Set.MixedEigenValsOne})$$

$$(\text{Set.EigenValsTwo})\cong(\text{Set.MixedEigenValsTwo})$$

■

Proof: Quantum Entanglements & Connection to Loss Energy

Recall:

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\text{PureQuantum}}\bigwedge\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\in\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\cong\mathbb{EVEN}.\,\text{Class}$$

$$\therefore\quad\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\cong\text{StableState}$$

$$\overbrace{\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed}}\ni(\text{Set.EigenValsOne})\cong(\text{Set.EigenValsTwo})\in\overbrace{\mathbb{P}_n\mathbb{P}_m}^{\text{Mixed}}$$

$$(\text{Set.EigenValsOne})\cong(\text{Set.MixedEigenValsOne})$$

$$(\text{Set.EigenValsTwo})\cong(\text{Set.MixedEigenValsTwo})$$

Recall:

$$\textbf{Axiom}:\forall\,\text{Bose}_{\text{Particles}}\cong(\text{PrimeFractions})$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\cong\text{FractionsMutliplied}$$

$$\therefore\quad\overbrace{\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement}}<\left(\mathbb{P}_1\bigvee\mathbb{P}_2\right)$$

$$(\text{Set.MixedEigenValsOne})<\left(\mathbb{P}_1.\text{EigenVals}\bigvee\mathbb{P}_2.\text{EigenVals}\right)$$

∎

It could be that the loss of energy was during the knot creation between the two bosons.

Proof: Entanglement on Fermions Is Impossible

Recall:

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

Recall the entanglement between two bosons, measured by taking their square:

$$(\mathbb{P}_1\oplus\mathbb{P}_2)^2\cong(\mathbb{P}_1)^2\oplus 2\mathbb{P}_1\mathbb{P}_2\oplus(\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2\oplus\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\oplus(\mathbb{P}_2)^2\cong\text{Odd}+\text{Even}+\text{Odd}$$

$$(\mathbb{P}_1)^2\oplus\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\oplus(\mathbb{P}_2)^2\cong(\mathbb{P}_1)^2\oplus\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}}\oplus(\mathbb{P}_2)^2\cong$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\in\text{Even.Class}$$

Define the entanglement term on fermions:

$$(\text{Even.Class}\oplus\text{Even.Class})^2\cong 0\oplus 00\oplus 0$$

$$0\oplus 0\cong 0$$

Therefore the fermions can not be entangled similar to boson, the mixed term is taken to zero and so the overall product of taking their square is again leading to a single fermion cluster class, i.e. a sole zero. That is in contrast to the square of two bosons leading to the exact value of entanglement term, as presented in the case of the photons.

$$(\mathbb{P}_1)^2\oplus\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}}\oplus(\mathbb{P}_2)^2\longrightarrow(\mathbb{P}_1)^2\oplus(\mathbb{P}_2)^2\cong\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}}$$

$$(\mathbb{P}_1)^2\wedge(\mathbb{P}_2)^2\cong\gamma_1,\gamma_2$$

$$(\gamma_1)^2\oplus(\gamma_2)^2\cong\overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}}$$

$$\text{AsLong:}\ (\gamma_1)^2\oplus(\gamma_2)^2\ \text{Exist}\ \exists\ \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}}\cong\text{True};$$

■

The photon pair is always connected, in contrast to fermions.

(Second)Proof: The Lack of Locality & Prime Entanglement Connection

Recall:

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

Recall the entanglement setting, in which the key idea is that two photons squared are equal to the mixed term of the two photons. The square is bijective to the square of the wave function, and therefore to probability of existence at a given location. That is by:

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \cong (\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \ominus \left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\right) \cong 0$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong (\text{WaveFunction})^2$$

$$\text{WaveFunction}^2 \cong \text{ProbabilityMeasurement}$$

Let:

$$\text{Distance: } (\mathbb{P}_1)^2.\text{Location} \ominus (\mathbb{P}_2)^2.\text{Location} \cong \infty$$

Recall:

$$\text{Location Is Possible } \because \text{Prime}^2 \cong \text{Odd}$$

$$\left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \cong \text{True}\right) \forall\, \text{TimeArrow } \in \text{Manifold}$$

In addition, at the same time:

$$\left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \cong \text{True}\right) \forall\, \text{TimeArrow } \wedge \text{ Distance} \cong \infty$$

■

Analysis: Classes of Quantum Entanglement

Recall in the first volume, the author used the sum of spins in order to present the fact the quantum system is invariant under distance increase.

$$\text{Axiom: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{InterferedQuantum}} \oplus \mathbb{P} \oplus \mathbb{P}\right)^{-1} \ncong \overbrace{30{,}128{,}850{,}9254}^{2N_k+1}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{InterferedQuantum}} \oplus \mathbb{P} \oplus \mathbb{P} \cong \left(2N_K \oplus \frac{3}{2}\right) \; \forall\, \text{MatricRange}$$

This can be classified as the quantum connection under addition. The three primes are again leading to an odd number or a prime number, as given by first Riemann conjecture. The more modern version of the phenomena can be classified as multiplication entanglement and that is by the square of two primes, where the square is bijective to a square of a wave function. That leads to the previous result for two primes of the same kind:

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\right)$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \ominus \left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\right) \cong 0$$

The square of each prime alone is an odd, but the two primes are forming an even. In that sense it was possible to determine fermion like behavior on the phenomena of entanglement, rather than waves. To sum up, the additive reasoning for entanglement leading to an odd or a prime when the elements are summed, the second form, i.e. multiplication form is leading to a sum of two odds, leading to an even. The second form, the multiplication form seems as the more elegant and accurate explanation of the phenomena. Two single primes squared are exactly equal to their product. Therefore, they are never separated.

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\right) \vdash \text{ConstantConnection}$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\right) \vdash \text{PathConnected}$$

$$\because \text{P.Class} \subseteq \Phi$$

■

(Trivial) Proof: Increase of Quantum Entanglement

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong$$

As an example, the photon pair:

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong (\gamma_1)^2 \oplus \overbrace{2\gamma_1\gamma_2}^{\text{Mixed.Term}} \oplus (\gamma_2)^2$$

Recall:

$$\text{AxiomTwo:} \underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l} (e^-)_i\right)\right) \subset \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)$$

$$\left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \propto \text{TimeArrow} \because \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \propto \text{TimeArrow}$$

For each prime, the mixed term, the entanglement phenomena is a subclass of the prime class. Therefore one can write:

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \subseteq \left(\sum_{a=1}^{n} \big((N_V)\big)_a\right); \bowtie \left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \propto \text{TimeArrow}$$

$$\therefore \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \propto \text{TimeArrow}$$

In particular the summation of quantum entanglement should be proportional to arrow as new bosons are rising constantly.

$$\therefore \text{SumOver}(\text{MixedTerms.Number}) \propto \text{TimeArrow}$$

■

Analysis: Cancelations of Quantum Entanglement

$$\text{Axiom: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}.\text{Pure}\right)^{-1} \cong \overbrace{30{,}128{,}850{,}9254}^{2N_k+1}\ldots$$

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong$$

Recall:

$$\text{OneSign.Class} \cong \text{ViolationOnDemand}$$

$$\text{OneSign.Class} \cong \text{Bose.Class}$$

Theoretically, it is possible to state that if a boson element has vanished from the manifold, which is possible to do by a particle decay, that the number of quantum entanglements has decreased. That said, it is only a partial description as new bosons constantly appear on the manifold, therefore it one prime vanished and one remained, the probability of the remained prime to get entangled is increasing in proportion to the direction of the arrow. In other words, similar how entropy may decrease at certain regions due to space-time cuts, but overall it will be compensated by vanishing curvature, the amount of QE may decrease but overall again rise due to new boson elements. This entanglement phenomena can be analyzed from another angle, recall that each boson increase the probability arrival to itself, and therefore even if bosonic element's propagate at different directions of space-time, there is always a tendency of the bosons to maneuver onto the other bosons. This is bijective to volume one argument of bosons maneuvering all over space-time. looking back at the Volume I argument if the bosons pair is represented by an even number as above, than they are rather particles than waves, i.e. they are not sole primes, and therefore the argument of volume one is lacking.

Analysis: Entanglement on Mass Carriers

Consider the bosonic element absorbed as a entity that exist within the lepton, as was presented in the Quantum manifold part of volume one.

$$\text{Axiom:}\left(\sum_{z=1}^{l}(e^{-})_z\right) \ni \text{Bose.Absrobed}$$

$$\left(\sum_{z=1}^{l}(e^{-})_z\right) \ni \text{P(Arrival)} \cong \text{P(A)}$$

Consider the bosonic element to be entangled to any other boson.

$$\text{Axiom: } {\mathbb{P}_1}^2 \cong \text{Prime.Measured}$$

$$\because \left({\mathbb{P}_1}^2 \cong \text{Square} \in \text{WaveFunction}\right)$$

$${\mathbb{P}_1}^2 \cong {\mathbb{P}_2}^2;$$

Therefore, there exist the global equality:

$${\mathbb{P}_1}^2 \cong {\mathbb{P}_{\text{AnyOther}}}^2;$$

In the case of the photon, the entanglement exist because:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$\overbrace{2\gamma_1\gamma_2}^{\text{Entanglement.Term}} \cong (\gamma_1)^2 \oplus (\gamma_2)^2$$

Therefore if the lepton containing the absorbed boson, and another lepton has absorbed the second lepton, it gives rise to possible entanglement on the lepton pair.

$$\text{Axiom:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{z=1}^{l}(e^{-})_z\right)\right) \subset \left(\sum_{i=1}^{T}(\delta R_E)_i \cong 0\right)$$

■

Analysis: Entanglement Decays on Leptons

Recall from the last section:

$$\text{Axiom:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{z=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{T}(\delta R_E)_i\cong 0\right)$$

$$\text{Axiom:}\big((e^-)\big)\ \ni \text{Bose.Absrobed}$$

$$(e^-)\ni \text{P(Arrival)}\cong \text{P(A)}$$

$$\text{Axiom: Bose.Absrobed}\cong\text{Bose.Entanglement}$$

$$(\mathbb{P}_1)^2\oplus\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}\oplus(\mathbb{P}_2)^2\cong\text{Odd}+\text{Even}+\text{Odd}$$

$$\overbrace{2\gamma_1\gamma_2}^{\text{Entanglement.Term}}\cong(\gamma_1)^2\oplus(\gamma_2)^2$$

Therefore, there exist a lepton containing the absorbed boson, and another lepton has absorbed the second lepton, it gives rise to possible entanglement on the lepton pair. The key point is to allow the lepton to vanish. Therefore, the boson vanished with it and the entanglement could vanish at least in a partial manner.

$$\text{Axiom:}\big((e^-)\big)\ \ni\text{Bose.Absrobed}\cong\text{Vanished.Electron}$$

$$\text{Vanished.Electron}\vdash\text{Vanished.Entanglement}$$

For a complete vanishing of entanglement:

$$\text{Vanished.Entanglement.Complete If:}$$

$$\text{SumOver(Leptons}\ni\text{Bose.Absrobed)}\cong 0$$

■

For a complete vanishing of entanglement if the two primes unbound has vanished, it is bijective to stating that the entanglement term has vanished.

$$((\gamma_1)^2\oplus(\gamma_2)^2\cong 0)\vdash\left(\overbrace{2\gamma_1\gamma_2}^{\text{Entanglement.Term}}\cong 0\right)$$

■

(Trivial) Proof: Quantum Entanglement and Prime Identity

$$\text{Axiom: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(\overbrace{2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P}}^{t_0} \oplus \overbrace{(e^-)}^{t_0+\Delta t} \right)}^{\text{PureQuantum}} \oplus \overbrace{\mathbb{P}.\,\text{Pure}}^{t_0+\Delta t+\Delta t} \right)^{-1} \cong \overbrace{30{,}128{,}850{,}9254}^{2N_k+1}\ldots$$

This proof of quantum entanglement is based upon mathematical logic and prime identity. Recall the original phenomena:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2 \cong$$

In this proof, the author will reason entanglement in another manner. Consider measuring a prime by taking its square, which is bijective to the square of a wave function:

$$\mathbb{P}_1{}^2 \cong \text{Prime.Measured}$$

However, there exist the equality:

$$\mathbb{P}_1{}^2 \cong \mathbb{P}_2{}^2;$$

■

Therefore, when one to measure a boson by taking it's square, he is also measuring another boson, unique boson. That is identical to the original phenomena as far as one can see. The boson pair is always connected.

Analysis: Global Bosonic Entanglements

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\left((N_V)\right)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_i\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

The following analysis is ignoring the volume one idea on different bosonic particles, i.e. the bosonic atlas, in order to expend the idea of quantum entanglement. Recall the trivial proof:

$$\text{Axiom: } {\mathbb{P}_1}^2 \cong \text{Prime. Measured}$$

$$\because \left({\mathbb{P}_1}^2 \cong \text{Square} \in \text{WaveFunction}\right)$$

However, there exist the equality:

$${\mathbb{P}_1}^2 \cong {\mathbb{P}_2}^2;$$

Therefore there exist the global equality between the measured photon and any other photon in the universe:

$${\mathbb{P}_1}^2 \cong {\mathbb{P}_{\text{AnyOther}}}^2;$$

Require:

$$\left({\mathbb{P}_1}^2\text{. Distance}\right) \ominus \left({\mathbb{P}_{\text{AnyOther}}}^2\text{. Distance}\right) \simeq \infty$$

■

If that is the case, the measurement of a photon is connected to any other photon in the universe and effecting it even if they were not part of the same system as previously covered. That is simply because all the particle’s has the same numerical kernel, i.e. they are described by the same prime number.

Analysis: Entanglement & Curvature Diffusions

$$((\gamma_1)^2 \oplus (\gamma_2)^2 \not\equiv 0) \vdash \left(\overbrace{2\gamma_1\gamma_2}^{\text{Entanglement.Term}} \not\equiv 0 \right)$$

$$\because \left((\gamma_1)^2 \oplus (\gamma_2)^2 \cong \overbrace{2\gamma_1\gamma_2}^{\text{Entanglement.Term}} \right)$$

Require:

$$\text{Axiom}: \gamma_1, \gamma_2 \cong \nabla R_{\mu\nu}$$

Therefore, one can write:

$$\text{Axiom}: \nabla^2 R_{\mu\nu} \oplus \nabla^2 R_{\mu\nu} \cong 2\Delta R_{\mu\nu}$$

$$\frac{\left(\nabla^2 R_{\mu\nu} \oplus \nabla^2 R_{\mu\nu}\right)}{2} \cong \left(\Delta R_{\mu\nu}\right)$$

Where:

$$\left(\Delta R_{\mu\nu}\right) \cong \gamma_1 \vee \gamma_2$$

Require:

$$\text{Axiom}: \frac{\left(\nabla^2 R_{\mu\nu} \oplus \nabla^2 R_{\mu\nu}\right)}{2} \cong \text{Average};$$

$$\Delta R_{\mu\nu} \cong \gamma_1 \vee \gamma_2$$

■

Therefore, one proved the connection between the entanglement and gravity, i.e. the curve diffusion. The ripple of curvatures intersect, the average of the curvature diffusion term is bijective to the prime term $\Delta R_{\mu\nu}$ taking to spread over matric tensor. it's all been covered. Therefore the existence of a sole prime taken to net curve diverging is implying that there exist an entanglement, taken to be a mixture of unique curve diffusions in space-time, leading to an averages bijective to sole primes. Recall that the expression:

$$\frac{\left(\nabla^2 R_{\mu\nu} \oplus \nabla^2 R_{\mu\nu}\right)}{2} \cong \left(\Delta R_{\mu\nu}\right)$$

Is analog to volume one:

$$\frac{\left(128^{-1} \oplus 128^{-1}\right)}{2} \cong 128^{-1}$$

(Second) Proof: The Stable nature of Quantum Entanglement

Recall:

$$\textbf{Axiom}: \forall\, \mathrm{Bose}_{\mathrm{Particles}} \cong (\mathrm{PrimeFractions})$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \cong \mathrm{FractionsMutliplied}$$

$$\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\right)}^{\mathrm{PureQuantum}} \bigwedge \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

The key point for this proof is that the entanglement term is composed by same sign carriers and therefore it is preserved via the multiplication of the fractions. If the same sign carriers are stable, and the sign is preserved via the action of multiplication, than the product is stable as well.

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \in (\mathrm{SameSign.Carriers}) \cong \mathrm{Primes}$$

$$\mathrm{Axiom}: (\mathrm{SameSign.Carriers}) \cong \mathrm{Stable}$$

Define the axiom:

$$\mathrm{KeyAxiom}: \quad \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \cong \mathrm{BoseSign} \star \mathrm{BoseSign} \cong \mathrm{SameSign}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entanglement.Term}} \cong \mathrm{Stable}$$

■

If the entanglement is composed by same sign carriers and by the key axiom the sign of the product is preserved, that means that the boson class is composed by the plus sign rather than the minus:

$$\overbrace{\mathrm{BoseSign}}^{+} \star \overbrace{\mathrm{BoseSign}}^{+} \cong (\mathrm{SameSign} \cong +)\ \mathrm{Is\ True}$$

$$\overbrace{\mathrm{BoseSign}}^{-} \star \overbrace{\mathrm{BoseSign}}^{-} \cong (\mathrm{SameSign} \cong +)\ \mathrm{Is\ False}$$

Proof: Entanglement & Number Theory Representation

Recall:

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{z=1}^{l}(e^-)_z\right)\right) \subset \left(\sum_{i=1}^{T}(\delta R_E)_i \cong 0\right)$$

Recall the measurement of a wave function of two primes:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

By the axiom between Bose particles and Primes, one can write:

$$\text{Odd} \oplus \text{Odd} \cong \text{Even}$$

By the odds to space-time knots bijection:

$$\text{Odd} \oplus \text{Odd} \cong 2\mathbb{ST}.\text{Knots} \cong \text{Even}$$

Therefore the bosonic particles are knotted to one another leading to an even number representation and therefore to fermion like behavior. The knotted nature of the two prime elements is indicating that the measurement on one of them is directly reflected on the other one.

Re-Analysis: Timed Versus Untimed Gravitational Effects & Considering Entanglement

Recall from volume I:

$$\mathrm{GravitationalWave:}\left(2N_2+\begin{pmatrix}\frac{1}{2}\\ \mathbb{P}\\ \frac{1}{2}\\ \mathbb{P}\end{pmatrix}\right)\star 2^{-1}\cong \mathrm{One.Top.Boundry}\cong \mathrm{SpinOne.Skeleton}$$

Recall from the previous sections of volume II:

$$(\mathbb{P}_1)^2\oplus(\mathbb{P}_2)^2\cong\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entan.Term}}$$

In particular that each boson is half unit spin:

$$\mathrm{Axiom:}\ \frac{1}{2}\cong\mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entan.Term}}\cong\left(2\star\frac{1}{2}\star\frac{1}{2}\right)\cong\frac{1}{2}$$

In particular, if the entangled term of two boson particles is bijective to a sole prime spin, it means that the two elements have a single topological boundary. It is not a partial intersection, as previously suggested but rather a complete topological intersection. That is:

$$\mathrm{Axiom:}\ \mathbb{P}\supseteq\mathrm{One.Top.Boundry}\vdash\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entan.Term}}\supseteq\mathrm{One.Top.Boundry}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entan.Term}}\supseteq\mathrm{One.Top.Boundry}\vdash\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\mathrm{Entan.Term}}\star\mathbf{Full.Top.}\mathrm{Intersection}$$

In that sense, it is possible to create an effect of gravity even if the so-called particles are at distinct locations. Therefore the phenomena of quantum entanglement could serve as means the expend the phenomena of gravity and the set of rules under gravitational effect may appear.

Analysis: Entanglement Recap

A recap on ideas of quantum entanglement from number theory. An attempt to sync toward a more coherent picture.

$$\text{Axiom:}\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial \mathscr{L}}{\partial\left(\frac{\partial \Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial \Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \mathbb{P}$$

At that section an integration and sync of several ideas on entanglement. The even number feature of the term implies a fermion like behavior, therefore the two primes will present particle like behavior. Since the even number is equal to two space time knots, the result is, as far as one can see, is that the bosons holding some sort of a knot, and that knot is the feature that allows the constant modification. The bosons are in constant state of connection and therefore it is not possible to regard them as single particles, and it is manifested in the fact that the spin of the united term is again accumulating to one-half. External waves can not lead to a collapse on the entangled term because it is already an even number in net variation form. That is rather than a pure quantum taken to be a sole prime and in that sense the dual pair of a particle already went via a transition from “wave to a particle”.

Summing up, measuring by taking the squares of two primes is equal to the joint term, which is again the single spin term in spin representation. The two odds equal to an even is bijective to two space-time knots equal and fermion like features. That means that the elements will behave as particles rather than waves, although they are still net curves, at the same time there exist a knot between those bosonic elements, this knot is the source of the modification from distance.

Trivial Proof: Entanglement & Linear Polarization's Connection

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{z=1}^{l}(e^-)_z\right)\right) \subset \left(\sum_{i=1}^{T}(\delta R_E)_i \cong 0\right)$$

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

The topic of this section is the following, for the entanglement to hold, the quantum elements as to manifest as waves, but that is problematic as they represented by an even numbers, either in the mixed term or by the sum of two prime squares taken to be measured primes. Therefore, if the sole prime is correlated to a wave like feature and the even number to particle like behavior, than the mixed term to manifest as pure wave is not possible. At the same time the only way to hold connection between vast space-time regions is via wave-like features. A possible way to solve it is to state that the joint term is knotted and the quantum elements manifest as linearly polarized particles, or a joint ray propagating to opposite directions with a common space-time region, i.e. where the knot is.

$$\text{Axiom: } 2\text{Odd} \cong \text{Even } \vdash \text{LinearlyPolarized}$$

$$\text{Even} \cong \left(\sum_{i=1}^{T}(\delta R_E)_i \cong 0\right).\text{Class} \vdash \text{Fermi.Like}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \text{Top (Path.Connected)}$$

$$\text{Entanglment } \cong \text{LinearlyPolarized} \star \text{Fermi.Like} \star \text{ Top (Path.Connected)}$$

■

Analysis: Entanglement & Semi-Disjoint Classes

From the last section:

$$\text{Axiom: 2Odd} \cong \text{Even } \vdash \text{LinearlyPolarized}$$

$$\text{Even} \cong \left(\sum_{i=1}^{T} (\delta R_E)_i \cong 0\right).\text{Class} \vdash \text{Fermi.Like}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \text{Top (Path.Connected)}$$

$$\text{Entanglment } \cong \text{LinearlyPolarized} \star \text{Fermi.Like} \star \text{ Top (Path.Connected)}$$

Require the key axiom for this proof:

$$\text{If: Even} \vdash \text{Fermi.Like } \cong \text{True}$$

Than:

$$\mathbb{P}_1 \bigcap \mathbb{P}_2 \ni \text{Disjoint.Position}$$

$$\text{LinearlyPolarized} \star \text{Fermi.Like} \star \text{ Top (Path.Connected)} \star \text{Disjoint.Position} \vdash$$

$$\text{Entanglment } \supseteq \text{Disjoint.Position} \bigcap \text{Top (Path.Connected)}$$

Leading to the desired result:

$$\text{Entanglment} \cong \text{SemiDisjoint} \bigcup \text{SemiConnected}$$

Which is bijective to:

$$\text{Entanglment} \cong \text{TopDisjoint} \bigcup \text{TopConnected}$$

$$\because \text{Entanglment} \subseteq \Phi$$

■

Analysis: Entanglement & Effects by External Gravity

Recall from the last section:

$$\mathrm{LinearlyPolarized} \star \mathrm{Fermi.Like} \star \ \mathrm{Top}\ (\mathrm{Path.Connected}) \star \mathrm{Disjoint.Position} \vdash$$

$$\mathrm{Entanglment}\ \supseteq \mathrm{Disjoint.Position} \bigcap \mathrm{Top}\ (\mathrm{Path.Connected})$$

Leading to the desired result:

$$\mathrm{Entanglment} \cong \mathrm{SemiDisjoint} \bigcup \mathrm{SemiConnected}$$

Which is bijective to:

$$\mathrm{Entanglment} \cong \mathrm{TopDisjoint} \bigcup \mathrm{TopConnected}$$

Shortening notation:

$$\mathrm{LinearlyPolarized} \cong \mathrm{LP};\ \mathrm{Fermi.Like} \cong \mathrm{FL}$$

Require a product differ from null between the entanglement term and a classical gravitational effect:

$$\left(\mathrm{LP} \star \mathrm{FL} \star \ \mathrm{Top}\ (\mathrm{Path.Connected}) \star \mathrm{Disjoint.Position} \coprod G_{\mathrm{Val}}\right) \not\equiv \emptyset$$

■

Where the gravitational effect is external. It is evident that by requiring the disjoint position and the path connection to hold, the external gravity can only directly effect the first two terms within the complete term.

$$\mathrm{LP} \star \mathrm{FL} \coprod G_{\mathrm{Val}} \cong \mathrm{True}$$

$$\mathrm{LP} \star \mathrm{FL} \coprod G_{\mathrm{Val}} \cong \mathrm{DirectEffect}$$

(Trivial) Proof: Entanglement & Internal Gravity Connection

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{z=1}^{l}(e^-)_z\right)\right) \subset \left(\sum_{i=1}^{T}(\delta R_E)_i \cong 0\right)$$

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

Require the mixed term to hold an average:

$$\text{Axiom: } \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \star n^{-1} \cong \text{SomeAverage}$$

$$\text{SomeAverage} \in \text{AverageClass}$$

Recall:

$$\text{G}_{\text{Val}}\text{Class} \cong \text{AverageClass}$$

Therefore an entangled term can hold internal gravitational effect as it is composed by two primes and it is possible to demand the two primes to an average

■

(Trivial) Proof: Entanglement & Dual Gravity Cancelations

Recall from the last section:

$$\text{Axiom:}\quad \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \star n^{-1} \cong \text{SomeAverage}$$

$$\text{SomeAverage} \in \text{AverageClass}$$

$$\mathrm{G}_{\text{Val}}\text{Class} \cong \text{AverageClass}$$

From two sections ago:

$$\left(\text{LP} \star \text{FL} \star \text{ Top (Path. Connected)} \star \text{Disjoint. Position} \coprod G_{\text{Val}}\right) \not\equiv \emptyset$$

$$\blacksquare$$

Where the gravitational effect is external. It is evident that by requiring the disjoint position and the path connection to hold, the external gravity can only directly effect the first two terms within the complete term.

$$\text{LP} \star \text{FL} \coprod G_{\text{Val}} \cong \text{True}$$

$$\text{LP} \star \text{FL} \coprod G_{\text{Val}} \cong \text{DirectEffect}$$

Define the key axiom:

$$\text{Axiom:}\quad \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \text{LP} \star \text{FL}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \coprod G_{\text{Val}} \cong \text{True;}$$

Require:

$$\text{SomeAverage} \in \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \coprod G_{\text{Val}} \vdash \text{Cancelation}$$

$$\text{SomeAverage} \cong \text{Internal};\ G_{\text{Val}} \cong \text{External};$$

$$\text{Internal} \star \text{External} \cong 0$$

$$\therefore \left(\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \bigwedge \text{AverageClass}\right) \cong \emptyset \quad \blacksquare$$

(Trivial) Proof: Entanglement of Fermion Cluster's by Bose Embedding's

$$\text{AxiomTwo:} \underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \left((N_V)\right)_a\right) \subset \left(\sum_{z=1}^{l} (e^-)_z\right)\right) \subset \left(\sum_{i=1}^{T} (\delta R_E)_i \cong 0\right)$$

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} + \text{Even} + \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

Require an embedding:

$$(\mathbb{P}_1)^2 \subset \overbrace{\left(\sum_{i=1}^{T} (\delta R_E)_i \cong 0\right)}^{\text{FermionClusterOne}}; (\mathbb{P}_2)^2 \subset \overbrace{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)}^{\text{FermionClusterTwo}}$$

$$\overbrace{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)}^{\text{FermionClusterTwo}} \ncong \overbrace{\left(\sum_{i=1}^{T} (\delta R_E)_i \cong 0\right)}^{\text{FermionClusterOne}}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \subseteq \overbrace{\left(\sum_{i=1}^{T} (\delta R_E)_i \cong 0\right)}^{\text{FermionClusterOne}} \bigcap \overbrace{\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)}^{\text{FermionClusterTwo}}$$

■

Re-Analysis: The Meaning of Quantum Odds | Sharing the Wave Structure

Recall:

$$(\mathbb{P}_1 \oplus \mathbb{P}_2)^2 \cong (\mathbb{P}_1)^2 \oplus 2\mathbb{P}_1\mathbb{P}_2 \oplus (\mathbb{P}_2)^2$$

$$(\mathbb{P}_1)^2 \oplus \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \oplus (\mathbb{P}_2)^2 \cong \text{Odd} \oplus \text{Even} \oplus \text{Odd}$$

$$(\mathbb{P}_1)^2 \oplus (\mathbb{P}_2)^2 \cong \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}}$$

$$\text{Axiom: } \frac{1}{2} \cong \mathbb{P}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Mixed.Term}} \cong \left(2 \star \frac{1}{2} \star \frac{1}{2}\right) \cong \frac{1}{2}$$

Recall that in volume one the author considered odds as space-time knots. In this section a re-evaluation will be presented using number theory viewpoint for the analysis. The first key point is that the sum of two odds is even, and even number is related to fermion like features. Fermion like features are particle like. Therefore if two odds are involved and the relation below holds:

$$\text{Odd} \oplus \text{Odd} \cong \text{Even}$$

Than the additive feature between them may affect the knot feature and therefore led them to behave similar to fermions. The second key point that was not analyzed in the context of quantum entanglement is that the odds are sharing the wave structure of a prime, i.e. the odds are represented by:

$$\forall\ \text{Odd} \in [1, \mathbb{R}]\ \exists\ 2\text{N}_k + 1;$$

$$2\text{N}_k + 1 \cong 2\text{N}_k + \frac{1}{2} + \frac{1}{2} \cong \text{SpinOneSkeleton}$$

Therefore the wave-like feature of an odd number might be preserved despite the odds are not isomorphic to the pure prime taken to be diverging curvature ripple on the matric. This two features are solidifying the relationship of waves or particles to odds, rather than pure knots to odds. This might be an indication that the classification to knots from volume one need to be re-visited.

Proposition: Ideal Lepton Conduction in Fermion Cluster

Let:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \in \mathbb{EVEN}.\mathrm{Class}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \ni \left(\sum_{i=1}^{l}(e^-)_z\right).\mathrm{Motion}$$

If:

$$\left(\sum_{i=1}^{l}(e^-)_z\right)\bigcap \mathrm{GraviationalFlux} \ncong \emptyset$$

Than:

$$\left(\sum_{i=1}^{l}(e^-)_z\right).\mathrm{Motion} \cong \mathrm{NonIdeal}.\mathrm{Conduction} \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

Where:

$$\mathrm{GraviationalFlux} \cong \mathrm{Internal}\bigcup \mathrm{External}$$

Else:

$$\left(\sum_{i=1}^{l}(e^-)_z\right)\bigcap \mathrm{GraviationalFlux} \cong \emptyset$$

$$\left(\sum_{i=1}^{l}(e^-)_z\right).\mathrm{Motion} \cong \mathbf{Ideal}.\mathrm{Conduction} \in \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

■

In words, if there exist an interaction of gravity on the leptons, and assuming it is not directly aligned with the trajectory than the conduction is not ideal as there exist a resistance between the lepton set of electrons original motion and the effect of gravity dictating a shift to another direction. As far as one can see it is bijective to heat lose of the first law of thermodynamics. The ideal conduction can only appear when the lepton set is not effected by external or internal forces that vary the original conduction direction of the quantum elements.

(Second) Proposition: Ideal Lepton Conduction in Fermion Cluster

In this section, an additional analysis of the ideal conduction will be proposed. In contrast to the previous section, the emphasis will be on absence of elastic collusion with matter particles, i.e. fermions as means to define ideal lepton conduction. Let:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \in \mathbb{EVEN}.\mathrm{Class}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \ni \left(\sum_{i=1}^{l}(e^-)_z\right).\mathrm{Motion}$$

Define ideal conduction of leptons:

$$\mathrm{Ideal:}\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \star \left(\sum_{i=1}^{l}(e^-)_z\right).\mathrm{Motion} \cong \emptyset$$

In words, if the product of the lepton set with matter is null, there exist no elastic collusion between the fermion class and the lepton class, which is also fermion nature. Therefore, there exist no heat loss and the conduction is ideal. The star operator as usual means of co-product.

$$\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \star \left(\sum_{i=1}^{l}(e^-)_z\right) \cong \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \coprod \left(\sum_{i=1}^{l}(e^-)_z\right) \cong \emptyset$$

Define non ideal conduction of leptons:

$$\mathrm{NonIdeal:}\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \star \left(\sum_{i=1}^{l}(e^-)_z\right).\mathrm{Motion} \ncong \emptyset$$

$$\mathrm{NonIdeal:}\left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \coprod \left(\sum_{i=1}^{l}(e^-)_z\right) \ncong \emptyset$$

$$\mathrm{Axiom: NonIdeal} \cong \mathrm{ElasticCollusion} \cong \mathrm{HeatLoss}$$

■

Proof: Isomorphic Space-Time Cuts

Recall the space-time cut structure:

$$\begin{bmatrix} G_{\mathrm{i=1}} \cong \text{Extrema} & \Longrightarrow & G_{\mathrm{i=2}} \cong \text{Extrema} \\ \Uparrow & \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) & \Downarrow \\ G_{\mathrm{i=n}} \cong \text{Extrema} & \Longleftarrow & G_{\mathrm{i=3}} \cong \text{Extrema} \end{bmatrix} \cong$$

$$\begin{bmatrix} (N_V) \cong \text{Extrema} & \Longrightarrow & (N_V) \cong \text{Extrema} \\ \Uparrow & \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) & \Downarrow \\ (N_V) \cong \text{Extrema} & \Longleftarrow & (N_V) \cong \text{Extrema} \end{bmatrix}$$

Recall:

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \overset{\Delta t}{\hookrightarrow} \left(\sum_{i=1}^{l} (e^-)_z\right) \overset{\Delta t}{\hookrightarrow} \left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \overset{\Delta t}{\hookrightarrow} \underbrace{\left(\sum_{i=1}^{m} (G_{\mathrm{Val}})_i\right)}_{\text{SetAverages}} \cong \text{SoleSequen}$$

Proposition; two space-time cuts will be isomorphic if the amount of matter is identical. If the size and the border of the space-time region is identical and if the bosons used for the cut are identical.

Define the matric before and during the space-time cut:

$$\text{BeforeCut:} \begin{bmatrix} (N_V) \cong \text{Extrema} & \Longrightarrow & (N_V) \cong \text{Extrema} \\ \Uparrow & \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) & \Downarrow \\ (N_V) \cong \text{Extrema} & \Longleftarrow & (N_V) \cong \text{Extrema} \end{bmatrix} \in \Phi_i$$

$$\text{AtterCut:} \begin{bmatrix} (N_V) \cong \text{NotExtrema} & \dots & (N_V) \cong \text{NotExtrema} \\ \dots & \emptyset & \dots \\ (N_V) \cong \text{NotExtrema} & \dots & (N_V) \cong \text{NotExtrema} \end{bmatrix} \in \Phi_i$$

■

Proof: Path Connected Space -Time Cuts

$$\text{BeforeCut:}\begin{bmatrix} (N_V) \cong \text{Extrema} & \Longrightarrow & (N_V) \cong \text{Extrema} \\ \Uparrow & \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) & \Downarrow \\ (N_V) \cong \text{Extrema} & \Longleftarrow & (N_V) \cong \text{Extrema} \end{bmatrix} \in \Phi_i$$

$$\text{BeforeCut:}\begin{bmatrix} \partial(N_V) \cong 0 & \Longrightarrow & \partial(N_V) \cong 0 \\ \Uparrow & \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) & \Downarrow \\ \partial(N_V) \cong 0 & \Longleftarrow & \partial(N_V) \cong 0 \end{bmatrix} \in \Phi_i$$

Enumerate each extrema:

$$\begin{bmatrix} \partial(N_V)^i \cong 0 & \Longrightarrow & \partial(N_V)^m \cong 0 \\ \Uparrow & \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) & \Downarrow \\ \partial(N_V)^j \cong 0 & \Longleftarrow & \partial(N_V)^k \cong 0 \end{bmatrix} \in$$

Define any positional action on the set extrema:

$$\text{Action: } \partial(N_V)^{i,j,k}.\text{Position} \rightleftharpoons \partial(N_V)^m.\text{Position}$$

$$\text{Action: } 0 \longrightarrow 0$$

Therefore the set of elements are invariant to any positional replacement, in other words the set behave as a sole element which vary across space time. By the bijection the set of extrema are forming a group and again by funcorality and the fact the setting is a topological space, a continuous group or a lie group as the elements are continuous, i.e. diverging curve taken to be linearly polarized in that instance. Therefore, the set of zeros are path connected and they cut around matter in continuous fashion similar to the cuts of a laser.

$$\text{Set}\left(\partial(N_V)^{i,j,k,m}\right) \cong \text{Boson.Group} \cong \text{Top.Group} \in \text{SimplyConnected.Manifold}$$

$$\therefore \text{Boson.Group } \mathbf{Is} \text{ SimplyConnected}$$

■

(Second)Proof: Path Connected Space -Time Cuts

Let:

$$\mathrm{Set}\big(\partial(N_V)^{i,j,k,m}\big) \cong \mathrm{Boson.Set} \cong \mathrm{Top.Set}$$

Let:

$$\mathrm{Set}\big(\partial(N_V)^{i,j,k,m}\big) \cong \mathrm{EvenNumber.Elements}$$

Recall:

$$\text{Axiom:} \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \cong \mathrm{EvenNumber.Elements}$$

And:

$$\left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right) \in \mathrm{SimplyConnected.Manifold}$$

Therefore:

$$\mathrm{Set}\big(\partial(N_V)^{i,j,k,m}\big) \cong \mathrm{SimplyConnected}$$

■

Therefore a proof without analyzing the set extrema energy of those bosonic elements:

Analysis: The Boson Sign

Recall from the last section:

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \quad \in (\text{SameSign.Carriers}) \cong \text{Primes}$$

$$\text{Axiom: } (\text{SameSign.Carriers}) \cong \text{Stable}$$

$$\text{Axiom:} \quad \overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \quad \cong \text{BoseSign} \star \text{BoseSign} \cong \text{SameSign}$$

$$\overbrace{2\mathbb{P}_1\mathbb{P}_2}^{\text{Entanglement.Term}} \quad \cong \text{Stable}$$

$$\overbrace{\text{BoseSign}}^{+} \star \overbrace{\text{BoseSign}}^{+} \cong (\text{SameSign} \cong +) \text{ Is True}$$

$$\overbrace{\text{BoseSign}}^{-} \star \overbrace{\text{BoseSign}}^{-} \cong (\text{SameSign} \cong +) \text{ Is False}$$

In words, if the primes product is composed by stable primes, and net primes are one sign carriers, demanding the sign to be correlated to stability and by demanding the product to be stable is leading to the conclusion that the bosons are represented by the plus sign rather than the minus. This is also evident from the primorial that clearly indicate that the bosons particles are propagating as a plus rather than a minus, leading to perfect measures of the coupling terms.

$$F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-) \right)}^{\text{PureQuantum}} \oplus \mathbb{P} \right)^{-1} \cong \overbrace{30}^{a_W^{-1}}, \overbrace{128}^{a^{-1}}, 850 \ldots$$

It is also evident from the main equation as the curvature tensor is represented by a sign of a plus rather than minus represents the curvature term.

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi} \frac{\partial \Phi}{\partial g_E} \frac{\partial g_E}{\partial R_E} \frac{\boldsymbol{\partial R_E}}{\boldsymbol{\partial t_i}} \right) \ni \frac{\boldsymbol{\partial R_E}}{\boldsymbol{\partial t_i}} \ni \text{PlusSign}$$

■

Proposition: Manifold Isometry & Gauge Identity

Let:

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\boldsymbol{\partial R_E}}{\boldsymbol{\partial t_i}}\right) \ni \mathrm{Isom}(\Phi)$$

If:

$$\mathrm{Isom}(\Phi) \cong \mathrm{True}$$

Than:

$$\left(e^{i\theta}(\Phi) \equiv \Phi\right) \cong \mathrm{True}$$

Recall from quantum field theory, the setting of gauge invariance:

$$\mathrm{QFT}: \psi \longrightarrow \psi e^{i\theta}$$

Let ψ be bijective to Fermion Fields:

$$\mathrm{QFT}: 0 \longrightarrow 0e^{i\theta} \cong 0$$

$$\because \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right) \cong \psi$$

Let ψ be bijective to Bose Field:

$$\mathrm{QFT}: \mathbb{P} \longrightarrow \mathbb{P}e^{i\theta} \cong \mathrm{RotatationOn}(\mathbb{P})$$

$$\mathrm{Axiom}: \mathrm{RotatationOn}(\mathbb{P}) \cong \mathrm{SpinOn}(\mathbb{P})$$

$$\mathrm{SpinOn}(\mathbb{P}) \cong \mathrm{True\ As\ }(\mathbb{P})\mathrm{\ Is\ EqualOne}$$

■

Instead of demanding the prime to deviate by an exponential, the author allocate the deviation to the rotation trait of the prime, which is the spin the particle contain. Therefore in gauge transformation, the rotation rather than the prime is modified and the laws of physics are invariant as the prime are invariant. That is a modification to the exponential primorial which was presented in the end of volume one.

Proposition: Quantum Isospin & SSB on Spin Zero

Since there exist no difference is spin representation of the weak interaction and the rest of the interaction as given by the primorial, one would not expect the weak interaction to retain the so called "isospin" while the rest of the interaction only the "regular" spin. At that point in time (23.7.22) it seems as a feature leading to an artificial classification. It could be correlated to the fact that the weak interaction is unstable. As was earlier presented:

$$\left(2_{\mu}^{e^-} \times \prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu})}\right) + \overrightarrow{(\mathbf{3})} \Rightarrow \overbrace{\left(2_{\mu}^{e^-} \times \prod_{V=1}^{V=R} N_{V\mu}\overleftarrow{+N_{V\mu})}\right)}^{\text{BrokenSpinZero}} + \overset{\leftarrow(\Rightarrow)}{\overbrace{(\mathbf{3})}}$$

$$\overset{\leftarrow(\Rightarrow)}{\overbrace{(\mathbf{3})}} \cong \overset{(\Uparrow\Rightarrow)}{\overbrace{(\mathbf{3})}}$$

Define the key axioms given by the SSB primorial:

$$\text{AxiomOne}: \overleftarrow{N_{V\mu})} \ni \text{SpinOnSSB}$$

$$\text{AxiomTwo}: \overrightarrow{(\mathbf{3})} \ni \text{SpinUnbound}$$

the key idea is that the spin of the broken spin zero and the spin of the number three, which is bijective to the weak interaction boson in that case are opposite oriented, and therefore cancel each other out. It could be the reason the Iso-spin is considered a subtle and weak form of "regular" spin. By the same logic the leptons are holding Iso-spin as they are also represented by the same prime number. Recall from volume one.

$$\{e^-, \mu^-, \tau^-\}, \{W^{\pm}, Z^0\} \in \overbrace{(\mathbf{3})}$$

That could serve as an explanation that unify spin and isospin under the same framework. To put this idea mathematically:

$$\text{SpinOnSSB} \bigwedge \text{SpinUnbound} \cong \text{QuantumIsospin}$$

■

Analysis: Reducible Representations & Probability of Appearance

$$F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}\right)^{-1} \longrightarrow F_{\mathbb{R}}\# \cong$$

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P} \oplus (e^-)\right)}^{\text{PureQuantum}} \oplus \mathbb{P}_{\text{Composed}}\right)^{-1}$$

$$\text{Axiom: } \mathbb{P}_{\text{Composed}} \ni \text{Set.Cominations}$$

$$(\text{Comination} \in \text{Set.Cominations}) \cong \mathbb{P}_1 \oplus \mathbb{P}_2 \oplus \dots \oplus \mathbb{P}_{\text{Odd}}$$

$$\mathbb{P}_1 \oplus \mathbb{P}_2 \oplus \dots \oplus \mathbb{P}_{\text{Odd}} \cong \mathbb{P}_{\text{Composed}}$$

Let:

$$(\forall\ \text{Cominations} \in \text{Set.Cominations}) \ \exists\ \text{UniuqePrimeCombo}$$

$$\text{Set.Cominations} \cong \text{Set.Representations}$$

Require the key of this proof:

$$\text{As: } (\text{Set.Representations} \longrightarrow \infty) \ \longrightarrow \text{Prob}\left(\mathbb{P}_{\text{Composed}}\right) \longrightarrow 0$$

■

In words, if there exist an infinite set of lower magnitude primes leading to the composed prime that means this prime is higher in magnitude. If the timing of boson particles are needed in order to created the composed prime, than the more elements participating, the smaller the probability to create the perfect prime alignment leading to the higher prime. Similar ideas made in volume one concerning one topological boundary of a composed effect of bosons, such as gravity.

$$\text{Let: } \mathbb{P}_1 \oplus \mathbb{P}_2 \oplus \dots \oplus \mathbb{P}_{\text{Odd}\to\infty} \forall\ \text{Comination};$$

$$\text{Than: } \text{Prob}\left(\mathbb{P}_{\text{Composed}}\right) \longrightarrow 0$$

Analysis: Ghostly Effects versus Real Manifestation of a Higher Entity

This section is a clarification of two ideas that were made in volume one and in volume two. The purpose is to further clarify the topic of composed primes under different conditions.

$$\left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}_{\text{Composed}}\right)^{-1}$$

$$\text{Axiom}: \mathbb{P}_{\text{Composed}} \ni \text{Set. Cominations}$$

$$(\text{Comination} \in \text{Set. Cominations}) \cong \mathbb{P}_1 \oplus \mathbb{P}_2 \oplus \dots \oplus \mathbb{P}_{\text{Odd}}$$

$$\mathbb{P}_1 \oplus \mathbb{P}_2 \oplus \dots \oplus \mathbb{P}_{\text{Odd}} \cong \mathbb{P}_{\text{Composed}}$$

The first class of effects:

$$\text{RealManifest}: \mathbb{P}_{\text{Composed}} \ni \text{Top. Boundary}$$

$$\text{RealManifest} \ni \left(2N_2 + \left(\frac{\frac{\frac{1}{2}}{\mathbb{P}}}{\frac{\frac{1}{2}}{\mathbb{P}}}\right)\right) \star 2^{-1} \cong \text{ClassicalGravity}$$

The second class of effects:

$$\text{Ghost}: \mathbb{P}_{\text{Composed}} \not\ni \text{Top. Boundary}$$

Such as phenomena that were earlier presented:

$$\begin{bmatrix} P\left(e^- + N_{V_\mu}\right) \searrow & \cdots & \swarrow P\left(e^- + N_{V_\mu}\right) \\ \vdots & \overbrace{(\mathbb{P})}^{\text{Imaginary}} & \vdots \\ & \nearrow P\left(e^- + N_{V_\mu}\right) \nwarrow & \end{bmatrix}$$

■

Analysis: Converge versus Diverge of Fractions

Recall that in the section of particle wave duality the author proved that the coupling decrease due to insertion of a fraction.

$$\left(\mathrm{Top}\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}}^{\text{Pure}}\right)<\left(\mathrm{Top}\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus\frac{1}{2}\right)\oplus\frac{1}{2}\oplus\frac{1}{2}}^{\text{Interfere}}\right)$$

Bijective to the shift from stronger coupling to weaker coupling:

$$\frac{1}{128+5}<\frac{1}{128}$$

The key question is how to perform addition of sole primes. The author claimed that the bosons converge, and also claim in volume one that they diverge. When one to take pure primes and combine them similar to the process of a collapse of a wave, than they converge to zero;

$$1\otimes\left(\sum_{i=1}^{n}\mathbb{P}\right)^{-1}\cong\frac{1}{\mathbb{P}\oplus\mathbb{P}\ldots\oplus\mathbb{P}}\cong\frac{1}{5\oplus 5\oplus\ldots\oplus 5}\vdash \mathrm{Converge.Zero}$$

This is different than the summation of fractions of the sort:

$$\left(\sum_{i=1}^{n}\mathbb{P}\right)^{-1}\cong\frac{1}{\mathbb{P}}\oplus\frac{1}{\mathbb{P}}\oplus\frac{1}{\mathbb{P}}\oplus\ldots\oplus\frac{1}{\mathbb{P}}\vdash \mathrm{Diverge.Series}$$

It seems that the converge is appropriate in order to describe the particle wave duality and the phenomena of interference. However, the second form is needed as well or else the theory would apply that the concentration of bosons will lead to zero strength which is in fact a contradiction, and that is not the case as far as one knows or else stars would not form. That is also because the gravitational values diverge as well, and concentration of bosons to aspire zero would also imply that quarks can be free and that is not the case. Therefore the two forms are valid under different context. The first form is to explain the shift from pure quantum to interfere and the second form is to the commutation relation and the concentration of bosons to lead to increase strength. Also notice the identity:

$$1\otimes\left(\sum_{i=1}^{n}\mathbb{P}\right)^{-1}\cong\left(\frac{1}{2}+\frac{1}{2}\right)\otimes\left(\sum_{i=1}^{n}\mathbb{P}\right)^{-1}$$

$$1\otimes\left(\sum_{i=1}^{n}\mathbb{P}\right)^{-1}\cong\overbrace{\left(\frac{1}{2}+\frac{1}{2}\right)}^{\text{PureQuantum}}\otimes\left(\sum_{i=1}^{n}\mathbb{P}\right)^{-1}\blacksquare$$

Analysis: Converge versus Diverge of Fractions

Recall from the last section:

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \cong \frac{1}{\mathbb{P} \oplus \mathbb{P} \dots \oplus \mathbb{P}} \cong \frac{1}{5 \oplus 5 \oplus \dots \oplus 5} \vdash \mathrm{Converge.Zero}$$

This is different than the summation of fractions of the sort:

$$\left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \cong \frac{1}{\mathbb{P}} \oplus \frac{1}{\mathbb{P}} \oplus \frac{1}{\mathbb{P}} \oplus \dots \oplus \frac{1}{\mathbb{P}} \vdash \mathrm{Diverge.Series}$$

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \cong \left(\frac{1}{2} + \frac{1}{2}\right) \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1}$$

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \cong \overbrace{\left(\frac{1}{2} + \frac{1}{2}\right)}^{\mathrm{PureQuantum}} \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \blacksquare$$

This is implying that the product of sole prime system, i.e. a pure single prime and additional prime is leading to a decrease, while the primes are not taken as pure, i.e. the one as a multiplier is not there, the boson series takes to increase and to create the diverging effect. This is why it is not possible to measure a pure system, a photon coming from a lepton, while a subset of bosons which are not bounded to the lepton can actually lead to increase in the magnitude of the curve.

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \vdash \mathrm{Lepton.Dependency}$$

$$\left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \vdash \mathrm{Independency}$$

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \cong \mathrm{Denominator.Increase} \vdash \mathrm{CouplingDecrease}$$

$$\left(\sum_{i=1}^{n} \mathbb{P}\right)^{-1} \vdash \mathrm{Nominator.Increase} \vdash \mathrm{Magnitude.Increase}$$

■

Analysis: Upper Limit on Converge Fractions

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P} \right)^{-1} \cong \mathrm{Denominator.Increase} \vdash \mathrm{CouplingDecrease}$$

$$1 \otimes \left(\sum_{i=1}^{n} \mathbb{P} \right)^{-1} \cong \mathrm{Lepton} \oplus \mathrm{Boson} \oplus \mathrm{External.Boson}$$

The first form is applicable only to pure quantum system; that is a single lepton emitting a prime. After that interference, when there exist two bosons, the quantum system is no longer pure and summation of primes lead to magnitude increase. That is how stars are formed, and why galaxies are stable. Therefore the second from:

$$\left(\sum_{i=1}^{n} \mathbb{P} \right)^{-1} \vdash \mathrm{Nominator.Increase} \vdash \mathrm{Magnitude.Increase}$$

$$\left(\sum_{i=1}^{n} \mathbb{P} \right)^{-1} \cong \mathrm{Boson} \oplus \mathrm{Boson} \ldots \oplus \mathrm{Boson} \ldots$$

Therefore the upper limit on converge is a pure prime with additional extra prime. The system is no longer in pure wave, and therefore in the second form, i.e. the “magnitude increase” form, the system of bosons will behave as a collection of particles rather than wave. Proof.

$$\left(\sum_{i=1}^{n} \mathbb{P}^{i} \right)^{-1} \bigwedge (n = \mathrm{Even})$$

$$\therefore (\mathbb{P}^{i} + \mathbb{P}^{i+1}) \,\forall\, i \;\cong \mathrm{Even}$$

$$\mathrm{Even} \cong \mathrm{Fermi.Class}$$

■

Therefore the previous result about converge Volume II page 63-64 is only partly correct as it is relying on the particle waveform and not on multi-particle form, i.e. the second from. A collection of free bosons in particle form, diverge in magnitude and this is true concerning gravity as well.

(Trivial) Proof: Non-Linearity within the Strong Interaction

Recall:

$$\text{AxiomOne:}\left(\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial\mathcal{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

$$\text{Axiom:}\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\cong\text{Quarks}$$

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\ni\left(2^{(e^-)}+\mathfrak{g}\right)^{-1}\cong a_S^{-1}$$

$$\text{Axiom: } a_S^{-1}\cong\text{NetCurve}$$

Therefore:

$$\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)\star\left(2^{(e^-)}+\mathfrak{g}\right)^{-1}\cong\text{Nonlinear}$$

■

Therefore despite the vanishing curve is linear, the trivial result is that the product of gluons is turning the linear term to nonlinear, and as bosons increase the probability arrival to themselves, the strong interaction should be less and less linear with the development of the arrow of time.

$$(\text{Nonlinearity.Degree}\in a_S^{-1})\propto\text{TimeArrow.Random}$$

■

(Trivial) Proof: Square of Wave Function & Number theory

Recall:

$$\text{AxiomOne:}\left(\frac{\partial\mathscr{L}}{\partial\Phi}\frac{\partial\Phi}{\partial g_E}\frac{\partial g_E}{\partial R_E}\frac{\partial R_E}{\partial t_i}\delta(\mathbb{P},\mathbb{P})-\frac{\partial\mathscr{L}}{\partial\left(\frac{\partial\Phi}{\partial t}\right)}\frac{\partial\left(\frac{\partial\Phi}{\partial t}\right)}{\partial g_E}\frac{\partial g_E}{\partial(\partial R_E)}\frac{\partial^2(\partial R_E)}{\partial t^2}=0\right)$$

$$\text{AxiomTwo:}\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}}\subset\left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right)\subset\left(\sum_{i=1}^{l}(e^-)_z\right)\right)\subset\left(\sum_{i=1}^{k}(\delta R_E)_i\cong 0\right)$$

Recall from QM:

$$|\Psi^2|\propto \text{Probability}$$

$$\Psi\cong\text{WaveFunction}$$

Let:

$$\text{WaveFunction}\subset\left(\sum_{i=1}^{l}(e^-)_z\right)$$

$$|\Psi^2|\cong|\mathbb{P}^2|\in(\text{Odd. Class}\cong\mathbb{ST}.\text{Knot})$$

$$\text{Odd. Class}\cong\text{Multiplicative. Odd}$$

In words, the connection between number theory and particle physics providing a direct link between prime multiplies, bijective to stable space-time knots and the probability to appear certain particles in a given region. Whereas in pure prime form the quantum elements are taken as pure diverging curvature ripples, bijective to classical analysis as physical waves.

$$|\mathbb{P}^2|\propto\text{Probability}$$

Such that:

$$|\text{Multiplicative. Odd}|\propto\text{Probability}$$

■

Re-analysis: Self Variation of Multiplicative Space-time Knots

Let:

$$\text{AxiomTwo:} \underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l} (e^-)_z\right)\right) \subset \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0\right)$$

Recall from the previous sections:

$$|\Psi^2| \propto \text{Probability}$$

$$\Psi \cong \text{WaveFunction}$$

$$\text{WaveFunction} \subset \left(\sum_{i=1}^{l} (e^-)_z\right)$$

$$|\Psi^2| \cong |\mathbb{P}^2| \in (\text{Odd. Class} \cong \mathbb{ST}.\text{Knot})$$

$$\text{Odd. Class} \cong \text{Multiplicative. Odd}$$

$$|\mathbb{P}^2| \propto \text{Probability}$$

$$|\text{Multiplicative. Odd}| \propto \text{Probability}$$

$$\text{Axiom: WaveFunction} \longrightarrow \frac{\partial}{\partial \text{t}}(\text{WaveFunction})$$

$$\text{Axiom: WaveFunction}^2 \longrightarrow \frac{\partial}{\partial \text{t}}(\text{ WaveFunction}^2)$$

Recall:

$$|\text{Multiplicative. Odd}| \cong \text{WaveFunction}^2$$

$$|\text{Multiplicative. Odd}| \cong \frac{\partial}{\partial \text{t}}|\text{Multiplicative. Odd}|$$

In general form:

$$\frac{\partial}{\partial \text{g}}|\text{Multiplicative. Odd}| \cong \text{True}$$

■

Proof: Field Integration & Boson Polynomials Connection

Recall:

$$8\text{T}: \underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right)\right) \subset \left(\sum_{i=1}^{k}(\delta R_E)_i \cong 0\right)$$

Recall the notion of integration over space-time fields in quantum field theory:

$$\text{QFT: Action} \cong \iiint \text{Fields} \in \text{Hilb. Space} \cong \infty.\text{Dimension}$$

Recall back in volume one the idea of classifying the bosonic elements according to their kind and the amount of number they appear, the latter by a multiplier. Leading to the bosonic polynomial form.

$$\sum_{i=0}^{i=m} k_i(N_V)_i = \mathfrak{C}$$

$$\underbrace{\overbrace{k_1(N_V)_1}^{E_n/n} + \overbrace{k_2(N_V)_2}^{E_n/n} + \cdots + \overbrace{k_n(N_V)_n}^{E_n/n}}_{k_i(N_V)_i} \longrightarrow \underbrace{\overbrace{k_1(N_V)_1}^{E_n/m} + \overbrace{k_2(N_V)_2}^{E_n/m} + \cdots + \overbrace{k_n(N_V)_n}^{E_n/m}}_{k_i(N_V)_i}$$

The energy transformation of the quantum elements are considered an automorphism of the polynomial sum. The key point, as far as one can see, the polynomial is bijective to the integration of the fields over quantum theory.

$$\sum_{i=0}^{i=m} k_i(N_V)_i \in \text{Top. Space} \cong \infty.\text{Dimension}$$

$$\sum_{i=0}^{i=m} k_i(N_V)_i \cong \iiint \text{Fields}$$

Therefore:

$$\text{QFT: Action} \cong \text{Boson. Polynomial}$$

■

(Trivial) Proof: Boson Polynomials to Represent a Gravitational Effect

$$\text{Axiom: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)}\prod_{V=1}^{\mathbb{R}}\mathbb{P}\oplus(e^-)\right)}^{\text{PureQuantum}}\oplus\mathbb{P}\right)^{-1}$$

Recall from the last section:

$$\sum_{i=0}^{i=m} k_i(N_V)_i \cong \iiint \text{Fields}$$

$$\underbrace{\overbrace{k_1(N_V)_1}^{\frac{E_n}{n}}+\overbrace{k_2(N_V)_2}^{\frac{E_n}{n}}+\cdots+\overbrace{k_n(N_V)_n}^{\frac{E_n}{n}}}_{k_i(N_V)_i}$$

Require a condition to hold true on the polynomial;

$$\text{Condition: } \sum_{i=0}^{i=m} k_i(N_V)_i.\text{Average } \cong \text{Computable } \wedge \text{True}$$

Recall that gravitational effect are averages of couplings:

$$\underbrace{\left(\sum_{i=1}^{m}(G_{\text{Val}})_i\right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n}\big((N_V)\big)_a\right) \subset \left(\sum_{i=1}^{l}(e^-)_z\right)\right)$$

$$\therefore \left(\sum_{i=0}^{i=m} k_i(N_V)_i.\text{Average}\right) \cong (G_{\text{Val}}).\text{Random}$$

■

Proof: Weak Interaction Bosons & Coupling to Neutrino

Recall:

$$\text{Axiom: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-) \right)}^{\text{PureQuantum}} \oplus \mathbb{P} \right)^{-1}$$

$$\text{Axiom: } \underbrace{\left(\sum_{i=1}^{m} (G_{\text{Val}})_i \right)}_{\text{Internal}} \subset \left(\left(\sum_{a=1}^{n} \big((N_V) \big)_a \right) \subset \left(\sum_{i=1}^{l} (e^-)_i \right) \right) \subset \left(\sum_{i=1}^{k} (\delta R_E)_i \cong 0 \right)$$

Recall:

$$\text{KeyAxiom: } (N_{V=1}) \cong (e^-) \cong (3)$$

Recall the fermion doublet from old fashioned OM. Require it to be a measure of coupling between the lepton and the electron neutrino.

$$\psi \left(\cong \begin{pmatrix} (e^-) \\ v_e \end{pmatrix} \right) \cong \textbf{Neutrino}\text{Coupling}\textbf{Electron}$$

Which is bijective to:

$$\psi \left(\cong \begin{pmatrix} (e^-) \\ v_e \end{pmatrix} \right) \cong \textbf{Coupling}\big((e^-) \star v_e \big) \not\equiv \emptyset$$

Let the key axiom denote:

$$(3) \cong Z^0$$

Therefore:

$$\psi \left(\cong \begin{pmatrix} Z^0 \\ v_e \end{pmatrix} \right) \cong \textbf{Neutrino}\text{Coupling}\boldsymbol{Z^0}.\textbf{Boson}$$

$$\textbf{Coupling}\big((e^-) \star Z^0 \big) \not\equiv \emptyset$$

$$\left((e^-) \coprod Z^0 \right) \not\equiv \emptyset$$

■

Proof: The Positive Nature of Particle Mass

Recall:

$$\text{Axiom: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus (e^-) \right)}^{\text{PureQuantum}} \oplus \mathbb{P} \right)^{-1}$$

Recall that the Higgs slowdown is by SSB on the spin zero, which is by reversing the order of elements in the primorial:

$$\text{HiggsSlowdown: } F_{\mathbb{R}}\# \cong \left(\overbrace{\left(2^{(e^-)} \prod_{V=1}^{\mathbb{R}} \mathbb{P} \oplus \mathbb{P} \right)}^{\text{SSB on Spin Zero}} \oplus \overbrace{(3)}^{\Leftarrow\bowtie\Rightarrow} \right)^{-1}$$

$$\overbrace{(3)}^{\Leftarrow\bowtie\Rightarrow} \cong \overbrace{(3)}^{\Uparrow\Rightarrow}$$

$$\text{Axiom: HiggsSlowdown} \propto \text{MassInsertions}$$

$$\text{Axiom: MassInsertions} \cong \overbrace{(3)}^{\Uparrow\Rightarrow} \cong \oplus \overbrace{(3)}^{\Uparrow\Rightarrow}$$

$$\text{MassInsertions} \because \big((\oplus\, \mathbb{P}) \subset \text{Spin Zero} \big)$$

$$\therefore \text{MassInsertions} > 0$$

■

In words, because the SSB on the spin zero is innately containing the plus sign, and at the same time, the SSB is related to the slowdown and the mass insertion, the value of the mass insertion than must be one signed, rather than two, and in particular, it has to be a plus. Therefore, one of the hardest question can be solved, why the masses are positive rather than negative, or only one signed rather than two, which is because the primorial SSB is one signed in its original form bijective to the coupling magnitudes. This analysis is leaving the sign reversal of the CPT and anti-matter out of reach to avoid the question of anti-matter masses for now. This will be analyzed in different section.

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Notes

Although the author did not use any equation from the second to the sixth references in the first and second volume of 8T nor he intends to, those references considered in the author eyes as essential reads for any mathematician/physicist as it allows learning about the modern state of affairs in the cleanest, most elegant way. We should not expect less coming from the very best.

M.Ohad8Theory

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