$\mathbf{8T} - \mathit{Variational\ Manifolds}$

Manor $O - 29.3.2021$

Fermions, Manifolds and Arbitrary Variations

Map a Lorentz manifold, which is the connected manifold with $(3{,}1)$ signature into Φ.

$$\Phi = \left(M, g_E\right)$$

To obtain the arrow:

$$\Phi\colon (M, g_E) \longrightarrow (M_E, g)$$

One will invoke the mapped manifold, Φ, stationary by EL operator:

$$\Phi = \Phi \times \mathbb{R}$$

$$\mathscr{L} = (\Phi, \Phi', t)$$

$$\frac{\partial \mathscr{L}}{\partial \Phi} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathscr{L}}{\partial \Phi'} = 0$$

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi^{'}}\frac{\partial \Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2} = 0 \qquad (1)$$

One requires:

$$\frac{\partial g}{\partial t} = 0 \ , \qquad \frac{\partial^2 g'}{\partial t^2} = 0$$

If these hold true, there exist areas of extremum curvature on the manifold and time invariant acceleration. The demand of extrunum curvature to stay as they are overtime means the acceleration cannot affect them – if so, directed away from them. This in agreement with what speculated as "dark energy". Notice that M_E is the matric tensor g is the Ricci flow.

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}\delta g - \frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2}\delta g' = 0 \qquad (1)$$

Equation reads, length to manifold, manifold to matric, matric to flow, flow to time. δg as amount of arbitrary variations, which by demands of stationarity require to vanish. Discretizing and partitioning the term δg into a series of sub elements, one can derive the existence of Fermions, i.e. show that it must have an even amount of elements, which differ in sign and create nine threefold combination, no more than two distinct elements.

$$\delta g_1 + \delta g_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

Given four elements distinct:

$$\delta g_1 + \delta g_2 > 0$$

$$\delta g_3 + \delta g_4 < 0$$

If

$$\delta g_1 + \delta g_2 + \delta g_3 + \delta g_4 \neq 0$$

Than the overall series cannot vanish, by that logic there exist even amounts of equal elements of pluses and minuses. The amount must be even and summed as zero, ensuring stationary Lorentz manifold. Suppose that it had three distinct elements, two pluses and minus:

$$\delta g_1 + \delta g_2 + \delta g_3 > 0$$

or

$$\delta g_1 + \delta g_2 + \delta g_3 < 0$$

Demanding the series to vanish this will exclude this result, and so there could not be three distinct elements in the series, else the overall series will not vanish to zero. As a result of those sceneries, one requires the series to have an even amount of variation elements, manifesting as two distinct elements in the series, which differ in sign. If one to allow those sub elements in the series to vary as well, and by the above reasoning, there are only two elements in the series, they are varying in a discrete way, or forming a group. Let it be only four elements in the series and one of the pluses just changed its nature

$$\boldsymbol{O}: \delta g_1 \to \delta g_2$$

$$\delta g_1 + \delta g_1 + \delta g_2 + \delta g_2 = 0$$

To:

$$\delta \mathrm{g}_1 + \delta \mathrm{g}_2 + \delta \mathrm{g}_2 + \delta \mathrm{g}_2 \neq 0$$

There must be a way to bring it back to where it was, so the overall series can vanish, it takes another map, on the varying element to bring it back to where it was.

$$\mathrm{Y}: \delta g_2 \to \delta g_1$$

Therefore, to bring an element to itself given only two varying elements in the series one needs two distinct maps, which attach a varying element to itself, by a threefold combination. $\delta g_1(O)\delta g_2(Y)\delta g_1$ For example. Even though the sub elements in the series are varying, the overall series will vanish.

Counting the ways of possible combinations of those two elements. One will to analyze by the integral signs. Since it is a group, there is a natural map, which take an element to itself. One built his analysis firstly on those natural maps.

Therefore:

$$(1(\mathrm{e})1(\mathrm{e})1)$$

$$2(\mathrm{e})2(\mathrm{e})2$$

$$(221)$$

$$(112)$$

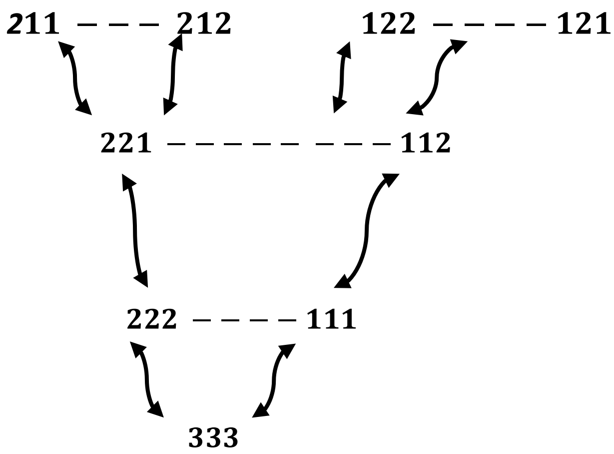
$$(211)$$

$$(122)$$

$$(212)$$

$$(121)$$

The first two combinations are by the natural maps and one used them to build the other combinations. Overall, there are eight such combinations and additional one arrow combination, which yield (333). Here is how one built it, starting from those two natural maps. colors to pairings:



Therefore, there exist a Lorenz manifold with arbitrary variations, which vanish into matter. One does not know whether these are the actual variations, as the mathematics does not entail any details about that. Therefore, the graph could be inaccurate in elements order. The colors meant to elements pairing. Reader does not have to agree with what one did**,** but as one will calculate the ratios of all the forces known, one kindly asks the reader to keep reading as some truth seem to obey the reasoning one is suggesting.

Bosons, Primes, the Coupling Series

Theorem (1) – Nature will not allow a prime amount of variation to appear by itself. Define prime to be $(2\mathrm{n}+1)$ variations.

Theorem (1.1) Prime amounts appear in pairs.

Theorem (2): Nature will generate force if a **prime net amount of arbitrary variation will appear**. Net variations will appear when combine two amounts of prime variations. Two does not appear, as it is an even amount of variations, which vanish.

Define N_V as the series of prime net variations and the number one.

$$N_V = 2V + 1 \qquad V \geq 0$$

Count prime pairs of variations,

$$(3,3)\ (3,5)\ (3,7)\ (3,11),(3,13)\ \ldots$$

$$(5,3)\ (5,5)\ (5,7)\ (5,11)\ (5,13)\ \ldots$$

$$(7,3)\ (7,5)\ (7,7)\ (7,11)\ (7,13)\ \ldots$$

$$\ldots.$$

$$(29,19)(29,23),(29,29),(29,31)\ \ldots$$

That is a tedious work, but the great part is it only needs to do be done twice to find what nature does repeatedly.

Since one have only two varying elements in the series, we can eliminate almost all the options, as one require obtaining **a sum that is divisible by two and after yields a number divisible by three.** By The following reasoning: Two as one have only two varying elements. Three as these elements create a certain amount of threefold combinations.

The sums satisfying the condition is $(5{,}13)$ or $(7{,}11)$ and $(29{,}31)$.

Of course, as there are more as prime pairs are infinite, but as one mentioned, it took two pairs to understand the principle:

$\boldsymbol{Theorem}$ $(\mathbf{3})$:

Each prime pair should have a net variation element N_V proportional to total variations value divided by two.

Analyze the $(\mathbf{7},\mathbf{11})$ total variations pair with $\mathrm{N_V} = (+\mathbf{1})$:

Total variations sum is divisible by two:

$$18/2 = 9$$

And then by three

$$9/3 = 3$$

We know that we have N_V = $(+1)$ so it can be extracted to yield:

$$F_1 = 8 + 1$$

However, even amounts of variations vanish so one can ignore the even element and write*:*

$$F_1 = 1$$

Analyze the next pair of total variations $(\mathbf{29}\ ,\mathbf{31})$ with $\mathbf{N_V} = (+\mathbf{3})$

$$29 + 31 = 60$$

$$60/2 = 30$$

In addition, three divisible. One can extract the three net variations:

$$27 + 3$$

Now that is all one needs to complete the series and calculate the next element:

Notice:

$$27 \ = \ 24 + (3)$$

$$(8 \times 3) = 24$$

Obtain:

$$[8+1]:[27+3] \ = \ [8+1]:[24+(3)]+3$$

$$[8+1]:[27+3] \ = \ [8+1]:[(8\times 3)+(3)]+3$$

Next element $V = 2$ and $N_V = +5$ so if the idea correct, one takes this element, multiply by the even sum of the previous element in the series, add extra invariant three, and one knows one needs add to the sum the extracted N_V.

$$[(8 \times 3 \times 5) + (3)] + 5 \ = \ 128$$

Next in line:

$$[(120 \times 7) \ + (3)] \ + 7 \ = \ 850$$

$$[(840 \times 11) + (3)] + 11 = \ 9254$$

Nature is than the interplay between averages of total arbitrary variations pairs to net variations/curvature. To calculate the magnitude of an element:

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30,128,850,9254.. \tag{1.2}$$

$$N_V = 2\left(V + \frac{1}{2}\right); \ V \geq 0$$

$$N_V \ \in \ \mathbb{P} \ \cup \ \ (+1)\,; \ \ \mathbb{P} \rightarrow Set\ of\ Primes$$

$$N_V \ = P_{max} \ \in [0, \mathbb{R}] \ \cup \ \ (+1) \ ; \ \ P_{max} \in \ \mathbb{P}$$

$$\mathcal{P}_0 = 2^{\mathcal{M}} + (1)$$

$$\mathcal{P}_N \# = \left(2^{\mathcal{M}} * \prod_{V=1}^{V=N} \mathcal{P}_V + (\mathcal{M})\right) + \mathcal{P}_V = 30{:}\,128{:}\,850{:}\,9254.. \quad (1.2.A)$$

Equation (1.2.A) is another way of representation. $\mathcal{M}$ As the first letter of the word 'Majestic'. # Sign meant for classification as a **primorial function**. " $\mathcal{M}$ " as possible magnitudes. Notice the strong symmetry pattern of this equation.

Overview of reasoning:

Axiom – prime amount of arbitrary variations pair to each other

Their overall sum must be dividable by two and three

Two distinct elements, which create threefold combinations

Define generated force as prime net variation in which one associate N_V element

Assume $\frac{\text{total variations}}{2} \propto$ to N_V element by the relative size of total pairing

Net variation function cannot contain an even, as it will vanish

One searched for the first two prime pairs and derived $8 + 1$ and $27 + 3$

One noticed that nature multiply the even sum by the next element of N_V

One found the invariant three element.

One obtained a number to which one add the extracted net variation

One calculated the next element to be exactly 128 and the two next interactions:

$$8 + (1){:}\,\big(24 + (3)\big) + 3{:}\,\big(120 + (3)\big) + 5{:}\,\big(840 + (3)\big) + 7 \ldots$$

$$(1){:}\,(30){:}\,(128){:}\,(850){:}\,(9254) \ldots$$

Predictions and Conclusions

There are infinite Bosonic fields, or Lorentz manifold net curvature. Prime isomorphic. The clusters of total variations grow immensely more rapidly than the net variations. The larger the cluster, the weaker the interaction.

The magnitude of interactions is manifested an in infinite series of ratios $1: 30: 128: 850: 9254\ldots$by the expressions, notice that (1.2) differ by an additional term:

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

<u>Possible meanings of the Majestic (3)</u>

<u>Option 1</u>

The **invariant three as a cause**. Notice that all the element within the closed term $(8 \times .. \times ..)$ Are two and three divisible to vanish into matter. The invariant three prevents it completely and then as a result, a net variation will appear. The net variation is proportional to the right element in the bracket$(8 * 3) \ \propto 3 \ and \ (24 \times 5) \propto 5$.

<u>Option 2</u>

The **invariant three as a result-**There are perfect clusters of variations such $(8 \times 3), (24 \times 5)$, which experience additional net variation causing them to destabilize. The result is manifested in the invariant three. The additional variation could affect them could be external. Less likeable option. It is less likeable as one can them create mixtures $(8 \times 3)$to destabilize by five net variations, and yield invariant three and all the beauty in which one attained than will be lost.

<u>Option 3</u>

The **Invariant three and net variation as duals-**both appear at the same time and they are related to each other by more fundamental relation, which is not attainable nor explainable. Even though one found a the equation, many questions still stand unanswered. **Why the invariant three appear as it is and do not change is another question.** Of course that the real answer to that question is that one does not know. However, one can guess and say that three is the smallest prime. If one assume that nature is Lagrangian oriented, it might be the minimal way to destabilize the cluster of potential matter. Why add thirty seven additional variations when only three is needed? It's a logical argument not a proof, and therefore rightfully argued by reader. One was trying to argue that three is a Prime minima, that is the reason for its invariant in the series. Remember that even variations vanish, so two is not an option.

Nature as a Set of Morphisms

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2} = 0 \qquad (1)$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

Now one can define a functor to switch the setting, from a topological setting to a setting of a set. By doing so one can analyze nature in a completely different, hopefully simpler way.

$$\wedge : Top \longrightarrow Set$$

Now, one have a set with two elements as presented in equation below:

$$\mathrm{K} = (M, g)$$

The set has certain subsets. The first subset is the subset of primes or the number one. The manifold, or the set K, is generating the subset P. this subset is responsible for Fermions clustering and Bosonic propagations.

$$\mathbb{P} = (2n + 1 \ \cup (+1)\ ); \quad \mathbb{P} \ \in \ \mathrm{K}$$

The second subset is of even amount of curvature, which vanish into matter by threefold combination of two distinct elements that differ in sign. That is the subset described in the 8T by the arbitrary variation term presented in :

$$\mathrm{E} = \ (2n\,); \quad \mathrm{E} \ \in \ \mathrm{K}$$

Finally, there is a morphism between curvature and acceleration

$$\frac{\partial g}{\partial t} \equiv \frac{\partial^2 g'}{\partial \mathrm{t}^2} \in \ \mathrm{K}$$

The set will generate time invariant acceleration from subsets of the matric tensor that has extremum amounts of curvature that stay as they are over time. Changing the setting of nature into a set category and then partitioning the set makes things, as the author believes easier to grasp.

Correlating the Majestic (3) To Spin (1/2)

In the paper about primes, one had proven that the latter create a non-abelian group with $(1/2)$ as generator, that was by using the anti-commutation relation and vanishing of even amounts of variation. It recently become evident to one that one can represent each element in the series in the following way:

$$[(8\times 3)+(3)] \to \left[2N_1+\frac{1}{2}\right]$$

$$[(24\times 5)+(3)] \to \left[2N_2+\frac{1}{2}\right]$$

$$[(120\times 7)+(3)] \to \left[2N_3+\frac{1}{2}\right]$$

Since three is a prime, and aligned on the prime ring located on critical line of $1/2$. The sums alongside of it are even sums such as 8 multiples these expressions are interesting, as one believes they represent the notion of matter or Fermions. Notice that one omitted the additional net variation, which is also prime. Meaning it is also on the Prime ring located on $1/2$. Overall:

$$[(8\times 3)+(3)]+3 \to \left[2N_1+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(24\times 5)+(3)]+5 \to \left[2N_2+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(120\times 7)+(3)]+7 \to \left[2N_3+\frac{1}{2}\right]+\frac{1}{2}$$

So the construction within the parenthesis is prime but the overall additional net is changing it, and making it: $(1/2 + 1/2) = 1$. So the overall $1:30:128$ will have to do with certain elements that have element one. one already know these are Bosons, as one found the coupling constants series. If so, than the rest of the terms are Fermions, as only $(1/2)$ is there.

So it is the Majestic three, in this paper is the one half element to destabilize perfect clusters of variations and causing a net variation to appear. Notice that one chose the first option in regards to the meaning of the invariant three, as one had in part two three ideas to it possible meaning. one have proved that the Majestic three is Spin. one also proved, that Bosons will propagate within variation clusters destabilized by one-half, or matter. These are non-trivial statements. one only used one equation, not experiment nor inherited knowledge. **Using that framework,** one **can see why Bosons will propagate from Fermions.** Since its invariant, all matter must have the same spin one-half

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Summing up, $(2N)$ are variation clusters, the majestic three is really a destabilizing factor which is spin one half yielding matter. Because of that process, a Boson will propagate from within the Fermion. The nature of the Boson is correlated to right element of the term: $(8 \times 3) \rightarrow 3$ (W/Z Bosons),$(24 \times 5) \rightarrow 5$ or a photon, and so on.

Majestic Three as the Electron

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$[(8 \times 3) + (3)] + 3$$

$$[(24 \times 5) + (3)] + 5$$

$$[(120 \times 7) + (3)] + 7$$

$$\ldots\ldots$$

$$[(8 \times 3) + (3)] \rightarrow \left[2N_1 + \frac{1}{2}\right]$$

$$[(24 \times 5) + (3)] \rightarrow \left[2N_2 + \frac{1}{2}\right]$$

$$[(120 \times 7) + (3)] \rightarrow \left[2N_3 + \frac{1}{2}\right]$$

$$\ldots\ldots$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

In previous part, one called the invariant (1/2) an element to destabilize perfect clusters, ,i.e. devisable by minimal primes of variations, two and three, which causes a net variation to appear. In this part, one will consider this element to be **the Electron.** Later in the thesis, one will prove it by putting inside the equation of the fine structure constant, which is the strong divided by the electric.

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

When the author first discovered the primorial equation, he only saw the analytical aspect, by and the ratio between the total variations to net variations. However, by setting the equation on the geometrical realm and examining the critical line of the primes, it is possible to get an additional insight to the exact process. One is able to analyze the trait of spin, one can understand why Bosons have spin one and the Invariant three or spin one-half. Therefore, it is the electron, which causes the Boson propagation from clusters of potential matter. It was known before, now there exist the mathematical equation to describe it. The primorial equation has than another powerful use; it describes the propagation at Elementary level, not just the magnitude of the interactions. It was only available when one examined the geometrical realm. Notice that the Electron is inside potential cluster $[2N + \mathbf{1/2}]$ so one would not be able to know where it is within the cluster, it blends in [120+3] = 123.

$$[(24 * 5) + (3)] + 5 \rightarrow [(24 * 5) + (e^-)] + \gamma$$

Spin 0: $2N_0$ variations – perfect clusters of variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations – destabilized by the invariant three. Electron for the third coupling.

Spin 1: $2N_0 + 3 + N_V$ - resulting in net variation of prime discrete amount.

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations – Such as gravity.

One have taken the third element in the series, as one are familiar with the nature of the electrons due to the great minds of the past century, but the following result would apply to each element in the series from the second and above.

$$[(24 * 5) + (3)] + 5 \rightarrow [(24 * 5) + (e^-)] + \gamma$$

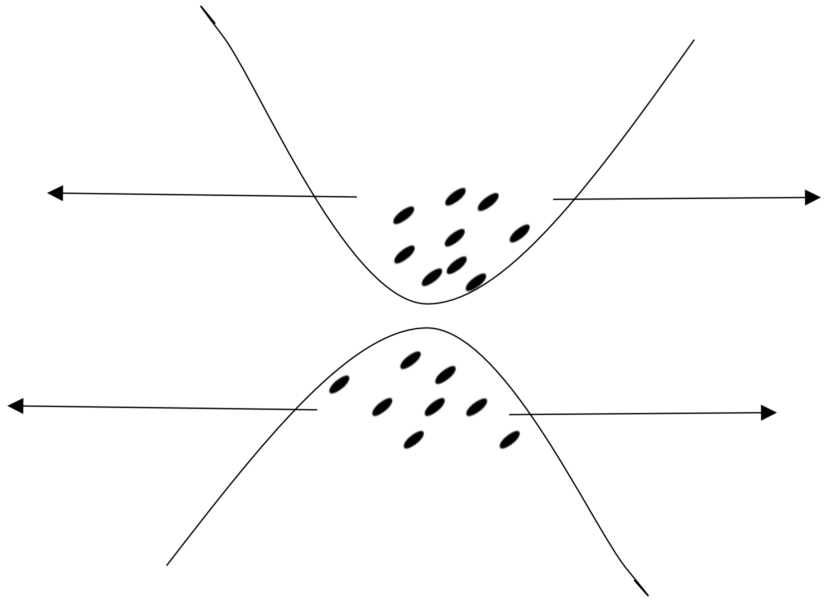
Universe Packets - Stationary Manifolds

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \qquad (1)$$

In agreement with the current data of the universe. time invariant acceleration from areas of extremum curvatures on the manifold. Validating the Einstein equivalence principle between gravity and acceleration. Again, one assumes no data is available from the first three terms, no indication they agree with a stationary Lorentz manifold. Now one can represent equation (1) in a different way, given by the $\frac{\partial g}{\partial t} = \frac{\partial^2 g'}{\partial t^2}$ relation.

$$\frac{\partial \mathcal{L}}{\partial \Phi_1} - \frac{\partial \mathcal{L}}{\partial \Phi_2} = 0$$

$$\frac{\partial \mathcal{L}}{\partial \Phi_1}\frac{\partial \Phi_1}{\partial M_E}\frac{\partial M_E}{\partial g_1}\frac{\partial g_1}{\partial t} - \frac{\partial \mathcal{L}}{\partial \Phi_2}\frac{\partial \Phi_2}{\partial M_E}\frac{\partial M_E}{\partial g_2}\frac{\partial g_2}{\partial t} = 0 \qquad (2)$$



$$\frac{\partial \mathcal{L}}{\partial \Phi_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j} = 0$$

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

Weak Interaction Negative Left orientation

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$[(8 \times 3) + (3)] + 3$$

$$[(2^3 \times 3 \times 5) + (3)] + 5$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7$$

$$....$$

$$[(2^3 \times 3) + (3)] \rightarrow \left[2N_1 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5) + (3)] \rightarrow \left[2N_2 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] \rightarrow \left[2N_3 + \frac{1}{2}\right]$$

$$[(8 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Notice that each term in the series within the parenthesis is prime, as one did not calculate the entire series he is going to assume that is would be true concerning each higher element in the series. one is leaving out the net variation in this part. Notice that the only term which is not a prime after added the Majestic three or spin one half is the second element in the series, in which one associate with the weak interaction.

$$[(8 * 3) + (3)] = 27$$

As the series is increasing and each term inside the parenthesis is creating a higher prime than the previous element, in order of weak interaction to be of the same nature of the rest of the forces, one would need that the sum of the parenthesis to be a prime, one look for the closest higher prime:

$$[(8 * 3) + (3)] \rightarrow 29$$

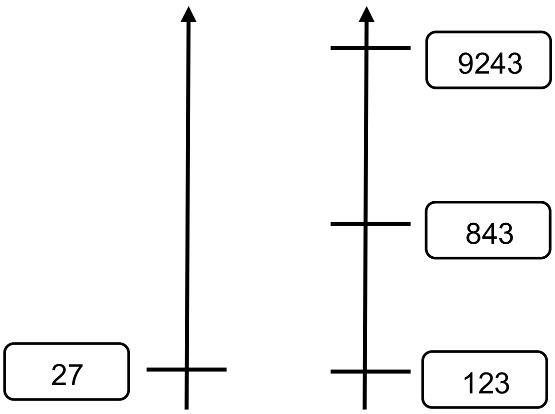
$$\text{Spin } 0\text{: } 2N_0 \text{ variations}$$

$$\text{Spin } \frac{1}{2}: 2N_0 + 3 \text{ variations}$$

$$\text{Spin } 1: 2N_0 + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_0 + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

So in order to be like the rest of the forces. Meaning to have a prime inside a parenthesis, it lacks a certain amount of variation. If one associate each interaction to be invariant to direction – and the Cause of such a trait could be the prime term inside the parenthesis, than the weak interaction would differ by its nature.



The fact that the term inside the parenthesis is not on the critical line of the primes, but left to it, can explain why the weak interaction is left oriented and differ by its nature by the rest in terms of its spin. One had proved that the majestic three is representation of spin, which destabilizes clusters of perfect variations causing the N_V to appear, which overall yield a propagation of a Boson from the Fermion, and therefore gives THE series of coupling constants. If all the Terms on the critical line of primes are yielding interactions that are invariant to direction, than one could predict the weak interaction to be spin oriented to the left by the ratio below.

$$27 - 29 = -2$$

$$\left(\frac{1}{2} - 2\right) = -\frac{3}{2}$$

Majestic Three is the Electron

$$\frac{e^2}{4\pi\hbar c} = \frac{1}{128}$$

$$\frac{e^2}{4\pi} \to \frac{3^2}{128}$$

Recall that arbitrary variations vanish in pairs of even numbers. That axiom in our framework related to Fermions and allowed one to make a transformation regarding the strong interaction:

$$8 + (1) \to (1)$$

So one can use it to prove that the majestic three is indeed an electron and solidify our theory and its validity:

$$\frac{3^2}{128} = \frac{8 + (1)}{128}$$

Even amount of variations taken to vanish so the final form of equation above is exactly like the equation in the beginning of the paper with the Electron.

$$\frac{8 + (1)}{128} \to \frac{(1)}{128} = \frac{e^2}{4\pi\hbar c}$$

Mathematical Duality of Forces-Virtual Variations

One will take the equation built and first three developments:

$$\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial\mathcal{L}}{\partial\Phi'}\frac{\partial\Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2}=0 \qquad (1)$$

$$F_{V=0}=2^3+(1) \qquad (1.1)$$

$$F_{\mathbb{R}}\#=\left(2^3*\prod_{V=1}^{V=\mathbb{R}}N_V+(3)\right)+N_V=30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$[(8\times 3)+(3)]+3\rightarrow\left[2N_1+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(2^3\times 3\times 5)+(3)]+5\rightarrow\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(2^3\times 3\times 5\times 7)+(3)]+7\rightarrow\left[2N_3+\frac{1}{2}\right]+\frac{1}{2}$$

The idea: one will allow the net variations to vary, and when they have the same value, than the expressions inside the parentheses will become scalar multiples. This will be done by using the idea of virtual variations:

$$[(2^3\times 3\times 5)+(3)]+5\rightarrow\ [(2^3\times 3\times 5)+(3)]+3$$

Notice that now the third is a scalar multiple of the second by a factor of five:

$$[(2^3*5)+(3)]+3$$

$$[(2^3*3)+(3)]+3$$

Therefore, the weak and the electric are differing now by a scalar. That is simply beautiful. However, the strong force just accepted that extra two variations so it is just become:

$$8+(1)+2\rightarrow 8+(1).$$

As Even amounts of variations vanish. It does not affect it. One can construct something more interesting, and that is the real purpose of the part:

$$[(24*5)+(3)]+5\rightarrow\ [(24*5)+(3)]+\mathbf{2}$$

$$8+(1)+3$$

Now this will ruin the duality and the series, the weak and the electric are not isomorphic, and the strong just got a prime amount of variations that cannot vanish. To solve that one can define a virtual exchange of variation → $(1v)$.

$$[2^3 + (1)] + 3 - (\mathbf{1v}): [(2^3 \times 3 \times 5) + (3)] + \mathbf{3}$$

The real variations are (+3) but to ensure the nature of the Strong, there exit a virtual exchange of one variation, marked in bold. For a very short time period, the strong is now a scalar multiple of the other two. Overall, they have the same prime amount of net variations – will mean they are at equivalence relation. For the first three forces:

$$N_V = +(3)$$

$$[2^3 + (1)] + 3 - (\mathbf{1v}): \quad [(2^3 \times 3) + (3)] + 3 : \quad [(2^3 * 5) + (3)] + \mathbf{3}$$

One can state that there are three real exchanges and one virtual, so overall four exchanges, which causes all the forces to align on the $N_V = +(3)$. Taking the average of the Sum: $4/2 = 2\,net$.

The converging value of the those exchanges will modify the middle element:

$$[(2^3 \times 3) + (3)] + 3.$$

Since one would aspire to keep the prime net variation as it is, to ensure duality, and one can't touch the invariant three, one add this (+2), the first term:

$$((2^3 * 3) + 2) = 26.$$

The point where they three aligned will be $2^3 + 2$ variations. certain agreement with this number exist.

Proof: Pauli Exclusion

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] \rightarrow \left[2N_1 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5) + (3)] \rightarrow \left[2N_2 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] \rightarrow \left[2N_3 + \frac{1}{2}\right]$$

One have seen that one can change the term outside the parenthesis, and so one can reach duality between the forces. When one did it in the first three terms, one saw that their duality is exactly on 24+2 variations, which is in agreement with what one know in other theories of GUT. One briefly mention in that paper, that one cannot touch the invariant three. One can switch and change the terms outside the parenthesis, as those are net variations and they do not seem to obey to any strict rules. However, one could not touch the invariant three and now one will examine deeply the reason.

$$[(2^3 \times 3 \times 5) + (3) + (3)] + 5 = [(24 * 5) + Even)] + 5$$

$$Even = 0$$

$$[(2^3 \times 3 \times 5) + 0)] + 5 \rightarrow \text{False}$$

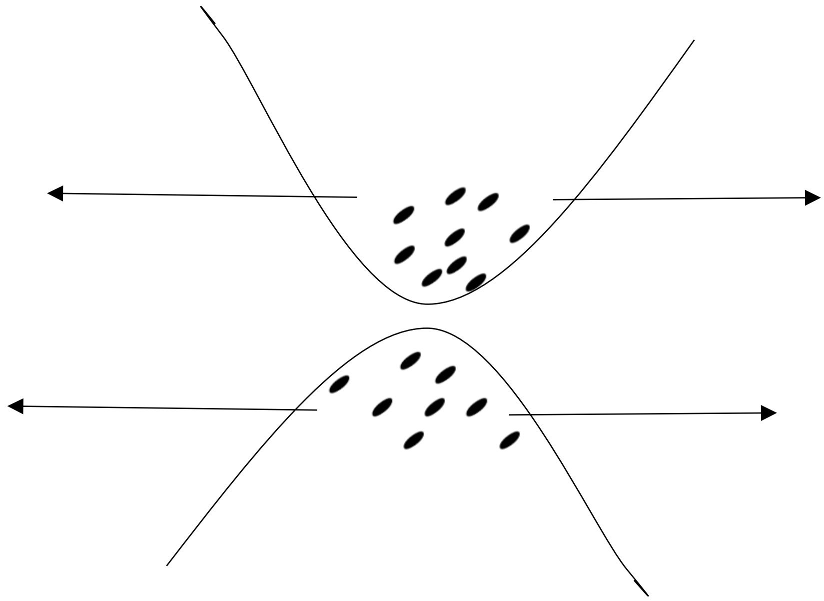
As even amount of variations vanish. Recall that the invariant three is the cause; It is the destabilizing factor yielding a net variation. Which is the Electron. So using that framework, one can derive the reason, nature will not allow combining two Electrons, i.e. invariant three elements together. The term than becomes meaningless, a photon cannot propagate from nowhere and the coupling constant series does not makes sense anymore. So the invariant three cannot be combined, it will repel each other. The net variation however can be changed and switched, which makes the flexibility and duality of the forces. While one cannot touch the terms inside the parenthesis, one can change and combine the net variations, i.e. Bosons, there seems to be no limitation in regards to that class of operations, one has done it before, and showed that the forces can be scalar multiples. One can cluster the net variations, which means that many Electrons can emit net variations together, That is Bosons, which agrees with the idea of laser, or what one knows as Bosons commutation relation in QFT. However, using the 8T framework One can receive a new and fresh insight on why those things must be true using the primorial series. the invariant three blends in the total cluster of the Fermions, so one cannot know where he is.

Curvature is Not Allowed

$$\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial\mathcal{L}}{\partial\Phi'}\frac{\partial\Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2}=0 \qquad (1)$$

$$\left(\frac{\partial \mathrm{g}}{\partial \mathrm{t}}=0\right)=\left(\frac{\partial^2 \mathrm{g}'}{\partial \mathrm{t}^2}=0\right)$$

$$\frac{\partial\mathcal{L}}{\partial\Phi_1}-\frac{\partial\mathcal{L}}{\partial\Phi_2}=0$$



One partitioned and discretized the arbitrary variation term and derived the existence of Fermion. In particular, one have shown that it must have an even amount of elements, which differ in sign and create nine threefold combination and no more than two distinct elements.

$$\delta g_1+\delta g_2 \ldots=\sum_{i=1}^{N}\delta g_i$$

$$\sum_{i=1}^{N}\delta g_i=0$$

The point that was not analyzed before is that the term in equation is indicating that fermion clusters must have zero curvature. Curvature is not allowed in Fermion clusters alone. That is because in the 8T the term is the arbitrary variation of the Ricci flow.

That is in contrast to Albert Einstein theory of general relativity that associate matter formation to curvature, curvature in the 8T is only allowed as part of the Bosonic interactions, given by the Primorial. Those Bosonic interactions are propagating from Fermion clusters, but it is not the fermion clusters which bends the four-dimensional space-time configuration. Keeping that in mind, even when one allow net curvature to appear on the manifold, its magnitude is relativity small and insignificant given by the principle of least variation. The most significant and strong interaction are those with the smallest net amount of curvature, The strongest interactions are perfectly ordered by the sequence of the Primorial.

$$\frac{N_V}{T_V}$$

$$0.111 > 0.1 > 0.039 > 0.008 \ldots \rightarrow 0$$

Summing up, those two features of the 8T, a theory that deals with varying manifolds and varying curvature, ironically indicate that curvature is "not allowed" In Fermion clusters it must vanish, and it vanishes into matter as those two elements vary to one another. When curvature does appear as an amount on the matric tensor, which is discrete amount isomorphic to primes, it is very small compared to total variations. Those two points indicate that the universe should be flat. One can reach the same conclusion without using the second representation of the universe packet.

Strikingly Beautiful Relation of Three Generations Masses

The idea which is inspired by the last paper, is that if $8+(1)$ to generate force, and force is extended outward, (short or long ranged) than $8-(1)$ would be to generate mass, or arbitrary **variations converging inward**. Equipped with this idea one can search for a mathematical pattern within the masses of Fermions. First, one will take all the masses, accurate as they can and combine them according to generation:

[1.9]	[1320]	[172,770]
[4.4]	[87]	[4240]

$$1.9+4.4 \approx 6\tfrac{1}{3}$$

$$1320+87=1407$$

$$172{,}770+4240=177010$$

Seemingly nothing in common, luckily one can change it. Soon one will reason why the following manipulations exactly. First one will multiple equation one by factor of nine and divide the third family by a factor of nine.

$$6\frac{1}{3}*9=57=50+7$$

$$1320+87=1407=1400+7$$

$$\frac{177010}{9}=19{,}667=19{,}660+7$$

Also, notice

$$50*28=1400$$

$$1400*14=19{,}600$$

$$(60\ MeV\ Difference-0.03\%)$$

and

$$28=7*4$$

$$14=7*2$$

so to go from first to second:

$$(7 * 4) * 50 + (7)$$

And from second to third

$$(7 * 2) * 1400 + (7)$$

Notice that it is a decreasing by an even factor of two. In addition, if one go from low to high it does not make sense physically as the denominator decrease leading to higher masses and to higher energy, it should be Lagrangian oriented, nature is devising by increasing amount to minimize the arbitrary variations, so if correct one should go from three to one by devising:

$$\frac{19{,}660 + (7)}{7 * 2} = 1400 + (7)$$

$$\frac{1400 + (7)}{7 * 4} = 50 + (7) * \frac{1}{9}$$

Next, one can predict that **total mass** for fourth to sixth families:

$$\frac{50 + (7)}{7 * 8} * \frac{1}{9} = 0.113\ MeV$$

$$\frac{0.113}{7 * 16 * 9} = 0.000113\ MeV \quad \boldsymbol{or} \quad \frac{0.113}{7 * 16} = 0.00100\ MeV$$

$$\frac{0.000113}{7 * 32 * 9} = 5.95 * 10^{-8}\ MeV\ \boldsymbol{or} \quad \frac{0.00100}{7 * 32} = 0.0000045\ MeV$$

Summing 4-6 families: 0.113113 or 0.1140 MeV. one can see a converging to the value of the forth which is 55.25-55.69 lighter than first family:

$$\frac{6.3}{0.1131130595} = 55.696 \quad or \quad \frac{6.3}{0.1140} = 55.26$$

Note that one needed to readjust the scale by the factor of $8 + (1)$ as one manipulated the data, in a search for a pattern. Adjust it in the third family, by multiplication and in the first and by division.

The following reason, T-B family has much more mass, thus much more arbitrary variation converging inward, that might by the reason it has $8 + (1)$ factor in the nominator, and in the first, the arbitrary variations are so small, one needed to adjust it in the opposite direction, to increase by $8 + (1)$. Whether in the fifth family and below, additional rescales are needed is unknown.

one do include two options, with the $8+(1)$ or without it. So according to the above reasoning and mathematical notion, one will predict infinite family is forming below the masses of the U-D masses, converging to total value of $\approx$ 0.113113 Mev as family's below the six are neglected due to little contribution the total sum. So overall, one can write:

$$\mathrm{M}_{N+1} = \frac{\mathrm{M}_N + (7)}{7 * \prod_{\mathrm{E}=1}^{\mathrm{r}} N_{E+1}} * \frac{1}{9} \qquad (1.3)$$

$$\mathrm{M}_{N+1} = \frac{\mathrm{M}_N + (7)}{7 * \prod_{\mathrm{E}=1}^{\mathrm{r}} N_{E+1}} \qquad (1.31)$$

$$N_{E+1} = 2 * N_E \,;$$

$$N_E = 2E;\ E \geq 1$$

Ideas Overview

Mass is a variation of the manifold converging inward. Similar to force, in opposite direction. Nature is eliminating the arbitrary amount of variations by devising in increasing amounts. That prediction could serve as the rule of the so called "dark matter" in our theory. It suits the fact that very quickly the families total is converging to zero. The rate in which the conserving to zero is made is unknown. The theory provides two options. First, with the rescaling factor to each family and second option without it. Rescaling only once. Both options agree on the value of the total mass of the fourth, which is about 56 Times lighter than first.

$$\mathrm{M}_{N+1} = \frac{\mathrm{M}_N + (7)}{7 * \prod_{\mathrm{E}=1}^{\mathrm{r}} N_{E+1}} * \frac{1}{9} \qquad (1.3)$$

$$\mathrm{M}_{N+1} = \frac{\mathrm{M}_N + (7)}{7 * \prod_{\mathrm{E}=1}^{\mathrm{r}} N_{E+1}} \qquad (1.31)$$

As one combined the net masses of the two elements, the value should be again, decomposed to the two separate elements. There are an infinite variety of families whose mass is decreasing according to this idea, thus below first generation of quarks. If true, this could agree with so-called, dark matter**.** Cosmologists to decide whether the mass values predicted agree with the data.

Strong Electroweak Unification

In the 8T, page twenty-one and twenty-two, the author presented the strong electroweak unification based on the primorial coupling series, which resulted in the accurate prediction of alignment on 26 variations. The unification was done via four exchanges, three real and virtual exchange. That was in rigor:

$$[2^3 + (1)] + 3 - (\mathbf{1}\boldsymbol{v}): \quad [(2^3 \times 3) + (3)] + 3 : \quad [(2^3 \times 3 \times 5) + (3)] + \mathbf{3}$$

However, there is a simple way to do exact same thing without the virtual exchange of variation and taking the average of sum of exchanges. That is just by two real exchanges of variation from the third coupling term to the first coupling term. This will lead to the same result presented earlier, the unification of the strong electroweak interactions.

$$[2^3 + (1)] \longrightarrow 2^3 + (1) + 2$$

$$[(24 \times 5) + (3)] + 5 \longrightarrow [(24 \times 5) + (3)] + 3$$

The new, simpler way to unification does not include virtual exchange of variation;

$$2^3 + (1) + 2 : [(2^3 \times 3) + (3)] + 3 : [(24 \times 5) + (3)] + \mathbf{3}$$

$$2^3 + (1) + 2 \longrightarrow 2^3 + (3)$$

The two real exchanges between the third and the first will modify the same middle element the exact same manner as presented in the 8T thesis. The only term one can vary is the left, as one want to ensure duality among the forces; one cannot touch the net variation, marked in black;

$$[(8 \times 3) + (3)] + \mathbf{3}.$$

one cannot vary the invariant three; the modification will be to the left term in the coupling series;

$$(8 \times 3) + 2 = 26$$

The restrictions imposed on such variation on the strong are the same as presented earlier. I.e. it must be to an infinitesimal interval. The physical meaning of such equivalence relation in high energy is a morphism between the Bosons. A gluon morphism the Weak interaction W^+, W^-, Z Bosons, and photon morphism to the $W^\pm . Z$ Bosons.

$$\gamma \longrightarrow W^-$$

$$[(24 \times 5) + (e)^-] + W^-$$

$$[8 + (\mathrm{g} + 2)] \rightarrow 8 + W^-$$

(1) At high energies there exist a morphism among the photon and the Gluon to the Boson of the weak interaction. The Gluon at high energy can become a longer-range meditator (assuming one consider Weak as longer ranged).

Rise of the Arrow of Time

$$\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial\mathcal{L}}{\partial\Phi'}\frac{\partial\Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2}=0 \qquad (1)$$

$$F_{V=0}=2^3+(1) \qquad (1.1)$$

$$F_R\#=\left(2^3*\prod_{V=1}^{V=\mathbb{R}}N_V+(3)\right)+N_V=30{,}128{,}850{,}9254.. \qquad (1.2)$$

8T framework one has a Lorentz manifold inside an Euler- Lagrange equation. The manifold experience arbitrary variations, which vanish into matter. each segment in which net variation appears on the manifold is synonymous with a Boson which is manifested into our matric. That was the idea which derived the coupling constants equation. Net variations are prime, and for each prime there is a Boson. The way those ideas relate to the arrow of time is the issue of this section. Recall that the coupling constant equation is really a built upon a ratio between total variations divided by two and net variations which are prime. As the total variations grew much more rapidly than the net, and one required a sequence that it will go from low to high. Therefore, the arrow of time should go from low to high as well. There could not be a photon propagation without Electron, which propagate from the nuclei, or cluster of so-called quarks. The sequence of the coupling constant equation is the sequence of time it allows us to build from the elementary to the massive, first arbitrary variations eliminate and vary themselves, create protons and neutrons which vary as well, propagate electrons, which vary as well, yielding photons and Electromagnetism. Nature as the interplay of total variations to net variations, which grow in number and gets weaker from one element to another, explain why the forces at a large scale are much weaker than those at smaller scale, here are much more total variations and the net is divided across the whole cluster. if one examines each element in itself, like Electromagnetism for example One can not reach insights for the arrow of time, as it's not telling anything about the arrow. It is only as one derive the primorial series of and the intimate relation of the Boson to primes and putted them in a way of an arrow, than and only than one can see the rise of the arrow of time. In other words, one can reason for galaxies and cluster of galaxies after the Strong, Weak and the Electric.

$$1>\frac{3}{30}>\frac{5}{128}>\frac{7}{850}\ \ldots$$

Continuous and Discrete Aspects of Nature

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2}=0 \qquad (1)$$

By analyzing the main equation, (1) it is vividly clear that the setting is continuous, one have a smooth manifold which is the connected manifold. As both 8T and Einstein GR are composed upon a continuous (3,1) matric tensor. However, 8T is also has proven to be discrete as in the "Boson sector" that the Bosons are isomorphic to discrete amounts of curvature, manifested as prime or one.

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

So taken from that point of view the universe has an element that is discrete. This element comes to an agreement with the fundamental Planck constant, which state can the Quantum oscillator can change only by discrete amounts. Therefore, the 8T setting is continuous, but this continuous setting has certain quantities that are discrete and are of grand importance. Another element that could be regarded as discrete is the number of universes in the packet. It is possible to regard, and maybe it is even the case, to each newborn manifold in the packet as a descended of a more ancient manifold in the packet, which was born due to matric tensor fluctuations. Classification can be made based upon the location in the packet. It is possible to numerate the manifolds in the packet, assuming it is finite but still aspiring infinity. That is an additional element, which is discrete, despite each manifold, is continuous. So based on this short analysis of the main two equations of the framework 8T, one have a mixture of both continuous setting, given by infinite smooth manifolds interacting with each other discrete features such as prime numbers, isomorphic to Bosonic "fields" discrete number of universes in the packet.

The Almost homogenous Universe

$$\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial\mathcal{L}}{\partial\Phi'}\frac{\partial\Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2}=0 \quad (1)$$

$$F_{V=0}=2^3+(1) \quad (1.1)$$

$$F_{\mathbb{R}}\#=\left(2^3*\prod_{V=1}^{V=\mathbb{R}}N_V+(3)\right)+N_V=30{,}128{,}850{,}9254.. \quad (1.2)$$

The reason the universe is not completely homogenous based on the framework is that the manifold experience arbitrary variations – which than vanish into Fermions, in threefold combinations of two distinct elements.

$$\frac{\partial\mathcal{L}}{\partial\Phi}\frac{\partial\Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}\delta g-\frac{\partial\mathcal{L}}{\partial\Phi^{'}}\frac{\partial\Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2}\delta g'=0 \quad (1)$$

The series gives rise to the arrow of time; one should expect more interactions as time goes on, leading to bigger Fermionic structures which makes the manifold less and less homogenous. The bigger the cluster of total variations the weaker the force, as it is divided across the whole cluster. By examining at those two equations one can see exactly why the universe or the Lorentz manifold in The 8T framework is not homogenous, because of those arbitrary variations and the additional net variations. The first accounts for Fermions, known as quarks, the other known as Bosons. Using that framework, one can derive almost immediately the reason the universe cannot be homogenous, it is almost obvious. Of course, the question of the homogenous structure is a question in which one cannot really answer, as it has no numerical data, it's a question revolving around a theory in which the lack of Homogeny is a feature of the main axioms and equations. One can derive it in the setting of variational manifolds, or any Lagrangian oriented theory, which includes arbitrary variations, which must vanish at border. The beauty and innovative part in 8T is that the global set life forms, galaxies, clusters of galaxies **are** those arbitrary variations given by just one simple term of vanishing curvatures spikes.

$$\sum_{i=1}^{N}\delta g_i=0$$

The Primorial Commutativity

There is a symmetry one can impose on those terms, that is by changing the order of the elements. Changing the order of the elements makes no difference to the overall value of the coupling. The series in equation (1.2) will still hold either way.

$$\left[2N_1 + \frac{1}{2}\right] + \frac{1}{2} \longrightarrow \left[\frac{1}{2}\right] + 2N_1 + \frac{1}{2}$$

$$[(8 \times 3) + (3)] + 3 \longrightarrow [3] + (3) + (8 \times 3)$$

Now its matter clusters unbound due to the net curvature, which is the first in order. The point is not the physical meaning of such an event, but rather the commutativity of the primorial equation. If one take the final values of each coupling as the main objective, that the equation is order invariant, or commutative. The same applies for each higher element and lower as well in the coupling term. Another point regarding the strong interaction is that, it implies that the gluons are unbound. They must come from somewhere and as they are net curvature on the manifold isomorphic to one, each gluon pulls or increase the probability of arrival to other gluons. The same applies to each Boson in each coupling term. For example the photon:

$$\sum_{i=1}^{M} \gamma_i = \sum_{i=1}^{M} \delta \mathrm{g}_i > 0 \qquad (3.13.B)$$

Suppose one had a set of K gluons bounded to a Quark Triplet, in that sense it does not matter in which order they clustered to the sea of gluons. One can vary the set as much one would like order wise. Therefore, from that angle there is a symmetry there as well.

$$K = \sum_{i=1}^{i=K} \mathfrak{g}_i \longrightarrow \sum_{i=1}^{i=K} (+1)_i$$

That the main representation in which Bosons are propagating from Fermion clusters with spin one- half is the most reasonable and seemingly best way to understand nature. This short assay does not indicate that the opposite is correct, but rather present the Primorial from viewpoint of symmetry, order invariance or commutativity.

The Universe Future

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2}=0 \qquad (1)$$

$$F_{V=0}=2^3+(1) \qquad (1.1)$$

$$F_{\mathbb{R}}\#=\left(2^3*\prod_{V=1}^{V=\mathbb{R}} N_V+(3)\right)+N_V=30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3+(1)$$

$$[(2^3\times 3)+(3)]\rightarrow\left[2N_1+\frac{1}{2}\right]$$

$$[(2^3\times 3\times 5)+(3)]\rightarrow\left[2N_2+\frac{1}{2}\right]$$

$$[(2^3\times 3\times 5\times 7)+(3)]\rightarrow\left[2N_3+\frac{1}{2}\right]$$

The main equation of the 8T is indicating that there exits a time invariant acceleration from areas of extremum curvature on the Lorenz manifold, imposed by requiring the last term not to vary overtime. One can assume no data is available from the first three terms, which describe a varying manifold in spatial dimensions. To ensure universe collapse one will to revert the signs so one will get:

$$+\frac{\partial g}{\partial t}\longrightarrow-\frac{\partial g}{\partial t}$$

$$-\frac{\partial^2 g'}{\partial t^2}\longrightarrow+\frac{\partial^2 g'}{\partial t^2}$$

In other words, the acceleration is now directed inversely, and the new equation is:

$$\frac{\mathscr{L}\partial}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\frac{\partial^2 g'}{\partial t^2}-\frac{\mathscr{L}\partial}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial g}{\partial t}=0 \qquad (1.4)$$

Therefore, one have an inward acceleration and areas of negative curving on the Manifold, which agrees with the description of a compressed Lorentz manifold. However, is it reasonable physically to make such a transformation from (1) to (1.4) is the issue of that section. Suppose it is reasonable to change the direction of the acceleration. By looking at the second term:

$$+\frac{\partial g}{\partial t}\rightarrow-\frac{\partial g}{\partial t}$$

Meaning, all the galaxies, clusters of galaxies, which represent extremum curvature on the manifold, must be eliminated and revert their direction inward, toward the manifold. Such shift will be along an inward acceleration and a process of manifold compression. The process than is synonymous to going from a lower energy state, colder state, to a much higher state of energy. It is a higher state of energy as it is a process of immense masses compressing inward, toward a converging Lorenz manifold, such process will be encompassed by friction, heat and high entropy. It is not Lagrangian oriented and not likeable scenario in our framework. There is no need for calculation of hydrogen atoms per unit space when one have the mathematical equation. One can also analyze the subject of expansion or collapse by using the primorial equation in its third representation, the arrow of time. A universal collapse would be to revert the side of the arrow. From weaker and weaker interactions at mega scales, to go for smaller interactions much stronger:

$$1 < \frac{3}{30} < \frac{5}{128} < \frac{7}{850} \ \dots$$

The physical meaning would be than, stars, galaxies and clusters of galaxies to deform and in an endless succession until one reach quarks and gluons. Such process would require immense amount of energy and it has to happen across all the spectra of the foreseeable universe. Leading to a logical and physical contradiction, it means less manifold net variations over time., it's not Lagrangian oriented. To go from low state of energy and aspire the highest level. There is no indication that such process could accrue in nature, without artificial intervene. As far as one knows, it comes to an agreement with the laws of thermodynamics. Nevertheless, more importantly, in 8T there is no reason for such unnatural thing to happen.

Manifold Limits

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] \to \left[2N_1 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5) + (3)] \to \left[2N_2 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] \to \left[2N_3 + \frac{1}{2}\right]$$

The question at the heart of this assay is whether the Lorentz manifold, i.e. the universe has borders. It is finite or infinite in its nature? According to the new framework of variational curvature, Since it is a defined object within a set of distinct objects of the same class, a set of universes which flatten each other and interact at areas of extremum curvatures, one will prove it later in the thesis, it is finite. On the other hand, since the interaction is ever accruing causing the matric tensor between those areas of extremum curvatures to expand from them, in that sense the finite object is varying in size and ever increasing, aspiring to infinity. So according to the 8T, similar to ideas suggest by scientists of the 20-th century, the manifold is closed, but it has no limit. If one is correct it was Einstein who suggested that definition. It is finite, but aspiring to infinity due to the pressure exhorted from other manifolds. one can make a prediction according to this new framework;

Prediction (1): The degree of universe flatness is proportional to time.

Prediction (2): The degree of universe flatness is inversely proportional to temperature

The Primorial Coupling Equation and Gauge Fields

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \tag{1}$$

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] \rightarrow \left[2N_1 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5) + (3)] \rightarrow \left[2N_2 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] \rightarrow \left[2N_3 + \frac{1}{2}\right]$$

Each term individually:

$$2^3 + (1)$$

Remember back in the day, when one concluded that it is possible could ignore the even element, since even amounts of variations vanish, and just write that the first element is one. There exit eight Gluon fields according to QFT. These are meditating the Strong interaction and color charge, this could be just a coincidence. Let us examine the next term in the series:

$$[(2^3 \times \mathbf{3}) + (3)] \rightarrow \left[2N_1 + \frac{1}{2}\right]$$

This term describe the nature of the Weak interaction. Notice the right inside the parenthesis. There exit three Gauge fields meditating the Weak interaction. The massive $W^{\pm}$ the Z Bosons. which one correlate to $\mathrm{SU}(2)$ and isospin. If the right term inside the parenthesis is a reflection on the number of fields meditating an interaction than one can examine the next term on the series, Electromagnetism:

$$[(2^3 \times 3 \times 5) + (3)]$$

That is a daring statement to make, but if the assumption to hold true, There Should be five gauge fields meditating the Electric Five distinct kinds of photons. It is really an absurd statement to make, given the fact that there are no indication that there is an agreement with experiment regarding that idea.: **8T predicts five gauge fields meditating Electromagnetism.**

Proof: Fluid Turbulence

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2}=0 \qquad (1)$$

Define flow of fluid as an amount of arbitrary curvature on a Lorentz manifold, marked in black

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}\delta g-\frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2}\delta g'=0 \qquad (1)$$

Assume it is a continuous process in time, meaning one can break it to an infinite sequence, in contrast to the original idea, each discrete is representing flow of matter at large scale, a fluid:

$$\delta g = \delta g_1 + \delta g_2 \ldots$$

To each one can associate an appropriate time

$$\delta g_1 \longrightarrow t_1$$

$$\delta g_2 \rightarrow t_1 + \Delta t = t_2$$

That is in agreement with fluid flow, a sequence of vanishing curvature spikes, turning into a cluster of matter which will form a fluid flow. The fluid flow has a continuous sequence in time. Analyze the first element alone of the fluid flow by breaking it to infinitesimal time intervals:

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}\delta g_1-\frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2}\delta g_1{}'=0$$

The first element is causing the metric to accelerate outward, so the space in which the second element of the flow is not the same as the metric in which the first element was moving in. the first element is causing the metric to vary, and its length to vary as well, the motion cannot be put in terms of vectors Therefore, the second element itself is doing the same, it is an endless process of metric variation causing the motion to be chaotic as the metric itself varying in accordance to curvature flow. Therefore, if one break down the motion of fluid to an infinite sequence, one can derive the reason the motion of fluid cannot be put in vector form, each subset of curvature is causing an outward acceleration of the metric, and the next subset is moving in a different metric than the first, it could revert sideways, sideways inwards, sideway outwards, and same Applies for each additional element.

Quark Mass Mixing and Mixing Angles

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$\delta g = \delta g_1 + \delta g_2 \ldots$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] \to \left[2N_1 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5) + (3)] \to \left[2N_2 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] \to \left[2N_3 + \frac{1}{2}\right]$$

Take the masses of all the generations and combine them:

[1.9]	[1320]	[172,760]
[4.4]	[87]	[4240]

$$1.9 + 4.4 \approx 6.3$$

$$1320 + 87 = 1407$$

$$172{,}760 + 4240 = 177000$$

The idea by Quark mixture one mean multiplication of masses of the first and second to yield the total mass of third, times a scalar. Therefore, a total mass of the first family multiplied by the total mass of the second family, both multiplied by a scalar, will yield the total mass of the third. We can proof that is the almost case exactly for the values of the masses above:

$$6.3 * 1407 = 8864.1$$

$$\frac{177{,}000}{8864.1} = 19.96$$

If one can allow a slight variation of the first masses to be 6.29 Mev and not 6.3, it will be

$$6.29 \times 1407 = 8850$$

$$\frac{177{,}000}{8850} = 20$$

Therefore, just a slight variation of 0.01 Mev and one have a beautiful number and a way to combine the total mass of the first and the second, mix them and multiply by the scalar, to reach the total mass of the third. Reader should argue that it could be just a coincidence, a choice of certain values to yield the scalar and he might be right as the masses are not measured or known as exact, they could divert. Assuming the mixing will accrue at scalar numbers only, one can craft correction angles to ensure the scalar number will hold. So if the masses of the first divert or measured at a higher value that 6.29, there will be a correction angle to retain the same scalar one obtained. The correction angles could have more than one value and they can be positive or negative. Take the mass of the up quark to be average between 1.9 to 2.2 Mev, which is 2.05 Mev.

$$\frac{1.9 + 2.2}{2} = 2.05\ Mev$$

$$2.05 + 4.4 = 6.45\ Mev$$

$$6.45 * 1407 = 9075.15$$

$$\frac{177{,}000}{9075.15} = 19.503$$

The correction angle to reach desired number would be:

$$19.503 + \cos(11.5) \approx 20$$

There could be many more, the correction angles are not limited in number and depend upon the masses values taken of the first, second, and the third as well. The idea behind stay the same. The correction angle will be added to yield a scalar multiple.

$$20 * (TM_1 * TM_2) \approx TM_3$$

Among all the topics can be explained by the 8T and there has been quite a few, the question of Quark mixing seems to be among the hardest ones, and among the topics not within reach. This part is not a proof of any sort but a mathematical idea, the reader should rightfully argue and doubt it. One was trying to reason in the simplest and most elegant way, the weird phenomenon of Quark mixing. Whether it makes sense or not, readers should decide after analyzing the Paper.

The Primorial and Orthogonal Curvatures

One has proven that the primorial is the same under sign reversal, which gives rise to the existence of anti-matter.

$$\left[2N_3 + \frac{1}{2}\right] + \frac{1}{2} \longrightarrow \left[-2N_3 - \frac{1}{2}\right] - \frac{1}{2} \qquad (1.45)$$

Since the one-half is a representation of net curvature on the manifold, and the Electron is represented by the one-half inside the bracket, one can represent the positron and the Electron as curvature oriented in orthogonal way, leading to an inner product that is zero.

$$\left\langle \delta g_i \middle| -\delta g_i \right\rangle = 0 \qquad (1.46)$$

The fact their inner product is zero, is indicating an Energy release. The pairing can be thought as two orthogonal pulls leading to peer pressure on the matric tensor. Such pressure could lead to the matric be ripped apart, and by doing so one will observe a gate to the base space of raw energy, the Ricci flow, given by $\partial g/\partial t$ on the main equation (1). One can use equation (1.46) with Leptons as elements of the inner product such as the electron and positron:

$$\langle +3_i | -3_i \rangle = 0$$

For photons:

$$\langle \gamma_i | \gamma_i \rangle = 0$$

Which are net curvature unbounded on the manifold in contrast to the Electron, bounded by the nuclei, given by the fact it is within the bracket:

$$\left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) \longrightarrow \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + e^-\right)$$

From that point of view, it is clear that Anti-Matter is the perfect source of Energy as it is leading to a pure release of Energy, given by the orthogonality of the curvatures participating as given by (1.46). Notice that the summation is holding in (1.46) one can eliminate clusters of inverse curvature elements as long is the index is the same.

The Coupling Constant Equation and Higgs Mechanism

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] \rightarrow \left[2N_1 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5) + (3)] \rightarrow \left[2N_2 + \frac{1}{2}\right]$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] \rightarrow \left[2N_3 + \frac{1}{2}\right]$$

Examine the strong:

$$2^3 + (1) = 1$$

The Weak:

$$[(2^3 \times 3) + (3)] + 3 = 30$$

Bosons that meditate the Weak interaction do carry mass. Moreover, the symmetry of $\mathrm{SU}(2)$ forbids mass terms in the Lagrangian, and the solution which allows us to include mass terms without ruining the symmetry is the Higgs idea. This idea works by including extra terms. 8T has shown the **extra term is the majestic three.** Therefore, the Higgs field is responsible for the lack of order in our series, which could have been a beautiful Series of eight multiples. In a sense of the standard model, one can state that the extra term "breaking the symmetry". So overall, 8T does not contradict the Higgs idea allow us an additional view on how the mechanism work. As the Higgs is responsible for additional terms in the Lagrangian, and in the 8T one see that the first elements in the series of coupling constant differ by an additional term, the Majestic three or spin $(1/2)$.

Proof: $\mathrm{P} \leq \mathrm{NP}$

Let it be a set -

$$\mathrm{A} = \{a_1 \dots a_n\}$$

Define a condition on the set:

$$\mathrm{K} : \mathrm{A} \longrightarrow \mathrm{B}$$

Let $\mathrm{B} = \{a_1 \dots . a_m\}$ a subset of A which satisfy the condition K.

$$\mathrm{m} < \mathrm{n}.$$

Allocate:

$$\mathrm{K} \longrightarrow t_1$$

Time in which the subset B was obtained after running the condition. Allow the elements of A to vary over time.

$$\Delta\mathrm{t} : \mathrm{A} \longrightarrow \mathrm{A}'$$

$$\Delta\mathrm{t}: \mathrm{B} \longrightarrow \mathrm{B}'$$

Let an isomorphism exit between the sets after the operation Δt. Define a functor on the subset B:

$$\wp : \mathrm{set} \longrightarrow \mathrm{Top}$$

In order to obtain an EL equation of the subset $\mathcal{L}$ (B, B', t) on a topological space. Set the space to be complex analytical to ensure differentiation is possible at all time.

$$\frac{\boldsymbol{\partial\mathcal{L}}}{\boldsymbol{\partial \mathrm{B}}} - \frac{\boldsymbol{\partial\mathcal{L}}}{\boldsymbol{\partial \mathrm{B}'}} * \frac{\mathbf{d}}{\mathbf{dt}} = \mathbf{0}$$

$$\mathrm{B} - \mathrm{B}' * \Delta\mathrm{t} = 0.$$

Since one allocated to obtaining the subset B the time t_1– one can write:

$$(t_1)\mathrm{B} - \mathrm{B}' * (t_1 + \Delta\mathrm{t}) = 0$$

For a given condition one impose on a set, which yield a subset to satisfy it, in order to ensure the subset to be a valid solution one are required to examine it will stay invariant under time translations. after one operate a functor on it and switch to a topological space. In other words, the variations of the subset to vanish at border. One can say that the subset has to be close with respect to time. Thus, time obtaining a suggested solution will always to shorter than the time required deciding the existence of a solution. The time of making a decision regarding the existence of a solution and obtaining the solution will be equal if the set is not varying over time. $\Delta\mathrm{t} = 0$.

$\boldsymbol{End\ of\ Proof}$.

Anti-Matter & Dirac Delta Variation

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$\sum_{1=1}^{N} \delta \mathrm{g}_i = 0$$

There could be another way to ensure a stationary Lorenz manifold. Which will match each element in the series its mirrored element. That is by anti-matter. It is less likely as it will lead to total annihilation and thus to higher energy, so it would not be prereferd by nature. Define the mirror operations as "$\exists$"

$$\delta \mathrm{g}_{i=1} + \delta \exists \mathrm{g}_{i=1} = 0$$

$$\delta \mathrm{g}_{i=2} + \delta \exists \mathrm{g}_{i=2} = 0$$

So the overall sum of the series will hold as zero. In the 8T Quarks are regarded as arbitrary amount of curvature on a manifold. Based on this view, anti-quarks and anti-matter is arbitrary curvature with inverse direction. Same magnitude just different direction. So overall, that framework would allow the existence of anti-matter. That is in agreement with QFT setting and with the Dirac equation for spinors. In fact, the moment of singularity could be a result of the series not equal to zero.

$$\sum_{1=1}^{N} \delta g_i = 0$$

The moment the series is not equal to zero than means that one have net curvature, or maximal curvature on the manifold, which will yield a negative extremum time invariant acceleration from it. In other words, the moment of asymmetry in the series yielding net curvature on the manifold could be the reason for singularity and so called among the masses "big bang". It is just an idea of course, but up until now the 8T was on point in regards to issues on other theory could explain.

The Primorial –Odds versus Primes

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Shifting to spin representations:

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

So to proof the uniqueness of primes compared to odds or any other kind of a ring different from primes one can try associate $N_V \notin \mathbb{P}$ and construct just for means of making the point, the following term:

$$(2^3 \times 3 \times 5) + 9 \rightarrow \left[2\mathrm{N}_2 + \frac{1}{2}\right] + \mathcal{R}$$

$$\mathcal{R} \neq \frac{1}{2}$$

$$\frac{1}{2} < \mathcal{R} + \frac{1}{2} < 1$$

Therefore, as a result one will have a total spin that is neither one-half nor one. That is against experiment and against other leading theories such as OFT. The point is that the prime is a subgroup of the real, which in a sense is much smaller and so it is imposing a restriction on the values that can be regarded as net curvature on the manifold. Such a framework is resembling a symmetry limitations by physical theories. In addition, when compared to string theory that allow an infinite variety of particles, some with exotic traits, the number of Bosonic curvature is indeed infinite but at the same time, cannot be associated with any number. The number of options is smaller than the entire field of the reals,$\mathbb{R}$, as one must take into account the spin trait given by the second representation.

Dirac Delta Variation

Our main equations in the framework:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$\sum_{1=1}^{N} \delta \mathrm{g}_i = 0$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The Dirac delta in 8T framework is an interference on the Lorenztion manifold. An arbitrary amount of curvature δg on the manifold. Since it is not allowed and must vanish, one require $\delta g = 0$, as one did previously in this framework.

$$\delta \mathrm{g} \neq 0 \qquad at \qquad t = 0$$

$$\delta \mathrm{g} = 0 \qquad at \qquad t > 0$$

So the Dirac delta in 8T framework describe the process in which arbitrary amount of curvature appear and vanish into matter. However, there is no restriction with regard to time. Arbitrary amount of curvature assume to appear at all time, thus one must modify the idea of the Dirac in our framework.

$$\delta \mathrm{g} \neq 0 \qquad at \qquad t = Q(t)$$

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

one also require that $\Delta t \to 0$ as just after the arbitrary amount or interference will appear, it will immediately vanish into matter. Therefore, in this framework is "rich" in delta functions. The difference is that the delta can appear at time that is not null. In a sense one has more flexibility with the Dirac delta. After the delta appeared and as a result Fermions were manifested into the metric. Those Fermions could still vary, and experience a net curvature or net variation. As was analyzed in this paper those net curvatures were taken to be prime numbers and that was the reasoning behind the construction of the coupling constant equation. Those net variations of the manifold are another interference, but and interference which propagate from Fermions, and is prime number. Therefore, in that sense it cannot turn into Fermions. **Fermions vanish in even amount of variations.** The result is a propagation across the manifold Ripples on the metric all across.

$$\delta g = 0 \qquad at \qquad t_1 = Q(t + \Delta t)$$

At later continuation of time:

$$t_2 > t_1$$

This condition is satisfied:

$$\delta g > 0\,; \quad t_2 = Q(t + \Delta t + \Delta t)$$

Moreover, the amount of variations is either prime or one:

$$\delta g = N_V$$

Than one a ripple on the manifold which propagate all across,. The Laplacian operator than is vital to description for a mathematical description of the Manifold ripples, or Bosonic fields. Important point to take is that the **underlining reason for the Boson propagation all across the manifold is their prime number feature**. Define a Bosonic ripple across the Lorentzian manifold

$$\nabla^2 = \frac{\partial^2 g}{\partial^2 \mathrm{t}} \in \Phi$$

That is curvature propagation across all metric spatial dimensions as:

$$\Phi\colon \left(M, g_E\right) \to \left(M_E, g\right)$$

The Primorial, Photon Jets and the Higgs

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2}=0 \qquad (1)$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Suppose one has two photons pairing, photon and anti-photon, both were emitted from Fermion clusters with opposite sign:

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

$$\left[2N_2 - \frac{1}{2}\right] - \frac{1}{2} = 2N_2 - 1$$

The result of combining the photons would be again, a cluster with zero spin as one analyzed in the theory. Since the Higgs Boson has spin zero, the conclusion is that two opposite in charge sign photons, can give rise to a spin zero particle such as the Higgs. It is the case with photon jests, but here analysis is via the Primorial, which makes it easy to understand.

$$2N_2 - 1 + 2N_2 + 1 = 4N_2$$

$$\gamma\gamma \rightarrow H^0$$

Spiral Galaxies

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \tag{1}$$

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Notice the first requirement:

$$\frac{\partial g}{\partial t} = 0$$

In addition, the second requirement:

$$\delta g_i = 0$$

Those two simple requirements combined together can allow deep insight into the structure of galaxies. In the 8T one describes a Lorenz manifold, the manifold has areas of extremum curvature that stay as they are over time. That is given by the first requirement. The manifold also experience arbitrary variations, the second requirement. Those arbitrary variations vanish into matter in agreement with a stationary Lorentz manifold. The combination of both condition than implies that in order for the areas of extremum curvature to stay as they are, the arbitrary variations cannot appear inside them. That is by the combination of the two requirements. However, those arbitrary variations still appear in the framework. In addition, the areas of extremum curvature are a vital part of this theory. The combination of both requirement is than resulting in areas of extremum curvatures surrounded by arbitrary variations that could not affect them. The following model of the 8T is than intersecting with the large-scale geometrical shape of galaxies. However, it is known that so called, black holes in the center of galaxies are absorbing matter and nothing can escape them. So in a Second glance the first requirement will not hold in such case. However, that is not a real problem if one assume that those black holes, which one regard as areas of extrunum curvature inside galaxies also omit matter. One knows it is the case from experiment and cosmological ideas made by Hawking if one is correct.

$$\frac{\partial g}{\partial t} + \delta g + \left(-\delta g(H)\right) = 0$$

So overall those two simple requirements in our framework provide an Interesting indication to structure of large-scale matter formations in the universe. The hawking radiation is a vital part of making the two conditions hold true. For each unit of Fermions absorbed or manifested inside the area of extremum curvature one must require a hawking radiation entity to emitted from the area, so the first requirement will hold true.

Measuring Electrons

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Electrons in 8T are represented by the majestic three. Since it is not an even number it cannot vanish into matter. Since it is trapped on the bracket it can't propagate like the net variation $N_V = \gamma$, which are net curvature on the matric tensor or ripples. The conclusion is that the Electron is propagating across the nuclei, the hadron structure which is two and three divisible to vanish into matter. in physics there is the problem of measuring the energy of the electron, and the problem is due the varying the radius, the smaller the radius the higher energy of the Electron. At radius aspiring zero, infinite energy is manifested, against observations. One would like to add certain notes on the issue on measurement. First, regarding the Electron as a separate entity is wrong. The Electron is part of the manifold, and is effected by what is going on the matric tensor. Trying to measure it solely based on radii seems to relay on too simplistic ideas, which ignore complexity. Second, measurement of the Electron in a varying radii will take a certain period of time. For all this period one will need to know where the Electron is which is impossible to do. So measurement of the Electron propagating across the nuclei seems to be impossible to do, as modern physics regard the Electron as a cloud of probability. Third, suppose it was possible to measure the electron for a certain period. The measurement is done via scattering Photons onto the Electron and by doing so varying its energy, increasing it. Of course, the Electron can omit those photons to a new direction or in a different rate, but measuring the electron will affect the electron energy and so the experiment itself is part of the problem.

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$(3) + 5 = 8$$

$$8 \longrightarrow 0$$

The thing to take from this is that the problem of measurement is not just due to radii leading to an infinite energy scales, as $r \rightarrow 0$ but also due to the time needed to perform the measurement and the influence of photons as a tool of measurement that clearly effect the measured object by varying its energy, as it get absorbed into it. Another possible problem is the existence of the measurer that is matter on the manifold. The configuration of matter on the manifold is varying the matric tensor and causing it to accelerate outward and the manifold is different due to the matter configuration, given by the main equation of the 8T.

The Principle of Least Variation

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

one derived the coupling constant as a ration between total arbitrary variations to the net variations, N_V, which are outside the parenthesis. Those net variations are a different representation of curvature on the Lorenz manifold. Notice the numerical relations between the total to net:

$$\frac{N_V}{T_V} \longrightarrow 0$$

$$\frac{1}{9} = 0.111$$

$$\frac{3}{30} = 0.1$$

$$0.111 > 0.1 > 0.039 > 0.008 \ldots$$

The reasoning was clear, as the primorial is multiplies each Even sum of the previous element in the next prime, and the net variations are the prime numbers sequence itself. In means that each element the net curvature is a smaller and smaller portion of the whole variation cluster, which reason why the sequence is getting weaker and weaker. Based on this equation one can vividly derive and predict the weakness of gravity. One can state that nature is aspiring to minimize the ratio of net to total. All the possible amount of curvature can and will appear and nature, but the most common and noticeable ones are those with the bigger ratio, or least amount of net variation:

$$0.111 > 0.1 > 0.039 > 0.008 \ldots \to 0$$

The Bosons in which one are already know of. The interactions associated with the number one, three and five. The two lowest primes and one. The 8 – theory principle, which is derived by this analysis, is the Principle of least variation or curvature as one is dealing with a Lorenz manifold. Just as Feynman did in quantum path integrations, all is taken into account. However, the most significant routes are the simplest ones. In this framework the most significant Interactions are those with the largest ratios between the net variations to the total variations the largest ratios are those with the least curvature or Smallest prime numbers and the number one, and primes are representing manifold variations.

Electron Positron Decay - Higgs

If there were an elimination of the destabilizer, i.e. the majestic three there will be no propagation of the Boson from the fermion and the result would be again spin zero. In this theory one constructed four categories for particle classifications using the primorial:

Spin zero: $(2N\ variations)$

Matter with spin one-half: $(2N\ variations + 3)$

Bosons with spin one: $(2N\ variations + 3) + N_V$

Bosons -higher spin: $(2N\ variations + 3) + N_{V1} + N_{V2}$ ..

According to the following framework, the pairing of Electron Positron pair than can also construct an emerging of the Higgs. Since the Higgs has only one term in the coupling series, prediction would be propagation similar to Gravity, that is local and short ranged.

$$\mathrm{ee}^{+} \rightarrow H^{0}$$

$$\mathrm{ee}^{+} \rightarrow 4N$$

One can expend that result and state that any amount of even inverse in sign, Fermions of the kind of majestic three, i.e. the Electron and its anti-matter dual, pairing to each other will yield a spin zero particle of certain sort. This particle again can by morphed into a new distinct particle given by:

$$2N + 2N = 2\sum_{i=1}^{K} N_i$$

If one to eliminate the destabilizer there is no need to analyze the Photons pairing. the reaction suggested may have been known already for a long time. However his prediction is made according to a new theory which predict the magnitude of coupling constants, and so may shade new light on the interactions among particles and unveil at least some of the complexity in that area of research.

Particle Wave - Duality

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2}=0 \tag{1}$$

$$F_{V=0}=2^3+(1) \tag{1.1}$$

$$F_{\mathbb{R}}\#=\left(2^3*\prod_{V=1}^{V=\mathbb{R}}N_V+(3)\right)+N_V=30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3+(1)$$

$$[(2^3\times 3)+(3)]+3\rightarrow\left[2N_1+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(2^3\times 3\times 5)+(3)]+5\ \rightarrow\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(2^3\times 3\times 5\times 7)+(3)]+7\ \rightarrow\left[2N_3+\frac{1}{2}\right]+\frac{1}{2}$$

Suppose, in an experiment one decides to measure the photon momenta of position. Its done by scattering an additional Photon onto the Photon:

$$[(2^3\times 3\times 5)+(3)]+5\ \rightarrow[(2^3\times 3\times 5)+(3)]+5+5$$

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

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

Before measurement, the physical system had a Bosonic spin, i.e. an integer. After the measurement, it changed by an additional half unit spin, leading to a Fermion spin, which dictate a change in the nature of the Bosons. From a wave to a particle. This form is oriented to total spin not to individual elements.

Fiber Bundles

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \qquad (1)$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

In the 8T, one analyses a varying manifold, which is the connected manifold with (3,1) signature. This manifold has two components, the matric M, and the flow. The manifold has been analyzed in a variational framework, i.e. Euler Lagrange equation to yield the main equation.

The purpose of this assay is to describe the relationship between the base spaces, which is the Ricci flow to the total space that is the manifold matric tensor which we are living on. The relationship between those two spaces will be described by the concept of fiber bundle. The order in which events are accruing in this framework is firstly effected by the Ricci flow space, i.e. the base space.

$$\frac{\mathscr{L}\partial}{\partial \Phi} \leftarrow \frac{\partial \Phi}{\partial M} \leftarrow \frac{\partial M}{\partial g} \leftarrow \frac{\partial g}{\partial t}$$

One can define a fiber bundle between the Ricci flow and the Matric tensor. Define the base space and the total space:

$$\mathscr{R} \rightarrow Base\ sapce$$

$$\mathbb{M}_T \rightarrow Total\ Space$$

$$\psi\colon\ \mathbb{M}_T \rightarrow \mathscr{R}$$

$$\psi^{-1}\colon \mathscr{R} \rightarrow\ \mathbb{M}_T$$

On Gravity and Acceleration

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \qquad (1)$$

We are familiar with the famous idea of Einstein, which state that there exist a morphism among gravity or curvature and acceleration. That is preciously the idea behind the main equation of the 8T, equation (1).

$$\frac{\partial^2 g'}{\partial \mathrm{t}^2} = \frac{\partial \mathrm{g}}{\partial \mathrm{t}}$$

The question in which one will try to answer is the following: can one go further in reasoning this relation? Can one explain why it has to be that way? and do it in a simple manner which do not involve further complications equation wise. The author believes that it is possible to do using the framework of calculus of variations. To do just that one can imagine an arbitrary variation cluster which has mass, falling onto the curvature spike non vanishing. one can make an theorem and according to this theorem one can reason the relation of the main equation (1):

Theorem (1.2): nature would aspire that a fermion cluster falling into a curvature spike will reach the minima in minimal time.

That is similar to Fermat principle of least time but in a different context. Now, the key point is the following: for the fermion cluster to reach the minima of the curvature spike in minimal time, it has to gain maximal speed, which is the integration of the acceleration.

$$v = \int \frac{d^2 x}{dt^2}$$

Therefore, to reach the lowest point of the curve in the minimal time, nature would accelerate the falling body to a maximal speed. It is somewhat different from the equivalence principle as it puts a cause and a result relation among those two, but that is preciously the point of the paper. Can one explain **why** there is a morphism between those two terms? Using extremum value demand on time allows us to reason it in terms of cause and effect. Such is needed, as up to this point in time, we are able to reason it exist, Einstein proved it first in the 20-th century, but as far as one knows, the question of why was not answered. Summing up, nature is governed by creation of extremum values, based on theorem (1.2) a body falling into a curvature spike would aspire to reach the minima at $t \to 0$ and to do just that nature would aspire it's speed to reach another extremum, $v \to 1$. Theorem (1.2) could be regarded as the reason for the equivalence principle according to the author.

The Feynman Path Integral Variation

The main equations:

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\ \frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi'}\ \frac{\partial \Phi'}{\partial M}\ \frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \qquad (1)$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5\ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7\ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The Feynman variation on Lorentz manifold - the objective of this part is to Build an analog to the idea of Richard Feynman probability transition of a Boson from initial to final state on the Lorentz manifold.

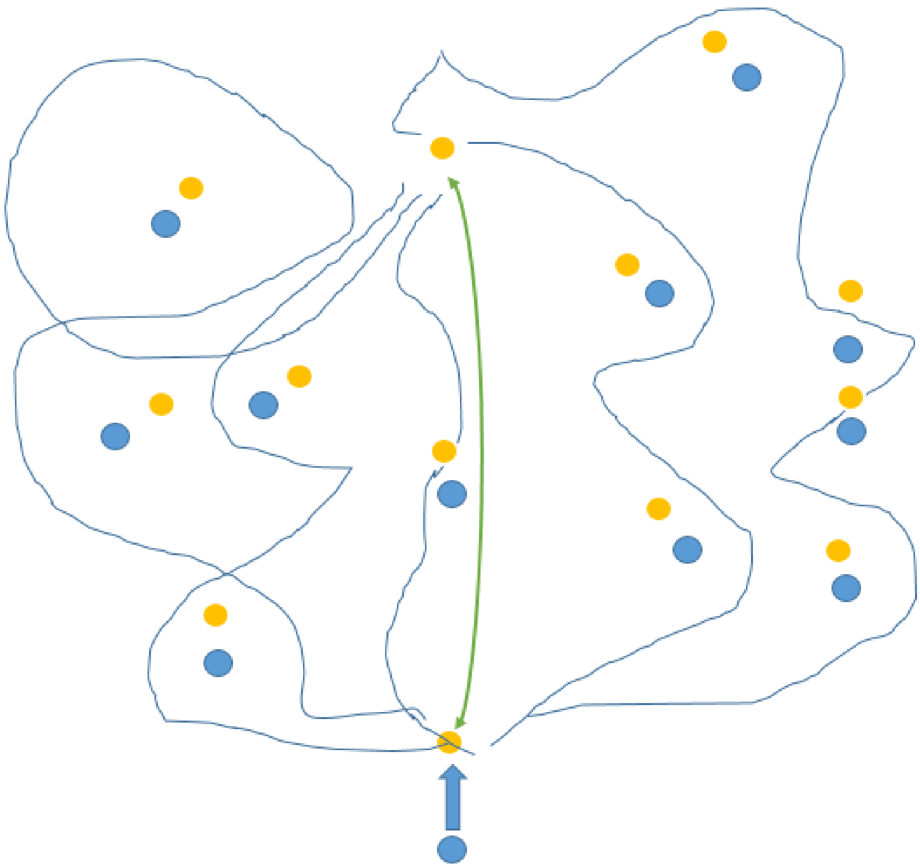
$$\delta g\ \in M$$

Define a ripple propagation of a Boson from an initial point on the manifold:

$$q_1 = M_1$$

And a final position of the matric ripple to arrive at

$$q_2 = M_2$$



$$P = \int_{q1(t(i))}^{q2(t(f))} dq \exp[(\Phi) \int_{t(i)}^{t(f)} \mathcal{L}(\Phi, \Phi') dt] \qquad (10)$$

Its unclear whether (10) is solvable as the arbitrary variations themselves vary their position over time and in addition, arbitrary variaons appear in random fashion in this framework. Its given by the first equation. So in a sense one can not sum all the paths if the paths vary at all times. it’s a complication of the feynamn result, But if one ignore the complication, the probablity transition should be calcuated using (10).

Gravity and the Primorial

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The spin form:

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

Gravitons form:

$$\left[2N_{gravity} + (3)\right] + N_{V1} + N_{V2} + N_{V3} \rightarrow \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} =$$

$$[2N_{gravity} + 2]$$

Using the second representation of the primorial, i.e. spin. It also means that the gravitational is a lot more rare as it is requiring a combination of elements in the series.

Growth of Galaxies

According to the framework of varying curvature, one can analyze the subject of growth of galaxies. The first point is that the growth of galaxies cannot segmented in time, since there infinite amount of coupling constants, i.e. net curvatures on the connected manifold, causing Fermions to cluster, the amount of Fermions in the galaxy should be increasing overtime. Taking into consideration of the strength of each coupling term, the majority of matter should have been clustered in a relative short period as each coupling term is getting weaker as time goes by. That is by the principle of least curvature, the ratio of net to total is aspiring zero in each term. A second point is that all interactions are taking part of the formation of galaxies, not just a single interaction as gravity. In fact, Gravity might be the least significant in the formation of galaxies according to its order in the series, and according to its weakness. Therefore, the first point was that the formation is a continuous process, the second point of this short assay, is that the amount of Fermions being clustered is inversely proportional to the development of the coupling series. The more one develops the less matter being clustered, as the interactions are weaker.

One can make the following predictions:

(1) Galaxy matter density is inversely proportional to the distance from the core of the galaxy.

(2) The amount of matter being clustered is inversely proportional to time.

suppose one took the amount of elements which vanished into matter by equation and parametrized it:

$$\sum_{1=1}^{N} \delta g_i \longrightarrow K$$

In addition, one can analyze the coupling term as a continuous analytical function over time ignoring the discrete amounts of curvature. Such is a valid representation due to equivalence of time arrows:

$$F_r\# \longrightarrow (M_E, g, t)$$

$$\frac{\partial F_r}{\partial t} \propto^{-1} \frac{\partial K}{\partial t} \tag{1.36}$$

The term (1.36) is meant to express prediction (2), the more one develop F_r the less matter being clustered to the galaxy formation. Galaxies mass distribution should get denser and denser as one is getting closer to the core, and vice versa. This is vivid by the principle of least variation:

Graviton Mass

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Even amounts of manifold variations vanish. That feature allowed the following shift:

$$2^3 + (1) \rightarrow (1)$$

represent Gravity as the following:

$$\left[\left(2N_{gravity}\right) + (3)\right] + N_{V1} + N_{V2} + N_{V3} = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

$$\left[2N_{gravity} + 2\right] \rightarrow 2N_{gravity}$$

Since even amount of variations vanish one will be left with one term in the final form of the term. That is similar to the strong interactions but immensely weaker. Since the Bosons mediating the strong interaction are massless, and one can represent it in one term given the coupling constant equation, and by the analysis gravitation has only one term as well, one can reach a mathematical prediction, which will state, that gravitons has no mass. In agreement with reality and agreement with quantum field theory. The only thing taken from what was known before was the fact that the Bosons meditating the strong interaction are massless.

Fermions Are Imperfect Circles

$$F_{V=0} = 2^3 + (1) \quad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \quad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Define the transition ω:

$$\omega\colon \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V \Longrightarrow \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (\pi)\right) + N_V$$

$$8 + \left(\frac{\boldsymbol{\pi}}{\mathbf{3}}\right) : \big(24 + (\boldsymbol{\pi})\big) + 3\colon \big(120 + (\boldsymbol{\pi})\big) + 5\colon \big(840 + (\boldsymbol{\pi})\big) + 7 \to$$

$$8 + \left(\frac{\boldsymbol{\pi}}{\mathbf{3}}\right) : \big(24 + (\boldsymbol{\pi})\big) + \boldsymbol{\pi}\colon \big(120 + (\boldsymbol{\pi})\big) + (\boldsymbol{\pi} + 1.82)\colon \big(840 + (\boldsymbol{\pi})\big) + (2\boldsymbol{\pi} + 0.716)..$$

Two possible meanings. The first, the probability to find a Boson in varying area. The bigger variations clusters, the larger the area of possible emission and the less likable it is do detect the Boson. Another possible option is of magnitude. The Boson propagate across larger areas and thus its energy is getting divided across the area, so overall it gets much weaker as one develops the series into infinity. In agreement with the weakness of Gravity

Rise of the Arrow

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

Suppose a Boson was emitted from a Fermion due to net variation of a certain magnitude. If the arrow of time is two sided and reversible, there must be a way to bring the photon back to the Electron. However, the physics of the 20-th Century forbids us from doing that, as one does not even know where the Photon is. Momentum and position are conjugate variables in quantum field theory. So once a Boson is propagated into the metric, there is no possible way to bring it where it was. An additional argument is that all Bosons are indistinguishable, so even if it was possible to trace and revert the photon, in a system with more than one Photon, its again beyond reach. The reason one emphasize those arguments as to the context of the arrow of time. At first, at a certain point after the singularity, there were only elements of the first element in the coupling series on the expended manifold. If the expended manifold experience multiple net variations of the first element than it is possible to cluster those:

$$\sum_{n=1}^{n=\infty} C_n = 2^3 + (1)$$

one can cluster into groups of three and get:

$$(8 * 3) + (1) * 3 = 2^3 + (3)$$

The invariant three, in 8-theory framework is, as you already know, is the destabilizing factor yielding a net variation so overall:

$$24 + (3) \rightarrow [2^3 \times 3 + (3)] + 3$$

Therefore, one can derive the intimate relation between the coupling constant series and the direction of time. The following procedure can be done on any additional element in the series. **Time is the result of net variations being clustered to different magnitudes**. The succession of Bosons with decreasing magnitude converging to zero is the direction of the arrow. The fact that each element is different than is preceding is the physical manifestation of the arrow of time. This equation encompass all the interactions according to magnitude, and so as those are different, the difference is the factor that gives rise to the arrow. If all elements in the series were identical there could not be a rise to the arrow. Using that equation, one can reason for the chronology of events from the moment of singularity to the present moment. one can reason for Electrons propagation only after protons were created. one can reason gravitational interactions only after electric interactions and one possibly can reason also, how galaxies were formed. Notice that the fourth element in the series is only 6.65 weaker than the electric. That is immensely stronger than the gravitational interaction and using that it is possible to explain how relatively fast galaxies formed in a short window of time.

Universe Packets – Creation

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \qquad (1)$$

$$\frac{\partial \mathcal{L}}{\partial \Phi_1} - \frac{\partial \mathcal{L}}{\partial \Phi_2} = 0$$

However, instead of equalizing into zero, one can parametrize the equation and consider it as a universe pair, the packet than is considered as the summation of all the pairs.

$$\frac{\partial \mathcal{L}}{\partial \Phi_1} - \frac{\partial \mathcal{L}}{\partial \Phi_2} = \mathfrak{Z}_1$$

$$\mathfrak{Z}_1 + \mathfrak{Z}_n = 0 \qquad (2)$$

$$2 \leq \mathrm{n} \leq \mathrm{K}$$

So the idea is to represent the packet as the summation of universe pairs with opposite curvature orientation flatting each other, the universe packet according to this idea is infinite but contain an even number of universes, i.e. manifolds flatting each other. That is because one needs an even number of manifolds with inverse curvature orientation. Another way of representation is to vary the equation (2):

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

In addition to how it was possibly created. The packet was possibly created as a result of universe pairs which interact with each via areas of extremum curvatures, **at first only with each other**. Those two universes as they interact flatten each other causing outward acceleration from those extremum curvatures. Later they join to another universe inverse dual to form a packet of four which flatten each other and so on. Those pairs could cluster immediately or gradually toward the growing packet, which will contain even amount of universes, as a set of pairs flatting each other. One final point, equation (2) represent the pairs within one universe packet considered infinite. It could be finite and then the structure of the multiverse is the summation of all the packets.

$$\mathfrak{Z}_1 + \sum_{n=2}^{\infty} \mathfrak{Z}_n = \mathcal{D}_1 \qquad (\mathbf{2.}\boldsymbol{B})$$

$$\mathcal{D}_1 \quad + \sum_{i=2}^{\infty} \mathcal{D}_i = \vartheta \qquad (\mathbf{2.}\boldsymbol{C})$$

Prime-Fold Quark Chains

The main equation:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

One partitioned and discretized the arbitrary variation term and derived the existence of Fermion. In particular, one have shown that it must have an even amount of elements, which differ in sign and create nine threefold combination, and no more than two distinct elements.

$$\delta g_1 + \delta g_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

$$\delta g_1 (O) \delta g_2 (Y) \delta g_1$$

The Boson construction:

$$F_{V=0} \quad = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

spin form:

Spin 0: $2N_0$ variations

$$\text{Spin } \frac{1}{2}: 2N_O + 3 \text{ variations}$$

$$\text{Spin } 1: 2N_O + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_O + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

To take an element back to itself, one needed two maps, which created a threefold combination, and one had eight such combinations, plus one arrow combination. Please notice the subtle structure:

$$\delta g_1(O)\delta g_2(Y)\delta g_1 \rightarrow \xi = 1$$

$$[\delta g_1(O)\delta g_2(Y)\delta g_1(O)\delta g_2](Y)\delta g_1 \qquad \xi = 2$$

$$[\delta g_1(O)\delta g_2(Y)\delta g_1(O)\delta g_2(Y)\delta g_1(O)\delta g_2](Y)\delta g_1 \qquad \xi = 3$$

The $\xi = k$ is a winding number, counting the repeats from an element to itself. Recall that one needs the exact chain in opposite order to be the paired element, so the overall curvature could vanish into zero. However, one only dealt with the simplest case $\xi = 1$. the longer the chain, the less probable it is to have any chance to be eliminated. There is however, no law that prevents it, such things could accrue in nature. One can replace the last element in the chain with a **curvature terminator** $\delta g_1 \rightarrow \delta g_1{}^{\mathcal{T}}$, which has to be the same as the first in the chain but opposite to it to ensure the mutual elimination, similar but opposite in sign means anti-matter, so $\delta g_n{}^{\mathcal{T}}$ are an anti-matter terminators .

$$[\delta g_1(O)\delta g_2(Y)\delta g_1(O)\delta g_2(Y)\delta g_1(O)\delta g_2](Y)\delta g_1{}^{\mathcal{T}}$$

one can argue that the chain itself is separating the two, so the overall structure is stable. If it is stable, it means that the two can never reach each other; they are placed or connected by opposite side of the middling chain.

$$[\delta g_1 - \delta g_2 - \delta g_1 - \delta g_2 - \delta g_1 - \delta g_2]) - \delta g_1{}^{\mathcal{T}}$$

$$\delta g_1 - [chain\ of\ arbitrary\ variations] - \delta g_1{}^{\mathcal{T}}$$

The overall chain structures are prime, notice that they have according to the first three-winding numbers three, five and seven elements accordingly, and can go to infinity. It is really a remarkable sight to reveal how important the prime numbers are to most fundamental and intimate ways of nature.

Quark Confinement

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$\delta g \to \sum_{i=1}^{N} \delta g_i = 0$$

$$-\delta g' \to \sum_{i=1}^{N} -\delta g'_i = 0$$

$$\sum_{i=1}^{N} \delta g_i - \sum_{i=1}^{N} \delta g'_i = 0$$

$$\sum_{i=1}^{N} (\partial E_i/\partial t) - \sum_{i=1}^{N} \frac{\partial E^2{}_i}{\partial^2 t} = 0$$

The sum of all arbitrary variations and accelerations is taken to zero in this framework. Similar to the procedure D'alembert taken with forces and accelerations. That is an additional take on the phenomena of Quark confinement..

Infinite Dimensional Multiverse

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

$$F_{V=0} \;= 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

On the first integers of the indexes of the main equation one will allocate:

$$\frac{\partial\mathscr{L}}{\partial\Phi_{i=1}} \rightarrow \quad dim\colon (1{,}3)$$

$$\frac{\partial\mathscr{L}}{\partial\Phi_{j=2}} \rightarrow \quad dim\colon (4{,}6)$$

Take into account the number of manifolds in the packet is ever increasing.

$$k \rightarrow \infty$$

$$k+1 \rightarrow \infty$$

So does the number of dimensions:

$$dim \rightarrow \infty$$

The Equivalence Principle in Quantum Scale

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

For the Fermion sector:

$$\sum_{i=1}^{N} \delta g_i = 0$$

$$N \in \mathbb{R}$$

For the Boson sector:

$$F_{V=0} \ = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

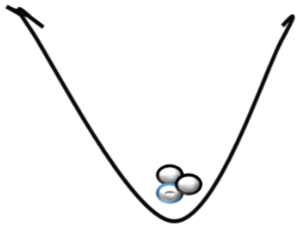
$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \ \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Since the matric varied due to the arbitrary variation, which appeared, and in particular, it expended outward, the distance increased. Suppose the Quark was conscious and could perform measurement, its very existence affected the matric, and the time in which a Boson field will need to reach the object measured has increased because of the Quark manifesting. In special relativity, the great Einstein used velocity, here there is no velocity. There is no such thing velocity in the 8T. The Quark may conclude that the object is moving, but what is happening is that the matric itself is varying, because of that Quark. One also have in this framework the invariance of the speed of light, given by Primorial, and the fact that the propagation process is similar in all interactions. General relativity implies an equivalence relation between curvature and acceleration. This implies that as well, but also in addition implies that curvature will **cause** outward acceleration of the matric by (1).

The Primorial and Gluon Confinement

$$\sum_{1=1}^{N} \delta g_i = 0 \qquad (2.12)$$

$$\sum_{i=1}^{M} \gamma_i = \sum_{i=1}^{M} \delta g_i > 0 \qquad (3.13.B)$$



When one indulge in high energy collusions that is synonymous with trying to roll the Quark triplet uphill. It is possible to try as the Bosons are just net curvature unbound as given by 3.13.B, however since each Boson is a curvature of certain magnitude it increase the probability of arrival to its position, therefore one have a "sea" of Gluons. That was the analysis in the context of Quark confinement. assume one has a positive summation of Gluons trapping a Quark triplet in the above hyperbole. Assume there is no restriction regarding Gluons, one of them leaves the hyperbole.

$$\sum_{i=1}^{K} \mathfrak{g}_i = \sum_{i=1}^{K} \delta g_i \rightarrow \sum_{i=1}^{K-1} \delta g_i \qquad (3.13)$$

Since there are a sea of gluons, and one free gluon, which just left, the Gluon that just left could be replaced by another Gluon or alternatively are re-attracted to the hyperbole just as larger masses attract smaller masses, as an analog. Strong curvature clusters pull weaker curvature or free curvatures. The pull is not restricted only to Fermions such as Quarks. In that way One could explain the phenomena of Gluon confinement. One final point, since there are eight gluon fields, one should be able to describe the interaction on the matric tensor between each Gluon type. In other words, given two net curvatures unbound which somehow differ in their nature, the matric tensor itself may produce a meditator in between, so this meditator may be regarded as a physical entity, which could or could not manifest as a new particle. Such description are currently not within the domains of description of the 8T. That raises another question, how can two net curvatures on the manifold which can differ from one another assuming they are all isomorphic to the same discrete number.

Symmetry of a Universe Packet

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

Define a functor:

$$\wedge : Top \rightarrow Set$$

To switch from a topological space, as manifold wrapping into a discrete setting. The entire universe packet is an open set. For simplicity sake, assume it has finite amount of elements, it is really a closed set for. The manifold itself is an open manifold due to equation (1) it has no boundary and it is uncompact; the switching into set is than meant to emphasize the object itself.

$$\wp \rightarrow (\Phi_1, \Phi_2 \ldots \Phi_K)$$

$$\Phi_K = (M_E^K, \mathrm{g}); \;\; K \geq 1;$$

Equation (1.8) meant to specify the closed set of open manifolds, causing the matric tensor of each manifold to accelerate outward. Notice that there is a symmetry in the set, one can vary each element order it will not make a difference, equation (1) will hold. In particular, the conditions below equation (1) will hold either way, and for simplicity, it assumed as closed. If there are additional manifold packets joining the set than the conditions below (1) could by adiabatically invariant, assuming that is in fact the case one can reach a new prediction.

The rate of acceleration from areas of extremum curvature should increase overtime, if (1.83) is an open set.

$$\frac{\partial^2 g'}{\partial \mathrm{t}^2} = \Phi_1 \oplus \Phi_2 \oplus \ldots . \Phi_K \, ; \qquad K \longrightarrow \infty$$

Proof: Quarks are Fundamental

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

Suppose that the two distinct elements derived in the beginning of the thesis are not fundamental and are constructed by two elements that are more fundamental:

$$\delta g_1 = \delta g_a + \delta g_b \ > 0$$

$$\delta g_2 = \delta g_c + \delta g_d < 0$$

Since one require the series to vanish, take all the sub elements and combine them. If:

$$\delta g_a + \delta g_b + \delta g_c + \delta g_d \ \neq 0$$

The series could not vanish; there could not be four distinct elements as subsets. There could not be also three distinct elements that differ in sign, as proven in earlier parts of the thesis. The result of such construction, is that even if the Quark themselves are composite of certain sort according to the new scenario, the sub elements of those Quarks will appear as Quarks. Meaning they will appear as two varying elements, in even number, which differ in sign and anti-commute or summed as zero when combined. Such a simple prove that there is not anything new beyond Quarks. In addition, even if there is, the new elements will appear as Quarks. That is in agreement with the lack of experimental evidence for anything beyond Quarks, and the notion that Quarks are indeed the most fundamental. Another important point is that the reason of Quarks being the most fundamental is a result of stationary Lorentzian manifold.

End of Proof.

Proof: Yang Mills Conjecture

For the Boson sector:

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The similarity in the propagation speed of all Boson of this type must be similar, precisely because the coupling terms take the same form. Assuming a Boson has mass, given by the opposite symmetry break, which was derived from the mass series.

$$2^3 - 1 + 2^3 + (1) = 0$$

The Boson that is a mass carrier, causing the matric to converge inward, will be balanced to the other direction by its very nature. As a result, he will move on a linear, not curved trajectory and his speed will not be effected by its mass. No curving to either direction. the speed of propagation does change under mass insertion on the Bosons. Thus speed of light is invariant to all.

End of Proof.

8T and QFT – Axiomatic Analysis

$$Z = \int D\varphi e^{i \int d^4x[\frac{1}{2}\partial\varphi^2 - V(\varphi) + J(x)\varphi(x)]}$$

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

Quantum field theory has certain features that play a significant rule, and repeat themselves in one way or another along each epos of the theory. Among those, we can name the commutation and anti-commutation of Bosons and Fermions. The Dirac delta or interference known as a field, the operators of matter creating and destructing, cluster decomposition and Lorentz invariance. In addition to Feynman path integrations and diagrams. That being said, what are the mathematical axioms in which QFT is built upon? One would like to suggest those following axioms:

Axiom (1) – Nature is probabilistic

Axiom (2) – Fermions repeal, Bosons do not

Axiom (3) – There is only one set of rules

By the first axiom, one can include the Feynman diagrams and the Feynman path integrations. In addition to arbitrary amount of matters appear and disappear by operators one insert. By the second axiom the commutation and anti-commutation relation and the nature of spin and statistics. The third axiom, the Lorentz invariance and the entire set of symmetries and conservation laws, at quantum scale (Nother) and at large scale (Lorentz). Those three axioms also stand at the heart of 8T, so in essence the nature of those theories, their innate ideas about nature is the same. The difference is which ideas are describing the axioms and which objectives the theory is set to achieve. Quantum field theory searches for probability of certain occurrences, it does it amazingly well but lacks to provide the reason for those arbitrary numbers, such as coupling magnitudes. QFT uses integrations across the entire space-time that are impossible to solve. 8T is also probabilistic in its nature, maybe even more than QFT. It has no data regarding any direction of motion, momenta, and location at any point and so on. Very little to no physical data is manifested in this theory. However, it does describe beautifully the magnitudes of the couplings, the reason each magnitude is what it is, the process of propagation and the dynamic nature of the forces.

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The methods uses are partial differential equations, and the methods also uses in quantum field theory given by axiom (2), the commuting relation of Fermions and Bosons. It does not currently have complicated integrations over space-time or it can specify the decays as QFT.

However, it does describe the dark energy in an accurate fashion given by its main equation, a varying Lorentz manifold. Gravity is within its domain of description as it was built upon the work of two of the greatest minds in science Einstein and Lorentz. It is also supported by the coupling constant equation and predict that graviton will be massless and that gravity is actually a combination of three net variations. The 8T has two arbitrary numbers less than QFT; it predicts infinite Bosonic fields, which relate to Lorentz net curvature on the manifold. It also predicts infinite families below first generation, and thus does not face questions as to those arbitrary numbers.

8T and QFT both are described in terms of the Dirac delta. QFT uses the delta as a description for the wave equation, as a way to describe a complete set of states, alongside with a set of amplitudes. 8T uses the Dirac delta in more flexible manner, it applies to times that are different from zero as well, and describe how an arbitrary amount of curvature vanish into matter. Any net variation at a later continuation of time than describing a Bosonic ripple field across the manifold, given by a variation of the Laplacian. While QFT is mainly physical, 8T is mainly and almost completely mathematical, the axioms at the heart of those theories are the same, the methods are similar, the 8T describe phenomena not within the realms of QFT, and QFT can calculate probabilities not within the realm of 8T. 8T is just as probabilistic as QFT, if not more. It validates Pauli Exclusion Principle and the fermionic and Bosonic difference between spin and statistic, and have just one set of rules. This set of rules has three axioms:

Axiom (1): All universes are Lorentzian manifolds

Axiom (2): All Lorentzian manifolds are stationary

Axiom (3): Net Curvature on the manifold is a Bosonic field. Net are Primes or one.

QFT Weaknesses

First, one can represent the QFT functional integral, equation that one cannot solve.

$$Z = \int D\varphi e^{i\int d^4x[\frac{1}{2}\partial\varphi^2 - V(\varphi) + J(x)\varphi(x)]}$$

The QFT framework is assuming such a thing is solvable and one can not solve it. Author will argue it is incorrect. First, by integrating all over space-time, physicists make an implicit assumption that space-time is continuous and smooth. Such an assumption is invalid, in the new 8T framework in which space-time is the matric tensor varying presented in equation (2), there could be knots, deformations of the matric tensor to the flow, i.e. the base space, given by fiber bundle.

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

So already, it is the first complication on the QFT framework, which count as a weakness. The second, QFT classify notions according to fields, which is a function of space-time, at the same time it lacks providing reasoning to what those fields are, or how they were created. QFT domain of description does not include dark energy, dark matter, the moment of singularity, gravity and curvature. Its domain of description is mainly partial and limited, despite its accuracy. Another point which is quite important is that in examining a theory one should classify according to two different categories. The first, is the ideas, equations and predictions. the second is the methods in which those ideas are described. For example, invariance under shifting frames in quantum scale is described by group theory suggested by Wigner in 1930. If one classify QFT according to ideas and methods, it is vividly clear that there are few simple ideas described by complicated methods and long and unclear notation.

The Three Critical Theorems

"Theorem (1) – nature will not allow a prime amount of variation to appear by itself. Define prime to be (2n+1) variations.

1.1) Prime amounts appear in pairs."

Theorem (1) - The physical meaning of that theorem is that Bosonic fields cannot be propagated from nowhere. The 8T correlate Bosonic propagation to prime net variations of the manifold, and Bosons, as one know them, propagate from Fermions, which vanish in even number of variations.

Theorem (1.1) – even amount of variations is the result of two prime numbers combined. So to create variation cluster vanishing into matter one needs two primes to appear in a pair.

"Theorem (2): Nature will generate force if a **prime net amount of arbitrary variation will appear**. Net variations will appear when combine two amounts of prime variations.

Two does not appear, as it is an even amount of variations, which vanish."

Theorem (2): In continuation of theorem (1), after variation cluster vanished into matter, two distinct elements in threefold combination, a net variation, which is prime can propagate from within it. The feature of the Bosonic propagation is their prime number amount of variations, and therefore their expansion across the entire matric. A Boson must propagate from an even amount of variations, which is matter.

Theorem (3): "Each prime pair should have a net variation element N_V proportional to Total Variations value divided by two"

Theorem (3): Each net variation is proportional to the average of the elements in the pair. There could not be net variation $N_V = +(101)$ propagating from (7,11) total variation pair. It does not make sense.

The three theorems in be put in concise and simple manner:

(1) Bosonic fields cannot propagate from nowhere

(2) Bosonic Fields propagate from matter clusters

(3) Bosonic fields are infinite in kind and isomorphic to prime numbers or one.

Theorem (3) was the critical theorem that eventually allowed calculating the value of the fine structure constant and validating the entire framework.

Refuting Magnetic Monopoles

Examine the term:

$$[(2^3 \times 3 \times 5) + (3)] + 5 \longrightarrow [(2^3 \times 3 \times 5) + (e^-)] + 5$$

Define a magnet as a set of electrons, which spin around as part of a larger cluster of matter.

$$\sum_{i=1}^{N} e^-{}_i \to \sum_{i=1}^{N} (3)_i$$

$$\sum_{i=1}^{N} e^-{}_i \in \sum_{k=1}^{M} \delta g_k\,;\ M > N$$

$$\sum_{k=1}^{M} \delta g_k = 0 \qquad (2.12)$$

the spinning electrons are added to a positive summation:

$$\sum_{\mathrm{i}=1}^{\mathrm{N}} (3)_{\mathrm{i}} > 0$$

One has two conditions that are not aligned and contradict each other.

$$\sum_{i=1}^{N} (3)_i > 0 \ \cap \ \sum_{k=1}^{M} \delta g_k = 0$$

The only way to satisfy the second term is to add an opposite spinning cluster so the term would vanish into zero, meaning spinning cluster of electrons in the opposite direction, so (2.12) would be satisfied.

$$\sum_{i=1}^{T} (-3)_i < 0$$

$$\sum_{i=1}^{T} (-3)_i + \sum_{i=1}^{N} (3)_i = 0; \quad T = N$$

$$\sum_{k=1}^{M} \delta g_k = 0$$

The Most Symmetrical Interaction is The Weak Interaction

One proved that the majestic three is an Electron. The latter is the destabilizing factor yielding a net variation.

$$F_{V=0} \; = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \;\rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \;\rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

One can replace the net variation by the majestic three and the correctness of the term will retain. It could explain why the weak interaction is different in terms of its spin, and also allow us to make prediction regarding a Fermion, which is analogous to the Electron, which can get propagated by the Boson of the weak interaction, , $N_V = +(3)$.

The overall value is the same; there is a "symmetry" in such a variation, which is not attainable in any term of the coupling constant series. It could mean that the majestic three regarding the weak and the Boson, which is propagated, are isomorphic to each other.

$$[(2^3 \times 3) + (3)] + 3 \rightarrow [(2^3 \times 3) + 3] + (3)$$

Hermitian Conjunction and Primes

$$\sum_{i=1}^{N} \delta g_i = 0$$

$$N \rightarrow \infty$$

$$N = 2n; \quad n \in \mathbb{R}$$

There is no limitation concerning such measurement, one has an even amount of arbitrary variations, which differ in sign and summed as zero. Suppose one had an odd amount of arbitrary variations.

$$N = 2n + 1; \;\; n \in \mathbb{R}; \;\; 2n + 1 \;\in \mathbb{C}$$

$$\sum_{i=1}^{N+1} \delta g_i \neq 0$$

So now, the measurement of the fermion cluster become impossible as the manifold is no longer stationary. An elimination of that extra variation must be made. Nature can eliminate it by mirror projections, i.e. Hermitian conjugation. By doing so, the measurement of the fermion cluster will become possible again, or transitioned back to the real field from the complex field.

$$\sum_{\mathrm{i}=1}^{\mathrm{N}+1} \delta \mathrm{g}_{\mathrm{i}} + \sum_{\mathrm{i}=1}^{\mathrm{N}-1} \delta \mathrm{g}_{\mathrm{i}} = 0$$

$$2\mathrm{n} + 1 + 2\mathrm{n} - 1 = 0$$

So even amount of variation is measurement, additional variation causing the measurement to become impossible, and transition it to the complex field which makes the measurement impossible. To retain the previous state, a mirror projection will be taken.

$$2n \;\in \mathbb{R}$$

$$2n + 1 \;\in \mathbb{C}$$

$$2n + 1 + 2n - 1 \;\in\; \mathbb{R};$$

Define Hermitian as*:*

$$\mathscr{H} : \mathbb{C} \rightarrow \mathbb{R}$$

Final Shot at Quantum Relativity

Define an observer, distinct observer, as an arbitrary amount of curvature on the manifold. An infinite series of Fermions.

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

Define an additional observer, distinct, which differ in the amount of curvature it creates on the matric. The observer is an infinite series of Fermions which overall vanish into matter.

$$\sum_{r=1}^{M} \delta g_r = 0$$

$$M \to \infty \ \cap \quad M! = N$$

Now, analysis of the two observers on equation (1.2). Assume they are measuring the same object, and the entire matric is null, the entire matric contain each observer and the measured object. The setting chosen for simplicity sake, as those things will be too complex to analyze in a real physical scenario. Defined the measured object for both observers as:

$$\sum_{k=1}^{T} \delta g_k = 0$$

Now for the first observer and the measured object, the total arbitrary variation summed as:

$$\sum_{i=1}^{N} \delta g_i + \sum_{k=1}^{T} \delta g_k = 0$$

Now for the second observer and the measured object, the total arbitrary variation summed as:

$$\sum_{r=1}^{M} \delta g_r + \sum_{k=1}^{T} \delta g_k = 0$$

$$\sum_{i=1}^{N} \delta g_i + \sum_{k=1}^{T} \delta g_k \neq \sum_{r=1}^{M} \delta g_r + \sum_{k=1}^{T} \delta g_k$$

Those observers will cause the matric to accelerate outward so the object will be observed moving. His velocity is dependent upon the amount of curvature the observer is creating, and so two different observers, different by the above definition, will measure two different distances crossed and two different times for the same object. The reason however, is not for the object itself, it’s the different nature of the observers, and in particular the amount of curvature they possess. Now since one proved the yang mills conjecture one have the same propagation speed for all Bosons:

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The time needed to cross the same matric which accelerated outward in different amounts is different. So, measured time which is different for each observers is quite vivid and a must by using (1.2) and the 8T framework. In fact, using such framework makes relativity notoriously complicated, as everything needs to be taken into account. Everything is causing the matric to vary; it is at a verge of impossible to do at the real world. Our best theories are radically simplified. By "everything", one means every arbitrary variations of fermion in the matric needs to be taken into account, which was not done in that analysis for simplicity sake. The majority of the paper was known to the reader.

Total Variations Pairing

$$F_{V=0} \; = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

one has obtain the net variation, $N_V,$ as part of a total variation pair,(p_1, p_2), which we required the sum to be two and three divisible. One provided two examples for the strong interaction:

$$(p_1, p_2) = (5{,}13)$$

$$(p_1, p_2) = (7{,}11)$$

Two points with regard to those pairs. First, it is commutative, one can replace the elements in the pair and nature will be invariant, the coupling series will hold:

$$(p_1, p_2) \rightarrow \; (p_2, p_1)$$

Nature is invariant to the actual value of the elements; one can choose any two primes, as long as their sum creating an even number, two and three divisible of certain magnitude, the coupling constant will hold as well. In the thesis one chosen the first pair, it could have worked exactly as well with the second pair.

$$(p_1 + p_2) \; = S_1$$

$$(p_3 + p_4) \; = S_1$$

An additional point that was not mentioned in the thesis, the coupling series will hold with any additional amount of primes clustering. one chose the simplest one, two primes in a pair. It could have been four, six or any even number of primes pairing. Any even amount of primes added will yield an even number. Of course the adjustment needed to be made regarding to the division, so one can reach the average value.

$$\frac{\sum_{i=1}^{N} P_i}{\mathrm{N}} = S_{Average} \qquad (2.14)$$

If one had four primes pairing, divide by four, six primes divide by six, to reach the average. Of course the average must be three divisible, so it could get harder and less likely to find higher numbers of primes pairing which satisfying the condition. It will be impossible to reach the smallest sum in the series with a hundred primes pairing. So for the beginning of the series there could be a limitation.

Fermionic & Bosonic Propagations

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$\sum_{i=1}^{N} \delta g_i = 0 \tag{2.12}$$

One partitioned and discretized into a series of arbitrary variations that vanish into matter. one do not have any data regarding the position on the manifold in which those arbitrary variations appear, nor can one assumes they possess momenta, as one invoked stationarity on the Lorenztion. M_0 is the connected manifold.

$$\Phi = \Phi_0 \times R$$

In other words, arbitrary variations, which vanish into matter, can be regarded and described by scalar fields that are real, since they have an even amount of variations.

$$\sum_{i=1}^{N} \delta g_i \in \mathbb{R}$$

Those arbitrary variations, still a subject to additional variance. Such a variance is either prime or one in our framework. These are the variations associated with Bosonic propagation. One associated with the strong and each prime with additional coupling term, weak, electric and so on. Because of their prime number feature, they are not vanishing like a fermion scalar but rather as a vector propagation all across. The propagation is associated with a variation of the ∇^2 operator to the setting of the stationary manifold. In other words, it is a vector field propagating all across the matric, due to its prime number feature, for the second element in the coupling constant series and above. Since the Bosonic propagation is associated with prime amount of variations, one can associate it to a complex field, which than require a Hermitian conjunction in order to perform measurement upon. In other words, one can associate Bosonic fields to complex vector fields.

$$N_V = 2V + 1; N_V \in \mathbb{P}$$

$$N_V \in \mathbb{C}$$

Lagrangian on Variational Manifold

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

$$\delta g_i = 0 \qquad (2.12)$$

$$\mathscr{L} = T - V$$

How can a representation of the Lagrangian be made on the varying Lorentz manifold, is the main question one will present here. The first term as the Kinetic as it is synonymous with acceleration of the manifold:

$$\left(\frac{\partial g}{\partial t}\right) \longrightarrow T$$

one will present the second term of the Lagrangian as the arbitrary variation term which vanish into matter as the potential term.

$$\sum_{i=1}^{N} \delta g_i = 0 \longrightarrow V$$

$$\mathscr{L} = \left(\frac{\partial g_i}{\partial t_i}\right) - V \qquad (3)$$

Cluster Decomposition

In quantum field theory, one learns that the connected part of the S matrix must vanish. Distinct events do not effect each other.

$$S^C_{\beta\alpha} \to 0$$

Since the manifold experience arbitrary variations that vanish into matter, all across the matric, the smoothness of the matric must be taken into account. Bosonic propagation described by the delta must cross the metric before reaching a distinct event on the manifold. The result of such a construction would be that only arbitrary variations that vanished relativity closed to each other, will have an effect on each other. Suppose one had two distinct arbitrary variations, that is by discretizing and partitioning the term δg. One impose two conditions equivalent to the cluster decomposition in QFT. Those conditions are synonymous with saying that distinct events will not affect each other. Consider two arbitrary variations

$$\delta g_i + \delta g_{i+1}$$

Suppose those appeared at distinct parts of the matric, M_μ is a four vector isomorphic to the arbitrary variation with the matching index δg_i:

$$M_\mu \to M(x_i\ , y_i, z_i, t_i)$$

$$\delta g_i \to M_\mu$$

Same for the additional variation, δg_{i+1}, a four vector M_ν, the condition than requires that:

$$M_\mu - M_\nu \leq \ \epsilon$$

$$\epsilon \to 0$$

In other words, two arbitrary variations must appear close to each other on the matric, at very short time interval. That is synonymous with the quantum field theory statement of the connected part of the amplitudes to vanish. The two conditions are synoptic in the four vector. The arbitrary variations should appear close on the matric spatial dimensions and at a short time interval.

Symmetry of Hadrons

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Recently one noticed a very interesting fact, that the left terms of the Primorial in the coupling the interaction is identical to densest packing D_4 highest kissing number that is 24. So, assuming the left coupling terms are actually 4D spheres, leading to a propagation of the Electron. That may sound outrageous but not in the 8T, as one only have 4D manifold, three spatial and one temporal. By looking at the coupling constant in that light one can regard the hadron as possessing an extreme density, as it has the highest kissing number in 4D,

$$24 \times 5 \rightarrow 120$$

$$24 \times 5 \times 7 \rightarrow 840$$

Notice that those numbers are associated with highest kissing numbers in higher dimensions.

$$E_8 \rightarrow 240 = 120 \times 2$$

$$p_{12} \rightarrow 840$$

Of course, ignoring the higher dimensions complexity and focusing on the part of the highest kissing numbers, one can reach an insight, those fermionic clusters in each term are most dense, in agreement with what one know about the structure of the Fermions, and in particular the hadron. Also, notice that those higher dimensions are scalar four multiples, which as one believes, means that should appear on the manifold eventually. The highest kissing number in D_4 is the base to all other kissing numbers at those higher dimensions. By looking at the coupling constant series, than one can correlate the manifold and validate it has only four dimensions, since all higher terms are the dimension four multiples of the kissing number, 24. And thus there could not be more than four dimensions on our manifold. There are of course other manifolds, which according to the series are four dimensional as well, interacting with our own as given by the main equation of the 8T. But by coupling constant series, it is possible to derive why the manifold has exactly four dimensions, because of the kissing number of the second term and above. In addition, the number 24 is associated with the leech lattice, which has most density within a certain dimensional range, is intimately related to this number. In the 8T however there is no use of any lattices. Rather one use variations. Notice the 24 is perfectly to and three divisible to vanish into matter. There is no additional variation left alone. The hadron is perfectly compact and most dense because of that trait. Than it is destabilized by additional term, the element in which one called the majestic three. The point one was trying to make is that the perfect symmetry of the hadronic structure is preserved along each coupling term, i.e. each interaction. In addition, it is than lessen by the electron, i.e. the additional element in the third coupling term. And either the electron is also the cause of that symmetry break in all other terms or electron analogues field.

$$\frac{24 \times N_V}{MOD\ (6)} = 0;$$

If it was any other number than 24, than the symmetry of the hadrons was not perfect, as equation (1.2) will not hold. The symmetry is breaking due to an external element added by the higgs field from the second element and above, the majestic three. It is currently unclear whether this element is the same for each of the coupling terms. For the electric, it was proven the electron. However, for the weak interaction term and higher terms it could be an electron analogues particle manifested in the element three as mentioned in the previous paragraph and again, it's so important one wanted to emphasize it here as well. There are two main points two take from this short assay. The first is the perfect symmetry of the hadronic structure due to its numerical features. The second point is that the symmetry is breaking from an external element not from within the hadronic structure, due to the higgs field, inserting the majestic three.

The Feynman Diagrams

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

$$F_{V=0} \ = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Examine the term describing the electric coupling. We proved majestic three is the Electron:

$$\mathrm{e}^- \searrow \ \longrightarrow (\gamma) \ \longrightarrow \mathrm{e}^- \nearrow$$

$$(+3) \quad \longrightarrow (\gamma) \longrightarrow \quad (+3)$$

$$(+3) \quad \longrightarrow (+5) \longrightarrow \quad (+3)$$

$$(+3) + \ N_V = \ (+3) + 5 = 8$$

$$8 = even$$

$$even = 0$$

The electron, represented as the majestic three combined with the net variation yielding an even amount of variation that vanish. That is synonymous with saying that the electron has absorbed the photon. The conservation of variation ensure that no electron can disappear from the manifold. However, as the combination of N_V and the electron, i.e. the three yielding an even, there has to be a vanishing of certain sort into the electron. It is moved into an exited state, vanishing of curvature,$(\gamma) = \ (+5)$ into the receiving Electron, which causes the deflection in trajectory. Using the numerical trait and insight gained by the coupling constant series, by this framework, it is possible to add an additional liar to the Feynman diagrams and interactions among Bosons and Fermions in what seems as a very simple and elegant manner. What can be derived about the nature of the electron using the coupling constant representation?

First of all, it is bounded by the bracket, it cannot escape and behave as the net variation, i.e. the photon. Despite the fact that both elements represented by a prime. Second, the electron is represented as a prime number, three, which cannot vanish into matter, but also cannot propagate as a Bosonic fields across the matric its behavior than would propagation across the nuclei, in agreement with current understanding about the probabilistic behavior of that particle. There is no data regarding the current position, momenta, orbitals, no physical data of any sort is manifested in the 8-theory. An additional way to analyze it is to say that the electron blends in the hadronic cluster, $[(24 * 5) + (3)]$. The hadronic cluster is closed and represented in a closed term within the bracket. The summation of the term is perfectly suitable to vanish into matter.

Freezing Time

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

The subject of this paper would be the forth term of the main equation. The question in hand would be it's physical meaning, what does it mean $\partial \mathrm{g}/\ \partial \mathrm{t} = 0$ as one required for a stationary manifold. In previous papers author considered it as a gate to space that is flat, the Ricci flow space which is in between two manifolds and is accessible in extremum energies, high or low, so in that idea the term $\partial \mathrm{g}/\ \partial \mathrm{t} = 0$ referred to curvature in the context of energy . This term is also considering areas of maximal curvature such as black holes and galaxies, as presented above. If one consider black holes as an area of extremum curvature and correlate it to the term, $\partial \mathrm{g}/\ \partial \mathrm{t} = 0$ it means that time vanishes in a black hole; it is the same at all for an observer inside a critical range, and only pass for observer outside a critical range. When derived the primorial coupling series in March 21, very soon later the author correlated the direction of the series to the direction of time. therefore in other sense, one can take ratios of net variation and state in the primorial the following term apply:

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}} \neq 0$$

From gluons, clustering triplets of arbitrary variations one move to heavy weak interaction Bosons with mass due to the additional element inserted, than to photons and so on. The direction of the series is the direction of time, but it does not answer what time really is. Of course that the real answer is that the author does not know. the author considered **time** as a **parameter** that is intimately **connected to the variation** of the net element which create a difference in what there is, different amount of clustering leading to different objects, bigger clusters. In that sense one have $\partial \mathrm{g}/\partial \mathrm{t} \neq 0$. Since black holes swallow matter, but also omit radiation, the amount of curvature they contain is not varying and can be described by , $\partial \mathrm{g}/\partial \mathrm{t} = 0$ which also implies that the arrow of time freeze or that time does not pass.

$$\frac{\partial g}{\partial t} + \delta g + \big(-\delta g(H)\big) = 0$$

Therefore, time, despite being so elusive can be correlated to two different features, the set of prime net variations that differ from one another, in particular the jumps from coupling to coupling. The second is that time is correlated to energies that are not extremum $\partial \mathrm{g}/\partial \mathrm{t} \neq 0$ and in extremum energies $,\partial \mathrm{g}/\partial \mathrm{t} = 0$ time does not pass, or at least time does not seem as passing. An observer generating energies at the level of $,\partial \mathrm{g}/\partial \mathrm{t} = 0$ in a mathematical sense is to create a maximal curve, the maximal curve does not vary with time, as it is a maximal point and so to an outside observer time is standing still. one can make a prediction:

(1) An observer able to generate energies at the magnitude $\partial \mathrm{g}/\partial \mathrm{t} = 0$ will freeze time, at the area of generation for an unknown radius.

The Axis of Evil

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

Describing the Lorentz manifold (M, g_E) with signature (3,1), invoked stationary, $M = M_0 \times R$. Equation (1.1) satisfy the Einstein principle of equivalence and expends it to a cause and effect relationship. Invoking a stationary manifold, any amount of curvature on it, will yield an outward acceleration of the matric. In that sense, it is different from general relativity, as there is no need to insert the cosmological constant as a separate entity. Using that equation, we built a new way to explain relativity by saying that two distinct observers will cause different accelerations of the matric, and so, by measuring the same object, will reach different times and distances.

In our theory, the manifold has a varying matric according to a varying topology. The subtle idea is that the manifold has a compact topological space that is accessible from every point given high enough energy. Such space covers every point in matric space. Such a space is what makes the theory works, it is the space keeping the manifold stationary and with the second condition causing it to accelerate outward. Since there are no coordinate to such space, it is the same everywhere, and since every point in the matric is connected to it, there could be the illusion that each point in space was the point in which something cosmologically significant has accrued at singularity. Not the whole topological space is satisfying the condition, $\partial g/\partial t = 0$ there are arbitrary variations in that space which vanish into matter on the matric, one have proved it in previous papers. Each net variation than is isomorphic to the prime numbers or to the number one, and thus we were able to prove the coupling constant series, presented in equation(1.1) and (1.2). The point of this short assay is the fact that there is an underlining space, which is invariant to matric coordinate and covers the entire matric. One knows it covers the entire matric as the manifold is connected to the topological space but no spatial coordinates are given in equation (1.1). The topological space is than invariant, and the equation is really a right to left chain of the order. Notice that the chain in equation (3.12) is exactly describing the order in which things are happening in cosmological scales.

$$\frac{\mathscr{L}\partial}{\partial \Phi} \leftarrow \frac{\partial \Phi}{\partial M} \leftarrow \frac{\partial M}{\partial g} \leftarrow \frac{\partial g}{\partial t}$$

Boson Arrival Probability

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Examine the term describing the Electric coupling. one proved majestic three is the Electron in the thesis. The photon is represented as net variation, which is unbound. It is free to propagate all across the manifold.

$$[(2^3 \times 3 \times 5) + (3)] + 5 \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(24 \times 5) + (3)] + 5 \to [(24 \times 5) + (e^-)] + \gamma$$

Suppose such a photon just propagated from the electron. i.e. the majestic three. The meaning of such an occurrence is that there is a net curvature that is unbound on the manifold. Such curvature will effect all other potential propagation toward itself. It will create a pull effect on other potential Boson propagating from Fermions. That is in agreement with what we know about the commutation relation of Bosons, and the fact that the probability to find a Boson increase if there is already a Boson in a certain position of the matric.The innovative part of this paper and the main point to take is the new setting, a in which a photon itself is a net curvature causing other curvature propagating at later time to converge to its position. When analyzed via the new framework it than becomes quite easy to understand what is going on at that fundamental level.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

$$\sum_{k=1}^{K} \gamma_k > 0 \; ; \; K \in N_V \tag{3.13}$$

In contrast to Fermions:

$$\delta g_1 + \delta g_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

$$\delta g_i = 0$$

The point of view presented is not presented in quantum field theory framework, the methods they use to describe the commutation and anti-commutation is VOA, vertex of algebra, and there is simply no way to imagine or to grasp the intuitive reason for the such a behavior. By using an approach combining manifolds and variation, i.e. Euler Lagrange, it is possible to explain the behavior of Bosons in an intuitive and simpler fashion. It is possible to state that each Boson is creating a "gravitational effect", i.e. curvature on the manifold, and thus increase the probability of arrival for other Bosons to itself.

The Conservation of Variation

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$N_V = 2\left(V + \frac{1}{2}\right);\ V \geq 0$$

In the paper about the interactions dynamic nature, one varied the first and the third interactions, i.e. the strong and the electric, in their N_V element, so all the net variations will align on the same integer. The important point, which was not mentioned, is that the net variations varying their position among the terms are confined within the manifold. In other words, it is conserved. That is also the case with the gravitational coupling, which as far as the 8T can predict, is a result of two net variations added to the original net variation. The data regarding the nature of gravity came from the second representation, i.e. the spin representation of the coupling constant equation.

$$[2N_{gravity} + 2] = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = [(2N_{gravity}) + (3)] + N_{V1} + N_{V2} + N_{V3}$$

One can put the conservation law in rigor and construct an appropriate theorem:

Theorem (1.3) – The sum of net variations on all the coupling elements cannot escape the manifold.

Theorem (1.4): The sum of all net variations increase with time.

$$\oint_{t=0}^{t=Z} (d\Phi)(\Phi_0 \times R)(\sum_{V=0}^{\infty} N_V) \in \Phi \tag{3}$$

$$Z \to \infty$$

If one constructed properly, one summation of the net variation to each V across the entire manifold matric, over time, must belong to the manifold itself and cannot decrease. It could be related to the second rule of thermodynamic, the entropy rise alongside the net variations overtime. Of course, the total variations grow much faster, but that was not the subject of this paper. The point was to emphasize that the sum of net variation is bounded to the manifold, despite the fact it grows with time.

Cyclic Groups

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Cyclic groups in mathematics are represented by the following, if a set of elements is generated by one single element, than one have a cyclic group. Since all the Bosonic fields or are generated by the same element, i.e. the majestic three, than there is in this framework an infinite cyclic group. Define the majestic three as the generator:

$$(3) \rightarrow \mathcal{M}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(5)\mathcal{M} \ldots.\}$$

By representing the propagation in such fashion, one can state that since the bosons are propagations are part of an infinite cyclic group, the sub elements of that cyclic group are cycles themselves.

$$[(24 * 5) + (3)] + 5 \rightarrow [(24 * 5) + (e)] + \gamma$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(\gamma)\mathcal{M} \ldots.\}$$

Therefore, that is a proof that Bosonic net variations are cycles, or in physical theories, Bosonic particles are in fact closed shapes. That is because they are generated by the same element.

Curvature Absorptions

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$\left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} = [(24 * 5) + (e^-)] + \gamma$$

$$(3) \rightarrow \mathcal{M}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(5)\mathcal{M} \ldots.\}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(\gamma)\mathcal{M} \ldots.\}$$

$$e^- \searrow \quad \longrightarrow (\gamma) \quad \longrightarrow e^- \nearrow$$

$$(+3) \quad \longrightarrow (+5) \longrightarrow \quad (+3)$$

$$(+3) + \ N_V = (+3) + 5 = 8 \rightarrow 0$$

The point is, due to manifold varying, there are to be a summation of all curvature absorptions and emissions. As an electron absorb a photon, the manifold gets more flat, as $N_2 = +(5)$ just vanished into the electron and vice versa. By looking at clusters of photons in unit matric, it is also possible to estimate how much curvature exits on the manifold. As Bosons are net variations unbound, it was derived that preciously for that reason the probability of Boson arrival after a Boson is propagated.

$$\sum_{i=1}^{N} \gamma_i > 0 \qquad (3.13)$$

$$\sum_{i=1}^{N} \gamma_i = \sum_{i=1}^{N} \delta g_i > 0 \qquad (3.13.\mathrm{B})$$

The point is, one can use space- time summation and in particular, the distribution of Fermions to Bosons to estimate how curved the matric, or how it varies over time. It is vividly clear that a real world estimation is at the verge of impossible, but a rough evaluation is always within reach.

$$\sum_{i=1}^{N} \gamma_i \rightarrow \wp$$

$$\frac{\partial \wp}{\partial t} - \frac{\partial M}{\partial g} = 0 \qquad (3.18)$$

Light Bending Space-Time

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

$$\sum_{i=1}^{N} \delta g_i = 0 \tag{2.12}$$

$$\sum_{k=1}^{K} \gamma_k > 0 \; ; \; K \in N_V \tag{3.13}$$

By putting the Lorentz manifold in Euler- LaGrange framework and allowing arbitrary variations to appear, in which one require to vanish, one discretized and partitioned the term (2.12) and was able to prove that arbitrary variations of the manifold vanish into matter. Each net variation or net curvature is isomorphic to a Bosonic field propagation. In particular the Boson associated with photon propagation is $N_V = +(5)$. Fermion clusters are flat according but Bosonic propagations are curvature on the manifold.

The Riemann Hypothesis – Proof

Define a Lorentz manifold

$$\mathbf{s} = (\mathbf{M}, \mathbf{g})$$

Use it to assemble a Lagrangian and require it to be stationary:

$$\mathrm{L} = (\mathrm{s}, \mathrm{s}', \mathrm{t})$$

$$\frac{\partial \mathbf{L}}{\partial \mathbf{s}} - \frac{\partial \mathbf{L}}{\partial \mathbf{s}'} * \frac{\mathbf{d}}{\mathbf{dt}} = \mathbf{0}$$

Allow arbitrary variations of the manifold. Ensure it will vanish:

$$\varpi\mathbf{s} = 0$$

Turn it to a series of arbitrary variations:

$$\varpi\mathbf{s} = \varpi\mathbf{s1} + \varpi\mathbf{s2} + \varpi\mathbf{s}3 \ldots$$

If there are only four elements in the series, and one require them all to vanish, than one can allocate two pluses and two minuses:

$$\varpi\mathbf{s1} + \varpi\mathbf{s3} > 0$$

$$\varpi\mathbf{s2} + \varpi\mathbf{s4} < 0$$

If

$$\varpi\mathbf{s1} + \varpi\mathbf{s3} + \varpi\mathbf{s2} + \varpi\mathbf{s4} \neq 0$$

Than the overall series cannot vanish, by that logic one need equal amounts of plus and minuses. The overall amount must be even and summed as zero.

Suppose that one had three distinct elements, two pluses and minus:

$$\varpi\mathbf{s1} + \varpi\mathbf{s3} + \varpi\mathbf{s2} > 0$$

or

$$\varpi\mathbf{s1} + \varpi\mathbf{s3} + \varpi\mathbf{s2} < 0$$

Demanding the series to vanish this forbid this result, and so there could not be three distinct elements in the series, else the overall series will not vanish. As a result of those sceneries, one requires the series to have an even amount of variation elements, manifesting as two distinct elements in the series, which differ in sign. If one allows those sub elements in the series to vary as well, and by the above reasoning, there are only two elements in the series, they are varying in a discrete way, or forming a group. Let it be only four elements in the series and one of the pluses just changed its nature

$$\mathbf{O}: \varpi\mathbf{s1} \rightarrow \varpi\mathbf{s2}$$

$$\varpi\mathbf{s1} + \varpi\mathbf{s1} + \varpi\mathbf{s2} + \varpi\mathbf{s2} = 0$$

To:

$$\varpi\mathbf{s1} + \varpi\mathbf{s2} + \varpi\mathbf{s2} + \varpi\mathbf{s2} \neq 0$$

There must be a way to bring it back to where it was, so the overall series can vanish, it takes another map, on the varying element to bring it back to where it was.

$$\mathrm{Y}:\ \omega\mathbf{s2} \rightarrow \omega\mathbf{s1}$$

Therefore, to bring an element to itself given only two varying elements in the series one needs two distinct maps, which attach a varying element to itself, by a threefold combination. $\omega\mathbf{s1}(\mathrm{O})\ \omega\mathbf{s2}(\mathrm{Y})\ \omega\mathbf{s1}$ For example. Even though the sub elements in the series are varying, the overall series can vanish. Now, count all the ways of possible combinations of those elements. one is going to analyze by the integral signs. Since it is a group, there is a natural map, which change an element to itself. One built his analysis firstly on those natural maps. The first two combinations are by the natural maps and one used them to build the other combinations. Overall, there are eight such combinations and additional one arrow combination, which yield (333) Now that we have a series of 2N elements, varying to one another and forming threefold combinations, **which we require to vanish at end**, we can set the stage for a proof of primes. **Define:** P^m as the set of {2 , 3} as "minimal primes". In addition, all the other primes to be in a set of $P_{\underline{h}}$ as meant "prime higher".

Define $P_{\underline{h}} = \{2n + 1\}$ not divisible by P^m as "prime higher" set – $2n$ taken as amount of Lorentz manifold arbitrary variations.

$\{2n + 1\}$ as an odd amount of variations not divisible by minimal primes

$$P_{\underline{t}} = P_{\underline{h}} + P^m \text{ ; to be the set of all primes}$$

Define a functor V on $P_{\underline{h}}$:

$$\mathrm{V}: \text{set} \rightarrow \text{ring}$$

Analyze any multiplication or addition combination of $P_{\underline{h}}$ on the ring. Let the ring exist on a Lorentz manifold, a topological space.

Multiplication:

Define T to be a number aspiring infinity: $T \rightarrow \infty$ Multiply an **even or odd** series aspiring infinity of distinct higher primes to obtain:

$$[(2n_1 + 1)(2n_2 + 1)(2n_3 + 1)\ldots(2n + 1]) =$$

$$2\left[T\left((n_1\, n_2 \ldots)\right) + (n1 + n2 + n3 \ldots) + \frac{1}{2}\right]$$

$$= 2([T((n1\, n2 \ldots)) + N(s) + 1/2]$$

$$N(s) = (n1 + n2 + n3 \ldots) = 0$$

As sums of even amounts of arbitrary variations vanish. Since all the elements are two multiples, they all vanish. Final form:

$$2\left([T(n1\, n2 \ldots)] + \frac{1}{2}\right)$$

Addition

Add any infinite **even series** of distinct higher primes to obtain

$$(2n_1 + 1) + (2n_2 + 1) + (2n_3 + 1) \ldots = [2(n1 + n2 \ldots) + \text{even}] =$$

$$[2(n1 + n2 \ldots)]$$

$$\text{as even} = 0.$$

Prime cannot form, as even amount of variations vanish exactly to zero. That is the reason the paper begins with deriving Fermions, their anti-commutation relation. Even amount of distinct higher primes added will never form a prime.

Add any infinite **odd series** of distinct higher primes to obtain

$$(2n_1 + 1) + (2n_2 + 1) + (2n_3 + 1) \ldots =$$

$$[2(n1 + n2 \ldots) + \text{odd}] =$$

$$[2(n1 + n2 \ldots) + (\text{even} + 1)] \qquad (10)$$

However, even amounts of arbitrary variations vanish:

$$\text{even} = 0$$

$$[2(n1 + n2 \ldots) + 1] \text{ or:}$$

$$2[n1 + n2 \ldots + 1/2] \qquad (11)$$

<u>Category transformations</u>

Define a functor on "Primes higher" ring

$$G\text{: ring} \rightarrow \text{group}$$

All "primes higher" are forming a closed non-abelian group with 1/2 as generator. The condition to group forming is to have an odd amount of primes under addition and eliminating even amounts of arbitrary variations taken as an axiom. Define additional functor

$$G'\text{: group} \rightarrow \text{set}$$

Add the sets:

$$P_{\underline{h}} + P^{m} = P_{\underset{\wedge}{t}} ;$$

Define a functor on $P_{\underset{\wedge}{t}}$:

$$G''\text{: set} \rightarrow \text{group}$$

All primes are forming a non-abelian group of generator 1/2. Minimal primes are part of the group by nature of the proof, defined technically to be prime. Primes are forming a non-abelian group under addition and multiplication. The condition to satisfy is to have an odd amount of primes under operation of addition. No matter how far into infinity one will go, the framework of vanishing of even amount of variations will ensure that all primes take the same form – aligned on $\frac{1}{2}$. Setting the stage and **examining primes not as numbers**, **but rather as arbitrary variations of a manifold**, which vanish in pairs of even variations, one are able to show primes to form a non-abelian closed group under 2(n+1/2). Final functor on the total group of primes:

Riemann: Group → ring

All primes are forming an infinite ring on the critical line of 1/2 and only there.

$$\boldsymbol{End\ of\ proof}.$$

Visualization - Photon Emission

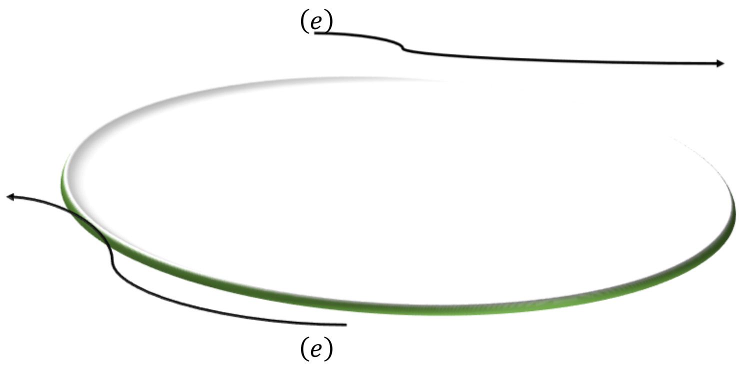
$$[(24*5)+(3)]+5 \rightarrow [(24*5)+(e^{-})]+\gamma$$

$$e^{-} = (3) \rightarrow \mathcal{M}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(5)\mathcal{M} \ldots.\}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(\gamma)\mathcal{M} \ldots.\}$$

Those equations to describe the process of emission due to the invariant three, proven the electron, assumed the electron for each higher term in the coupling series. The invariant three is the generator of a cyclic group, meaning all Bosonic propagations are sub elements of that group and so one prove they are closed cycles themselves. Therefore, one can draw the interaction between two electrons and a photon emission in the following way:



As was proven, they cannot move at the same orientation of the distortion due to their prime number feature, combined together there will be a vanishing and so the coupling series than would not make sense. The end conclusion would than imply that the Boson propagated from nowhere which is impossible.

Interference

$$[(24*5)+(3)]+5 \rightarrow [(24*5)+(e^{-})]+\gamma$$

The image above represent a net curvature on the Lorentz manifold, in that specific case, it's the photon associated with $N_V = (+5)$ net variations, and total 128 variations. Suppose that one performs the two slits experiment and open an additional route for net curvature. this is the visualization of what could happen according to our new theory

:

There are two ways to explain. The first is to say that two opposite but similar in magnitude curvature occupying the same space will have a segment of mutual cancelation. If one defines ripple operators $\between$ from a starting area to another area, the mutual area of both will be the amount of interference.

$$\between : A \to B$$

$$\between : A' \to B$$

Interference will accrue at the manifold segment that is mutual to both starting point. Define the interference operator:

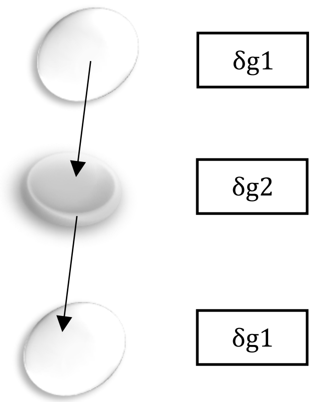
$$\not\approx : A \cap A'$$

Quark Visualization

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$



Imagine constant variation so the overall construction is curvature varying, according to the combination where will be a pairing according the graph presented in the thesis or the group suggested by the particle physicist Gell Mann. Each arrow in the visual is a representation of the gluon, or the first element in the coupling constant primorial function.

Visualization of the Multiverse

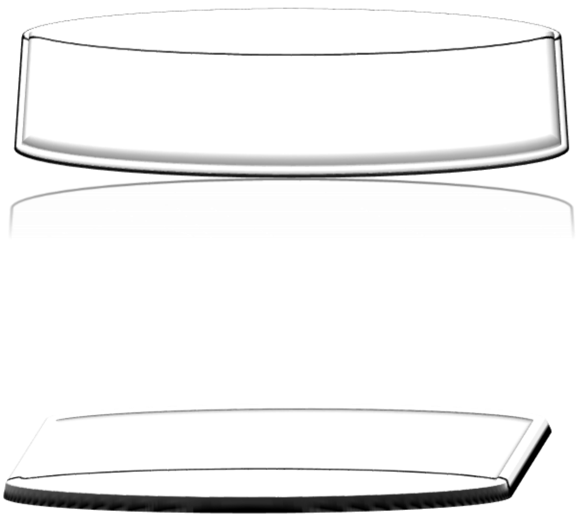
$$\frac{\mathscr{L}\partial}{\partial\Phi}\frac{\partial\Phi}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\frac{\mathscr{L}\partial}{\partial\Phi'}\frac{\partial\Phi'}{\partial M}\frac{\partial M}{\partial g'}\frac{\partial^2 g'}{\partial t^2}=0 \qquad (1)$$

$$\frac{\mathscr{L}\partial}{\partial\Phi_1}-\frac{\mathscr{L}\partial}{\partial\Phi_2}=0$$

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1\le i<k$$

$$2\le j\le k+1$$



Strong Interaction –Electrons

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3) \right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

The main argument of this short assay is that it is possible to regard each higher coupling terms as the strong interaction being destabilized in ever-growing fermion formations. It's the electron that has so much significance in the coupling constants series. Back in the day, when author derived the coupling series, in the thesis he believed that each term would have unique destabilizer, but now it seems very clear that such an assumption is quite likely wrong and eventually will lead to complexity that is not needed. Another way to state it is that three is isomorphic to itself. What is varying is the size of the fermionic cluster and the magnitude of the net curvature. The shift in understanding manifested itself in toward the end of the thesis but still it is important to clarify to avoid confusion among readers. It is also possible to represent the coupling, as you already know, in the form of spin representations by setting it on the prime critical strip.

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \ \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

To solidify the statements made in previous papers, the variance in that representation is the fermionic clusters, represented in the right of each term, and the net variation, or net curvature that is prime or one. The conclusion if one is correct is the electron is destabilizing larger and larger fermionic cluster yielding an infinite succession of net curvature on the manifold, which causes the endless process of clustering. One prefer that version, as it is simpler than to assume that each term would have a unique destabilizer. As the fermionic cluster gets much more massive in rate, the net curvature than becomes less significant, preciously the idea behind the principle of least variation.

Virtual Curvatures

In calculus of variations, one have the procedure of the following for the vanishing of virtual displacements within a massive cluster. Such a procedure makes description of motion rather simple, as one do not need to describe the innate motion of a static body. Similar in a sense to the Laplace operator.

$$\sum_{i=1}^{N} F_i dr_i = 0 \tag{3.19}$$

What would be the equivalent statement? As one do not use force in the innate description of the theory, all one has is net curvature, N_V, on the Lorentz manifold, which was invoked stationary by the Lagrangian operator. one also did not use radius per se, it is different from the Riemann line element in which one associate curvature. One will suggest the following analogue for the equation (3.19):

$$\sum_{i=1}^{N} \delta g_i \partial L_i = 0 \qquad (3.19.A)$$

The sum of all arbitrary variations per varying manifold unit length is summed as zero. As one say variations, one mean curvature, so the sum of arbitrary curvatures is taken to zero.

Curvature Knots

$$F_{V=0} \;\; = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3) \right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \;\to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \;\to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Suppose that instead of a prime number as in equations (1.2) describing the weak and the electric, one would have a number that is odd, which could be a composite of odd number primes. Define the odd number function:

$$\Theta_n = 2n + 1$$

$$n \in \mathbb{R};\;\; \Theta_n \notin \mathbb{P}$$

So Φ_n is a series of odd numbers that replace only the external N_V in the coupling constant series. The new series is now described by:

$$\left[2\mathrm{N}_1 + \frac{1}{2}\right] + \Theta_{n1}$$

$$\left[2\mathrm{N}_2 + \frac{1}{2}\right] + \Theta_{n2}$$

Since Φ_n is not a prime it cannot act as a Bosonic ripple field on the matric tensor. Since it is on an even number, devisor of modulo six it cannot vanish into matter. It is a composite of prime, or a composite of net curvature, and because it is a composite, which is stable on the matric tensor, one will have a curvature which is time- invariant, not matter like nor Boson like. In other words, a knot. The main point is if one is correct, a knot is composite of net curvature, associated with odd numbers. That is an expansion of the 8T, which did not analyze the odd numbers, but rather referred only to prime numbers and even numbers, isomorphic to primes and evens respectively. Since odds are not on the prime critical line the expressions on terms (2.1) and (2.11) would not have spin one, but neither spin one-half, that is to say they cannot be associated with a particle of any sort. According to the size of the odd numbers one should be able to observe those knots on the matric tensor. Below an example to such knot.

Manifold Fluctuations

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

The matric tensor experience arbitrary variations that vanish into matter. one describe the process of arbitrary variations vanishing into matter in the thesis, by the variation of the Dirac Delta function.

$$\delta g \neq 0 \qquad at \qquad t = Q(t)$$

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

$$\delta g_1 + \delta g_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

There is always a chance net curvature will appear at later continuation of time. That is Bosonic fields given by the primorial coupling series:

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

$$\delta g \neq 0 \qquad at \qquad t2 = Q(t + \Delta t + \Delta t)$$

$$\delta g = N_V$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

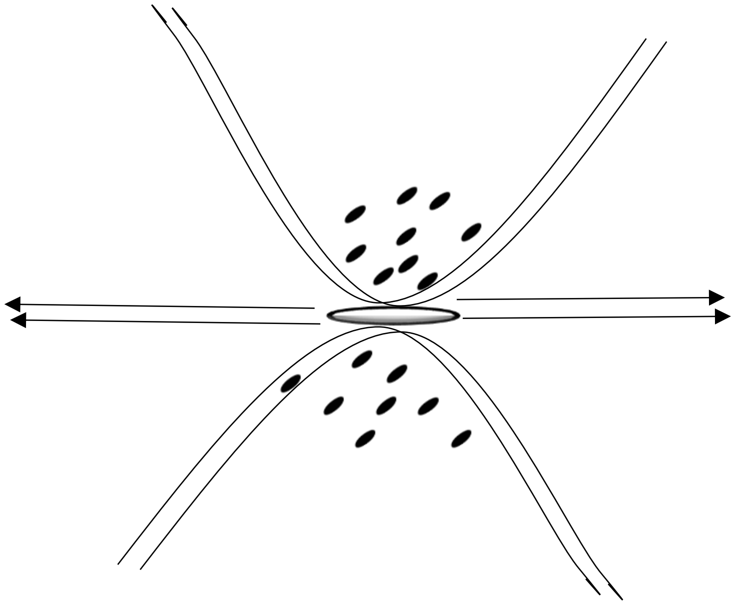
$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Now one can visualize the birth of new universe. By assuming a segment of the matric tensor to experience a certain amount of curvature it could lead to a departing from the original manifold. One can try to put it in visual means. This idea is synonymous with the vacuum fluctuations in QFT.



The main point of this assay is that the net curvature led to a departing from the original matric tensor to a new entity. The outer shell of this new manifold will accelerate due to other manifolds wrapping around it given by equation (2). That is in agreement with QFT prediction of infinite universes. The entire evolution of the universes from singularity to complete flatness in given by the main equation (1). The stage and actual flattening moment in different in each manifold. That is an elegant way to eliminate the question – why 13.7B years?

EMT Symmetry

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Suppose that the electron has absorbed a discrete amount of net curvature, its energy increased. Since we are familiar with the equivalence relation between mass and energy, as presented by Albert Einstein, energy increase is synonymous with mass increase. Suppose its mass increased in such way that now instead of the electron, it is a Muon or a Tau.

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow [(2^3 \times 3 \times 5) + (\mu^-)] + \gamma$$

In addition, the Tau:

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow [(2^3 \times 3 \times 5) + (\tau^-)] + \gamma$$

Mass is curvature converging inward, so if the electron has absorbed net curvature its mass increased. That is supported by the Quark masses series of the 8T. Those higher generation particle according to coupling series are representing a symmetry. The magnitude will stay as it is, invariantly of the actual particle, one can call it the EMT symmetry, first letter of each generation particle name. What will vary as a result of the particle varied is energy of the photon emitted. The heavier the particle, the more energy the emitted net curvature should contain. That is again implied by equivalence between mass and energy. Such a construction allow us to make two predictions regarding the energy of the net curvature, i.e. the photon in the case of the third coupling term:

(1) The Energy of the photon emitted is proportional to Lepton generation.

(2) The coupling constants series is invariant to generation – what is varying is the energy of the net curvature.

The Primorial and Probability

First, one can represent the original equation, which regard Bosonic fields to be net curvature on the varying Lorentz manifold. Those Bosons are isomorphic to prime numbers or one - $\mathbb{P} \cup +(1)$, and propagating from matter clusters destabilized by the majestic three, which is the electron, from the second element and above. Associate a probability of certain sort to the first element, $N_V = (+3)$. the majestic three and the invariant multiplier eight will be presented as a constants, $\mathcal{M}$, K.

$$F_{V=0} \;= 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

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$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \;\to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Correlating the net curvature element to a certain probability.

$$N_V = (+3) \longrightarrow P(A)$$

$$P(A) < 1$$

Now, for simplicity sake assume that the probability is the same for all each higher element in the series. As one do not really know what is the probability of such an event, it is possible to assume that is the case. one can represent the equation in means of probability.

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A) + \mathcal{M}\right) + P(A) \tag{3.3}$$

$$A \in \mathbb{P};$$

For each higher term than there is a dependence, the next element in the series can only arise after a previous probability was satisfied, as it is a series. So the longer one develops, the smaller the probability to detect the Boson as it is depended upon longer chain of events, with probability smaller than one. one can represent it in a simpler fashion by ignoring the constants:

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A)\right) \tag{3.33A}$$

Let $A \to \infty$

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A)\right) \longrightarrow 0$$

Such a representation of the primorial series than makes it easier to understand how hard it will be to detect those higher term coupling Bosons, and why they have not found up to this day. However, it scientists have detected gravitational waves they should be able to detect the next elements in the coupling series, as they are about seven, and seventy two weaker than the electric. Therefore, despite each term is an individual element which have a unique Boson isomorphic to $\mathbb{P}$ for the second and above, there is an implicit dependence given by the fact that is a mathematical series and each even sum is a scalar multiple of the next prime. If one represents the series from an angle of the arrow of time, the higher the coupling term, the more time it will need to develop it. Weakest interactions appear than after longer periods of time, and the strongest most common ones appear at the beginning. One can make a prediction:

(1) The probability of locating the Boson of the third term is significantly higher than the sixth term.

Asymptotic Freedom

Bosons were proven discrete amount of net curvature on the manifold:

$$\sum_{i=1}^{M} \delta g_i > 0\,; M \longrightarrow \infty \qquad (3.13)$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

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$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

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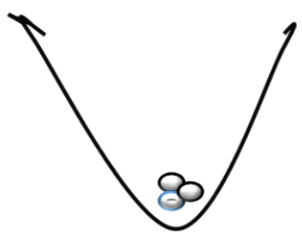
$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Now, one has used the visualization of the sea of gluons on the Quark triplet in the following way.



In the context of asymptotic freedom, when one indulges in high energy collusions, that is synonymous with trying to roll the quark triplet uphill. It is possible to try as the Bosons are just net curvature unbound as given by (1), however since each Boson is a curvature of certain magnitude it increase the probability of arrival to its position, therefore one has a "sea" of gluons. For example, in the third coupling term presented in equations (3) to (3.1):

$$\sum_{i=1}^{M}\gamma_i = \sum_{i=1}^{M}\delta g_i > 0 \qquad (3.13.B)$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \rightarrow \ [(2^3 \times 3 \times 5) + (e^-)] + \gamma$$

Taken from that point of analysis, asymptotic freedom is a result of curvature converging to a point, or the existence of gluons on the quark triplet. If the number of Bosons is ever increasing on the quark triplet, so does the overall curvature of the magnitude. To roll a quark uphill an infinite curve is at the verge of impossible. The attempt to roll the quark triplet elements uphill will eventually lead to a the quark reaching the minima, lowest point on the curve. Similar to other physical phenomena aspiring minima. Overall the 8T from birds eye overview, allow us to explain phenomena which is considered "advanced" such as Pauli Principle, asymptotic freedom, Spin, the commuter, the reason for the coupling magnitudes, dark energy and probability of arrival in rather simple and elegant way. All one needs is just two equations, (1) and the coupling constants series.

Manifold Jumps and Pharrell Transport

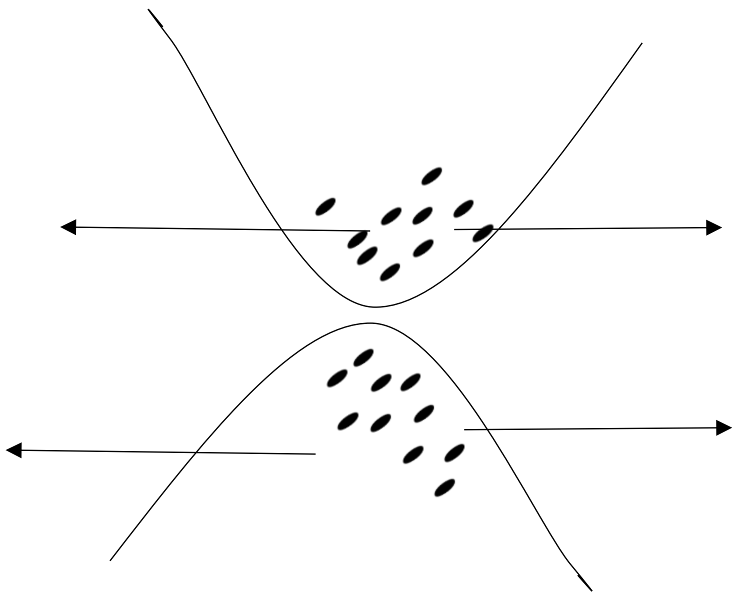
$$\frac{\mathscr{L}\partial}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\mathscr{L}\partial}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

The implicit assumption of equation of (2) is that in order of the universe packet to flatten each other the curvatures on the manifolds must be interfacing. That is synonymous with stating that the universe packet must have topologically invariant manifolds, or manifolds in which the extremum curvature distribution is identical on the matric tensor. That is because in the manifolds flatten each other due to the interaction of those areas, if they are not interacting the flattening, i.e. dark energy would not be correct. It is possible to prove that if there were only two manifolds, which are not interacting with each other via those areas, equation (2.1) will not be correct; the universe would not be flat as one measures it today. The requirement of the universe packet than imposes a symmetry in a sense that only topologically invariant manifolds are "allowed" on the packet. one do not know whether it is actually the case but so it seems by equation (2.1) and the "thought experiment" of only two manifolds interacting in the packet, assumed different topology. Another point to mention is same topology does mean same matter distribution on each manifold. Distinct manifold can have a dust of gas of certain curvature, which is equivalent to the mass of a certain galaxy on another manifold. Those universes differ from each other in a distance measure which is not known, can could vary as other topologically invariant manifolds enter the packet. Between each manifold pair there is the same base space, Ricci flow, given by the fourth term of (2.1). Since the manifolds have the same curvature distribution, they have the same energy given by the term of the Ricci flow, if you can switch from the matric tensor of one manifold to its flow, and the flow is the same for all the manifolds in the packet, than you can jump or get into the matric tensor of another manifold. In other words, the Ricci flow is the kernel of the entire manifold packet. That is by equation (2.1) and the fact that each manifold, which flatten each other interact by the areas of extremum curvatures $\partial g/\partial t = 0$. So to switch from manifold to manifold, it will require an immense amount of energy, and such an energy level would lead to a deformation of the matric tensor to the kernel, the Ricci flow, and from the Ricci flow one can reach again the matric tensor of a distinct manifold. 8T than regard the matric tensor of each manifold to be a map to another matric tensor.

$$\leftrightharpoons : M_1 \longrightarrow M_N$$



Those universes differ from each other in a distance measure, which is not known. As the illustration above suggest, they are very close. The packet could vary as other topologically invariant manifolds enter the packet, also known as cosmological singularity. The main point of this short assay between each manifold pair, and actually all the manifolds in the packet is the same base space, Ricci flow, given by the fourth term of (2.1), which allows the jumps, as illustrated above). It is currently unclear whether there are infinite manifold packets or just one manifold packet which is infinite. It is also unclear whether the question of distance is applicable in the base space, The Ricci flow, as it pure energy oriented.

Manifold Volcanos and Curvature Eruptions

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Imagine that instead of having just one electron in the primorial, one will have an entire surface full of electrons. Each of them is emitting a net curvature of prime magnitude, and they all emit that magnitude at the same temporal segment on the surface of the matric tensor M.

$$\left[(24 * 5) + \sum_{i=1}^{N} (e^-{}_i)\right] + \gamma_i \tag{3.1}$$

$$\circledcirc\!: \sum_{i=1}^{N} (e^-{}_i) \rightarrow \gamma_i$$

The result of this construction is an immense eruption of net curvature off the manifold, similar to a volcano eruption in geo-physics, its concentrated amount of net curvature eruptions due to a positive summation of electrons that emit together, $\circledcirc$ as a time operator of all elements in the matric tensor. The eruption could be linearly polarized. In physics it is also known as "lasers". The volcano is the summation of electrons, and the magma is the timed eruptions of photons. It is the same main equation just a different variation – applicable to many particles propagation. The energy of the eruption ray is proportion to the electron summation on the surface, which emit together and to inversely proportional to the area scattered by the eruption ray. The volcano is the electrons on the surface and the magma is the photons, in their concentrated from can melt and cut steal. An analogy makes it easier to describe. So overall the "geo-surface" of the matric tensor is flat, due to the net curvature being relativity small portions and due to the fact arbitrary amount of curvature vanish into matter. The "geo-surfaces" or matric tensors in the 8T have dormant volcanos, which could suddenly become active, causing curvature eruptions of immense magnitude at a timed moment, analogous to magma eruptions.

8T versus MT

8T revolves around varying curvature, compared to the M-theory that is considered to be an elevated version of string theory, and includes additional dimension and unification of so called five distinct string theories. The two theories differ in noticeable and subtle ways. The first difference is that the M-theory also describe alongside the first three interactions, the interaction of gravity. In the 8T, all interactions **are** distinct amounts of gravity.

For Fermions:

$$[\delta\mathscr{L}\delta\Phi\ \delta M]\delta g = 0$$

For Bosons:

$$[\delta\mathscr{L}\delta\Phi\ \delta M]\delta g > \ 0$$

That is discrete amount of curvature on the matric tensor. That is given by the Primorial coupling constants series and in the main equation, which is in agreement with the equivalence principle. Second difference is the subject of description, 8T only aspire to describe a varying manifold. It does not include any particles motion or any particles of any sort, and all the particles were derived with no a-priori data regarding their nature. That was done in the three critical theorems that yielded the primorial in March 2021. M-Theory aspire to describe the behavior, vibration and motion of different "strings" or infinitesimal quantities, in three and higher dimensions. Such bold entities of description have not yielded testable predictions to date. Such an analysis is also has an implicit axiom – understating the way those infinitesimal things vary can tell us something about physics. The beginning of the M-theory is describe by the five distinct kinds of strings, and that is the subject of description in birds eye view. A third difference is the number of arbitrary numbers appearing in the theory. 8T has three arbitrary numbers less than any other theory. The number of Bosons is infinite and isomorphic to prime numbers. The number of families is also infinite given by the Quark masses series, which provides us with additional prediction of fourth family below first generation, causing the matric tensor to have additional amounts of light mass particles. The third number is the number of dimensions, as the universe is part of a packet, each with its own set of finite dimensions; the overall number of dimensions is infinite as well. Those are distinct and do not get mixed into one manifold. It is the reason the manifold is flat and the reason each manifold can not be infinite in dimension, as it is confined by others. M- theory does the opposite and describe nature by additional arbitrary number which is 11D. If it is 11D, there has to be a reason it has to be that way. Why not 13D? What makes 11D special? The answer is – nothing. As a number of dimensions, it is good as any other.

The fact that seemingly certain traits of Quantum physics are in agreement with this number does not make it special, it could work for a higher dimensional number of certain sort. Another way to put it, this number could be part of a subgroup of numbers. Another arbitrary number of the M-theory is the five "distinct" kind of strings, and the overall emphasis on those strings, makes the theory very weak. As one wrote above, it is building upon the implicit assumption that those strings, and in particular their shape, are important. So 8T has three arbitrary numbers less, MT has two arbitrary numbers more. A forth difference is that 8T is described in terms of spaces, extra spaces. The Matric space and the Riccy flow space, which is the base space. The relation among the two is described by a fiber bundle, since all the manifolds are topologically invariant; it is possible to jump from one manifold into under by switching to the Ricci flow. This space does not obey the rules of distance, and is compact. M-theory describe physics in terms of additional dimensions. So overall, it is much longer description, as you have to describe a-lot more according to each extra dimension. One theory describe spaces, which are two. The other dimensions which are infinite. The fifth difference and the last one, is the number of testable predictions as part of the length of description. 8T has description of dark energy, the equivalence principle, The Primorial coupling constants series and all the known Bosons to be prime amounts of net curvature, Fermions as arbitrary variations that vanish. It includes the Quark masses series, curvature knots, matric tensor deformations to the base space, the duality of the thirst forces at 26, and it does so using **only one equation** (2.1). It is that simple in can be encompassed in one equation.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

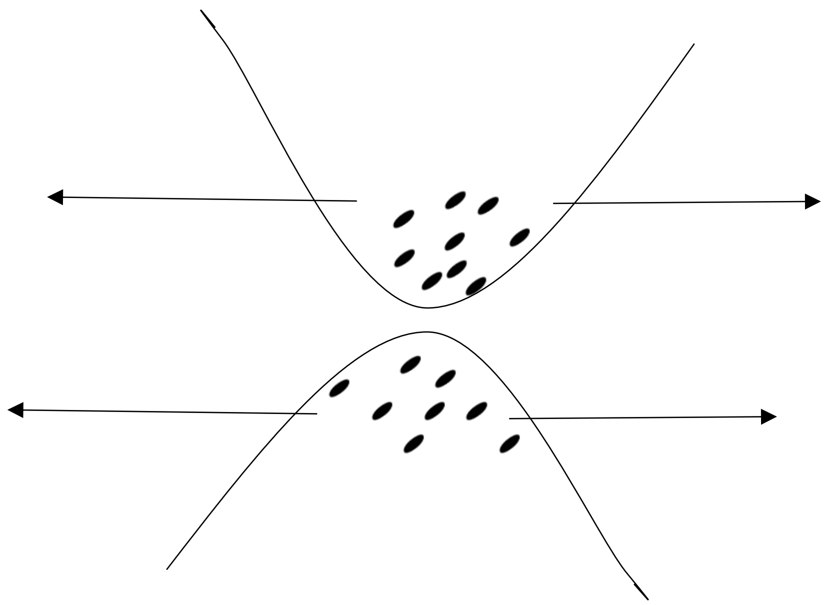
M-theory does need a larger amount of numerical description. Alongside, the number of testable predictions given its mains equations and power of predictions – is as far as one knows, stand at zero or very close to it at the levels of energy one can reach for today. Another way to state it, it needs a-lot more time and space (on paper) to describe the M-theory, and it gives little to no testable predictions. It was the best we had up-until recently, but according to the analysis, it seems to have been surpassed.

Universe Packet Density

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$



Up to this point in the thesis, one assumed that there is only one packet of stationary Lorentz manifolds, which grow in number. Each manifold has a distinct arrow of time, which is a unique moment of singularity or a unique age. The older the universe the flatter is should be, as it was a subject of pressure from other manifolds for longer temporal periods. However, it now becomes evident that it could be wrong. There could be a limitation of the number of stationary manifolds that composes the packet. Such that if that limit is reached, any matric tensor fluctuations volatile enough will ignite a manifold, which will join a distinct packet. Similar to wave packets, which comes in an infinite number. As far as one can see, the current equations of the 8T indicate that the universe has a "sphere packing" structure, an unknown number of thin liars stacked or compressed together in a packet. If the number is infinite than one has one packet of stationary manifolds. If there exist a limit, there are multiple. Another interesting point, if the number of manifolds in the packet is finite, than the degree of acceleration outward from areas of extremum curvatures is also finite, which is what one required for a stationary manifold.

If the number of manifolds increases without a density limit, than the outward acceleration should increase overtime, as more stationary manifolds is in the packet. That seems more correct as one knows that the so-called "dark energy" is time invariant. Therefore, that could imply that there is a limitation of density in the packet. one can define this density limit by varying the main equation:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

one can parameterize the manifolds presented in (2.1) to put the idea of stationary manifold packets, which are distinct in rigor.

$$\mathfrak{Z}_1 + \sum_{n=2}^{\infty} \mathfrak{Z}_n = \mathcal{D}_1 \qquad (2.B)$$

Moreover, the new structure of the multiverse is the summation of all t packets:

$$\mathcal{D}_1 \quad + \sum_{i=2}^{\infty} \mathcal{D}_i = \vartheta \qquad (2.\mathrm{C})$$

In the 8T one assumed there is just one infinite packet, and the dark energy could be an adiabatic variant, which vary very slowly. This paper analyzed the structure of the multiverse by imposing a limitation on the density of the packet, leading to infinite number of distinct packets as described by equations (2.B) and (2.C).

The Commuter

In QFT one of the most important ideas which emphasize the difference between Fermions to Bosons is the mathematical expression commuting/anti commuting relations for Bosons and Fermions respectively. The term is presented in the following form:

$$[A_i \ ,B_i] \pm \ = 0$$

Fermions anti commute, summed as zero when combined and Bosons commute, the only they to be summed as zero as if they are subtracted from one another. The actual way of QFT representation is not important in this paper. The idea of the commuting anti-commuting relations of Bosons and Fermions is in perfect agreement with the 8T. As was presented in the thesis, the arbitrary variations term is associated with Fermions. One requires the term to vanish, so when partitioned one needed an even amount of two distinct elements which differ in sign.

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

On the other hand, the Bosons were regarded as net curvature of discrete prime amounts as described by the primorial, which add up to a positive summation, so they only way to eliminate them is to subtract from one another. That is in agreement with QFT idea of commutation relation. The term describing Bosons is (3.13.B):

$$\sum_{i=1}^{M} \gamma_i = \sum_{i=1}^{M} \delta g_i > 0 \qquad (3.13.B)$$

Overall, one of the most important ideas in Quantum Field Theory is in perfect intersection with the 8T. one can visualize it and reason why that is from an angle of curvature on the matric tensor using the main equation and primorial. one can even use the commuter on the two terms.

$$[\delta g_i , \delta g'_i] \pm \ = 0 \qquad (1.6)$$

The first term in the commuting relation (1.6) is describing the partitioned terms, the second is the acceleration. Fermions will accelerate toward each other, in agreement with vanishing curvature. Bosons will accelerate to a joint point on the matric tensor. That is because each bosons is a net curvature that increase the probability of arrival to itself. As was analyzed before, 8T and QFT does not contradict one another.

The Curvature Code

$$\sum_{k=1}^{M} \delta g_k = 0 \qquad (2.12)$$

$$\sum_{i=1}^{M} \gamma_i = \sum_{i=1}^{M} \delta g_i > 0 \qquad (3.13.B)$$

Suppose one choose to allocate to the terms, additional terms according to each variable in the main equation. Now as a result one has those fourfold terms for Fermions and Bosons accordingly:

$$[\delta\mathscr{L}\delta\Phi\ \delta M_E]\delta g = 0$$

$$[\delta\mathscr{L}\delta\Phi\ \delta M_E]\delta g > 0$$

One do not know what are the values of the three terms inside the bracket, however since one knows to associate the conditions in equations (2.12) and (3.13B) to be equal to zero and larger than zero accordingly, these are in essence constraint to the rest of the unknown chained terms. For Fermions, one can deduce:

$$[\delta\mathscr{L}\delta\Phi\ \delta M_E] = 0$$

Because of the $\sum_{i=1}^{N} \delta g_i = 0$ auxiliary condition, which impose a constraint on the chained terms. The Fermions will receive the form of points, which are flat and are infinitesimal in length, on the matric tensor of the manifold. Now analyze the Bosons, with the auxiliary condition $\sum_{i=1}^{M} \delta g_i > 0$, the chained term is:

$$[\delta\mathscr{L}\delta\Phi\ \delta M_E] > 0$$

Bosons will receive the form of non-local propagation on the matric tensor of the manifold. The opposite of infinitesimal scales, that is because they cannot vanish into matter, and isomorphic to prime numbers. Similar to how one presented the process of emission. Summing up, one does not know what are the chained three terms are, but one has proven the ideas two-pillar ideas of the 8T: (2.12) and (3.13.B) in which one can use, as auxiliary conditions. Those auxiliary conditions are used on the chained three terms, which one do not know, and thus they are the key to solve the entire chain. Those two conditions are the vital key to the curvature code – the language of nature.

Degrees of Freedom

We have derived the main equation (1) by EL operator. The following way:

$$\mathscr{L} = (\Phi, \Phi', \mathrm{t})$$

We can state that the 8T analysis in that form has one degree of freedom. Since we have proven the second representation in equation (1.2), and thus we can represent the EL operator as a system of differential equations with an infinite degrees of freedom. Those differential equations describe a system of stationary manifolds. That is a different way to state that we are dealing with an infinite dimensional universe, using the original operator.

$$\mathscr{L} = \left(\Phi_i \;\; \Phi_j \;\, , \mathrm{t}_{1\rightarrow n}\right) \qquad (1.61)$$

the time operator is of course present in each manifold, but since each manifold has a unique moment of singularity, each manifold is getting flattened in different temporal moment, we have to index the time parameter, so to indicate that the arrow is in different stages for each manifold. Such a representation allows us to eliminate the question regarding the arbitrary number of 13.7B billion years. Equation (1.61) is another way to represent the structure of the multiverse, infinite manifolds that are stationary, and interact with each other. Since each manifold is part of the packet, it is confined by it and cannot escape the variation of the manifold than can be presented only within the domain of the packet. Such an analysis also eliminate the question of three dimensional universe, by representing infinite degrees of freedom, we can elevate the universe to infinite dimensions. We can represent the packet in a discrete way, for example:

$$\Phi_{i=1} \;\longrightarrow dimen..(1 \rightarrow 3) + t_1$$

$$\Phi_{j=2} \;\longrightarrow dimen..(4 \rightarrow 6) + t_2$$

$$\Phi_{i+1} \longrightarrow dimen..(K \rightarrow K + 2) + t_K$$

$$K \in \mathbb{R}$$

Since one already presented a symmetry regarding the universe packet, one can change the index of the summation with no effect. Residents of the "second manifold" regard themselves as first, and thus count their dimensions as first to third, if we are residents of the "first" manifold, one count our three as the first to the third, and "theirs" as fourth to six. Each resident of distinct manifold regard "his" dimensions as the lowest, i.e. first to third plus a unique arrow.

Curvature Spectra's

One defined the even sum multiplier of each term from the second and above, is reflecting the number of so-called "fields" of each interaction. The first coupling term has eight gluon fields:

$$2^3 + (1)$$

The second term has three fields, the massive W and Z Bosons, in accordance to the right multiplier, marked in black:

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

Since all one has in the 8T is curvature, author would like to coin the term – "Curvature spectra", that is each interaction has Bosonic, net curvatures which differ from one another in certain orientation. It is currently unclear which kind of a physical difference it is, it could be a difference in a orientation of the curvature, or a more obvious difference related to mass or both. The features of the W and Z Bosons differ from one another supporting the idea of the spectra. Therefore, it is possible to represent the right multiplier as means of a spectrum that is to parametrize it.

$$\sum_{i=1}^{i=N_V} \Psi_i \;= N_V$$

Therefore, in the 8T, instead of having a certain finite number of fields, one have an infinite amount of curvature orientations, all appear on the matric tensor and are isomorphic to prime numbers and one. The curvature spectra is parametrized and counting the number of orientations which in physical theory account the different kinds of particles associated with each coupling term. The new elevated form of the primorial is:

$$F_R\# = \left(2^{\mathcal{M}} * \prod_{i=1}^{i=N_V} \Psi_i \;+ (\mathcal{M})\right) + N_V \qquad (1.2B)$$

The Ghost Neutrino

From experiment, one knows that the electron does not propagate by itself but rather with another ghost particle, the electron neutrino. What kind of numerical traits in the 8T this particle possess? In other words, one needs to add it the coupling term of the electric without changing the magnitude of the coupling. Mass formation:

$$2^3 - (1)$$

Moreover, outward to generate a ripple on the matric tensor given by the term:

$$2^3 + (1)$$

The answer is clear the ghost particle, the electron neutrino cannot be associated with neither symmetry breaking classes. It has the be a particle which has no effect on the coupling term, one can represent it but it will vanish. The answer than is that the electron neutrino is represented by the following numerical trait that associate with vanishing in the 8T:

$$v_e \longrightarrow 8n\,;$$

$$[(24 * 5) + 8 + (3)] + 5 \rightarrow \; [(24 * 5) + v_e + (e^-)] + \gamma$$

$$[(24 * 5) + v_e + (e^-)] + \gamma = 128$$

$$v_e = 0$$

one can predict that the electron neutrino will be massless, in order for the coupling term to stay as it is. The same apply to each higher generation neutrino according to the EMT symmetry. The fact it has no mass does not mean it cannot exhort pressure. The photon is massless, it can extort pressure. If the photon will propagate on a tiny mass measuring scale it will cause the measuring scale to differ from zero due to the pressure it exhorts, and effective mass as it is raw energy. Summing up, it is possible to represent the electron neutrino by using a perfect symmetry multiplier that does not affect the coupling term. The fact it is a prefect symmetry multiplier means the electron neutrino has no mass. That is in agreement with experiment.

Alternative Explanation for Dark Matter

one presented the Quark masses series, and predicted an infinite series of families with total mass aspiring zero. Mass is considered arbitrary amount of curvature converging inward, with a symmetry break of the $8-(1)$ variations. That is the inverse to the primorial, associated with curvature diverging, or $8+(1)$ variations. In the case of mass generation, nature is devising in increasing amounts to eliminate the arbitrary amounts of curvature. one predicted the total mass of the fourth to be 0.113 Mev, 55-56 times lighter than first. The advantage of this idea is that one no longer need to explain why there are three families.

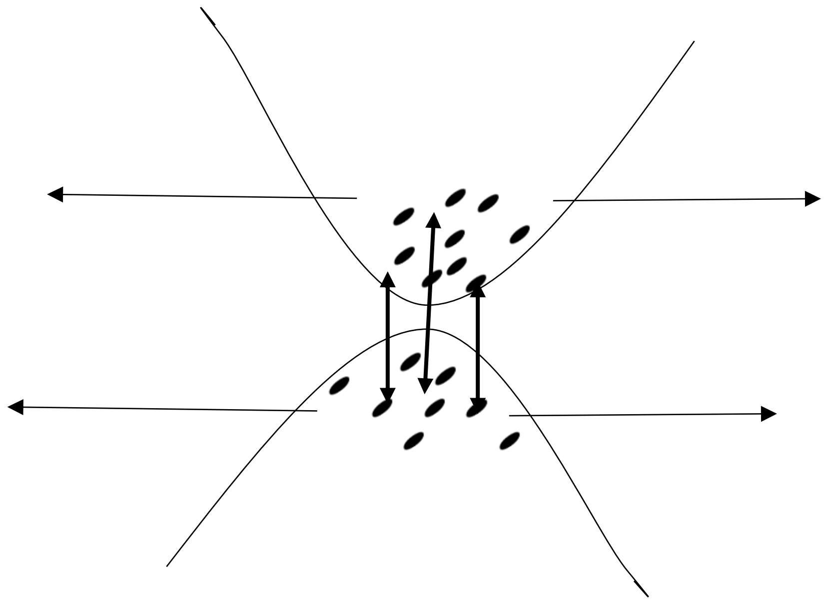
$$19{,}600*9 \longrightarrow 1400 \longrightarrow \frac{56}{9}$$

The two versions are presented in the thesis as it is unknown whether the factor of nine is repeating itself for the fifth family and below. Keeping that in mind, assuming this idea is wrong, what alternative explanation can one offer for the issue of dark matter? Notice that according to the main equation (1) or (1.2) one has an infinite packet of universe which interact at areas of extremum curvatures, that means that there two distinct manifolds (if we regard each manifold to be somewhat of a thin liar), whose extremum curvature interact with our own. Since one is familiar with the equivalence principle between mass and energy, the dark energy as given by equation, can be regarded as dark mass.Those masses of distinct manifolds may have an additional gravitational interaction. If each manifold has distinct subspaces, which are newer manifolds that rose from the original manifold, those subspaces may interact with the original manifold that means a distinct set of mass, interacting with our own. The advantage of this idea is that, there could not be any additional trait of matter it the matter is own distinct (yet very close to our own) manifold. It seems to be suitable to the fact that dark matter do not do anything other than to exhort gravity. The weakness of the original idea is that if there is a fourth family below first, it could behave like original matter, omit and absorb light, which is not in agreement with what one speculate. However, if it is matter on a distinct space, or a infinite spaces of the packet, than the features of dark matter could be explained easier. Summing up, the alternative explanation of dark matter is gravitational effect from a distinct manifold, which interact at areas of extremum curvature. There is advantage to taking the point of view, as it could agree with the features of dark matter behavior. However, using that viewpoint, one still need to explain why there are only three Fermions generations. The explanation is not part of this new idea, which is the disadvantage comparing to the original idea.

The gravitational effect of dark matter should not be strong, as one has immense Fermion clusters, according to the primorial, the ratio of net to total should be very small, aspiring zero, so if dark matter would be explained that route, the gravitational magnitude effect it should have should be weak, that is compared to the first elements in the primorial.

$$\frac{N_V}{T_V} \longrightarrow R$$

one can take the original illustration and modify it



The Canonical Equations of Curvature Spikes

Suppose one would like to present a simple way to create an analog for the canonical equations of motion, presented by Hamilton. How can one do it in a simple way on a varying Lorentz manifold, with four chained terms in the differential equation? This is an interesting question, and the real answer is one does not know. However, here is an educated guess. The idea is to use the terms in equations (2.12) and (3.13) to derive something fundamental about the momenta of Fermions and Bosons. Suppose one replace the known variable of Hamilton by:

$$\partial \mathrm{q_i} \longrightarrow \partial g_i$$

And one knows from the equivalence principle that

$$\partial g_i = \partial g'_{\mathrm{i}}$$

present the canonical equation of curvature spikes

$$\dot{p}_i = \frac{\mathscr{L}\partial}{\partial g_i}$$

represent the canonical equation of curvature spikes for Fermions:

$$\partial g_i = \frac{\mathscr{L}\partial}{\dot{\mathrm{p}}_{\mathrm{i}}} = 0 \qquad (1.7)$$

And since one can derive the beautiful result, which comes to an agreement with previous results of the 8T, Fermions momenta will vanish to zero. That is another way to state that they will accelerate toward one another. Therefore, configurations of Fermions must appear stationary, similar to Quark Triplets in Hadrons for example. Notice that the emphasis is not on constant rate but rather on the momenta of arbitrary variation set. one can do the exact same thing for Bosons, since one know that they are isomorphic to prime numbers that cannot vanish into matter, the canonical equation of curvature spikes for Bosons is the following:

$$\partial g_i = \frac{\partial \mathscr{L}}{\dot{p}_i} > 0 \qquad (1.71)$$

Meaning that the Bosonic configuration must have some net momenta, one cannot find a Boson at rest. That is in agreement with the 8T ideas. Fermions have opposite signs, demands by stationary Lorentz manifold. Bosons are all positive summations, net curvature on the matric tensor isomorphic to prime numbers, they cannot cancel one another as Fermions do. That is the similar to the idea construction in that led to the 8T commuter for Fermions, plus, and Bosons minus respectively:

$$[\delta g_i, \delta g'_i] \pm\ = 0$$

The Graviton Illusion

$$\left[\left(2N_{gravity}\right)+(3)\right]+N_{V1}+N_{V2}+N_{V3}=\left[2N_{gravity}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}+\frac{1}{2} \qquad (2.2)$$

$$\left[2N_{gravity}+2\right]\rightarrow\left[2N_{gravity}\right] \qquad (2.3)$$

Since nature does not impose a restriction on the kind of particles to which are describing the term (2.2) and (2.3), it is possible to predict that there are infinite classes of Gravitons of distinct magnitudes. Alternatively, that if one take an even sum or certain sort, add a generator and three net curvature of certain magnitude, which belong to the prime ring, that combination will result a "Graviton like" particle.

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}$$

$$[N_{VK1},N_{VK2},N_{VK3}]\in\mathbb{P}$$

$$K1\ldots KN\in\mathbb{R}$$

Since spin two vanishes due to being an even number, the difference between each Graviton is the term that does not vanish in spin representation - $\left(2N_{()}\right)$. The smaller this term the stronger the Graviton should be. Therefore, if one analysis is correct, Gravitons classes are infinite in kind, and they are, in contrast to the first three interactions that are in a sense independent, is not independent and depends upon the composite elements. As previously mentioned, Gravitons are a superposition of net curvatures (equivalent or distinct is currently not known), which means that in order to sustain Graviton on quantum scale, it requires aligning three net curvatures in time and position. If one of the net curvature terms is not there, one no longer have the Graviton. The main point of this paper is to make a prediction about the nature of Graviton, and here it is the prediction:

(1) Gravitons are infinite in kind.

It is a daring statement to make given the fact that one did not detect even a single graviton to date, but the 8T is a daring theory. It also provides us a practical way to test whether Graviton like particles can be created in an artificial way. For example, for the electromagnetic coupling, one needs the term in (2.4) to create a "Graviton like" particle, the Graviton is a matter of illusion, and it is everywhere and nowhere at the same time, as it is quite rare to create the term in (2.4) as far as one can see.

$$\left[\left(2N_{(2)}\right)+(e^{-})\right]+\gamma+\gamma+\gamma \qquad (2.4)$$

Suppose that one is a given the gravitation coupling as the following term:

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}$$

However, the net variation N_{VK3} suddenly vanish from the combination and being replaced by a distinct net curvature element:

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK4}$$

$$N_{VK3}\neq N_{VK4}$$

That seems as a trivial change, but it really is not. 8T predicts that the Gravitons are infinite in kind. That is the example of that idea. one previously mentioned gravity is different because it is a composite interaction due to the spin two trait. That is in contrast to interactions of the primorial which are not a composite but contain one net element. That means that gravity coupling magnitude could vary over time. In particular, it means that net curvature elements can replace other elements that were part of the threefold composite. Since the total spin is invariant, i.e. two, there is not a change in the nature of gravity; the structure is the same while the composite element could be different.

$$[(2N_{()}) + (3)] + N_{VK1} + N_{VK2} + N_{VK3} \rightarrow 2N_{()} + 2$$

$$[(2N_{()}) + (3)] + N_{VK1} + N_{VK2} + N_{VK4} \rightarrow 2N_{()} + 2$$

Prediction: The Gravitational coupling constant is not a constant at all.

Curvature Terminators and Conservation of Energy

The point of the first 8T proof presented in pages 3-4, which was only briefly mentioned, is that nature is aspiring to eliminate the curvature. The result of the elimination is yielding the group that allowed physicists to predict the existence of the omega minus (333) in the 8T. However even if (2.12) is vanishing to zero, there is constant creation of matter. Arbitrary variation of the manifold are not obeying a time limit, they can and are created in a random fashion. So one way to put it is that **energy is not conserved**. That is because matter is constantly being created, and matter is synonymous with energy. The only way to ensure that the energy will be conserved is to present a new way of curvature terminators that is anti-matter. one allows the existence of anti-matter as the coupling magnitudes are preserved under sign reversal.

$$\left[2N_3 + \frac{1}{2}\right] + \frac{1}{2} \longrightarrow \left[-2N_3 - \frac{1}{2}\right] - \frac{1}{2} \qquad (1.45)$$

one analyzed the subject of anti-matter in previous paper, and in particular the subject of orthogonal curvature, which has inner product zero. So to ensure the conservation of energy, one will have to present the set of arbitrary curvature terminators, for Fermions, it has two inverse elements.

$$\mathrm{X} = [-\delta g_1, +\delta g_2]$$

$$\left\langle \delta g_i \middle| -\delta g_j \right\rangle = 0 \qquad (1.46)$$

So overall, there are two main stages of curvature elimination. First arbitrary variation vanish into matter, as presented in the thesis and the prove above. Secondly, to ensure the conservation of energy, anti-matter terminators are presented. Whether energy is actually conserved is unknown, author tend to belief is not. That is due to the asymmetry of matter to anti-matter in the universe. If for each matter created there is also an anti-matter particle, anti-matter should be more common. one has presented the same procedure of orthogonal curvatures to leptons and Bosons. one used equation (1.46) with leptons as elements of the inner product such as the electron and positron:

$$\left\langle +3_i \middle| -3_j \right\rangle = 0$$

In addition, with Bosons, described by the term (2.12) as they were proven discrete amount of prime curvature on the matric tensor:

$$\sum_{1=1}^{M} \delta g_i > 0 \qquad (3.13.B)$$

Same rules apply for the photon as an example:

$$\left\langle \Upsilon_i \middle| \Upsilon_j \right\rangle = 0$$

Summing up, if require the conservation of energy one must present the arbitrary curvature terminators, i.e. Anti-matter. If the number of anti-matter terminators is smaller than the number of arbitrary variations which vanish into matter, which seems to be the case on our manifold, than energy is **not** conserved, as matter is constantly being created.

Direction Invariant Fermion Distributions

The sole mathematical discipline of the 8T is calculus of variations. As reader assumed familiar with it, one of the major features of this theory is the vanishing of variation.

$$\frac{\partial \mathcal{L}}{\delta q_i} = \frac{\partial \mathcal{L}}{\partial q_i} - \frac{\partial \mathcal{L}}{\partial \dot{q}_i}\left(\frac{d}{dt}\right) = 0$$

Since in our theory one has the arbitrary variation term in equation (1.48) to vanish into matter, one can represent the idea as:

$$\frac{\partial \mathcal{L}}{\delta g_i} = \frac{\partial \mathcal{L}}{\partial g_i} - \frac{\partial \mathcal{L}}{\partial \dot{g}_i}\left(\frac{d}{dt}\right) = 0 \qquad (1.8)$$

If so, Bosons as net curvature isomorphic to prime numbers are interfering with the stationarity of the manifold, hence their name "Agrarian", as they cannot vanish into matter, they cause the matter clustering. For Bosons:

$$\frac{\partial \mathcal{L}}{\delta g_i} = \frac{\partial \mathcal{L}}{\partial g_i} - \frac{\partial \mathcal{L}}{\partial \dot{g}_i}\left(\frac{d}{dt}\right) > 0 \qquad (1.81)$$

One final point, since the primorial coupling series is invariant to direction:

$$\mathcal{P}_0 = 8 + (1)$$

$$\mathcal{P}_N \# = \left(2^{\mathcal{M}} * \prod_{V=1}^{V=N} \mathcal{P}_V + (\mathcal{M})\right) + \mathcal{P}_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2.A)$$

As presented in the idea of probability variation of the (1.2A):

$$P_A \# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A) + \mathcal{M}\right) + P(A)$$

The matter configuration of the manifold should invariant to direction, that is preciously because it is not possible to determine where the lepton is going to emit or absorb, or even which kind of Bosons are in play. Put another way, because it is impossible to know where the net curvature that violate stationarity will appear, the fermion distribution across all directions of the manifold is the same, there is no special direction of any sort. That is preciously the current modern picture of cosmology, the universe look everywhere the same. Same idea one presented in earlier paper of the sphere shape of starts, but now to much larger Fermion clusters.

Minimizing the Laws

The last part of this paper will revolve around a feature of nature which was mentioned briefly in previous papers, and in the thesis. Lagrangian oriented theories are based upon the principle of least action, which deals with minima of certain classes, and this is the most significant feature of those theories. There is one additional minima in the 8T and in a final theory that should get our attention, as it is just as important. That is minimizing the number of laws that govern everything. In every universe, at every stage of development of the manifold, from the flattening by the packet to complete coldness, the number of laws should stand at minima. In other words, the number of equations or ideas in which one uses to describe everything should be minimal, and that is a significant feature of a final theory. The minima is not only path-oriented such as in classical mechinqes or QED, it is also manifested in the number of laws. 8T is that kind of theory as all one has achieved, from dark energy to the coupling series and the Quark masses series, is encompassed in just one equation and two conditions.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

Two conditions. For Fermions:

$$\sum_{i=1}^{N} \delta g_i = 0 \ ; \quad \frac{N}{2} = True \qquad (2.12)$$

Bosons:

$$\sum_{k=1}^{K} \delta g_K > 0 \ ; \ K \in N_V \qquad (3.13)$$

Predicting the Next Planck Constant

$$F_{V=0} \quad = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Third term:

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

The paper main point is to provide a theoretical prediction regarding the fourth interaction. Since from measurement one knows the value of the Planck constant, and in our theory, it is associated with the net variation element of the third coupling term; one can predict the next value of the Planck constant for the fourth coupling term based on the ratio of the net variation of the two coupling terms, as they are the discrete amounts which get emitted or absorbed into the lepton.

$$\hbar \rightarrow +5$$

Define the next Planck constant as:

$$\hbar_n \rightarrow +7$$

$$\frac{\hbar_n}{\hbar} = 1.4$$

In agreement with what one expect, as each net variation is larger than the preceding, now one can take the actual value of the Planck constant and multiply by the ratio to reach the exact prediction – the next Planck Constant should be 1.4 larger than the original Planck is and stand as:

$$9.27649806 \ \times 10^{-34} \, m^2 \, kg \, /s$$

Nature of the Primorial

In previous papers, author presented the claim that the primorial coupling series is invariant, both across the manifold packet and both in time. The reason for that invariance was the invariance of the prime ring. It is possible to solidify the nature of this claim from a different angle of analysis, that is by classifying the primorial as a scalar function. A scalar function as reader probably knows is a real function, defined within a region and which values are invariant to any coordinate transformation. **Because** of the invariant prime ring, one can classify the primorial as a scalar function. The gradient of a scalar function is a covariant vector.

$$\frac{\partial \mathcal{L}}{\partial \phi_\beta} = \frac{\partial \mathcal{L}}{\partial \phi^a}\frac{\partial \phi^a}{\partial \phi_\beta}$$

As an example of a covariant vector. it is important to emphasize in the context of the primorial coupling series. Two final points, the first, is the primorial does not conation time parameter and thus is not varying time for independent interactions – i.e. only one distinct prime as net variation. The last argument does not include Gravity as it is a composite interaction as given by equations (2.2) and (2.3):

$$\left[\left(2N_{gravity}\right) + (3)\right] + N_{V1} + N_{V2} + N_{V3} = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \tag{2.2}$$

$$\left[2N_{gravity} + 2\right] \rightarrow \left[2N_{gravity}\right] \tag{2.3}$$

one has proven it is possible to replace one of the composite elements and keep the nature of the gravity invariant, and thus gravity coupling could vary overtime, by replacing $N_{VK3} \rightarrow N_{VK4}$.

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3}$$

$$[N_{VK1}, N_{VK2}, N_{VK3}] \in \mathbb{P}$$

$$K1 \dots KN \in \mathbb{R}$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4}$$

$$N_{VK3} \neq N_{VK4}$$

The gravity could be described by infinite distinct composites, which are time variant and still retain the inner nature of the Graviton:

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3} \rightarrow 2N_{()} + 2$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4} \rightarrow 2N_{()} + 2$$

Therefore, despite the primorial being a scalar function whose nature is invariant concerning elements which are independent, i.e. contain only one distinct prime, it does not apply to elements which are composite such as Gravity. Which vary over time.

Imaginary Couplings

Suppose the matric tensor has two interactions on it, which are studied by an observer. This observer does not know that the Bosons are isomorphic to the prime ring, and there are only two interactions, the electric interaction and the fourth interaction.

$$[(24 * 5) + (e)] + \gamma$$

$$[(120 * 7) + (3)] + 7$$

Assuming the net curvature appear not in a superposition but rather as distinct propagations on the matric tensor. if the observer is not familiar with the series, he could for example take the average of the two net curvature as a new coupling term. That is, associate Bosons to the ring of the integers and not to the ring of the primes, in that case to the integer six, the average. He could decide that there is a coupling constant, whose magnitude lies in between the range r:

$$128 < r < 850$$

$$\frac{\gamma + 7}{2} = 6$$

While in fact, he is measuring the average net curvature of two distinct prime amounts of net curvature. That is somewhat resembles the pseudo-forces measured from certain frames of reference in Einstein theory of relativity. one previously stated that in the 8T, the coupling magnitudes are invariant as the prime ring itself is observer invariant. It is also invariant across the manifold packet, different universe will possess the same coupling magnitudes, and as a result the same particles. That is due of the invariance of the prime ring. one can not associate a Boson to an even number, which vanish. In that sense it is imaginary.

The Chameleon Particle

one has taken two routes in the meaning of the invariant three, back in march author believed that the invariant three is different for each term. Later, a shift in perspective accrued and author stated that it is the electron for each higher term, which destabilize ever-growing fermion clusters causing net variations to appear in different magnitudes. That is because the invariant three is isomorphic to itself. In this paper, one will analyze the meaning of those options. If it is the electron for each higher term, which seems to be the more reasonable option, than there should be a set of Planck constants. The original Planck constants that describe the numerical term of photon absorption and emission is not special but part of an infinite set.

$$\mathrm{H} = [\hbar_1 \ldots \hbar_K]$$

Each Planck constant is isomorphic to a prime number according to the primorial coupling series. Another prediction that should be made. The prediction is the following:

Each higher term in the coupling series should be bigger than the preceding. That is because those higher terms are representing bigger quanta in the series. The statement is not in contradiction with the fact that each element in the series is weaker than the preceding as one calculated the ratio of net to total. Here one only interested in the net. So according to this viewpoint, which is the electron for each higher term, one reached a prediction regarding the discovery of Max Planck. Now one can expend the earlier option, which regard the destabilizer, i.e. the invariant three to be different for each term. Since it is the invariant three for each term, but it appears again as different for each coupling, it is again resembles a chameleon. If it is in fact the case, author does not lean to this direction, but would like to cover the spectra of options. Either option one take, one have an element which is either same for all, causing an emission of different Bosons, according to the current thought tides. Alternatively, one have distinct particles manifested by the same number, causing net curvature of distinct amounts to appear on the matric tensor. one presented those two options. Author is strongly leaning toward the first in this paper, i.e. it is the electron for all of those higher terms, as it was proven the invariant three to be an electron by putting it on the formula of the fine structure constant. However, there is always a reasonable chance that one's intuition is wrong and it could be a new particle for each term. The "proper" term for this element is the chameleon particle, both option describe its chameleon trait. To sum things up, three predictions were made:

(1) There is an infinite set of Planck constants. Each is isomorphic to a prime

(2) Those Planck constants are larger and larger from one interaction to another.

(3) The invariant three is the electron for each higher coupling term. The electron is the chameleon particle. It emits different Bosons for each coupling term.

Higgs Stealth Field

The analysis of the Higgs field will be done via the spin representation.

$$\text{Spin } 0\text{: } 2N_{0} \text{ variations}$$

$$\text{Spin } \frac{1}{2}: 2N_{0} + 3 \text{ variations}$$

$$\text{Spin } 1: 2N_{0} + 3 + N_{V} \text{ variations}$$

$$\text{Spin } N = 2N_{0} + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

In other words, the Higgs field is represented by the first term and is affecting the series from the weak interaction and above, as it is responsible to the additional term appearing in the coupling term of the weak and above, i.e. the invariant three. The two key points, which are at the heart of this paper, are the following. According to spin representation, there is more than one Higgs particle. That is because, if one idea is correct, there is no restriction imposed on the term of the spin zero. That is in rigor, spin zero can be parametrized;

$$2N_{(\ )} \to 2N_{\mu}$$

$$\mu \in \mathbb{R}$$

$$2N_{\mu} \in \mathbb{R}$$

Because of the parametrization of the first term in spin representation, one can create infinite terms that are distinct, that is:

$$2N_{\mu} \not\equiv 2N_{\mu+1} \not\equiv 2N_{\mu+2} \ldots$$

Each corresponds to a unique Higgs operator if one intuition is correct. It is again a bold risk as spin representation and net variation representation are different. The idea was to take a certain feature of the net variation representation, which is the ever-increasing variation terms, and use it in spin representation to predict that there are infinite Higgs particles. The second main point is the following. Since the $2N_{\mu}$ coupling terms are always present in the coupling series, the effect of Higgs, or the interaction of the Higgs with the Fermions and Bosons is constant. Hence, its name in the paper title, it resembles a stealth field, which is unfelt and yet is always there. That is only evident in spin representation. In addition, since the Higgs field is part of the primorial coupling series, i.e. a scalar function, that do not include a time parameter, one can predict that the Higgs is time invariant. If the higgs field is associated with the $2N_{\mu}$ term of the weak interaction as an example, it should be massless. If it is not the Higgs field itself is going via a process of a symmetry break. Either that or the idea of the mass symmetry break of the $8-1$ variations is incorrect. To summarize four predictions were made:

(1) Higgs are infinite in kind.(2) Higgs are in constant interaction with Fermions and Bosons, it is a stealth field. (3) Higgs particles are time invariant.(4) Higgs should manifested as Massless particle. If it is not, it is going via a symmetry break.

The Vacuum

One derived the primorial by using total variations pairing, one searched for pairs that have certain features one knows about Fermions. In particular, the total sums of the pairs had to be two and three divisible. Below marked in black are the pairings one used to derive the series.

$$(3,3)\ \ (3,5)\ \ (3,7)\ \ (3,11), (3,13)\ \dots$$

$$(5,3)\ \ (5,5)\ \ (5,7)\ \ (5,11)\ \ (\mathbf{5},\mathbf{13})\ \dots$$

$$(7,3)\ \ (7,5)\ \ (7,7)\ \ (\mathbf{7},\mathbf{11})\ \ (7,13)\ \dots$$

$$\dots.$$

$$(29,19)(29,23), (29,29), (\mathbf{29},\mathbf{31})\ \dots$$

One calculated the sums of those prime pairing using the simple formula:

$$\sum_{i=1}^{i=N} \mathcal{P}_i \quad = S; \qquad (2.14)$$

$$N = 2$$

And each of those pairs to theorized based on theorem three, have a net curvature element proportional to the average, one searched for the first two pairs, derived the third coupling term using the formula of the primorial, without the prime pairing, and concluded the idea was correct.

$$(p_1, p_2) = (5,13) \rightarrow \ N_V = +1$$

$$(p_3, p_4) = (29,31) \rightarrow \ N_V = +3$$

$$(p_5, p_6) = (?\,,?) \rightarrow \ N_V = +5$$

The fact that those prime pairs are in agreement with the coupling magnitudes does not mean that those pairs are exclusive or special. There is no law suggesting that these are the only pairs appearing in our theory and that is a good thing. Therefore, all prime pairing are appearing but because we have the condition of (2.12) those prime pairs of variations are taken to vanish. Therefore, one can define the prime pairs that are not suitable for the coupling criteria:

$$(p_N, p_{N+K}) = S_N$$

$$S_N \not\equiv S$$

$$[2\ ,3]\ |\ S \qquad (2.15)$$

Assuming one required the original condition, for the sum to be divisible by two and three. Therefore, the majority of those pairs do not answer the condition. However since the still vanish due to being an even number and using equation, each pair could be regarded as a single distinct zero. So those prime pairs vanishing are the playing the rule of the vacuum in the 8T.

$$\sum_{N=7}^{\infty}(p_N, p_{N+K}) \rightarrow \sum_{i=1}^{T} 0_i$$

$$T \dashrightarrow \infty$$

one started the summation as the primes indexed from one to six does answer the criteria of coupling constants, and cannot regarded as part of the vacuum. That is because they have a non-vanishing element N_V of certain kind. Those N_V elements are violations of stationarity causing Fermions to cluster. The idea was presented in the canonical equations of curvature spikes, (1.8) for Fermions and (1.81) for Bosons, vanishing and non-vanishing curvature spikes accordingly:

$$\frac{\partial \mathcal{L}}{\delta \mathrm{g_i}} = \frac{\partial \mathcal{L}}{\partial \mathrm{g_i}} - \frac{\partial \mathcal{L}}{\partial \dot{\mathrm{g}}_\mathrm{i}}\left(\frac{\mathrm{d}}{\mathrm{dt}}\right) = 0 \qquad (1.8)$$

$$\frac{\partial \mathcal{L}}{\delta \mathrm{g_i}} = \frac{\partial \mathcal{L}}{\partial \mathrm{g_i}} - \frac{\partial \mathcal{L}}{\partial \dot{\mathrm{g}}_\mathrm{i}}\left(\frac{\mathrm{d}}{\mathrm{dt}}\right) > 0 \qquad (1.81)$$

The summation of the prime pairing to zero is resulting in an infinite set of zeros. That is synonymous with the vacuum idea of quantum field theory:

$$\sum_{i=1}^{T} 0_i = \mathcal{V} \qquad (2.16)$$

Summing up in a concise manner. The vacuum is the result of prime pairing which do not have a net variation element, as they are not sums identical to (2.15) in their devisors. Thus, they vanish into zero. The sum of all vanishing zeros is the vacuum of the 8T, as presented in equation (2.16). All prime pairs appear, as previously mentioned, one can pair any even number of primes, one chose $N = 2$ for simplicity sake. The idea of the vacuum in this theory is somewhat hard to grasp, as it requires knowing beforehand where those violations of stationarity will appear, which is impossible to know. What is possible to know is those violations of stationarity **has appeared**, that is simple, where there is stars and galaxies. The vacuum idea than is more appropriate to describe in terms of short to infinitesimal time intervals, it is not a continuous entity in time.

Stability and Collapse

It is possible to reason the stability of the star in two ways, which are identical almost. The first is more general, that is by the opposing symmetry breaking of mass generation and force generation. Those two eliminate each other perfectly to achieve stability. By the primorial, one has proven the curvature diverging to be associated with the term $8+1$ and the Quark masses series with the symmetry breaking of the inverse kind, $8-1$ given by the series of total masses of each fermion generation:

$$19{,}600 \longrightarrow 1400 \longrightarrow 56 \longrightarrow 0.113\,...$$

That is to say that the curvature diverging inward is equal to the curvature diverging outward, and so the matter formation described by the term (1.48) is stable. If so, so does the star, as it is a cluster of Fermions. one can choose a more direct root to describe the stability of a star. That Is by comparing gravity to the forces extending or radiating from the star outward. The key point is that with time, gravity of the star can get stronger. As one currently regard gravity as a composite element, as time goes by, the primorial is generating larger and larger net variations, which could change the ratio of the gravitational "constant" of a star given by equations (2.2) and (2.3):

$$\left[\left(2N_{gravity}\right)+(3)\right]+N_{V1}+N_{V2}+N_{V3}=\left[2N_{gravity}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}+\frac{1}{2} \qquad (2.2)$$

$$\left[2N_{gravity}+2\right]\rightarrow\left[2N_{gravity}\right] \qquad (2.3)$$

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}$$

$$[N_{VK1},N_{VK2}\,,N_{VK3}]\ \in\ \mathbb{P}$$

$$K1\,...\,KN\ \ \in\ \mathbb{R}$$

However, the net variation N_{VK3} suddenly vanish from the combination and being replaced by a distinct net curvature element that is larger and in agreement with the arrow of time. now the gravitational constant of the star is stronger while the forces extending outward are the same.

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK4}$$

$$N_{VK3}\neq N_{VK4}$$

The structure of the gravity is invariant to the change of the element. Since the total spin is invariant, i.e. two, there is not a change in the nature of gravity; the structure is the same while the composite element could be different.

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}\rightarrow 2N_{()}+2$$

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK4}\rightarrow 2N_{()}+2$$

While the forces expending which are not a composite are the same, at a certain stage those gravitational interactions will supersede the forces extending outward, which will mean that the curvature converging will exceed the curvature diverging, and so this will ignite the collapse. That analysis is more detailed than the first root, given by the inverse symmetries and a lot more complicated as gravity is a composite interaction that seems to be only partially understood even with the recent advancement of the coupling series and the main equation (1). The key point to take from that analysis is that gravity due to being a composite and time variant can get larger over time, while the independent interactions, given by the primorial, which is a scalar function that do not include the time parameter, are the same in magnitude. That creates a long-term advantage toward the gravitational effect over the independent interactions. The result of such a framework is such that with large time increments, the probability for a collapse of a star is ever increasing. That agrees to what one have previously stated about gravity. That Gravitons are infinite in kind, and are short ranged due to spin two trait, which vanishes.

The Arch of Time Arrows

Is it possible to explain the three "distinct" time arrows using one idea? Author will argue that by using the primorial it is easily within reach. Starting with the radiation arrow, the primorial is perfectly suitable, as one regard the Bosons to be discrete amount of energy or radiation emitted from the lepton. As was presented in the thesis, pages thirty and thirty-one, the time arrow is evident. That is because each coupling term is weaker than the preceding given by the ratio of net to total pair averages. The direction of the arrow is the direction of time.

$$\frac{1}{9}>\frac{3}{30}>\frac{5}{128}>\frac{7}{850}\ \ldots$$

one already has the radiation arrow and the cosmological arrow unified by the primorial. Now the last arrow, the thermodynamics arrow. How can one present the idea of thermodynamics within the context of the primorial? As one believes, there are several ways to do just that. Among the set of potential ideas, one can state that as the primorial has more options, meaning more distinct primes will be propagated over time. That is because the direction of the arrow is the direction of time. so, over time one has more and more distinct elements, alongside constant matter creation given by equation (2.12), the result of such framework seems to be with an agreement with the second law of thermodynamics and therefore with the thermodynamics arrow. For simplicity sake, one can use a setting of a partitioned set:

$$\uplus: Top \rightarrow \mathrm{set}$$

$$\boldsymbol{\Sigma}:\left[\sum_{\mathrm{i=1}}^{\mathrm{N}}\delta \mathrm{g_i}=0\ ,\sum_{\mathrm{i=1}}^{\mathrm{K}}\mathrm{Z_i}\sum_{\mathrm{i=1}}^{\mathrm{K}}\mathrm{N_{Vi}}=\mathrm{Z_1N_{V1}..Z_KN_{VK}},\mathrm{t_1}\right] \qquad (2.17)$$

The set in equation (2.17) includes all the arbitrary variations that appeared on the manifold, all the net curvature classes according to their kind, given by the index summation, and according to the amount of times each appeared, given by the scalar multiples $Z_1 \rightarrow Z_K$. At later continuation of time, according to the primorial, one will find that the new set is presented by (2.17.1):

$$\psi : \left[\sum_{i=1}^{N+\Delta N} \delta g_i = 0 \text{ , } \sum_{i=1}^{K+\Delta K} Z_i \sum_{i=1}^{K+\Delta K} N_{Vi} = Z_1 N_{V1} .. Z_K N_{VK}, t_1 + \Delta t \right] \qquad (2.17.1)$$

$$\Delta N \text{ ,} \Delta K \in \mathbb{R}$$

In other words, more matter was created, the number of non-vanishing distinct curvature increased, and their kind increased as well. one has more elements of distinct kind. That does not contradict the flatness, as those are getting weaker and weaker; the point of the above equations is to present the thermodynamic picture in a simple way, which intersect with the Primorial. The primorial is the arch, which according to the 8T propagate all the three time arrows. Radiation are the Bosons, the cosmological is given by the ratios, and the TM arrow is given by the rise of entropy at infinitesimal time increments, these are different fingers of the same hand.

Net versus Spin

$$\frac{\partial \mathscr{L}}{\partial \Phi_i} \frac{\partial \Phi_i}{\partial M_E} \frac{\partial M_E}{\partial g_i} \frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j} \frac{\partial \Phi_j}{\partial M_E} \frac{\partial M_E}{\partial g_j} \frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3) \right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$N_V = 2\left(V + \frac{1}{2}\right); \; V \geq 0$$

$$N_V \in \mathbb{P} \cup (+1) ; \; \mathbb{P} \rightarrow \text{Set of Primes}$$

$$N_V = P_{max} \in [0, \mathbb{R}] \cup (+1) \; ; \; P_{max} \in \mathbb{P}$$

This is the first representation of the primorial, discrete amount of net curvature on the manifold. It is a detailed representation as one has leptons, Bosons as separate entities. This does not exist in spin representation of the primorial, and that is preciously how one derived the particle wave duality, due to spin variation. In spin representation, one used the prime critical line. That is the transformation for matter. The only thing one cares about in this representation is the prime critical line. Matter is associated with one-half, while Boson configuration is associated with one.

The spin representation ignore the lepton and regard all the coupling as a spin compass. One does not make a clear cutting classification to particles in this representation. For Bosons:

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

The key point, despite the spin representation is including matter in its coupling term, we don't care about this, we regard this whole term as spin one, and therefore only to Bosons. That is in contrast to the net curvature representation that makes a difference among each element in the coupling term. From spin representation it was quite simple to derive the particle wave duality for Bosons. In particular the particle wave duality is a result of total spin variation by half unit, caused by additional Boson, hitting the original Boson.

$$[(24 * 5) + (e)] + \gamma + \gamma \rightarrow 2N_2 + \frac{3}{2}$$

In spin representation, one has one entity, the total spin of the element, either Fermionic or Bosonic. The photon before measurement had spin one, now one measured it and it varied to one-half, no longer Bosonic spin. That was mentioned in the thesis. However, it is important to emphasize the difference among the representations. In net curvature representation, one analyzes each element separately, while in spin representation one cares only about the total of elements in the prime critical line. The $\left[2N \quad + \frac{1}{2}\right]$ is matter, $[2N \quad + 1]$ is for Bosons.

Spin Symmetries and Free Electrons

$$[(24 * 5) + (3)] + 5 \rightarrow \ [(24 * 5) + (e)] + \gamma$$

Shifting to spin representations for the third element in the series, which is electromagnetism:

$$[(24 * 5) + (3)] + 5 \rightarrow \left[2N2 + \frac{1}{2}\right] + \boldsymbol{\frac{1}{2}}$$

Replacing the bold element with the inner element of one-half would count as an invariant transformation that preserve the original structure in spin representation:

$$\left[2N2 + \frac{1}{2}\right] + \boldsymbol{\frac{1}{2}} \rightarrow \left[2N2 + \boldsymbol{\frac{1}{2}}\right] + \frac{1}{2}$$

$$[(24 * 5) + (e)] + \gamma \rightarrow \ [(24 * 5) + (\gamma)] + (e)$$

Such a variation of the coupling series does not affect the overall magnitude of the element, but using it one can reason for the existence of free charges in nature. Since this are not bound to matter, they do not have to vanish so nature will allow it. In previous paper one showed that if the original structure would be analyzed the electrons will add up to a positive summation of curvature, which must vanish. Nature than will generate an opposite set of spinning charges to ensure it will and that was the reason monopoles can not exist.

$$\sum_{\mathrm{i}=1}^{\mathrm{N}} \mathrm{e}_{\mathrm{i}} \rightarrow \sum_{\mathrm{i}=1}^{\mathrm{N}} (+3)_{\mathrm{i}} > 0$$

Those two conditions are in contradiction. The left is a positive curvature summation within a cluster of arbitrary variations which curvature must vanish. The solution is to represent an additional cluster of spinning the inverse direction within the cluster of matter to solve the contradiction of (1.37).

$$\sum_{i=1}^{N} (3)_i > 0 \;\cap\; \sum_{k=1}^{M} \delta g_k = 0 \qquad (1.37)$$

$$\sum_{i=1}^{T} (-3)_i < 0$$

$$\sum_{i=1}^{T} (-3)_i + \sum_{i=1}^{N} (3)_i = 0; \quad T = N \qquad (1.39)$$

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

Summing up, when the electron is bounded by the bracket as, nature will not allow to exist by itself, however by symmetry of spin leading to replacement of the elements, now the electron is free and such a vanishing of the summation is no longer valid. The equation than suggest an elegant and simple explanation to one of the most interesting enigmas of modern physics – the enigma of free electrons and lack of monopoles within matter.

Exotic Charges

To bring an element to itself given only two varying elements in the series one need two distinct maps, which attach a varying element to itself, by a threefold combination. $\delta g_1(O)\delta g_2(Y)\delta g_1$ For example. Even though the sub elements in the series are varying, the overall series can vanish. Now, count all the ways of possible combinations of those elements. one is going to analyze by the integral signs. Since it is a group, there is a natural map, which change an element to itself. One built his analysis firstly on those natural. We have that in order the series to vanish and given the threefold combination, the charge of each particle must be a devisor of three. In order the series to vanish, given an even of elements, the charges one derived must summed as positive or negative, integer, plus or minus one. Combined with the condition of the threefold, one reached:

$$\delta g_1 = +\frac{2}{3}$$

$$\delta g_2 = -\frac{1}{3}$$

$$\delta g_1\delta g_2\delta g_1 = +1$$

$$\delta g_2\delta g_1\delta g_2 = -1$$

$$\delta g_1\delta g_2\delta g_1 \Leftrightarrow \delta g_2\delta g_1\delta g_2 \qquad (1.32)$$

The pair in equation (1.32) will be permitted as it. Will pair exactly to zero, that is in agreement with the charges of elementary quarks and in the 8T arbitrary variations of curvature on the matric tensor. suppose that instead of three threefold combination, it took five to bring an element to itself, than the charge of each particle must be a five devisor. The new five-fold combination is given by (1.31)

$$\delta g_1\delta g_2\delta g_1\delta g_2\delta g_1 \qquad (1.33)$$

The charge of each arbitrary variation, if one is correct should be

$$\delta g_1 = +\frac{\Theta}{5}$$

$$\delta g_2 = -\frac{Z}{5}$$

In such way that the amount of each object in the set multiplied must summed as one. In the above example, the first element is appearing three times, and the second element appearing twice, so the overall combination, one can write:

$$\left(+\frac{\Theta}{5}\right) * 3 + \left(-\frac{Z}{5}\right) * 2 = 1 \qquad (1.34)$$

If one is correct, the first pair of exotic charges is

$$\delta g_1 = +\frac{3}{5}$$

$$\delta g_2 = -\frac{2}{5}$$

Such that (1.32) would be satisfied.

$$+\frac{9}{5}-\frac{4}{5}=1$$

If seven elements

$$\delta g_1\delta g_2\delta g_1\delta g_2\delta g_1\delta g_2\delta g_1$$

$$\delta g_1 = +\frac{4}{7}$$

$$\delta g_2 = -\frac{3}{7}$$

$$+\frac{16}{7}-\frac{9}{7}=1$$

One can see that there is a pattern, first of all it takes a prime-fold quark chain to bring an element to itself. Starting from threefold combination with certain charges, the numerator is increasing by one each prime-fold chain, starting from the first threefold combination. So in order to find out the charges one needs to know just how many elements are in the chain. For $n_1 = 1$ we have threefold combination of elements, so the charges are presented in the pair

$$\frac{n_1}{2n_1+1} \longrightarrow \left(\frac{2n_1}{2n_1+1}\right), \left(\frac{-n_1}{2n_1+1}\right)$$

For $n_2 = 2$

$$\frac{n_2}{2n_2+1} \longrightarrow \left(\frac{\mathbf{2}\boldsymbol{n}_\mathbf{1}+\mathbf{1}}{2n_2+1}\right), \left(\frac{\mathbf{-}\boldsymbol{n}_\mathbf{1}-\mathbf{1}}{2n_2+1}\right)$$

For $n_3 = 3$

$$\frac{n_3}{2n_3+1} \longrightarrow \left(\frac{\mathbf{2}\boldsymbol{n}_\mathbf{1}+\mathbf{2}}{2n_3+1}\right), \left(\frac{\mathbf{-}\boldsymbol{n}_\mathbf{1}-\mathbf{2}}{2n_3+1}\right)$$

The formula to represent the charge of each prime fold chain pair is the following

$$\frac{n_k}{2n_k+1} \longrightarrow \frac{\mathbf{2}\boldsymbol{n}_\mathbf{1}+(\boldsymbol{k}-\mathbf{1})}{\mathbf{2}\boldsymbol{n}_{\boldsymbol{k}}+\mathbf{1}}, \frac{-\boldsymbol{n}_\mathbf{1}-\boldsymbol{k}-\mathbf{1}}{\mathbf{2}\boldsymbol{n}_{\boldsymbol{k}}+\mathbf{1}} \qquad (\mathbf{5})$$

$$n_k = k;$$

$$k \in \mathbb{R}$$

Unbounded Quarks

Since it was proven that Fermions are described by the term:

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

The question is whether it is possible to create a scenario in which the Quark elements in the triplet is unbound. Suppose that the amount of net curvature of the first coupling term is constant, that the sea of Gluons is of finite size over time. If that assumption to hold true one can parametrize the sea of Gluons:

$$\sum_{i=1}^{N} \delta(+1)_i = K \qquad (2.12.\mathrm{A})$$

$$\frac{\partial K}{\partial t} = 0 \qquad (2.12.B)$$

If one accepts as an axiom that the Quarks triplet is bounded by the sea of Gluons, which is finite in size. Than in order to examine Quarks as free particles, there has to be a vanishing of the net curvature or the sea of Gluons. The vanishing can be presented by an inverse set of elements, which in physics is regarded as Anti-matter. Curvature in the orthogonal direction, in such way that the inner product of the two curvatures is zero.

$$\langle \delta g_i | -\delta g_i \rangle = 0$$

Given the asymmetry in between anti-matter to matter and the over simplistic assumption of the sea of Gluons to stay as it is over time, ignoring the fact that each net curvature increasing the probability of arrival to its position on the matric tensor, it is very unlikely that such a phenomena of unbounded Quarks can be observed. That is given by two reasons, the first, if the sea is in fact finite, there must be a way to count how many Gluons are presented in between the Triplet. The second, than, one will need to find a way to take the exact inverse amount of anti-particles and inject it into the sea of Gluons, to eliminate it. As far as one understand, generating anti-particles in infinitesimal amount is almost beyond our technological reach, let alone multi-particle set.

Growth and Decay of Curvature Spikes

$$\delta g \neq 0 \qquad at \qquad t = Q(t)$$

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

Bosons are mentioned in the first paragraph are described as net curvature, given by the term (3.13):

$$\sum_{i=1}^{M} \delta g_i > 0 \qquad (3.13)$$

Now, since they are associated with prime numbers given by the primorial coupling series –that cannot vanish into matter, their lifetime is stable and in fact infinite. They propagate all across the matric tensor, causing Fermions to cluster. Overtime, more and more ripples across the matric tensor should appear, they should be weaker in the elements in the beginning of the series. The bosonic spikes are described by the equation marked in black;.

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

$$\delta g \neq 0 \qquad at \qquad t = Q(t + \Delta t + \Delta t)$$

$$\Delta t \to 0$$

$$\delta g = N_V$$

The first main point of this short assay is that according to the 8T, the are two main kinds of curvature spikes, the stable ones, associated with long lifetime and independence over the matric tensor. These are Bosons, which are infinite in kind proved by the primorial. The second are the exact opposite, the spikes vanish immediately and has short lifetime. These are curvature spikes unstable, associated with Fermions. Another interesting question is whether the total amount of spikes both stable and unstable grow overtime. Regarding the second kind, the Bosonic spikes, it should grow overtime as the primorial is related to the arrow of time. that does not mean that the manifold gets more curved but rather more flat, given by ratio of net to total, aspiring zero. The same assumption could be made regarding unstable curvature spikes or Fermions. There should be matter creation at all stages of development of the matric tensor. The term in equation (3.13) is not limited to a certain era of time. that is similar to operators of creation and destruction in QFT but much simpler as it only contains one term. Overall, this paper objective was to describe the features of each curvature spikes in terms of their stability and longevity. Three main ideas were presented

(1) Stable curvature spikes with long lifetime are Bosonic fields – independent on the matric tensor.

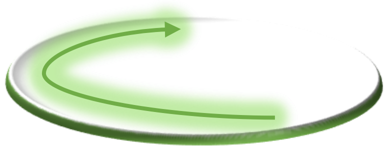
(2) Vanishing curvature spikes of short life time – Fermions. Two distinct elements, threefold combinations.

(3) The matric tensor should experience curvature spikes of both kind with each stage of development. If the matric tensor increase in size, so does the amount of the spikes.

Spinning Curvature Vortexes and Interference

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

Since it has spin, the net curvature is than a vortex of certain amount:

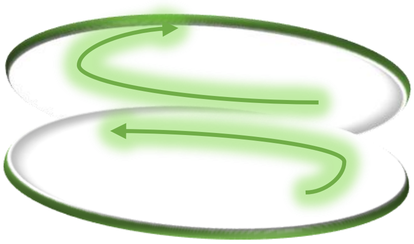


In addition, interference than could be constructed as two opposite curvature vortexes interfacing with one another. The area of cancelation is the area in which the opposite ripples on the matric tensor interest. The spinning curvature vortex is a more compete version of the phenomena of interference as it takes into account the two representations of the coupling constants series. The net curvature on the matric tensor given by equations (1.1-1.2) and the prime critical line, i.e. spin.

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

So now, one can visualize the phenomena of interference in the following way by the two representations:



If one define ripple operators ₰ from a starting area to another area, the mutual area of both will be the amount of interference.

$$₰ : A \rightarrow B$$

$$₰ : A' \rightarrow B$$

Interference will accrue at the manifold segment that is mutual to both starting point as previously mentioned.

$$\not\approx : A \cap A' \qquad (1.42)$$

Nested Curvatures

$$F_{V=0} \quad = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

Now, one can analyze the fifth term in the Primorial as an example of nested curvature:

$$[(840 * 11) + (3)] + 11 = \ 9254$$

$$[(840 * 11) + (3)] + 11 \longrightarrow \left[2N_5 + \frac{1}{2}\right] + \frac{1}{2}$$

Notice that one can represent the net curvature unbound, i.e. outside of the parenthesis as the following:

$$[(840 * 11) + (3)] + 5 + 5 + 1$$

Alternatively,

$$[(840 * 11) + (3)] + 3 + 3 + 5$$

Since those are equivalent to the net curvature of the fifth term, the can represent the fifth term to be a composite of nested curvature of lower magnitude. We have proven the photon to by associated with $N_V = (+5)$ and the Bosons of the weak interaction to be $N_V = (+3)$

$$[(8 * 3) + (3)] + 3 \ \longrightarrow [(8 * 3) + e^-] + \mathcal{W}^+$$

$$[(24 * 5) + (3)] + 5 \longrightarrow [(24 * 5) + (e^-)] + \gamma$$

So the fifth term can be represented the Bosonic interactions of the lower coupling terms, nested to one term $N_V = (+11)$:

$$[(840 * 11) + (e^-)] + \mathrm{g} + \gamma + \gamma$$

Two photons and one gluon nested together. Alternatively two $\mathcal{W}^+$ Bosons (can be the minus as well or the Z Boson), and one photon, nested exactly to $N_V = (+11)$.

$$[(840 * 11) + (e^-)] + \mathcal{W}^+ + \mathcal{W}^+ + \gamma$$

In other words, take all the composite variations by lower magnitude primes associated with Bosons and represent them inside the higher term. It is possible to do with every higher term and solidify the validity of the framework as curvature is all there is.one can think about the higher terms as nested net curvature of different amount. Similar to how one can represent any point in space using a set of independent vectors, one might represent each higher coupling term by a set of independent primes nested together in different combinations. This new coupling term than is an exotic new particle with is a composition of primes of lower magnitude, so despite it is a composition it will appear as a single entity with spin one as far as one believes.

$$E = MC^2$$

Einstein idea is than expressing a certain morphism between converging curvature to diverging curvature, and also from the new framework one can simplify the idea of Energy. Energy is a measure of curvature on the matric tensor. Energy converging is mass, energy diverging is synonymous to the coupling constants. Energy is absorbed and emitted in discrete amounts, isomorphic to primes or one for the coupling constant series. In contrast to Einstein theory, our definition of energy is inclusive of particle masses and of Bosons. one has proven Bosons to be net curvature on the manifold. So Bosons according to our definition is diverging energy on the matric tensor, in agreement with the phenomena of photon pressure for example. The reversed process is of course possible, it is possible to combine diverging energies toward a morphism of mass. one can represent Einstein idea in a new way, maybe not calculative but calculation is not the point in the 8T as it almost merely mathematical. one can parametrized the patterns of converging and diverging curvatures

$$2^3 - (1) \longrightarrow g_c$$

$$2^3 + (1) \longrightarrow g_d$$

Curvature diverging g_d is equal to curvature converging, g_c, times the square of speed of light. A new version of the Einstein equation, equation (1.9).

$$g_d = g_c c^2 \tag{5.1}$$

The Sphere Shape of Stars

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A) + \mathcal{M}\right) + P(A)$$

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A)\right) \longrightarrow 0$$

Since the probability is not known, and the direction of propagation of net curvature, i.e. Boson is not known, one can assume that each segment of the matric tensor in one dimension will have the same probability of net curvature reaching to it from a certain fermion entity. In other words, Bosons can propagate to all directions without any laws in equal probability. Boson propagation means fermion clustering in larger and larger amounts as presented by delta function. arbitrary variations vanish in even number represented in the equations

$$\delta g \neq 0 \qquad at \qquad t = Q(t)$$

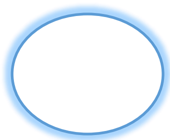
$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

There is always a chance net curvature will appear at later continuation of time. That is Bosonic fields given by the primorial coupling series ;

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

$$\delta g \neq 0 \qquad at \qquad t = Q(t + \Delta t + \Delta t)$$

Since one has $N_V = P(A)$ the probability of net curvature to appear from matter cluster in a certain direction is the same for all directions, and thus the result in one dimension is a circle.



Take three dimensional matric tensor and the result is a sphere. The conclusion if one is correct is the following. Because the probability of emission is unknown to all directions, it means it is equal to all direction or invariant to directions. In one dimension, it is a circle that the center represents the fermion which the net curvature is propagating, and in three dimensions it is a sphere. one can state the idea in simple and elegant fashion: The sphere shape of a star is due to invariance to the direction of the net curvature propagation – i.e. Bosonic fields causing fermion to cluster.

Inner Curvatures– 8T versus GR

Einstein beautiful theory of general relativity is correlating matric tensor to the Stress Energy tensor by the famous equation;

$$G_{\mu\nu} = 8\pi T_{\mu\nu}$$

The theory implies a morphism between matter, which causes the bending of space-time, and the bending of space-time dictates the trajectory of matter. This idea is correct but only up to a certain extent. In the new 8T, the fermion cluster itself is not allowed having curvature given by (2.12) but rather it is **the inner curvature within the fermion clusters** that causes the bending of space-time. Einstein theory is correct in the major sense of curvature and space-time bending, but the key point and were the 8T and GR differ is the source and the nature of that bending. GR correlates to (2.12) while the 8T correlates to (3.13.B), prime amounts of distict net curvature, supported by the primorial coupling series. The inner curvatures inside the fermion cluster are deflecting linearly polarized curvature rays, not the fermion cluster itself, matter itself is not the cause for bending, what is propagating within matter is the cause of bending. Those Bosons are violations of stationarity causing matter to cluster, which is manifested in their isomorphism to prime numbers. Another major and significant difference is that in Quantum scale, one currently regard Gravitation to be a composite interaction that have infinite variations. This prediction was constructed on the primorial. While Einstein and GR regard the Gravitational constant as a constant, in the 8T it is a subject to a constant variation. That is because the structure of Gravity is preserved, i.e. invariant to different composition of net variation elements, given by the equations (2.2) and (2.3) below.

$$\left[\left(2N_{gravity}\right) + (3)\right] + N_{V1} + N_{V2} + N_{V3} = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \qquad (2.2)$$

$$\left[2N_{gravity} + 2\right] \rightarrow \left[2N_{gravity}\right] \qquad (2.3)$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3}$$

Another possible composition, among infinity of others:

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4}$$

The structure of the gravity is invariant to the change of the element. Since the total spin is invariant, i.e. two, there is not a change in the nature of gravity; the structure is the same while the composite element could be different. The spin two indicate short range, which agrees with the idea of inner curvature, and with the lack of detecting the graviton. The spin two vanish to an even number in net curvature representation. As equation (2.3) indicate, that is how one derived the Graviton is massless.

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3} \rightarrow 2N_{()} + 2$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4} \rightarrow 2N_{()} + 2$$

Other major differences between the GR (1918) and the 8T (2021) is that GR does not include flatness while 8T flatness is and immediate result, given by (2.12) and the main equation (1). Einstein had to insert the cosmological constant that dictates that negative acceleration. Suffice to say Einstein theory does not include any of the other interactions, while 8T predicts all under the primorial series. Therefore, despite 8T and GR both are assembled by manifolds and curvature as the main pillars, they also differ in incredible manners in explaining the reason for that curvature. A major difference in the spectra of phenomena both theories can provide an explanation to, 8T includes Quantum interactions alongside Cosmological formations while GR as impressive as it is does not provide an answer to how those matter formations were created in the first place. The only disadvantage is 8T is not computational in a sense, other than the primorial and the mass series it seems at the verge of impossible to do calculation with the main equation of the 8T, similar to the integrations presented in QFT all over space-time. On the other hand, similar to Einstein approach, ideas are more important than calculations and a search for beauty is more important than a search for numbers. So the predictions made about light rays bending, or linearly polarized curvature rays is absolute correct, it's **the cause** to that bending which need to be revised, the inner curvatures, short ranged, and isomorphic to the higher coupling terms in the primorial as many elements are varying, (also count for the weakness of gravity) which cause the bending of light, not the matter per-se. That is the reasoning the 8T suggest to the proven correct and beautiful result and prediction made by the one and only **-** Einstein. As was mentioned above page alongside in previous papers, 8T does not associate gravity as presented in equations (2.2) and (2.3) to long range due to vanishing spin two in net variation representation. That means that the gravitational interactions among stars is mediated by different coupling. The 8T suggested that the gravitation in long ranged is meditated by light, as photons are net curvature diverging long ranged due to spin one trait that do not vanish.

Higgs Particle as Tool for Measurement

one partitioned and discretized the arbitrary variation term and derived the existence of Fermion. In particular, one has shown that it must have an even amount of elements, which differ in sign and create nine threefold combination, and no more than two distinct elements.

$$\delta g_1 + \delta g_2 \dots = \sum_{i=1}^{N} \delta g_i$$

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

Bosons:

$$\sum_{1=1}^{M} \delta g_i > 0 \qquad (3.13)$$

the primorial explained the phenomena of particle wave duality, by additional photon causing a shift in the spin by additional half unit. Such a shift is leading to a spin no longer Bosonic. So it is impossible to measure a photon without interfering with his nature, shifting it from wave to a particle.

$$[(24 \times 5) + (e^-)] + \gamma + \gamma \rightarrow 2N_2 + \frac{3}{2}$$

revisit the last sentence: "So it is impossible to measure a photon without interfering with his nature, shifting it from wave to a particle". Is that really impossible? What if instead of a photon, which located on the prime critical line, one would measure with spin zero particle, which is not on the prime critical line. Such theoretical measurement would not vary the spin of the photon, and therefore could be a better measurement tool. Suppose it someday would become possible to measure with the Higgs, instead of the photon. one know the Higgs has spin zero, and therefore one scatter the Higgs onto the photon to perform the measurement, the result according to the primorial will look:

$$[(24 * 5) + (e^-)] + \gamma + \mathrm{H}^0 \rightarrow 2N_2 + 1$$

The spin of the photon has not changed; it is invariant to the Higgs particle, as it is not on the prime critical line. one can therefore make a **prediction.** (1) By replacing a photon by the Higgs as a measuring tool, one could measure a photon without changing its nature, from wave like to a particle like.

The Action

Taking the main equation (2), and not (1) (to avoid second derivatives) as the Lagrangian of the theory, and using integration to get to the action, the "Hamiltonian", one can reach an interesting option. The most significant difference between the 8T and QFT, if one is correct, is that matter can be created while keeping the manifold stationary. That is because matter pairs in such way that the result is no curvature, given by (2.12). Another way to put it, it is presented in sums two and three devisable to vanish into matter, the overall result is zero. Therefore, as long as matter is created in random fashion the manifold is still stationary. These are far from trivial statement and in complete contrast to Quantum Field Theory. Which in trying to keep the S matrix unvaried, as it is present an anti-matter particle to each particle of matter created. The problem with the QFT idea of anti-matter paring to each matter created, is that if that were the case, anti-matter would be found in much higher amounts, equal to matter in fact, and it would not be that rare to detect. Therefore, QFT idea in that sense is problematic, as one knows that there exist an asymmetry in matter to anti-matter distributions toward the first.8T suggest matter creation and stationarity of the action at the same time, it is the Bosonic propagation, which violate the stationarity of the manifold. Those violations are the result, as you probability know by now, of the prime number feature, i.e. a number which is neither two nor three devisable, each prime is isomorphic to a distinct Boson. one has presented the idea of violations of stationarity in equations (1.8) and (1.81) for Fermions and Bosons respectively:

$$\frac{\partial \mathcal{L}}{\delta g_i} = \frac{\partial \mathcal{L}}{\partial g_i} - \frac{\partial \mathcal{L}}{\partial \dot{g}_i}\left(\frac{d}{dt}\right) = 0 \tag{1.8}$$

$$\frac{\partial \mathcal{L}}{\delta g_i} = \frac{\partial \mathcal{L}}{\partial g_i} - \frac{\partial \mathcal{L}}{\partial \dot{g}_i}\left(\frac{d}{dt}\right) > 0 \tag{1.81}$$

The subject of the action taken from that point of view turns to be quite complicated and requires additional analysis. That is it because the features of the Bosonic propagations must be taken into account. If one associate the Bosonic "fields" to independent, stable curvature spikes, as the author suggest in the thesis that means that the stationarity cannot be preserved, if one keep developing the main equation using Ricci curvature:

$$\frac{\partial g}{\partial t} = -2Ric$$

Than the sign of (3.13.B) for Bosons reverse:

$$\sum_{1=1}^{M} \delta g_i > 0 \quad \rightarrow \quad \sum_{1=1}^{M} \delta g_i < 0 \tag{3.13.C}$$

If one requires the condition of stationarity to be (2.12) than one can examine (3.13.C) as the term which does not interfere with the action as it is smaller than zero. So taken from this point of view, Bosons are not in violating the action as well as they now reversed in sign. It is just an idea of course, the author is not included the action in the thesis as it is quite a different framework than QFT or General relativity. The **key question** of the subject matter, can one created a theory in which random particles of all kind appear while keeping the manifold stationary? one knows one can do it for Fermions, it was proven. However, can one do it for Bosons as well? (3.13.C) also could suggest that there is a symmetry and for each violations of positive prime, there exist a negative violation represented using the Ricci curvature.

Ripping Apart Space-Time

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$F_{V=0} \;= 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

Suppose that instead of the original representation of the original coupling series, we would vary it. We could take the Boson of the first interaction and split it, to any number of sub- elements.

$$8 + \sum_{i=1}^{K}\left(\frac{1}{N_i}\right) \qquad (1.4.\mathrm{A})$$

$$\sum_{i=1}^{K}\left(\frac{1}{N_i}\right) = 1$$

However, in physics, the coupling constants as presented in the 8T, exist in the form:

$$\alpha^s : \alpha^w : \alpha^{-1} \rightarrow 1:30;128$$

So if we split the strong into sub elements one have created in a sense magnitude which are of the order:

$$\left(\frac{1}{N_i}\right)^{-1} \longrightarrow N_i \qquad (1.4.B)$$

In addition, from here:

$$N_i \gg 1$$

Since those magnitudes implies Bosons stronger than the strong interaction, which do not exist or else would have been easily detected, by their effects, those fractions can not be associated with a Bosonic particle. Those fractions however are not forbidden by nature as long as they can rejoin to the formation of the original net variation, which is one. If one intuition is correct in that case, that means that space can be ripped apart at high energies, and can re-merge to original formation. That is because nature does not forbid splitting the net variation element of the strong interaction to any amount of sub elements, which correspond to much higher strength in physical meaning, which can't be a Boson. If space-time can bend, and the strongest bend is isomorphic to the strong interaction, which is one, by splitting this element and using the relation of $(1.4.B)$ one have created higher energies which can not be isomorphic to a Boson. one thus created such an immense of curvature which is diverging outward, that space time itself could be ripped apart for some summation of N_i. Suppose that there is a limit on this parameter, space time has been ripped apart, that ripping apart means highest amount of energy, $\partial \mathrm{g}/\partial \mathrm{t} = 0$, since all the manifolds in the packet share that condition, which one required by the main equation, $\partial \mathrm{g}/\partial \mathrm{t} = 0$ means we have reached the kernel, and we can jump from manifold to manifold. If one intuition is correct $\partial \mathrm{g}/\partial \mathrm{t} = 0$ is the space in between two distinct manifolds flatting each other. It also means that at extremum low energies, space-time would be ripped apart to allow a gate to this space. Such a construction allow us to reason the physical phenomena of "light balls". Since the manifold is actually a flat surface getting flatter and flatter, so does this space must appear flat, and not varying over time, as $\partial \mathrm{g}/\partial \mathrm{t} = 0$ means does not vary overtime. So suppose some traveler would like to travel to another point on another manifold, assuming that long enough travel would get him there, he decides to travel to a radius R, $R \to \infty$ and but that is only because he does not understand that those manifolds are very close. A more knowledgeable traveler decides to use high energy or a natural light ball to reach the kernel, at a distance of $(1/R)$ from him, he gets in and within no time, he is at the point of another distinct manifold. It does not have to the inverse of R but the idea was to the demonstrate that idea of distance does not apply within that space. It is currently unclear whether it is possible to jump from one point to another on the same manifold. If there exist two areas are extremum curvature are existing on the same manifold, it means that it is possible to jump from one to another again by changing to the kernel, which is the same for all. These ideas are so against intuition and hard to grasp as we are used to think in terms of linearity as means of reaching from one point to another.

Spin and Interference

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

In page fifty-five in the thesis, the primorial explained the phenomena of particle wave duality, by additional photon causing a shift in the spin by additional half unit. Such a shift is leading to a spin no longer Bosonic. So it is impossible to measure a photon without interfering with his nature, shifting it from wave to a particle.

$$[(24 * 5) + (e)] + \gamma + \gamma \rightarrow 2N_2 + \frac{3}{2}$$

The same equation which one used for the particle-wave duality on a single photon getting scattered by additional photon can shade light on the structure of interference. That is because the above term includes two photons, normally a physicist summing their spin would expect their spin to be summed as an integer:

$$\gamma + \gamma = 2$$

That is not the case according to the primorial, so that is the same procedure taken, but on another phenomena we know exists in waves. The fact that the total spin of the two photons is less than the summed spin of each individual photon implies that there is a cancelation. The particle wave duality emphasize the total spin of the single element, but here one analyzes the number of elements total spin. So the primorial clearly shows:

$$\gamma + \gamma = \frac{3}{2}$$

Quantum Manifolds

$$\mathrm{s} = (\mathrm{M}, \mathrm{g}) \longrightarrow (\mathrm{M}, \mathrm{g}, \mathcal{F})$$

$$\boldsymbol{\varphi}: \boldsymbol{N_V} \longrightarrow \boldsymbol{\wp_i} \qquad (\mathbf{2.4})$$

$$N_V = 2\left(V + \frac{1}{2}\right); \; V \geq 0 \qquad (1.42)$$

$$N_V \in \mathbb{P} \cup (+1); \; \mathbb{P} \rightarrow Set\ of\ Primes$$

$$N_V = P_{max} \in [0, \mathbb{R}] \cup (+1) \; ; \; P_{max} \in \mathbb{P}$$

$$\mathcal{F} = \sum_{i=1}^{i=N_v} \wp_i$$

$$N_V = +3 \longrightarrow \wp_{i=3}$$

$$\wp_i \in [0,1]$$

To each net variation element, N_V there exist a parameterized unique probability of emission or absorption onto the lepton from the second term (for simplicity sake the first term is ignored) and above given by (2.4), the summation of all the probability than taken onto $\mathcal{F}$, which was chosen as tribute to one of the all-time greats, Richard Feynman. The new manifold can be than considered as the Feynman manifold. For simplicity sake, one will analyze the third coupling term, electromagnetism.

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

Suppose that the electron just emitted a Boson, a net variation of discrete prime amount, and a distinct electron has just absorbed it. The electron that just absorbed it is described by the process:

$$(e \longleftarrow \gamma) \rightarrow e$$

The important point is that the electron, which absorbed and the electron that emitted, now differ in terms of their probability. The probability of the electron that absorbed is higher as it has additional term of distinct prime curvature within it. The result of all this is that one can introduce a superscript on the electron to sum the number of elements, i.e. prime Bosons it has within it, and according to this number the probability of emission/absorption is varying.

$$e \longrightarrow e^{\mathcal{K}}$$

$$\mathcal{K} \in \mathbb{R}$$

For the electron that absorbed a photon, the new parameterization will be:

$$e^{\mathcal{K}} = e^{+1}$$

For the electron that emitted the photon the probability in the new parameterization will be:

$$e^{\mathcal{K}} = e^{0}$$

One needs to introduce a sub-script to differentiate the two electrons, so overall:

$$e^{\mathcal{K}} = e^{+1} \rightarrow e_1^{+1}$$

$$e^{\mathcal{K}} = e^{0} \rightarrow e_0^{0}$$

The point is now that each of those leptons has a distinct probability, one needs another superscript on the probability parameter to differentiate between two elements of the same coupling kind:

$$e_1^{+1} \longrightarrow \wp_{i=5}^{e=1}$$

$$e_0^{0} \longrightarrow \wp_{i=5}^{e=0}$$

Since that superscript is the summation of the absorbed net curvature of distinct amount, we can easily conclude that the probability of this lepton to emit is higher, because of the summation of the superscript. That is:

$$\wp_{i=5}^{e=1} > \wp_{i=5}^{e=0}$$

That the probability of emission is higher due to the higher subscript. It is also proportional to the superscript, the higher it is, and the higher should be the probability:

$$\wp_i \propto \mathcal{K}$$

The summation of all probabilities across all the coupling terms on the manifold is manifested in the summation:

$$\mathcal{F} = \sum_{i=1}^{i=N_v} \wp_i^{\mathrm{X}}$$

The subscript is the kind of net variation:

$$\boldsymbol{\varphi}: \boldsymbol{N_V} \longrightarrow \boldsymbol{\wp_i} \qquad (\mathbf{2.4})$$

The superscript is the element which absorbed

$$\mathrm{X} = e_i; \quad i \in \mathbb{R}$$

The term can be re-scaled:

$$\mathcal{F} = \sum_{i=1}^{i=N_v} \wp_i^{\mathrm{X}} = 1 \qquad (2.41)$$

In (2.41) we need to sum all the elements in X.

$$\mathrm{X} = \sum_{i=1}^{K} e_i \longrightarrow \mathrm{X}_S$$

This results in the final form of (2.41):

$$\mathcal{F} = \sum_{i=1}^{i=N_v} \wp_i^{\mathrm{X}_S} = 1 \qquad (2.41.A)$$

The end result is a varying manifold which take into account the probably of emission due to absorption, that is due to a superscript summation on the lepton. The final form of (2.41) sums over all the leptons of a certain kind which injected onto $\mathcal{F}$. These are Quantum manifolds, in other words. one can also make a prediction that the electron would aspire to the lowest summation on the superscript, which means to the lowest energy level possible, or to the least amount of prime distinct curvature within it.

$$e_{\mathcal{N}}^{\mathcal{K}} \longrightarrow e_{\mathcal{N}}^{0}$$

For some time parameter: $t \to \infty$

Another way to state is the exact same thing:

$$\frac{\partial \wp_i}{\partial t} \neq 0$$

That is to state that leptons has a varying probability of emission over time, and if one aspires to be more brave, according to the superscript prediction, the probability of **emission** should be lower, and aspire zero over time. One can only consider emission has the superscript is describing how much distict prime amounts the lepton contains. The prediction about absorption seems to be a somewhat more complicated, and depends upon the expansion of the manifolds as an example, thus it will be left out of this paper.

Homomorphism's

The summation of the prime pairing to zero is resulting in an infinite set of zeros. That is synonymous with the vacuum idea of quantum field theory, all the prime pairs, which do not have net variation element, that is non-vanishing element, N_V, are the composite of the vacuum of the 8T:

$$\sum_{i=1}^{T} 0_i = \mathcal{V} \qquad (2.16)$$

Suppose we have a new zero appears, that zero could be a result of two distinct prime pairs, in that sense we don't have an isomorphism but an homomorphism which indicate a loss for information.

$$0_{i=1} \longrightarrow (p_{N=1}, p_{N=2})$$

$$0_{i=1} \longrightarrow (p_{N=3}, p_{N=4})$$

The loss of information in that sense is indicating that the arrow of time is not reversible, that is because it is impossible to indicate to which pair the zero is correlated. Additional feature of loss of information is part of the primorial higher primes which composite of lower magnitude primes. In the proof of the Riemann hypothesis, author showed that primes are forming non-abelian group under addition and multiplication. The condition under addition is to have odd amount of higher primes, to reach new higher prime. Since prime are isomorphic to a Boson, one creates a unique prime in more than one combination. Take as an example the prime, i.e. Boson $N_{V4} = +101$, the first prime composition is:

$$N_{V4} = 91 + 7 + 3$$

The second composition is an example:

$$N_{V4} = 31 + 67 + 3$$

There are several unique compositions for distinct higher primes, which indicate that it is impossible to correlate an higher Bosons to a constant structure, that is in fact a major feature of gravity in the 8T, and the reason one consider it to be a time variant interaction.

$$[(2N_{gravity}) + (3)] + N_{V1} + N_{V2} + N_{V3} = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \quad (2.2)$$

$$[2N_{gravity} + 2] \to [2N_{gravity}] \quad (2.3)$$

Summing up, we have defined two kinds of homomorphism in the paper; the first is from prime pairs to zero:

$$\mho: S_N \longrightarrow 0_i$$

The second is from lower composition of primes to reach a distinct higher prime:

$$\mathrm{Z}: \sum_{K=1}^{N} N_{VK} \longrightarrow N_{V(K1+K2\ldots)}$$

$$N = 2n + 1;$$

Those two process are positive indication that the arrow of time is not reversible and that there is constant 'loss" of information as the manifold develops. Lost in a sense that it is impossible to retrace how one reached a certain situation, not lost in a sense that some net variation has vanished from the manifold, we have presented the conservation of variation to eliminate such scenarios.

Abelian versus Non-Abelian

Since we have proven that the arbitrary variation term contain only two distinct element which vary to one another to form a group, and nine combination of two distinct elements, one can consider matter to abelian theories. Such is in fact the case as the number of combinations from the omega minus to the proton and neutron is finite. The two elements and their joint product which is the omega minus.

$$\varkappa: Top \rightarrow Set$$

$$\mathrm{T} = [\delta \mathrm{g}_1, \delta \mathrm{g}_2, \delta \mathrm{g}_1 \times \delta \mathrm{g}_2]$$

Matter formations than is described by abelian group theory and a finite set of transformation on finite number of elements. In contrast to theories which tries to predict how those arbitrary variations vary such as string theory, the arbitrary variations of the terms in the set is to the other element, slight variations of each term, **from itself to itself do not generate a new particle**, or else the number of combinations would be immensely bigger and that is not the case. Theories of that kind are destined to fail, as if one correlates each slight variation to a new particle you are heading to infinite amount of particles and no laws of nature of any sort.

$$\delta \mathrm{g}_1{}' \leftrightarrow \delta \mathrm{g}_1$$

The condition of stationarity imposes a restriction, any variation of the term must be accompanied with the inverse variation on the second element in the set, so that the total series would vanish into zero. In other words, the stationarity demand (1.48) is responsible for the finite number of Fermions, and the fact that they from an Abelian group. The same does not apply to Bosons. We have used the proof of the Riemann hypothesis to demonstrate they form a non-abelian group, that is evident as the primes are infinite in kind, and each Boson is prime isomorphic. As an example of the non-Abelian features of the Bosons one created an higher Bosons as a combination of odd number of lower magnitude primes:

$$N_{V4} = 91 + 7 + 3$$

The second composition is an example:

$$N_{V4} = 31 + 67 + 3$$

There are several unique compositions for distinct higher primes, which indicate that it is impossible to correlate higher Bosons to a constant structure that is in fact a major feature of gravity in the 8T, and the reason one considers it to be a time variant interaction. The non-Abelian feature of Bosonic particles indicate that is homomorphic, and there is a loss of information. Just as nature creates discrete amount of curvature on a continuous smooth setting, it also has features both Abelian and non-Abelian according to each spin classification. Bosons are non-Abelian, violations of stationarity and Fermions are vanishing curvature spikes, forming an Abelian group of two distinct elements and their product. The beauty is that we can reason for the Bosonic non-Abelian trait and do it with ease as we understand now given by the primorial how to represent them. That is only because 8T started with the ideas and theorems, derived the series and reasoned the aspiring infinity terms. If we just kept measuring magnitudes or kept searching for new particles, while adding new Bosons to the standard model, we would not be able to reason for their non-abelian nature. The key point is that there exist a time in science in which ideas exceed measurements, as measurements can not explain to us **why things are the way they are**. If a race has a very strong technical abilities, which manifested in highly sensitive measuring equipment, it is able to detect all the first fifty interactions, but does not know where does numbers are coming from or how many of those numbers exist, how much does it now about nature ? How much effort they invested in measurements versus a race who only needs a mathematical series and a calculator?

Curvature Spikes Amplitudes

In page sixty six of the one has presented a possible variation of the primorial, replacing the electron by pi, to derive it is imperfect circle close to pi. We presented additional variation, with the net variation as demonstrated in the page below.

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V \to \left(8 * \prod_{V=1}^{V=R} N_V + (\pi)\right) + N_V$$

$$8 + \left(\frac{\boldsymbol{\pi}}{\boldsymbol{3}}\right) : \big(24 + (\boldsymbol{\pi})\big) + 3 : \big(120 + (\boldsymbol{\pi})\big) + 5 : \big(840 + (\boldsymbol{\pi})\big) + 7 \ldots$$

$$8 + \left(\frac{\boldsymbol{\pi}}{\boldsymbol{3}}\right) : \big(24 + (\boldsymbol{\pi})\big) + \boldsymbol{\pi} : \big(120 + (\boldsymbol{\pi})\big) + (\boldsymbol{\pi} + 1.82) : \big(840 + (\boldsymbol{\pi})\big) + (2\boldsymbol{\pi} \ + 0.716)..$$

we have analyzed the fact that each element in the series is weaker than the preceding to the aspiring zero ration of net to total. This is relevant because the idea one would like to present in this paper is the following: the pi terms of the net variation are representing the area of propagation and the numerical terms of the net variation such as 1.82, 0.716.., are representing the amplitude, the height of the spike. As one keeps developing the series the amplitude gets weaker and weaker, i.e. lower and the area of propagation gets wider. Highest amplitude (from the second and above to avoid the complexity of the first term) is correlative to the second term. one can make it rigorous:

$$\eta_n \pi \longrightarrow \infty;\ \eta \in [0, \mathbb{R}]$$

$$N_V - \eta\pi \ \longrightarrow \mathrm{E}_n;$$

The result of this idea will vary the primorial in the following way:

$$8 + \left(\frac{\boldsymbol{\pi}}{\boldsymbol{3}}\right) : \big(24 + (\boldsymbol{\pi})\big) + \boldsymbol{\pi} : \big(120 + (\boldsymbol{\pi})\big) + (\eta_n \boldsymbol{\pi} + \mathrm{E}_n) : \big(840 + (\boldsymbol{\pi})\big) + (\eta_{n+1} \boldsymbol{\pi} \ + \mathrm{E}_{n+1})..$$

For the weak interaction the amplitude and the area are embedded in the term $\boldsymbol{\pi}$**,** the classification is more vivid from the coupling term of the Electric and above. As the series develop we can see the inverse relation among the two components:

$$\eta_n \pi \longrightarrow \infty$$

$$\mathrm{E}_n \longrightarrow 0$$

Such a classification is beneficial, as we would like to insert and include vital features as amplitudes and spikes areas, which are fundamental importance in physical theories. The terms were not possible to include in net variation, as it contain only one term and certainly not possible to include in spin representation. For those reasons, we can use the pi representation which trade off the accuracy but allows us to expand the scope of the 8T to new horizons. A beautiful visualization of the idea of the spike amplitude and area, is the water ripple illustration:

As time goes by, the amplitude will aspire lower and lower height and the circular areas will get larger and aspire infinity, similar to what are primorial is indicating. This pi representation allows us to vividly observe the wave features of the primorial; the difference is that instead of water wave we have diverging curvature on the matric tensor, which is isomorphic to prime numbers or one. The prime number feature is indicating the independency of those waves and lack of dependency on matter. The aspiring zero spike is an indicator to the weakness of interaction from term to term, it can also be used to explain the particle wave-duality, the top of the spike can be viewed by an observer as a particle, while at the same time the pi multiples are the part which represents the waves. The complication is that the spike should travel with the wave itself, and that is not the case in the water illustration. However, the key point is that the pi representation allows us to make a classification according to ever-increasing spike area and ever-decreasing spikes height, which could be an analogue to wave amplitude and wave propagation in space that fills space overtime.

Quantum Entanglement

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

$$F_{V=0} \;\; = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

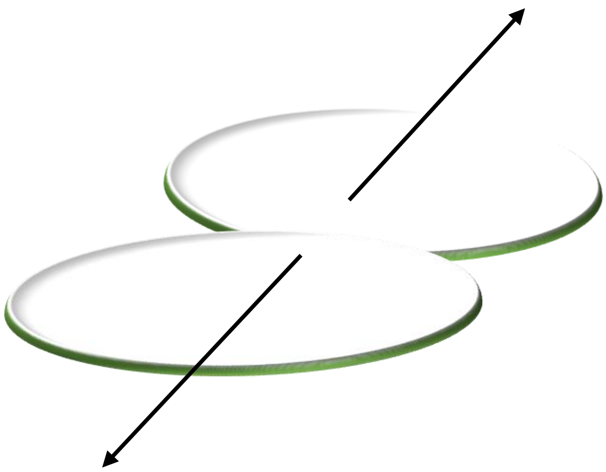
$$\sum_{k=1}^{K} \gamma_k > 0\,;\; K \in N_V \tag{3.13}$$

Suppose we had two photons which are propagated in the same moment in time and each photon is moving in the opposite direction of the other:

$$[(24 * 5) + (3)] + 5 + 5 \rightarrow \; [(24 * 5) + (e)] + \gamma + \; \gamma$$

For simplicity for the first time we can use subscript on the photons, we can use another notation to specify the direction of propagation in the following way.

$$[(24 * 5) + (3)] + 5 + 5 \rightarrow \; [(24 * 5) + (e^{-})] + \overleftarrow{\gamma_1} + \; \overrightarrow{\gamma_2}$$



Because the photons are net curvature of distinct amount, which propagate in all directions, and once liberated from the lepton are independent due to their prime number feature given by the primorial function, these curvature spikes are non-vanishing and have long lifetime. Due to the particle wave duality these can be considered particles as well, and from here we can reason the phenomena of quantum entanglement. If we consider those two entities as particles which is valid perspective according to the primorial, notice that the photon without the invariant three is described by spin one-half:

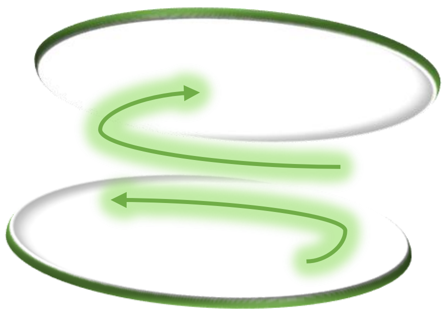
$$[(2^3 \times 3 \times 5) + (3)] + 5 \; \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

Than we have two seemingly disconnected photons in space which move in opposite direction which instantly effect each other and thus be considered as entanglement, or ghostly action at a distance. However, if we take into account the fact that the photons are net curvature diverging to all directions, even directions that the net curvature wave backward in time than these photons, no matter how far away in space are always connected. That is because there is always an intersection of the waves, so once we measure one of those two, the other is immediately modified. We have introduced the curvature code for Fermions and Bosons accordingly:

$$[\delta\mathscr{L}\delta\Phi\,\delta M]\delta g = 0$$

$$[\delta\mathscr{L}\delta\Phi\,\delta M]\delta g > \ 0$$

Which is to indicate that Fermions are finite in size while Bosons vary in size overtime, that is due to the last term which in this case is used as an auxiliary condition given by equations (2.12) and (3.13) for Fermions and Bosons accordingly: put another way it is impossible to separate two photons in net curvature representation. The idea of two photons separated is an illusion of the particle picture. We can present it in a different angle, those two waves which propagate to opposite directions will always have a connection, if started at a joint point those waves will propagate outward to that point and by doing so cancel each other, as we did with interference.



If we define ripple operators $\between$ from a starting area to another area, the mutual area of both will be the amount of interference.

$$\between : A \rightarrow \ B$$

$$\between : A' \rightarrow B$$

Interference will accrue at the manifold segment that is mutual to both starting point as previously mentioned.

$$\not\approx : A \cap A' \qquad (1.61)$$

In the context of Quantum entanglement we can modify the first two equations to present the idea of propagating to opposite directions on the matric tensor M:

$$\between : \overleftarrow{\gamma_1} \ \longrightarrow \ M_1$$

$$\between : \overrightarrow{\gamma_2}\ ' \ \longrightarrow M_2$$

$$M_1 \not\equiv M_2$$

$$\not\approx : \overleftarrow{\gamma_1} \ \cap \ \between : \overrightarrow{\gamma_2}$$

Quantum entanglement is the result of waves intersecting and moving to all directions, including the directions which are the opposite to the trajectory of the particle in particle spin representation, those trajectories however are canceled due to another waves, this cancelation implies that the photons are always connected by some area of intersection. When we measure the first photon, we immediately measure the second as well, as they are connected by:

$$M_2 M_1 \neq 0;$$

$$0 < t < \infty$$

Some of those ideas were mentioned before, as an example the motion of a photon in all directions including those opposite in time is mentioned by Feynman in path integrations formulation of QED. The wave features of photon is well known among all, but the key reasoning of the primorial is the following: photons are net curvature that are independent, their size increase and propagate to all directions; two photons which start at a joint point cannot be separated due to those features, the intersection means it is impossible to measure a single photon in the first place.

Duality W

Let us analyze the first coupling term in the primorial:

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+e^-]+W^-$$

The electron and the Boson of the weak interaction are represented by the same element, the majestic three is for the electron, and the three net variations are for the W^+ Boson. The kernel is the three and the image is both the electron and the W^- Boson. Such a duality among those two is in agreement with modern particle physics that states that the electron and the W^- Bosons have the same charge. The same applies to the opposite charges. Because of the duality of those two. Because there is no numerical difference.

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+W^-]+e^-$$

We can also replace the actual elements:

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+W^-]+W^-$$

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+e^-]+e^-$$

The coupling term with two electrons as an example, could describe the motion of free electron that could join another atom, the electron tradeoff that ignite the entire chemistry. In addition, we can make a prediction regarding photon emission. In particular, the author predict that photon can be emitted from the Boson of the weak interaction. Therefore, in a way we have Bosons emitting Bosons. The emission is described by the third coupling term, given by the equivalence relation between the electron and W^- Boson, W duality in short:

$$W^- \equiv (e^-)$$

$$[(24*5)+(e)]+\gamma \equiv [(24*5)+(W^-)]+\gamma$$

Since the coupling constants series is commutative, we can go further and make an additional prediction:

$$[(24*5)+(W^-)]+\gamma \longrightarrow [(24*5)+\gamma]+(W^-)$$

This prediction is breaking the rules of the primorial in which we regard the invariant three to be the destabilizer that lead to a net variation, but since the coupling magnitude is preserved, it is possible to change the order of the terms themselves. The order is a reflection on the element that is being propagated. So according to the last prediction, a (W^-) will be propagated from a photon, a massless particle. It is a wild prediction, but at the same time very interesting, maybe even correct as the photon as energy which could morph onto mass.

Objects in Class

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

Up to this day we have taken Bosons to be discrete amount of curvature which is prime and belong to the ring of real integers. Such views comes to an agreement with the ideas behind Quantum mechanics. The discrete amounts and the terms with one net variation are time invariant, that is contrast to composite interactions such as gravity. Composite interaction can contain many distinct combinations with keep the spin invariant. Now, the author would like to analyze the 8T construction n from a different angle, which is more mathematical and maybe do not have any physical meaning, and that is representing the Bosons as objects in class. That way we ignore the numerical values as numeric and regard them as different objects of the same class. The objects differ from one other, but not in quanta but the numbers serve as classification to the object not as numerical value. That is another way to analyze the 8T construction. In a certain sense it is valid to analyze the 8T according to such view, as the Bosons are different fingers of the same hand, they are all part of the ever changing geometry of space time. At high energy they can turn into one another, as proven in the thesis. To make it more mathematically rigorous we can put the idea of Bosons as objects in class.

$$\mathscr{B} \Longrightarrow \{N_{V1} \dots N_{VK}\}$$

$$K \in \mathbb{R}$$

$$N_{V1} \not\equiv N_{V2.} \dots$$

The two operations we used, or can use on this class are multiplication and addition. In the operation of addition, we combined net curvature of distinct amount to reach higher distinct primes, in such way we created the gravitational term. That was the idea that allows us the associate the nature of Bosons to non-abelian group. In the context of the idea of object in class, that is mean that the class has infinite objects.In the operation of multiplication, we have combined net variations of certain amount and reached equivalence between addition and multiplication, so the author presented the idea of Quadratic curvature whose physical meaning is unclear.

$$[(24 * 5) + (3)] + 5 + 13 + 7 \;\rightarrow\; [(24 * 5) + (3)] + 25$$

Now, those primes were chosen in order to make a point, the total sum of the three primes is equivalent to a photon squared.

$$[(24 * 5) + (3)] + 25 \longrightarrow [(24 * 5) + (3)] + \gamma^2$$

The photon squared can be decomposed to matter and anti-matter:

$$\gamma \;= \pm 5$$

Instead of looking at the actual number, we can again state that the combination of three object in class are equal to one object multiplied and that each object in the class has an inverse object yielding a unitary object, that is synonymous with anti-matter. The universe itself is an object in a class, the class of stationary manifolds flattening each other via areas of extremum curvatures.

The objects in the class of universes are also infinite and ever increasing, but the class is the same for all, it obeys the same rules and the same sub-objects, i.e. Bosons appear in the same order of each sub-element, i.e. universe. That is because the invariance of the prime ring under time shifts. We can define the class of universes; each universe is a manifold of the same class, Lorentz with $(3,1)$ signature:

$$\mathcal{S} \Longrightarrow \{\Phi_1 \dots \Phi_n\}$$

$$\Phi_1 \equiv \Phi_2 \dots \equiv \Phi_n$$

It is implicitly assumed that there is only one class of universes, but whether that is actually the case is unknown. However it is reasonable to assume that nature would generate the minimal number of distinct elements, which is one, rather than maximal amount of distinct elements.

Another point that is important is that if each manifold in the packet would be different in kind, the flattening or the interaction between each two manifold pairs with opposite curvature orientation could lead to complications as the manifolds are different. It was implicitly assumed that nature is oriented to the minima in the kind of manifolds it generate, and if one manifold is Lorentz manifold so does the rest.

High Energy Vacuums

The summation of the prime pairing to zero is resulting in an infinite set of zeros. That is synonymous with the vacuum idea of quantum field theory:

$$[\delta\mathscr{L}\delta\Phi\ \delta M]\delta g = 0$$

$$[\delta\mathscr{L}\delta\Phi\ \delta M]\delta g > \ 0$$

$$\frac{\partial\mathcal{L}}{\delta \mathrm{g_i}} = \frac{\partial\mathcal{L}}{\partial \mathrm{g_i}} - \frac{\partial\mathcal{L}}{\partial \dot{\mathrm{g}}_\mathrm{i}}\left(\frac{\mathrm{d}}{\mathrm{dt}}\right) = 0 \qquad (1.8)$$

$$\frac{\partial\mathcal{L}}{\delta \mathrm{g_i}} = \frac{\partial\mathcal{L}}{\partial \mathrm{g_i}} - \frac{\partial\mathcal{L}}{\partial \dot{\mathrm{g}}_\mathrm{i}}\left(\frac{\mathrm{d}}{\mathrm{dt}}\right) > 0 \qquad (1.81)$$

$$\sum_{i=1}^{T} 0_i = \mathcal{V} \qquad (2.16)$$

The vacuum is the result of prime pairing which do not have a net variation element, as they are not sums identical to (2.15) in their devisors. Thus, they vanish into zero. The sum of all vanishing pairs yielding zeros is the vacuum of the 8T, as presented in equation (2.16). All prime pairs appear, as previously mentioned, we can pair any even number of primes, we chose $N = 2$ for simplicity sake. The idea of the vacuum in this theory is somewhat hard to grasp, as it requires knowing beforehand where those violations of stationarity will appear, which is impossible to know. What is possible to know is those violations of stationarity **has appeared**, that is simple, where there is stars and galaxies. The vacuum idea than is more appropriate to describe in terms of short to infinitesimal time intervals, it is not a continuous entity in time.**.** We considered those prime pairs vanishing to a set of zero to be part of a certain domain:

$$(p_N, p_{N+K}) = S_N$$

$$S_N \in [0, \mathbb{R}]$$

The idea of a vacuum can be presented in a different manner, that is by taking an a prime element and its mirrored pair, which is synonymous with matter-anti matter pairs vanishing into zero. While the original pairs vanishing into matter, which contains energy, the new pair containing one prime and it's mirrored element would vanish to total energy.

That is because it's sum is not two and three devisable but rather exactly zero, indicating a release of energy. The idea can be presented as:

$$(p_N, -p_N) = 0$$

$$(p_N, -p_N) \in [\mathbb{R}, -\mathbb{R}]$$

However, two important points, first such a construction would lead to immense energy release, if nature is oriented to the lowest energy state configuration, such pairs would violate it, and thus should be quite rare to detect. That was the idea which used to describe the outward acceleration by QFT, and which led to the immense difference among the observed rate of acceleration to the expected rate using that idea. The second point is that even if an element of mirrored curvature would exist, the chances of it pairing it the exact opposite are rather small, that is in contrast to the idea of the original prime pairing which impose no limitation. The bottom line is that according to each idea we can make a classification of vacuums, each vacuum differ in the amount of energy in contains, even though each vacuum is described by an infinite set of zeros, the way those zeros were created is an indication to the level of energy it contains. If each prime amount of variations is isomorphic to a net energy, than the mirrored pair with a minus sign would be isomorphic to negative energy, which could explain the rarity of those elements. The final point is that the summation of all the prime pairs and their mirrored elements is much larger than the rate of so-called "dark energy" that is by measurements made and the idea presented in QFT that led to the immense observed difference.

$$\sum_{k=1}^{\infty} \sum_{N=1}^{\infty} (p_{NK}, -p_{NK}) \gg \frac{\partial^2 g'}{\partial \mathrm{t}^2}$$

SUSY and W Duality

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+e^{-}]+W^{-}$$

The electron and the Boson of the weak interaction are represented by the same element, the majestic three is for the electron, and the three net variations are for the W^{+} Boson. The kernel is the three and the image is both the electron and the W^{+} Boson. Such a duality among those two is in agreement with modern particle physics that states that the electron and the W^{+} Bosons have the same charge. The same applies to the opposite charges. Because of the duality of those two. Because there is no numerical difference, we can replace the order as mentioned in the thesis, page seventy-eight.

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+W^{-}]+e^{-}$$

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+W^{-}]+W^{-}$$

$$[(8*3)+(3)]+3 \longrightarrow [(8*3)+(e^{-})]+e^{-}$$

The coupling term with two electrons as an example, could describe the motion of free electron that could join another atom, the electron tradeoff that ignite the entire chemistry. In addition, we can make a prediction regarding photon emission. In particular, the author predict that photon can be emitted from the Boson of the weak interaction. Therefore, in a way we have Bosons emitting Bosons. The emission is described by the third coupling term, given by the equivalence relation among the electron and W^{-} Boson, i.e., W duality:

$$W^{-} \equiv e^{-} \qquad (1.61)$$

$$[(24*5)+(e)]+\gamma \equiv [(24*5)+(W^{-})]+\gamma$$

Since the coupling constants series is commutative, we can go further and make an additional prediction:

$$[(24*5)+(W^{-})]+\gamma \longrightarrow [(24*5)+\gamma]+W^{-}$$

In the thesis, page twenty-nine we have presented the SEW unification by aligning the net variation element of the three couplings. That was by an exchange of two net variations from the third to the first coupling term, so all three would be at $N_V=+3$.

The key point in the context of SUSY is the following, since there exist the W duality, the morphisms presented in SEW unification applies to the electron.

$$8+(1)+2\colon[(8*3)+(3)]+3 : [(24*5)+(3)]+\mathbf{3}$$

$$8+(1)+2 \longrightarrow 8+(3)$$

The two real exchanges between the third and the first will modify the same middle element the exact same manner as presented in the thesis. The only term we can vary is the left, as we want to ensure duality among the forces; we cannot touch the net variation, marked in black;

$$[(8*3)+(3)]+\mathbf{3}.$$

We cannot vary the invariant three; the modification will be to the left term in the coupling series;

$$(8*3)+2=26$$

The restrictions imposed on such variation on the strong are the same as presented in the thesis. I.e. it must be to an infinitesimal interval. The physical meaning of such equivalence relation in high energy is a morphism between the Bosons. A gluon morphism the weak interaction W^+, W^-, Z Bosons, and photon morphism to the W^+, W^-, Z Bosons.

$$\gamma \longrightarrow W^+/W^-/Z$$

$$[(24 * 5) + (e^-)] + W^+$$

$$[8 + (\mathfrak{g} + 2)] \rightarrow 8 + W^+/W^-/Z$$

(1) At high energies there exist a morphism among the photon and the Gluon to the Bosons of the weak interaction. The Gluon at high energy can become a longer-range meditator. Now take the duality relation manifested in the term:

$$\boldsymbol{W^-} \equiv (\boldsymbol{e}) \qquad (\mathbf{1.61})$$

$$\gamma \longrightarrow e^-$$

$$[8 + (\mathfrak{g} + 2)] \rightarrow 8 + e^-$$

An extension on the main prediction.(1.1) Because of the Duality (1.61), at high energies there exist a morphism between The Bosons of the first and third interaction into matter. A photon into an Electron, and a Gluon into an Electron. This version of SUSY does not include the Super partners of all particles but rather a morphism between particles we already know exist. The entire idea of SUSY is contained in the Primorial coupling series in the first and second representations.

Odd Photon Absorptions

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$[(24*5)+(3)]+5 \rightarrow \; [(24*5)+(e^{-})]+\gamma$$

Suppose that the photon now getting onto the electron, since the electron has no definite location but rather itself is a cloud of probability, the chances of a photon to get scattered onto the electron as a particle are rather small. However taking into account the prime number feature and the propagation all across the matric in all directions, the photon will get scattered onto the electron. When they do, we can represent the coupling term:

$$[(24*5)+(3)]+5 \rightarrow \; [(24*5)+(e^{-})]+\overset{\leftharpoonup}{\gamma}$$

Since the photon is prime and so does the electron, they sum up to an even number as one previously covered in the thesis. Theorem (2) the photon is a net curvature of prime discrete amount, and the electron was proven the invariant three.

$$[(e)]+\overset{\leftharpoonup}{\gamma}=3+5$$

As reader probably knows by now that even amount of variations are correlated to zero, that is how we derived the existence of Fermions, and how we derived the invariant three to be an Electron.

$$[(e^{-})]+\gamma=0$$

That is an indication that there will be a complete absorption of the photon onto the electron. We have introduced the superscript on the electron to sum the elements it contains.

$$e \longrightarrow e^{\mathcal{K}}$$

$$\mathcal{K} \in \; \mathbb{R}$$

For the electron that absorbed a photon, the new parameterization will be:

$$e^{\mathcal{K}}=e^{+1}$$

For the electron that emitted the photon the probability in the new parameterization will be:

$$e^{\mathcal{K}}=e^{0}$$

We need to introduce a sub-script to differentiate the two electrons, so overall:

$$e^{\mathcal{K}}=e^{+1} \rightarrow e_1^{+1}$$

$$e^{\mathcal{K}}=e^{0} \rightarrow e_0^{0}$$

Suppose the electron that absorbed now absorbed an additional two photons at the same time:

$$[(e^{-})]+\overset{\leftharpoonup}{\gamma}+\overset{\leftharpoonup}{\gamma}=3+5+5$$

They don’t sum to an even number, which indicate that the absorption of a photon cluster by a single electron could not exceed one photon at the time. Alternatively that the photon can **absorb only odd number of photons together:**

$$[(e^-)] + \overleftarrow{\gamma} + \overleftarrow{\gamma} + \overleftarrow{\gamma} = 3 + 5 + 5 + 5 = 0$$

Notice that if the absorption of three net variations is possible and complete, so does the emission of three net variations, now for the Electric coupling term assume instead of absorption we would have an emission.

$$[(e^-)] + \vec{\gamma} + \vec{\gamma} + \vec{\gamma}$$

$$[(24 * 5) + (e^-)] + \vec{\gamma} + \vec{\gamma} + \vec{\gamma}$$

Which is exactly the structure of the Graviton, as in the thesis we considered it to be the combination of three net variations, summing up to spin two.

$$[(24 * 5) + (e)] + \vec{\gamma} + \vec{\gamma} + \vec{\gamma} = 2N_2 + 2$$

If we can create a situation in which an electron will be emitting three photons at the same moment, than the result would be a Spin two particle, i.e. a Graviton which is composed of three photons. However in order for the Electron to emit three photons it has to absorb three photons and retain them, the photons emission must be in sync to reach the desired higher spin to which we correlate the Graviton. The creation of the Graviton than is decreasing as time goes by as one theorized that the electron aspiring lowest index in the superscript over time, synonymous with the lowest state of energy, (subscript meant to index the electron itself, to classify which one absorbed and which one emitted). For some time parameter

$$e_{\mathcal{N}}^{\mathcal{K}} \longrightarrow e_{\mathcal{N}}^{0}$$

Curvature Products

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

Let us analyze the product of two primes, which are distinct higher primes. According to the author proof of the Riemann hypothesis, primes form a non-abelian group, the condition under addition is to have an odd amount of primes under addition. Similar to the idea of quadratic curvature, we can present the idea of co-products of net curvature under multiplication, not in any case of multiplication by two primes will yield a prime, it could yield an odd, suppose we consider the cases it will yield a prime.

$$N_{V1} \longrightarrow N_{V1} \times N_{V2} \longleftarrow N_{V2}$$

$$N_{V1} \times N_{V2} \in \mathbb{P}$$

$$N_{V1} \times N_{V2} \not\equiv N_{V1} \cup N_{V2}$$

In between each net variation element, we can define an automorphism arrow from itself to itself:

$$1_a : N_{V1} \longrightarrow N_{V1}$$

$$1_a : N_{V2} \longrightarrow N_{V2}$$

Since at high energies we can align the net variations elements on the same value, which in the case of the first three interactions lead to alignment at $N_V = +3$, and thus unification at $24 + 2$ variations.

$$8 + (1) + 2 : [(8 * 3) + (3)] + 3 : [(24 * 5) + (3)] + \mathbf{3}$$

The two real exchanges between the third and the first will modify the same middle element the exact same manner as presented in the thesis. The only term we can vary is the left, as we want to ensure duality among the forces; we cannot touch the net variation, marked in black;

$$[(8 * 3) + (3)] + \mathbf{3}.$$

We cannot vary the invariant three; the modification will be to the left term in the coupling series;

$$(8 * 3) + 2 = 26$$

The physical meaning of such equivalence relation in high energy is a morphism between the Bosons. A gluon morphism the weak interaction W^+, W^-, Z Bosons, and photon morphism to the W^+, W^-, Z Bosons.

$$\gamma \longrightarrow W^+/W^-/Z$$

$$[(24 * 5) + (e)] + W^+$$

$$[8 + (\mathfrak{g} + 2)] \rightarrow 8 + W^+/W^-/Z$$

It is possible to build an additional arrow from one independent element to another.

$$\Delta_1 : N_{V1} \longrightarrow N_{V2}$$

$$\Delta_2 \,:\, N_{V2} \longrightarrow N_{V1}$$

In general form:

$$\Delta \quad : N_{VK} \longrightarrow N_{VM}$$

Before the morphism they were distinct:

$$N_{VK} \not\equiv N_{VM}$$

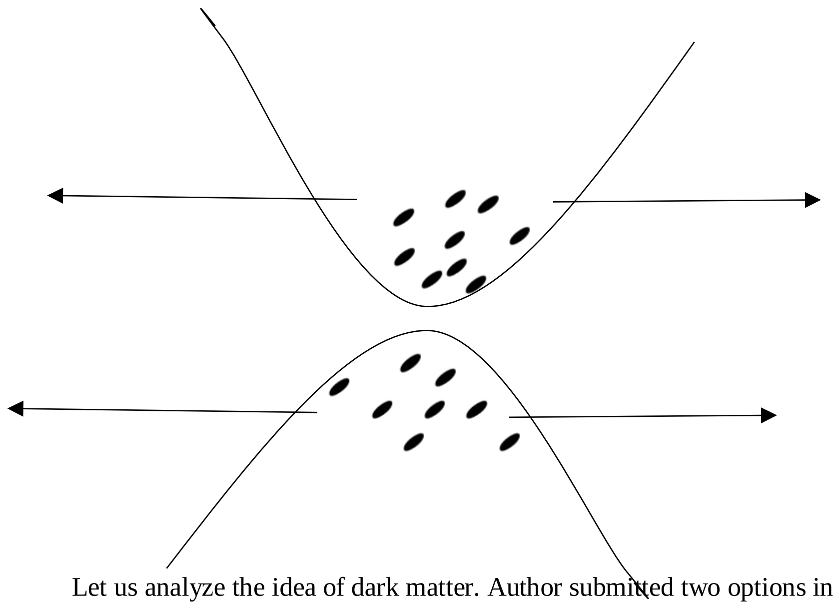
In the context of category theory, we have a category that has one class of objects, which vary in two ways, from themselves to themselves, from themselves to other objects in the class that are distinct, and are able to morph via addition and multiplication to other object in the class. The setting of category theory makes it simpler to understand the nature of Bosons, via arrows and morphisms, both are presented in the thesis in a mere numerical form. SEW unification in page twenty-nine, is a manifestation of the features of category theory and the morphisms among elements.

Variational Fermion Distributions & Dark matter

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$



Let us analyze the idea of dark matter. Author submitted two options in the 8T thesis. The first in pages (25-28) which has to do with the Quark masses series. Such a series was derived as a result of trying to eliminate the question of three families, and by simple rescale of the third and the first a pattern was found. The rate of convergence to zero however is rather fast and thus already in the fifth family we reach total mass aspiring zero.

The rate of convergence to zero could indicate that it is not suffienct to be the sole cause of dark matter. The second explanation in thesis pages (123-124), used to universe packet representation, i.e. a gravitational effect from a distinct manifold. In this paper, author is going to expend on the second explanation, which is variational matter distributions of distinct manifold of the same class.

Let us use the universe packet pairs, with opposite curvature orientations, which flatten each other. Let the arbitrary variations distributions be identical in amount but different across each area of extremum curvature such as galaxy. As an example one took a set of two distinct Lorentz manifolds, which invoked stationary:

$$\wp = [\Phi_1 , \Phi_2]$$

$$\Phi = (M, g)$$

To each associate a finite number of arbitrary variations which vanish into matter, isomorphic to each other. This cluster of arbitrary variations vanish into a galaxy.

$$\sum_{1=1}^{M} \delta g_i \in \Phi_1$$

$$\sum_{1=1}^{K} \delta g_i \in \Phi_2$$

$$K \equiv M$$

$$\sum_{1=1}^{K} \delta g_i \sim \sum_{1=1}^{M} \delta g_i \tag{1.62}$$

This cluster has the same amount of matter. The key point is that despite the clusters are isomorphic the Fermionic distributions could be different. If one manifold has a star like earth at the matric, that fact does not mean that the complimentary manifold has a star at the exact place, or any star at all. The exactness condition using that framework does not include exact matter distributions but rather isomorphic number of arbitrary variations in the total cluster. Define one fermion distribution at an interval:

$$\sum_{1=1}^{M} \delta g_i \longrightarrow \mathcal{R}^{s_1} \in [0,1]$$

$$\sum_{1=1}^{K} \delta g_i \longrightarrow \mathcal{R}^{s_2} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

If one considers that variational distributions are not identical while the clusters of total variations are isomorphic, the result is invisible matter traces within each manifold. It is more reasonable to assume the distributions are different rather to assume they are identical at the a star of a scale.

Is it possible to assume that two equal amounts of gas projectile at the same space would diffuse the exact same molecule distributions? We can only take the average in such cases and state that the total distributions must be identical overtime, i.e. spread over the limits of the space. Those invisible matter distributions are the role of dark energy according to this idea. Other universes is not a question anymore, 8T correlate the major features of our own universe to their existence. Dark energy is given by universe packet, as a result flatness as well. Those are proven, agreed upon measurable facts, i.e. the flatness and dark energy, which can not be solved assuming there exist only one universe. It could be even possible to estimate the distance between each two universe assuming we know the added gravitational effect added by dark matter.

Isomorphism's and Covariance

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

Let us analyze the idea of co-variance in this framework. The paper will present two roots in which co-variance rise. The idea behind the co-variance is the following sentence – there is only one set of rules. In the context of variational manifolds, there exist only one manifold. The idea of co-variance can firstly be analyze via the notion of isomorphism. In this context, isomorphism would be to state that the manifold is the same manifold; the difference is that observer may watch the manifold in different configurations, i.e. different states, similar to QFT idea in which the phases are independent from the amplitudes, the phases are signaling to a degree of rotation, 8T equivalent would be certain degree of acceleration due to curvature on the manifold. We defined the manifold as the variable "s" so the isomorphism can be put in rigor:

$$\triangle : \Phi \to \Phi$$

$$\Phi = (M, g)$$

The notion of isomorphism's, of an object which vary but still stay as is, is the mathematical equivalence of physical co-variance, as one believes. In that context, another interesting analog is of the similarly of a mechanical system. In particular is that the equation of motion is left unaltered if multiplied by constant, which applies to cases in which the potential energy is an homogenous function of the co-ordinates. Suppose we would multiply the equations of manifold variation by some factor:

$$\sum_{i=1}^{N} \delta g_i * K$$

Assuming manifold invoked stationary:

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

$$\sum_{i=1}^{N} \delta g_i * K = 0$$

The stationarity condition is not altered by scalar multiplication; matter can be created in higher amounts while keeping the manifold stationary. From that argument, we can extract that the potential energy of the manifold is an homogenous function of the matric tensor. That is very different than the QFT formalism which require for each matter created, anti-matter creation keeping the S matrix unvaried. If that was in fact the case, anti-matter would be quite common in the universe which is not the case. That idea of matter anti-matter pairs vanishing to zero, led to the massive difference in estimating the source of dark energy. 8T allows creation of matter while keeping the manifold stationary, matter pairs in such way that no curvature is allowed, that is by the anti-commutation relation of Fermions. The result of this construction is that energy is not conserved. That is because matter can morph into energy, and arbitrary variations of the manifold vanish into matter. Those ideas could be somewhat hard to accept, similar to how the discovery of Planck and Heisenberg principle were hard to accept at the time. In certain sense If the QFT idea was right, anti-matter would be as common as matter, as those pair to each other for each matter particle created, which is not the case. The second quantity which is not conserved is the number of violations, as matter being created in larger amounts, there exist higher probability of violations which are prime (or one) amount of curvature to arise from it, to despite the manifold is isomorphic to itself, the number of elements in the subgroup of violations is ever increasing.

$$s = (M, g, \mathcal{F})$$

Let $\mathcal{F}$ be the summation of net variations of all kind, which is a function of time. In the 8T framework:

$$\mathcal{F} = \sum_{i=1}^{i=N_v} \wp_i^{\mathrm{X}}$$

The subscript is the kind of net variation:

$$\varphi: N_V \longrightarrow \wp_i \qquad (2.4)$$

The superscript is the element that absorbed

$$\mathrm{X} = e_i; \quad i \in \mathbb{R}$$

Over time, the probability of violations increases as more matter is being created:

$$\mathcal{F}_t < \mathcal{F}_{t+\Delta t}$$

Spin Chronicles

$$\sum_{k=1}^{K} \delta g_k > 0\ ;\ K \in N_V \qquad (3.13)$$

We have presented the spin classification in the thesis, page seventeen, while using the prime critical line:

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

Let us analyze the idea of spin. As one can see, each Boson is firstly described by spin, which is not an integer, i.e. one half. That is an indication to it's particle like traits which are preserved. Than since each coupling term is containing an additional term on the prime critical line, which is the invariant three, the spin total reaches to one. Since the invariant three is always there, the minimal spin which Bosons from the second coupling term and above will have is one. Since the Higgs does not have this invariant three which is the sole generator of net variations as we now believe, it is represented by spin zero. Than if an additional photon is getting scattered onto the photon emitted the spin of the system than again varies, which is presented in the thesis:

$$[(24 * 5) + (3)] + 5 + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} = \left[2N_2 + \frac{3}{2}\right]$$

The 8T emphasized the spin variation by half unit as a result of measurement, changing the photon from wave like to a particle like, at first used in the context of super symmetry. Such a view of analysis than indicate that the super-partners are not needed. That is because the same particle represents spectra of behaviors according to spin variations. It is the same particle. Later view of SUSY showed that using the SEW unification it is a possible to predict a morphism from the photon onto the electron, as it is isomorphic to the W Boson of the weak interaction, same as for the Gluon. Therefore, at high energies Bosons can turn into matter, without any need for super partners. Additional important point, which were not mentioned before. First, since each photon contain energy of certain amount, it is impossible to measure with it without interfering with the experiment. That is the analog of QM principle of uncertainty with regards to time an energy. Even a measurement with a Higgs will interfere with the system as the Higgs contains quanta of energy given it has a positive mass. Although the Higgs will not interfere with the spin, it will interfere with the environment of the experiment, making the energy of the system larger than before.

$$[(24 * 5) + (e)] + \gamma + H^0 \longrightarrow 2N_2 + 1$$

$$H^0 \Leftrightarrow E_n$$

$$E_n > 0$$

So despite the Higgs does not affect the system at the spin level, it does vary the energy. The invariance of total spin due to the Higgs can be put using an automorphism of the coupling term:

$$H^0: 2N_2 + 1 \longrightarrow 2N_2 + 1$$

The second important point is the following, at the heart of it all, each Boson (weak and above) start with spin one-half. Than due to additional element it receives total spin one. It is possible to classify the behavior of Bosons according to the number of elements in the coupling term. Odd number of elements in the coupling term would lead to a behavior of a particle, while even number would lead to an integer spin, a wave like behavior; we take into account the invariant three and the outer Bosons, manifested as prime outside the bracket. Define the summation of elements on the prime critical line:

$$\sum_{i=1}^{N} \mathcal{P}_i = \mathcal{S}$$

$$2 \mid N \longrightarrow True$$

Than wavelike:

$$\mathcal{S} \longrightarrow \mathfrak{W}$$

Else, it would be particle like

$$2 \mid N \longrightarrow False$$

$$\mathcal{S} \longrightarrow \mathfrak{P}$$

Since the lepton is represented as the invariant three, which is also the element used to describe the Boson of the weak interaction, which could either behave like a particle or a wave, depends upon the total elements on the critical line, so does the electron. That is given by the previously mentioned equivalence relation:

$$W^- \equiv (e^-) \qquad (1.61)$$

Interactions Separation

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

Let us analyze the idea of separation of the forces, i.e. Bosonic net variations. We have previously mentioned that the direction of the arrow is the direction of time. The strongest interactions appear at the first, the result is an endless process of clustering, with weaker and weaker interactions, given by ratio of net to total. When the author derived the coupling series back in March 2021, each coupling term was analyzed by extracting the net variation element. In the following page, presented the original part of the construction of the pre-equation idea which yielded the primorial:

Analyze the $(7,11)$ total variations pair with $\mathrm{N_V} = (+1)$:

Total variations sum is divisible by two:

$$18/2 = 9$$

And then by three

$$9/3 = 3$$

We know that we have $N_V = (+1)$ so it can be extracted to yield:

$$F_1 = 8 + 1$$

However, even amounts of variations vanish so we can ignore the element 8 and write*:*

$$F_1 = 1$$

Notice that the first interaction can be represented the following way:

$$[W^- + \gamma + \mathrm{g}] = 9 \qquad (1.62)$$

That is because each Boson is isomorphic to a prime, that was speculated on theorem two, pre-equation idea:

$$W^- \equiv +3, \quad \gamma \equiv +5$$

so already in the first term we can represent the Bosons of the rest of the two interactions. Since we have taken it out from the total sum, we have separated it from the mixture of the three interactions.

The Boson of the weak interaction can be either one of the three. We have taken W^- as it has the same charge as the electron, fact that the author used for the SUSY construction. So now after the Gluon was taken out:

$$[W^{-} + \gamma + \mathrm{g}] \longrightarrow [W^{-} + \gamma] + \mathrm{g}$$

Next, the term in the parenthesis represents the Electroweak Bosonic combinations. This term create total sum of an even, and thus we took it to zero in the thesis. However here we have two independent Bosons, so each can be set in his way. After the Gluon was separated, the electroweak combination is needed to be separated, to the electric Boson, the photon and the weak interaction Bosons. The combination of all the three also implies higher state of energy and as each interaction stands on its own, the energy is lower. So already we can reason why the forces should be separated.

$$[W^{-} + \gamma + \mathrm{g}] \longrightarrow E_n + E_{n+1} + E_{n+2} = E_{3n+3}$$

$$E_{3n+3} > E_n \cap E_{n+1} \cap E_{n+2}$$

That is to state that the SEW combined term has a higher energy state and each of the Bosons in itself, which indicate nature aspires to "break the combination" of the SEW into separated elements. it is quite a remarkable fact that the Bosons of the first three interactions sum exactly to the term of the first interaction to equation (1.62). Therefore, the 8T predicts that first the strong is separated than the Electroweak combined term. In contrast to other theories that aspire to describe Gravity moment of separation, the 8T does not include Gravity directly, as it is a composite interaction that has infinite variations, assuming we use the spin representation of the main equation. The structure of the gravity is invariant to the change of the element. Since the total spin is invariant, i.e. two, there is not a change in the nature of gravity; the structure is the same while the composite element could be different.

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3} \rightarrow 2N_{()} + 2$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4} \rightarrow 2N_{()} + 2$$

the last interesting twist, the fact that the three terms are combined in one equation without Gravity, is already means that Gravity has broken, as the term (1.62) contains three distinct amount of net curvature, put another way, those interactions are just different amounts of gravity, manifested in different primes. So the term already contain the separation of "gravity" if the author reasoned clearly enough. To put this confusing idea another way**, Gravity is the class and the interactions are different objects in the class,** so the fact that we have different objects in the class means that the class it is not unified, i.e. that the class is separated or "broken".

$$\wedge : Top \longrightarrow Set$$

$$G_{class} = \{N_V \,|\, N_V \in \mathbb{P} \ \cup \ (+1)\} \qquad (1.3)$$

High Energy Paradox

Now we are left with the question of detection of those higher coupling terms that are getting weaker as the arrow develops. Reason might indicate that to detect in order to detect those weaker interactions, civilization ought to examine weaker and weaker energies. Author will argue that the opposite is the case. To detect those weaker interactions we need higher energies. That is the case, as there exist a clear pattern given by the primorial. The clusters of variations, excluding the invariant three and the N_V element are getting larger from term to term:

$$2N_1 < 2N_2 < 2N_3$$

Put more elegantly

$$2N_K \longrightarrow \infty$$

$$K \in \mathbb{R}$$

are the cluster of total variations which vanish into matter. That means that $2N_K$ the increase the chance of detecting the weaker coupling, we need to collide hadrons in such way that the cluster of total variations will grow accordingly. That implies we need to collide many hadrons rather than just a few. Since each hadron has energy, as it has mass, that is synonymous with high energy collusion. Than once the cluster has been created, there exist an unknown probability of emission of an electron, i.e. the destabilizer. According to the right multiplier of the $2N_K$, which belongs to the prime, the Boson than will appear. At high energies, suppose one of those Bosons was detected. It is immediately creating an option for a creation of an higher magnitude Boson. As an example:

$$\gamma + \gamma + W^- = 13$$

$$13 \in \mathbb{P}$$

That Boson is associated with the sixth coupling term:

$$\big(120{,}120 + (3)\big) + 13 = 120{,}136$$

Assuming that Boson has a lifetime that is unknown but still present approximately stable behavior, using two Bosons of the weak interaction we can reach again to an higher Boson:

$$13 + \gamma + \gamma = 23$$

So the paper present two major ways in which those Bosons can be detected. First by colliding hadron formations to reach bigger formations. That lepton propagation and from there net variation from the Lepton. The second, once Bosons are at the same space they can morph into higher coupling Bosons in odd combinations, given by the primorial.

Those new coupling Bosons are in somewhat of a Superposition of Bosons, they composed by combinations of distinct Bosons. That means that it is possible to detect them based on set of possible decays. As to test, the 8T author will provide a set of possible decays which can be used to examine the 8T primorial, each Prime is isomorphic to a Boson:

$$W^- + W^- + \gamma = 11$$

$$W^- + W^- + \mathfrak{g} = 7$$

$$W^- + \mathfrak{g} + \mathfrak{g} = \gamma$$

$$W^- + W^- + W^- + \mathfrak{g} + \mathfrak{g} = 11$$

$$\gamma + \gamma + W^- = 13$$

$$13 + 7 + 3 = 23$$

$$23 + 13 + W^- = 49$$

$$49 + W^- + \gamma = 57$$

And on we go endlessly, since there exist an equivalence relation between the electron and the Boson of the second interaction, it is possible to replace them without changing the result. That equivalence relation was at the heart of SUSY variation of the 8T, which based upon aligning the net variations on the same term of N_V .

$$W^- \equiv e^- \tag{1.61}$$

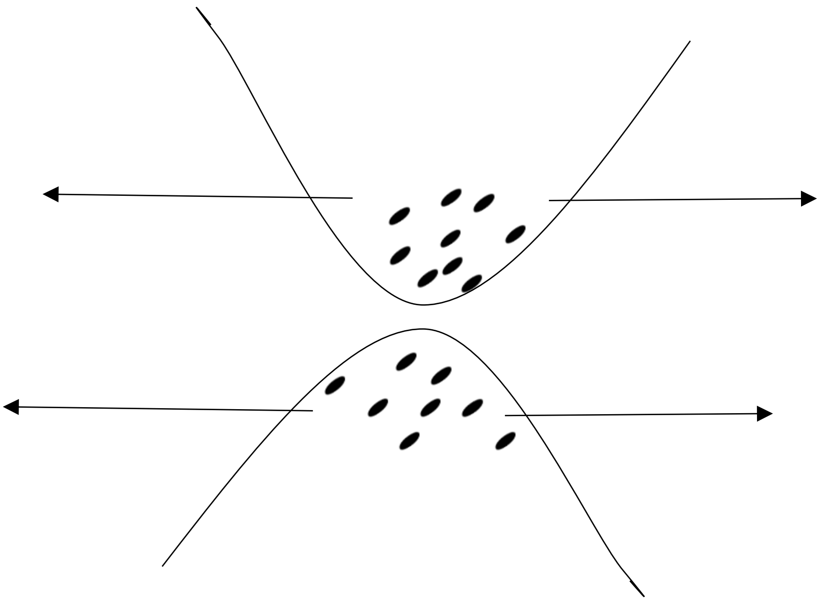
The morphisms ignore the fact that the gluon is "confined" within the hadron. However as one can see, the morphisms can occur without the gluon as a direct participator, we can regard the $N_V = +7$ to be an independent element and not nested by lower magnitude primes (and one). Summing up, the larger the energy the higher the chance to observe those weaker coupling terms, the high energy collusions also creating a setting in which those higher coupling terms can morph into even higher coupling terms. Alone those terms are stronger, but as they are part of a much bigger cluster they get weaker from term to term. The strongest term has the smallest cluster, as previously mentioned in the 8T, as dictated by the arrow of time.

N-Tuples

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$



Let us analyze the idea of an N-tuple, which is an ordered set of elements. To start the analysis one will change the setting using functor, from a varying manifold onto a set.

$$\wedge: Top \longrightarrow Set$$

Each prime pair used in the original derivation now stand as a set of elements. One mentioned that the number of primes could be infinite, for simplicity sake, two was chosen. The criteria one was asking is the prime pair sum to be two and three devisable. So to put the idea mathematically:

$$\mathrm{N} = (\mathcal{P}_1 \ldots . \mathcal{P}_n)$$

$$\mathrm{N}_{\mathcal{S}} = (\mathcal{P}_1 + \mathcal{P}_2 + . . \mathcal{P}_n)$$

$$[2, 3] \mid \mathrm{N}_{\mathcal{S}}$$

We have defined the Boson to be a prime amount of net variation, which arises from the N-Tuple, in an amount proportional to the average of the N-Tuple.

$$\frac{\mathrm{N}_{\mathcal{S}}}{N} \propto N_V$$

To expend the idea of a Boson using N Tuple, we can associate the Boson to be a product type of the N-Tuple. The Boson is the product of the N-Tuple that satisfy the devisors requirements. So to put it mathematically.

$$N_V = \prod_{\phi=1}^{\phi=N_V} \delta g_\phi = \delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3} \qquad (1.23)$$

$$\delta g_{\phi=1} \equiv \delta g_{\phi=2} \equiv \delta g_{\phi=3}$$

Since in contrast to Fermions we have only one sign for Boson, positive summation of curvature, or negative if we consider:

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}} = -2\mathrm{Ric} \qquad (1.23.\mathrm{A})$$

So according to this idea, the subscript is mere index that counts the number of times the arbitrary curvature is chained. The difference among the Bosons is the number of chained arbitrary variations. As an example the difference among the photon with N_V= +5 and the W^- with $N_V = +3$ would be:

$$W^- = \delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3}$$

$$\gamma = \delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3} \times \delta g_{\phi=4} \times \delta g_{\phi=5}$$

$$\delta g_{\phi=4} \equiv \delta g_{\phi=5} \equiv \delta g_{\phi=1}$$

since all the terms are prime number multiples, if we consider (1.63) they are negative amount of curvature, the difference between each Boson is the number of elements in the term of (1.23). that is the analog of the original idea made in March. The prime pairs are N-tuples, which has products of prime type of the same element in different amount, which is not devisor of two and three as Fermions.

$$[2,3] \mid \neq \prod_{\phi=1}^{\phi=N_V} \delta g_\phi \qquad (1.24)$$

So using the idea of N-tuples it is easier to grasp the difference among Fermions, which arise in even numbers of two distinct elements which differ in sign and summed as zero, as (2.12) indicate. From those summations, product type may rise, which are proportional to the average size of the summation, those product type has one element which has a negative sign, and the different products differ in the number of times this element is multiplied, as (1.23) indicate. Since the number of repetition is prime, the more repetitions we have, the weaker the element, since the photon has five times versus three times for the W Boson, it yields, assuming $\delta g_\phi \in \mathbb{R}$ a bigger negative number, or if we assume that $\delta g_\phi < 1$ and positive, a smaller positive number as the repetitions increase. Those assumptions rely of the idea that δg_ϕ is a curvature spike which can be quantified.

Observables

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

Let us analyze the idea of observables. We know from Quantum mechanics that observables obey a certain operator relations:

$$[\hat{A}, \hat{B}] = \hat{A}\hat{B} - \hat{B}\hat{A} = 0$$

And in cases they do not obey the relation, the result is:

$$\hat{A}\hat{B} - \hat{B}\hat{A} = ih$$

Since we did not use any operators nor we did not use the Planck constants in the theory we need an analog for the idea of observables. To do just than we can replace the bracket used in Quantum mechanics by a prime pair, if those two pairs are vanishing onto zero, i.e. they commute, if they don't, they have a non-vanishing element, isomorphic to a prime or one.

$$(3,3)\ \ (3,5)\ \ (3,7)\ \ (3,11), (3,13) \dots$$

$$(5,3)\ \ (5,5)\ \ (5,7)\ \ (5,11)\ \ \mathbf{(5,13)} \dots$$

$$(7,3)\ \ (7,5)\ \ (7,7)\ \ \mathbf{(7,11)}\ \ (7,13) \dots$$

$$\dots.$$

$$(29,19)(29,23), (29,29), \mathbf{(29,31)} \dots$$

All the pairs, which are not marked in yellow, are in commutation relation, i.e. they vanish into zero. As an example:

$$(7,3) - (3,7) = 0$$

The pairs marked in yellow do not commute as they have a non-vanishing element, either prime or one propagating from them. That was the idea which yielded the primorial.

$$(7,11) - (11,7) = +1$$

$$(29,31) - (31,29) = +3$$

Those elements propagating from those pairs are violations of stationarity, which are discrete quanta of prime curvature on the matric tensor. Since those quanta's contain energy, and they obey seemingly no law in which we can predict their propagation, it is than impossible to measure the energy of a system at such scales, or even at all. Not only because of the lack of commutation of those pairs, but also because the manifold arbitrary variations vanish into matter, which has innate energy, given by its mass and mass and energy relation. Therefore, the picture is the following: matter is created by the requirement of a stationary manifold, it does not contradict this condition as it pairs in such way that no curvature is allowed. However, matter is potential curvature, as it is composed by quarks, and for that reason energy can not be conserved. QFT suggested that for each particle of matter created, an anti-particle is also created and so they annihilate each other. That idea implying that there exist equal amounts of matter and anti-matter in the universe, which contradict the experimental data, anti-matter, is much rarer. So that is quite paradoxical, matter creation while the manifold is stationary (due to the anti-commutation relation), and at the same time energy is not conserved, for two reasons: because anti-matter and matter asymmetry and because matter has a potential energy, assuming it has mass.

String Theory - The Devil's Gift

Let us analyze the idea that stands at the heart of String theory. If one understood correctly, each "mode of vibration" of the string is isomorphic to a particle of certain kind. The more volatile the vibration the higher the energy. The string has infinite potential geometrical combinations and knots. That core idea according to the 8T author is wrong. First, if it was correct there would not be a standard model, as slight variations of the string would account in a bound state of the proton and the neutron, they would not form an abelian group but rather a non-abelian group with infinite kind of particles. Second, it is impossible to derive the action or the Lagrangian of such a theory, as it is impossible to derive which state out of the infinite set of states of the string should have minimal energy or considered stationary string. It is not promised that the string will stay at the lowest state of vibration. String theory is impossible to work with, its core idea is flawed. It is impossible to make any sort of prediction assuming that is the case, let alone any laws of nature or reasoning. If that theory was correct there would be infinite bound state of matter, not just nine combinations as found with the omega minus. It has been built almost 60 years ago, many physicists worked on it and the result is no testable predictions were made at all. To map the scope of theory, one will have to map all over the combinations of the string and associate each geometrical pattern to a particle. How can that even be done? that idea is ridiculous as there are infinite variations, an suppose that was correct, the variation of the string is impossible to predict, so even if one can map N combinations, each combinations have infinite morphism options. They could be more volatile, such variations would than yield measureable variations in the coupling magnitude, or alternatively infinite coupling magnitudes. If it were correct, we would measure infinite bound states of the electron, photon, and hadrons. It is the opposite of a Lagrangian oriented, as it implies nature would generate infinite couplings with no reason behind it, in contrast to the 8T which gives a exact reason to the magnitudes of the couplings.. According to string theory each universe (as they have many solutions, called the 'landscape') could have a different set of laws, that is "standard model of its own". How many laws nature would generate? Why bother to create so many set of distinct particles for each universe, it is a instead of just one?. In the 8T because of the invariance of the prime ring, the same magnitudes, and Bosons appear at all the manifolds at the same order, the dominating forces are depended upon the unique arrow of the manifold, as it gets older the weaker interactions are more common, as it close to singularity the strong forces are dominating creating the hadrons. All manifolds have Quarks in them in decreasing total mass order, all universes are obeying the same laws, nets are primes and interacting via areas of extremum curvatures flattening each other, and of the same kind. There exist one equation for all, one principle - a varying manifold in a packet. That is it and to prove it the primorial was yielded. Is there a stronger equations than (1.2) or (1) in string theory in terms of the spectra and accuracy of predictions?

To put it another way, String theory is the devils gift. It is a dead end theory, which makes simple things complicated as build upon the implicit assumption that those infinitesimal things, i.e. particles are important. It shifts the center of attention to the object rather to the principles and to the ideas, it gives no testable predictions, it is long and hard to comprehend, it predicts no law, it is not Lagrangian oriented in any way, and many worked on it without aligning it with anything in the particle scales, nor in the cosmological scales. It should have no place in physics anymore, 8T is far superior by all means, predictions wise it has much more predictions, which are correct to date, and length wise it is much shorter, it is also easier to comprehend. 8T was built upon one subject of descripting which yielded all the other infinitesimal quantities and the equation which results in Dark energy and flatness, string theory is built upon describing an infinite set of states of a varying infinitesimal object that yielded not a single prediction in sixty plus years, in any scale infinitesimal nor cosmological and it uses measured values such as Planck and the speed of light to reach the idea of a string rather than deriving those parameters and ideas from pure thought, as presented in the 8T.

Interacting Fields

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k + 1$$

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

Let us analyze the idea of interacting fields. Instead of the spin classification presented above, we can consider the coupling terms as expressions that contain all the "fields" or the distinct kind of particles in the term itself. Those fields are not only interacting but generating each other in succession, in such way:

$$0 \longrightarrow \frac{1}{2} \longrightarrow 1 \longrightarrow 2 \longrightarrow \cdots$$

In a certain sense, if we consider the Boson as a separate entity, it has spin one-half, but the invariant present of the majestic three than ensures that the Boson will summed as spin one. In other words the electron fields and the Boson fields are entangled in such way that is ensuring the spin of the Boson to be one. Since the primorial is time invariant, given by the invariance of the coupling terms under temporal shifts, so does this relation. So now instead of the classification of spin we can represent each coupling term to be a mixture of spins of distinct kind. Define spin operator:

$$\mathscr{b}: [\mathbb{R}, \mathbb{Q}] \longrightarrow \mathcal{S}_{[\mathbb{R},\mathbb{Q}]} \qquad (1.64)$$

That is a mapping between the integers and non-integer fields onto a spin operator in such way that the spin is matching the subscript:

$$\mathscr{b}: 0 \longrightarrow \mathcal{S}_0$$

$$\mathscr{b}: \frac{1}{2} \longrightarrow \mathcal{S}_{1/2}$$

$$\mathscr{b}: 1 \longrightarrow \mathcal{S}_1$$

Now each coupling term can be represented in a way that reflect the idea of interacting fields, which are represented by spin operators.

$$[(24 * 5) + (e)] + \gamma \longrightarrow \mathcal{S}_0 + \mathcal{S}_{\frac{1}{2}} + \mathcal{S}_1$$

Five-Vectors

$$\text{Spin } 0\text{: } 2N_0 \text{ variations}$$

$$\text{Spin } \frac{1}{2}: 2N_0 + 3 \text{ variations}$$

$$\text{Spin } 1: 2N_0 + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_0 + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

So now instead of the classification of spin we can represent each coupling term to be a mixture of spins of distinct kind. Define spin operator:

$$\mathscr{b}: [\mathbb{R}, \mathbb{Q}] \longrightarrow \mathcal{S}_{[\mathbb{R},\mathbb{Q}]} \qquad (1.32)$$

That is a mapping between the integers and non-integer fields onto a spin operator in such way that the spin is matching the subscript:

$$\mathscr{b}: 0 \longrightarrow \mathcal{S}_0$$

$$\mathscr{b}: \frac{1}{2} \longrightarrow \mathcal{S}_{1/2}$$

$$\mathscr{b}: 1 \longrightarrow \mathcal{S}_1$$

Now each coupling term can be represented in a way that reflect the idea of interacting fields, which are represented by spin operators.

$$[(24 * 5) + (e^-)] + \gamma \longrightarrow \mathcal{S}_0 + \mathcal{S}_{1/2} + \mathcal{S}_1$$

Let us analyze the idea of four vectors, which are closely related to invariance. Since in our framework we have an even number of universes aspiring infinity in the universe packet (1.2A), the vector must specify which universe out of the packet the motion occurs in, which represents by the parameter s_n.

$$\mathfrak{L}: [x, y, z. t] \longrightarrow [x, y, z. t, \Phi_n]$$

$$[(x, y, z. t) \in \Phi_n]$$

So there as to be a clear specification between space and distance. When motion occurs an object coordinate varies in a certain space, the variation depends upon the frame of reference. Since the frame of reference also is effected by the distribution of matter on the universe, it has to be taken into account. So coordinate variation in fourth vectors has to do with relativistic motion, but surface variation is the new idea.

This idea imposes a new constraint, that in order to describe the motion we have to specify which universe it occurs. It is also possible to construct the jumps across the manifolds in the packet as a non-linear motion, where you travel in three dimensions, jump to an higher or lower surface and move on those dimensions with a distinct arrow.

$$[(x, y, z. t) \in \Phi_n] \longrightarrow [(x, y, z. t) \in \Phi_{n+1}]$$

$$\Phi_n \not\equiv \Phi_{n+1}$$

Since those surfaces have different matter distribution in jumping from surface to surface one must ensure that the trajectory chosen does not have any Fermionic obstacles which manifest themselves in the new surface and had no equivalent in the original surface which the jumped occurred. The idea of variational Fermion distributions was presented by arbitrary variations vanishing into matter, in identical amount but in different configuration, and is considered as one of the two explanations for dark matter:

$$\sum_{1=1}^{M} \delta g_i \longrightarrow \mathcal{R}^{s_1} \in [0,1]$$

$$\sum_{1=1}^{K} \delta g_i \longrightarrow \mathcal{R}^{s_2} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

$$K \equiv M$$

Summing up, when we consider motion, the fourth vector must become a five-vector, which specify surface on which the motion occurs.

Manifolds Heredity

Let us analyze the idea of heredity. We have presented a manifold creation as a curvature spike departing from the original manifold, the curvature spike immediately gets flatten by equation (1.2A) as it is part of the packet. The process of flatting due to the packet is the reason for the acceleration at all stages. We have presented the variation of the Dirac Delta. So the Dirac delta in 8T describe the process in which arbitrary amount of curvature appear, and vanish into matter. However, there is no restriction with regard to Time. Arbitrary amount of curvature can appear at any time, so we must modify the idea of the Dirac in our framework.

$$\delta \mathrm{g} \neq 0 \qquad at \qquad t = Q(t)$$

$$\delta g = 0 \qquad at \qquad t_1 = Q(t + \Delta t)$$

At later continuation of time:

$$t_2 > t_1$$

This condition is satisfied:

$$\delta \mathrm{g} \neq 0 \qquad at \qquad t_2 = Q(t + \Delta t + \Delta t)$$

Moreover, the amount of variations is either prime or one:

$$\delta g = N_V$$

The process of manifold creation can be put as means of an arrow:

$$\varsigma : s_n \longrightarrow s_{n+1}$$

The process of birth has an heredity condition, the new manifold must have the same number of dimensions as the original manifold and must possess the same traits, i.e. be a simply connected manifold and a complete manifold. In other words, we can add an additional superscript with the (3,1) signature to the newborn manifold, to ensure the heredity condition.

$$\varsigma : {s_n}^{(3,1)} \longrightarrow {s_{n+1}}^{(3,1)}$$

So that is in agreement with the idea of the multiverse as presented in the thesis, i.e. infinite set of surfaces, each with a finite dimensions of it's own. The heredity condition prevents the theoretical scenario in which the newborn manifold will possess a higher number of dimensions or alternatively that the new manifold will not by complete or simply connected. Such is needed as for simplicity sake, if each newborn manifold is of a different class than the packet process of flattening could result in complications. Nature is satisfied with simplicity as the primorial is indicating. What is simpler than generating only one class of manifolds? it is reasonable argument to claim that nature is Lagrangian oriented in the number of manifold classes it generates.

Dark Matter is a Must

one can represent the second variation of the main equation as the following

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

That construction is the following. Each manifold has area of extremum curvatures on it. Those extremum curvatures are surrounded by arbitrary variations, which vanished into matter. Up to this point, it was covered. For each arbitrary amount of variation absorbed onto the $\partial g/\partial t$ there is a radiation emitted from the area of extremum curvature to ensure it does not vary over time. those galaxies than has areas of extremum curvatures, and arbitrary variations around them, that is matter clusters, spiraling around those areas. The galaxy as an area of extremum curvature is getting flattened by another galaxy of the same magnitude and different matter distribution. As was previously analyzed:

$$\sum_{m=1}^{K/2} \delta g_i \longrightarrow \mathcal{R}^{s_1} \in [0,1]$$

$$\sum_{n=1}^{K/2} \delta g_j \longrightarrow \mathcal{R}^{s_2} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

$$\sum_{m=1}^{K/2} \delta g_i \equiv \sum_{n=1}^{K/2} \delta g_j$$

The key point of this paper which was not presented before is the following – if we require the manifold to have areas of extremum curvatures and time invariant acceleration away from those areas, than by (2.1.B) we also require a set of arbitrary variations vanishing onto matter, around the matter of our own galaxy. The amount is the same, the distribution is different, invisible matter is also an immediate result of the main equation. Now take an infinite set of manifolds in the packet and the matter within one distinct manifold is now at the position of a minority as it is only belong to one manifold. Not only the main equation represent matter formation in our manifold, it also represent matter creation in other manifolds.

While areas of extremum curvature flattening each other, matter is constantly being created in different distribuends across all manifolds, and as a result accounts for what is speculated as invisible matter. It could be explain that way, that the areas of extremum curvature alone with the matter distribution of one distinct manifold is not sufficient for holding the condition $\partial g / \partial t = 0$. However, an infinite set of pairs forming the packet is sufficient. That means that in order for the stationarity condition of the manifold to hold, one must have at least two distributions of arbitrary variations vanishing onto matter, in different configurations. Dark matter than is a must and is just regular matter signature of a distinct manifolds. that matter is creating the additional gravitational effect ensuring the $\partial g / \partial t = 0$ condition of stationarity. The formation of matter than can be described by the Quark masses series, which indicate nature is devising in increasing amount to eliminate those arbitrary variations. with the arrow of time, families with total mass which is lighter and lighter is formed but the structure of the families is the same, i.e. two distinct elements which differ in sign and create threefold combinations. Put another way the main equations describe an infinite distinct sets of matter creations, and the Quark masses series indicate their total mass direction, assumed same for all.

The Bosonic Mass Pattern

Let us analyze the idea of the Bosonic mass pattern. The Boson of the first coupling term is described by one number, and we know its massless. The second coupling Bosons has a positive mass. The second coupling also differ by an additional term from the first coupling. The Boson of the third coupling, i.e. the photon, is again considered massless, even though it is a carrier of energy and can exhort pressure. The subject of this paper is the following question: can we predict a pattern in which the primorial coupling series generate mass ?. That is, is there a discrete jumps between massless to mass positive. Author is going to assume there is a mass pattern of that kind. Define the Boson mass by the parameter:

$$\mathcal{X}:\ \mathbb{M} \longrightarrow \mathfrak{B}_{\mathbb{M}}$$

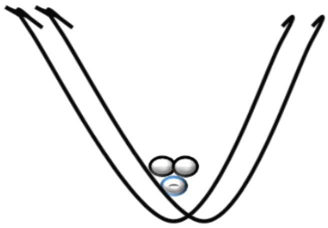
The Gluon, W and Z Bosons and the photon has the relation according to the above operator:

$$\mathfrak{B}_{\mathbb{M}=0} : \mathfrak{B}_{\mathbb{M}>0} : \mathfrak{B}_{\mathbb{M}=0}$$

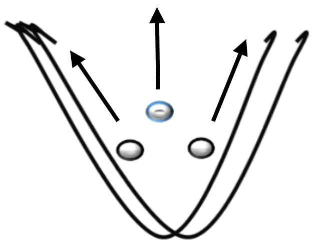
The author will make a prediction that the fourth coupling term according to the primorial will possess a positive mass. That is the fourth coupling term will described by $\mathfrak{B}_{\mathbb{M}>0}$. By the ratio of the net variations of the fourth and the second, the fourth term is describing bigger Quanta than the Quanta of the Weak interaction. In particular, the mass of the fourth coupling term should be 2.1333 higher than the Masses of the Bosons of the weak interaction.

Strong Interaction Paradox

We have presented the idea of Quark confinement using that framework, stating that each net curvature is increasing the probability of arrival to its position. The end result is endless cluster of Gluons inside the hadron, which causes the Quark triplet to position on the lowest point on the curve. At high energy trying to break the triplet is synonymous with trying to roll the distinct arbitrary amount of curvature up hill, or to flatten the curve. The illustration below is the Quark triplet before collusion, as presented in the thesis, page sixty-nine.



At high energy, there exist a hadron collusion that leads to immense increase of the energy, which is synonymous with trying to roll the Quarks up-hill:



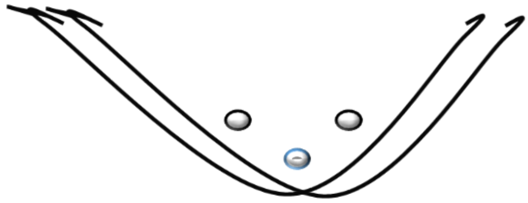
As the number of Gluons in the cluster is infinite, the illustration is not accurate, as the Quarks seems to be separated and to reach the height of half of the curve. In reality the moments the triplet are separated in hadron collusion, they will aspire again to the lowest point on the curve, in other words, they will accelerate toward one another. That is the elements that differ sign toward one another. The second illustration can be represented in a different manner, somewhat resembles relativity in different frames of reference. The Quark triplet is the same, it’s the curve itself that is getting flattened. The fact that the curve is flattened means that the quarks are less bounded that before, and at a stage where the curve is completely flat the Quarks are no longer confined. Such a construction can reason for the fact that the strong interaction is getting weaker at high energy, as the curve itself is effected by an additional amount of matter, assuming the curve is negative given by the Ricci flow:

$$\frac{\partial g}{\partial t} = -2Ric$$

$$\sum_{1=1}^{M} \delta g_i > 0 \quad \rightarrow \sum_{1=1}^{M} \delta g_i < 0 \qquad (3.13)$$

That term (1.49.A) is effected by positive energy given by (2.12) which is the colliding hadron, so overall the negative amount of net curvature decreases, causes the curve to get flatten, after the collusion, the net curvature which retained, will causes the extra net curvature to reach its positon and the original curve will be retain, with the original Quark triplet locked to the minima. So at high energy the term representing the strong interaction is a weaker term, i.e. the $8+(1)$ and not just the one. At high energies than→ $9:30:128$

The idea of the curve flattening due the positive energy on the hadron and the negative sign of the curve is given by the below illustration:



Multiverse Uncertainties

Now the subject of the paper is the following. What is the nature of nature in terms of certainty. Despite 8T is able to put under one equation some of the major questions of modern physics, such as dark energy, flatness and dark matter, which are direct results of the multiverse as presented in (2.1) and how much can we predict really ? 8T can predict the coupling magnitudes and all the numbers nature will ever generate, which is a significant step forward. At the same time, there are many uncertainties, which go beyond the conjugate relation of QM, which famously known between momenta and position or time and energy. The first uncertainty is the uncertainty of decays. Given higher term coupling, The Boson can be represented as a nested Boson, composed of lower primes. It is impossible to derive which combination is serving the actual decay, and the higher the coupling the larger the possible combinations of Bosonic decays. The idea is presented in page one hundred forty seven in the thesis. The second uncertainty revolves around the arbitrary variation term (2.12) which vanish onto matter. It is impossible, as far as one can see, to derive the amount of matter being created at each moment, nor it is possible to derive where those arbitrary variations will appear, that can only be done in retrospective, where starts and galaxies are at. These are two major uncertainties. It is also impossible to estimate how fast those arbitrary variations form into matter, what is the time segment, is it same for all or varying according to the surface and the amount of matter that was already there? A third uncertainty is regarding the matter configuration on other universes, it is not possible to predict the configuration, the rate or the position of matter on other universes, other than stating that the matter on those manifolds is identical to matter on our own manifold, skeleton wise, i.e. Quarks.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$\sum_{m=1}^{K/2} \delta g_i \longrightarrow \mathcal{R}^{s_1} \in [0,1]$$

$$\sum_{n=1}^{K/2} \delta g_j \longrightarrow \mathcal{R}^{s_2} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

$$\sum_{m=1}^{K/2} \delta g_i \equiv \sum_{n=1}^{K/2} \delta g_j$$

The last uncertainty is the uncertainty of class. We **assumed** that the heredity condition, which state newborn manifolds will belong to the same class but that is not proven. We also assumed that the families on other manifolds will have the exact same families in terms of total mass, given by the Quark masses pattern, which in contrast to the primorial, took the measured values and used them to define the pattern, where in the primorial the measured values were derived from a variational principle. The other universes have the same form of matter in terms of the kind, i.e. Quarks, but are the masses identical? Is there a principle involved which guarantees those numbers will form? To examine those assumptions a civilization could have two options: The first is to find the principals involved which the kind of manifolds arise, and the numbers of the masses arise, **without measurement**. The principles than must match the measurement, the second is to jump across the packet and measure the traits of matter on each distinct manifold. We assumed that nature is Lagrangian oriented, and generate the minimal number of laws, minimal kind of manifolds and minimal sets of distinct fermion masses, but it is just an educated guess after all. In contrast to the invariance of the prime ring that ensures that the same Bosons will appear at the same order, the Fermion and manifold classes is still requires work. That picture indicate that at least part of the laws of nature are identical across the multiverse, the same coupling constants will appear at all, matter and Quarks will appear at all, leptons will appear at all the same way. All universes will contain galaxies, and will be flat. However, are they all of the same kind? Are the Fermions masses identical for all?

Finding out the principle in which the specific masses arise from a variational principle identical to primorial, and this specific class of manifold arise from all potential classes of manifolds, could be the biggest challenge facing modern theoretical physics, and the last pillar to reach the completion of the unified theory, 8T. At the current stage, the theory is able to explain the major what's and one of the two major whys, the why of the coupling magnitudes,. The "why" which still requires work is the "why" of those masses. What is the variational principle leading to those numbers? Is there one at all?

Primorial as a Wave Equation

Let us analyze the idea of a positional primorial, which is constructed to provide a solution to the question of position. To solve the issue of position the author will use a five- vector on the subscript. The three spatial coordinates, one temporal and the index of the manifold on the packet.

$$\left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V \longrightarrow \left(8 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu}$$

Assuming the even sum has vanished into matter, which means it stands for the nuclei, from which the electron propagate, we than are required to insert the subscript to that term as well.

$$\left(8 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu} \longrightarrow \left(8 * \prod_{V=1}^{V=R} N_{V\mu} + (3)_\mu\right) + N_{V\mu}$$

$$\mu = (\nabla^2,\ t_n,\ \Phi_n)$$

The time is indexed as to represent the idea of unique arrow to each manifold. The additional subscript on the primorial allows us to expend the idea and include positional variables with temporal variables. Since the 8T was built upon an Euler Lagrange framework which yields an equation of motion that is invariant to changes of coordinate so does the primorial is invariant, and assumed relativistic. The invariance of the primorial is also due to the invariance of the prime ring. In no frame of reference does the primes change their order nor their innate values. Any observer clever enough will find that the primes are at the heart of the coupling magnitudes, does not vary if measured from that coordinate or another. That is because in all frames of reference arbitrary variations are vanishing onto matter, while primes are possessing a non-vanishing nature, which is a feature universal to all observers, i.e. all matter clusters of distinct amounts. We can go further and state a morphism similar to the term presented in the non-relativistic Schrodinger equation:

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_{V s_n} \qquad (1.35)$$

Which means that instead of a wave propagation in space, we have net curvature ripple propagation in space. As the curvature ripple propagates over larger matric tensor surface, the ripple gets weaker and weaker. That is somewhat a more modern version of the Coulomb law and the Newton law, which regard force to be inversely proportional to the square of the distance. Alternatively, if we consider that the Laplace operator already contain the unique manifold, $\Phi_n \in \nabla^2$ than (1.32) takes the simpler form:

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_V \qquad (1.36)$$

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{t}_\mathrm{n}^2} = \frac{\partial^2 \mathrm{g}}{\partial \mathrm{x}^2} + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{y}^2} + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{z}^2}$$

Fermionic and Multiverse Superposition's

Given the fundamentals, (2.12) and (1), it is possible to analyze the subject of linearity for Fermions. Suppose that in two distinct locations arbitrary variations are vanishing into matter. Both have an even amount of arbitrary variations. The combination of the two is also a solution, which keeps the manifold stationary, as it yields an even number that vanishes into matter. That is similar to the superposition of states, the idea of a linear differential equation, which serve a crucial role in Quantum mechanics. The following can be put mathematically:

$$\sum_{i=1}^{N_1} \delta g_i + \sum_{i=1}^{N_2} \delta g_i = 0$$

$$N_1 \not\equiv N_2$$

$$2\ |N_1 \cap N_2$$

That is both are devisors of two, i.e. even number of arbitrary variations. than the described outcome is the summation of the two to be an even number which keeps the manifold stationary, i.e. no curvature is allowed:

$$(N_1 + N_2) = N_{1+2}$$

$$2\ |N_{1+2} \longrightarrow 0$$

The idea of linearity can be expressed in another manner, that is by pair of two distinct manifolds flatting each other, combined with another pair of two distinct manifold is also a solution of (1.2.A) and how the packet is constructed.

$$\frac{\mathscr{L}\partial}{\partial\Phi_1} - \frac{\mathscr{L}\partial}{\partial\Phi_2} = \mathfrak{Z}_1$$

$$\frac{\mathscr{L}\partial}{\partial\Phi_3} - \frac{\mathscr{L}\partial}{\partial\Phi_4} = \mathfrak{Z}_2$$

$$\mathfrak{Z}_1 + \mathfrak{Z}_2 = \mathfrak{Z}_{1+2} = 0$$

Which means that in the universe packet any even number of universe pairs with opposite curvature orientation is a valid solution. The even number can be of any magnitude, and be a result of lower magnitude solutions, which represent pairs of universes flattening each other via areas of extremum curvature, causing outward acceleration from those areas. The superposition concerning Bosons was analyzed in detail in previous papers and for the superposition to hold under addition operation, odd number of primes are required.

Arbitrary Variations Transfer

We partitioned and discretized the arbitrary variation term of equation (1) and derived the existence of Fermions. In particular, we have shown that it must have an even amount of elements, which differ in sign and create nine threefold combination, and no more than two distinct elements.

$$\sum_{i=1}^{N} \delta g_i = 0 \qquad (2.12)$$

In addition, with Bosons, described by the term (1.49) as they were proven discrete amount of prime curvature on the matric tensor:

$$\sum_{1=1}^{M} \delta g_i > 0 \qquad (3.13.B)$$

Suppose that we have a finite number of pairs of distinct universes flatting each other via areas of extremum curvatures.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

Let the arbitrary variation terms, we also have a finite number of arbitrary variation vanishing into matter. Notice that if we change the amount in one universe and insert it to another universe, the stationarity condition will hold.

$$\mathscr{b}: \delta g_m \longrightarrow \delta g_{\breve{m}}$$

$$\mathscr{b}: \delta g_n \longrightarrow \delta g_{\dot{n}}$$

$$\delta g_m < \delta g_{\breve{m}}$$

$$\delta g_{\dot{n}} > \delta g_n$$

$$\delta g_m - \delta g_{\breve{m}} = \Delta$$

$$\delta g_{\dot{n}} - \delta g_n = \Delta$$

In other words, the term Δ is the amount of arbitrary variations that vanished into matter, and transferred from the first manifold into the second manifold. The only requirement is that that this amount would be an even amount of variations that will ensure that the manifold will stay at the condition of stationarity.

$$2|\Delta \rightarrow \mathrm{T}rue$$

$$\sum_{m=1}^{\frac{K}{2}-\Delta} \delta g_m < \sum_{n=1}^{\frac{K}{2}+\Delta} \delta g_n$$

$$\sum_{m=1}^{\frac{K}{2}-\Delta} \delta g_m = 0 \cap \sum_{n=1}^{\frac{K}{2}+\Delta} \delta g_n = 0$$

Therefore, despite matter can jump across the manifolds while keeping the manifold stationary, there is still a conservation of variation if we consider that matter can not escape the packet. Such idea is than revolutionary as it is imply it is impossible to know whether matter was originally created from variations of our own manifold, or it is matter which "jumped' or was transferred from a distinct manifold. That means that within one universe the conservation of energy does not hold, as matter has a potential energy, i.e. curvature in the 8T framework as was previously covered in the thesis. That idea however shades light on a conservation law, which indicates that while matter can jump from manifold to manifold, it can not escape the packet itself. So there is a conservation of entities within the packet. That does not indicate that there is a conservation of energy, as new entities are constantly being created as the manifold has arbitrary variations, all it indicates is the following: once those entities are created they must appear in some manifold within the packet. Nature does not impose a restriction on the index of the manifold that those entities should exist on.

Discrete Curvature Ripples

The wave equation of the Bosonic class is represented by the wave equation, which is net curvature diverging on the matric tensor. that is by a five-vector.

$$\left(8 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu} \longrightarrow \left(8 * \prod_{V=1}^{V=R} N_{V\mu} + (3)_\mu\right) + N_{V\mu}$$

$$\mu = (\nabla^2,\ t_n,\ \Phi_n)$$

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_V \qquad (1.33)$$

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{t}_\mathrm{n}^2} = \frac{\partial^2 \mathrm{g}}{\partial \mathrm{x}^2} + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{y}^2} + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{z}^2}$$

The key point to take from this is the following. It is possible to settle the issue of particle wave duality if we consider the idea of **discrete** ripples of net curvature. The discrete is manifested in the fact that the Bosons are isomorphic to the class of primes, and each Bosons has a unique signature of a prime. The Boson itself is represented by spin one-half, but as it is entangled with the majestic three, only than it accumulated as spin one. That is important if one would like to settle the subject of what is the light Quanta.

$$\mathrm{N_V} = \prod_{\phi=1}^{\phi=\mathrm{N_V}} \delta \mathrm{g}_\phi = \delta \mathrm{g}_{\phi=1} \times \delta \mathrm{g}_{\phi=2} \times \delta \mathrm{g}_{\phi=3} \ldots \qquad (1.23)$$

$$\delta \mathrm{g}_{\phi=1} \equiv \delta \mathrm{g}_{\phi=2} \equiv \delta \mathrm{g}_{\phi=3} \ \ldots$$

Therefore, the discrete nature is associative to the particle nature of the Bosonic class. In addition, the wave like nature is associative to the diverging nature of the ripple across the Lorentz manifold. It is possible to expend the idea using the spin representation as presented in the thesis, in particular, it is possible to state the number of elements in the coupling term to a certain behavior, either particle or wave like. If the number of primes, including the majestic three is odd, than the overall behavior of the system would be particle like. If even it would be wave-like. Each prime added is considered a spin variant, which interfere with the overall system. As we can add prime together it means we can add those discrete ripples together to create the potentials itself, similar to summation of particles of a certain volume to get the potentials in classical field theories. Therefore, the light quanta is a discrete ripple of net curvature, prime isomorphic which diverge to all directions of the unique manifold, that is why the time is indexed in (1.33). The 8T framework is than allowing us to combine the nature of Quantum mechanics and discrete amount of energy, together with the setting of curvature and Riemannian geometry on continuous and smooth surfaces. It is also possible to correlate inverse relation between time and energy, and state that the longer the period of curvature diverging, the weaker the net curvature is, the more flat the ripple becomes. In physical theories that can correspond the redshifts.

Fields Mixture

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Now, suppose we would like to represent the invariant multiplier by a combination of Bosons.

$$2^3 = \gamma + \mathcal{W}$$

It is possible than to represent the multiplier by the following:

$$F_R\# = \left((\gamma + \mathcal{W}) * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V$$

Let the forth coupling and above be represented by the parameters:

$$N_{V4\longrightarrow V\infty} = \Lambda_k$$

$$K \longrightarrow [4, \mathbb{R}]$$

$$\mathbb{R} \to \infty$$

So now it is possible to represent each coupling term in the following way, for the higher couplings as an example:

$$(\gamma + \mathcal{W}) \times \Lambda_k + 3 + \Lambda_k = \gamma\Lambda_k + \mathcal{W}\Lambda_k + 3 + \Lambda_k$$

$$\gamma\Lambda_k + \mathcal{W}\Lambda_k \tag{1.34}$$

equation (1.43) indicate that there is an interaction of the higher coupling terms, and therefore Bosons, with the electric and the weak interaction Bosons as each interaction contains elements from both. Since the invariant multiplier can be represented as a series of eight Gluons, the same applies there as well.

$$8 = \sum_{i=1}^{i=8} \mathfrak{g}_i$$

In other words, replacing the invariant multiplier by the prime combinations which represent it allows us another glimpse into the valuable interaction of the higher couplings. That is than a source of a prediction: The higher coupling terms are in constant interaction with the Bosons of the strong, weak and electric. If we represent each in terms of a diverging ripples of net curvature, than (1.43) indicate that there is a ripple intersection between those Bosons:

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_V$$

That is reasonable to assume as all of them are of the same class, the curvature class.

$$\mathcal{Q}: Top \longrightarrow Set$$

$$G_{class} = \{N_V \,|N_V \in \mathbb{P} \cup (+1)\}$$

Indexed Hamiltonians

The Hamilton idea could be presented in a rather simple way assuming we accept the notion of the multiverse as true, which is the case according to the 8T main equation in universe packet representation (2.1.A) and (2.1.B). In classical physics, the Hamilton is classified as summation of two terms, potential and kinetic. However, in the 8T it is the summation of two indexed terms, which indicate we have to sum over the kinetic and potential energies of all accelerating manifolds in the packet. That is in classical and Quantum mechanics:

$$\widehat{H} = \widehat{\mathrm{T}} + \widehat{\mathrm{U}}$$

So in the 8T the Hamiltonian must be varied to represent the idea of distinct manifolds which composing the packet. For that purpose, the author will present an arrow and a morphism:

$$\mathcal{G}: \widehat{\mathrm{T}} \longrightarrow \widehat{\mathrm{T}}_i$$

$$\widehat{\mathrm{T}}_i = \frac{\partial^2 \mathrm{g'}_i}{\partial \mathrm{t}^2} \; ; \; \forall \, s_{1\to n}$$

For the potential energy, i.e. matter operator, the author will use the arbitrary variation term which vanish into zero, i.e. (1.48) over all the manifolds in the packet.

$$\sigma: \widehat{\mathrm{U}} \longrightarrow \widehat{\mathrm{U}}_i$$

$$\widehat{\mathrm{U}}_i = \sum_{\mathrm{i}=1}^{\mathrm{N}} \delta \mathrm{g}_\mathrm{i} \, ; \; \forall \, s_{1\to n}$$

That is by **no** **means** an indication that the potential energy is zero, but rather that the potential energy has no curvature, i.e. that matter pairs in a way that does not allow curvature to manifest itself, but it's still exit in a form of Quarks and the reason Quarks can not escape, to ensure the manifold stationarity condition. The new Hamiltonian is a summation of two indexed terms; each represents the kinetic energy of the manifold, and the potential energy of the manifold with a unique index and a unique arrow. The idea of indexed Hamiltonian is a result of the features of the 8T, acceleration outward from extremum curvatures, flatness, arbitrary variations vanishing into matter and manifold packets. This idea is clearly indicating that in order to understand one universe, it can only be done by analyzing the packet of universes itself.

$$\widehat{H} = \widehat{\mathrm{T}}_i + \widehat{\mathrm{U}}_i \qquad (1.5)$$

Inclusion Arrows

The idea of inclusion arrows can fit the features of manifold creation. That is each new manifold is an embedded space of the original manifold, each manifold is the domain of a set of manifolds embedding's which rose from the original manifold. Define the inclusion arrow as:

$$\iota: \Phi_0 \longrightarrow \Phi_1$$

One will require the inclusion map of the 8T to possess the homomorphism trait. Such is required to ensure that the new sub-manifold will preserve the same features and structure of the original manifold. I.e. to be a complete manifold, which is simply connected and possess $(3,1)$ signature. For that purpose the heredity condition was presented:

$$\varsigma: {\Phi_0}^{(3,1)} \longrightarrow {\Phi_{0+()}}^{(3,1)}$$

In contrast to the idea of universe packet as presented in the thesis, this idea emphasize of sub-structure within larger structures. Those substructures are than yielding from them sub-manifolds and the process than goes endlessly. The idea can be simply expressed using functors and sets.

$$\wp: Top \longrightarrow Set$$

$$span(s_0) = \left\{ \sum_{n=1}^{K} s_{n+1} \middle| \; \mathrm{n} \in \mathbb{R}, \mathrm{K} \in \mathbb{R} \right\} .$$

$$\sum_{n=1}^{K} \Phi_{0+n} \subset \Phi_0$$

Using that idea it is possible to provide a possible answer to the question of what was before the beginning. The answer using that idea, is that there was another manifold which had a unique time arrow. Time existed before singularity, it existed on the spanning space of our own manifold, when are own manifold was generated, it was than allocated to this structure the features of the original structure, and a unique arrow of time. Therefore, "the beginning of time" is only "the beginning of time" of this Three dimensional space, which serve as part of infinite spaces, embedded in one another, flattening each other via areas of extremum curvatures. In addition, our space itself serves as a generator for other spaces, with a distinct arrow and dimensions of their own.

Electron Propagation

The equation of the Bosonic class is represented by the new form of the wave equation, which is net curvature diverging on the matric tensor. that is by a five-vector. We have proven the invariant three to be the electron by putting it in the fine structure formula. It is considered the electron to each of the higher coupling terms.

$$\left(2^3 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu} \longrightarrow \left(2^3 * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + N_{V\mu}$$

$$\mu = (\nabla^2,\ t_n,\ \Phi_n)$$

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 \qquad (1.33)$$

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{t}_\mathrm{n}^2} = \frac{\partial^2 \mathrm{g}}{\partial \mathrm{x}^2} + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{y}^2} + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{z}^2}$$

The key point to is the following, to represent the relation of the electron to the strong interaction, it is possible to use the primorial in the following form:

$$\left(8 * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + N_{V\mu} \rightarrow \left(\mathbf{2}^{\boldsymbol{e}^-} * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + N_{V\mu}$$

That is to state that the strong interaction even term is ever containing the electron. From the second term and above the electron is propagated out-ward. Since the electron is isomorphic to the Boson of the weak interaction, which can be either particle or a wave, so does the electron possess that particle duality. Given by the wave equation the electron is propagating all across the nuclei, as it is bounded by the bracket. That is important to clarify as it comes to an agreement with the insight of Quantum mechanics.

$$\left(\mathbf{2}^{\boldsymbol{e}^-} * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + N_{V\mu} \longrightarrow \left(\mathbf{2}^{\boldsymbol{e}^-} * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + \gamma_\mu$$

$$8 \longrightarrow \mathbf{2}^{\boldsymbol{e}^-} \qquad (1.25)$$

That new form of the primorial could be analyzed in the following form. The electron is not generated from the second term and above, but was already in existence inside the hadron. This instability, once there can not stay inside the hadron and must propagate outward, in all directions. This instability is bounded to the hadron, unlike the Bosons which are net curvature diverging unbound. Since it is possible to replace the positions of the elements using spin symmetry, there could be unbounded electrons in nature.

$$\left(\mathbf{2}^{\boldsymbol{e}^-} * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + \gamma_\mu \longrightarrow \left(\mathbf{2}^{\boldsymbol{e}^-} * \prod_{V=1}^{V=R} N_{V\mu} + \gamma_\mu\right) + (\boldsymbol{e}^-)_\mu$$

It is possible to express the motion of the electron inside the hadron before it gets propagated if the subscript is preserved.

$$\left(\boldsymbol{2}^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + \gamma_\mu \longrightarrow \left(\boldsymbol{2}_\mu^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + \boldsymbol{e}^-{}_\mu\right) + \gamma_\mu$$

Curvature Ripples and Entanglement

The wave equation of the Bosonic class is represented by the wave equation, which is net curvature diverging on the matric tensor. that is by a five-vector.

$$\left(2^3 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu} \longrightarrow \left(2^3 * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^-)_\mu\right) + N_{V\mu}$$

$$\mu = (\nabla^2,\ t_n,\ \Phi_n)$$

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_V \qquad (1.5)$$

Suppose we would like to execute an experiment in particle physics. The measured object can be either a Fermion such as the Electron or any Boson, which is net curvature diverging unbound. Since based on the second coupling term, the Electron is isomorphic to the Boson of the weak interaction as given by equation (1.61) in the Thesis, it is considered to possess the same effect during measurement. The following mathematical reasoning is needed. The measurer is arbitrary variation cluster that vanished into matter. The measurer is an infinite amount of matter.

$$\sum_{i=1}^{N} \delta g_i = 0\,;$$

$$N \longrightarrow \infty$$

Assuming the measurer is a matter cluster of immense amount which stay as it is, it must have Bosons, which ensure it will retain its shape. Define the set of Bosons that are composing the arbitrary variation cluster, which is the observer, using functor:

$$\wp\colon Top \longrightarrow Set$$

$$\mathrm{T} = [N_{Vk} \mid K \in \mathbb{R}\,] \qquad (1.51)$$

The set (1.51) is representation of the type of Bosons that composes the observer. That is given by the mathematical relation:

$$\mathrm{T} \subseteq \sum_{\mathrm{i}=1}^{\mathrm{N}} \delta \mathrm{g_i}$$

$$\mathrm{A} = \left\{\sum_{\mathrm{i}=1}^{\mathrm{N}} \delta \mathrm{g_i}\,;\ N \longrightarrow \infty\right\}$$

$$\mathrm{T} \subset \mathrm{A}$$

Since the set T is the set of net curvature composing the observer, and the measured object is of the following class, i.e. net curvature diverging unbound, **even before** measurement or the experiment there exist a modification, those **ripples from the object and from the matter cluster interest with each othe**r. Just a observer itself is causing a major variation of manifold. Assuming again the measurer has inner curvature retaining its shape and preventing its decomposition. Therefore, the manifold has those infinitesimal quantities, either with spin one-half or spin one:

$$B = \left\{ \mathcal{S}_1 \cup \mathcal{S}_{\frac{1}{2}} \right\}$$

With the existence of the measurer, the two sets are representing the system itself, no matter how far they are there exist now a collection of the two set under one new set. The measured object is B and the matter cluster is A.

$$A \cup B \longrightarrow C$$

$$C = A + B$$

There exist a modification of the system due to the **mere existence of the observer**. The net curvature which are discrete ripples of curvature diverging are creating compositions with the net curvature diverging of the observer; they are now part on the single entity. In certain cases, the combinations of ripples creating new ripples of higher magnitude that are solutions of the primorial higher terms. The observer, which has Electrons in it, are getting modified from the wave-like nature of the measured particle, and vice versa. Moreover, once the sets are joint to a single entity, it is impossible to reverse the action of joining them. It is impossible to decompose which element were modified nor which ones came from the matter cluster and which belonged to the infinitesimal quantity. That idea of irreversibility can be represented by the existence of two or more possible decompositions with equal probabilities.

$$C \longrightarrow A_1 + B_1 \in P(u_1)$$

$$C \longrightarrow A_2 + B_2 \in P(u_2)$$

$$A_1 + B_1 \not\equiv A_2 + B_2$$

$$P(u_1) = P(u_2)$$

The idea of observers as separated entity from the measured object is leading us far astray as we can possibly get according to the 8T author. Not only that, the observer and the measured object are united in one system, which can not be decomposed nor it is stops at larger distances. The mere existence of the measurer is effecting the system, modifying it to a new joint set of elements, which interact with each other. Since no two observers are identical, no two joints sets are identical; each observer is causing a different joint set to be created, or a unique entanglement. That root is different than the one taken in the thesis, which used spin variation to derive the effect of measurement on the system. The spin variation is encompassed with additional unit of energy quanta, which causes the system energy to vary, making the experiment impossible to make without changing the measured object spin and energy.

Proof: Anti Matter

The wave equation of the Bosonic class is represented by the wave equation, which is net curvature diverging on the matric tensor. that is by a five-vector.

$$\left(2^3 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu} \longrightarrow \left(2^3 * \prod_{V=1}^{V=R} N_{V\mu} + (e^-)_\mu\right) + N_{V\mu}$$

$$8 \longrightarrow \mathbf{2}^{\boldsymbol{e}^-}$$

$$8 = \gamma\ + \mathcal{W}$$

$$F_R\# = \left((\gamma\ + \mathcal{W}) * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V$$

$$(\gamma\ + \mathcal{W}) =\ \mathbf{2}^{\boldsymbol{e}^-}$$

$$(\gamma\ + \mathcal{W})^2 = (\mathbf{2}^{\boldsymbol{e}^-})^{\mathbf{2}}$$

$$(\mathbf{2}^{\boldsymbol{e}^-})^{\mathbf{2}} = 64 = 0$$

$$(\gamma\ + \mathcal{W})^2 = \gamma^2 + 2\mathcal{W}\gamma + \mathcal{W}^2$$

$$2\mathcal{W}\gamma = 0$$

$$\gamma^2 + \mathcal{W}^2 = 0$$

$$[(\gamma, \mathcal{W}) > 0\,] \cup [(\gamma, \mathcal{W}) < 0]$$

$$\boldsymbol{\mathcal{W}} \equiv \boldsymbol{e}^-$$

$$[(\boldsymbol{\gamma}, \boldsymbol{e}^-) > \mathbf{0}\,] \cup [(\boldsymbol{\gamma}, \boldsymbol{e}^-) < \mathbf{0}]$$

$$\boldsymbol{End\ of\ proof}$$

The $\dot{V}$ Operator

The wave equation of the Bosonic class is represented by the wave equation, which is net curvature diverging on the matric tensor. that is by a five-vector.

$$\left(2^3 * \prod_{V=1}^{V=R} N_V + (3)_\mu\right) + N_{V\mu} \longrightarrow \left(2^3 * \prod_{V=1}^{V=R} N_{V\mu} + (e)_\mu\right) + N_{V\mu}$$

$$\mu = (\nabla^2,\ t_n, \Phi_n)$$

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_V \qquad (1.33)$$

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{t}_\mathrm{n}^2} = \frac{\partial^2 g}{\partial x^2} + \frac{\partial^2 g}{\partial y^2} + \frac{\partial^2 g}{\partial z^2}$$

The key point to take from this is the following – the curvature ripple is the momenta as presented in Quantum mechanics.

$$M\dot{V} = -\nabla U$$

$$U = (X, Y, Z)$$

We can also instantly see that the mass is inversely proportional to the velocity derivative. In the 8T, the mass is considered curvature converging represented by the Quark masses series, that is by $8 - (1)$ variations, which allowed to the derive the pattern of total masses decreasing:

$$19{,}600 \longrightarrow 1400 \longrightarrow 56$$

$$176{,}400 \longrightarrow 1400 \longrightarrow 6.3 \longrightarrow 0.113 \longrightarrow$$

By the primorial, the series of diverging net curvature unbound is represented by terms which are of the sort of $8 + (1)$ for the first, and scalar multiples of that $8 + (1)$ and additional prime for the higher coupling term. The key point is the following. The velocity operator is than represented by the relation of

$$\dot{V} = \frac{8 + (1)}{8 - (1)} = -\frac{\nabla U}{M}$$

In the thesis, there is an analog to this relation by the Einstein equation between mass and energy. Energy is represented as the curvature diverging, and the mass as the curvature converging, the following ratio has a root which is the speed of light.

$$8 - (1) \longrightarrow g_c$$

$$8 + (1) \longrightarrow g_d$$

Curvature diverging g_d is equal to curvature converging, g_c, times the square of speed of light. A new version of the Einstein equation, equation 5.1). The fact that these two are similar is indicating that the speed of light is the limit of the acceleration operator, which is in agreement with private relativity.

$$g_d = g_c c^2 \qquad (5.1)$$

The Graviton Rise

The Graviton in the 8T is represented by a combination of three Bosons and one Lepton, i.e. the electron, even though due to the EMT symmetry it can be the Muon of the Tao. The following form is the structure of the graviton:

$$\left[\left(2N_{gravity}\right)+(3)\right]+N_{V1}+N_{V2}+N_{V3}=\left[2N_{gravity}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}$$

It recently became evident to one that there could be a several forms in which we can represent gravity which exceeds the invariance of spin due to replacing the Bosons. A more interesting form of Gravitons includes timed emission of two Bosons from two distinct Leptons which aspire to "stay away" from each other, or to obey the Pauli exclusion Principle.

$$\left[2N_{gravity}+\frac{1}{2}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}=\left[\left(2N_{gravity}\right)+(3)+(3)\right]+N_{V1}+N_{V2}$$

To emphasize the idea of the Leptons to be different state it is possible to map them in different directions ensuring they will never vanish into an even number and ruin the coupling series:

$$\left[\left(2N_{gravity}\right)+(3)+(3)\right]+N_{V1}+N_{V2}\rightarrow\left[\left(2N_{gravity}\right)+(\overleftarrow{3})+(\vec{3})\right]+N_{V1}+N_{V2}$$

So that is a much simpler version than the first which is represented in the thesis. First, it balance out the inequality between the Lepton and the Bosons in the coupling term. Instead of having one Lepton to generate three Bosons, we require now two Leptons to generate one Boson each. Than the summation of spin accumulates to spin two. The actual type of the Boson is not relevant to this discussion, for simplicity sake it can be the photon.

$$\left[\left(2N_{gravity}\right)+(\overleftarrow{3})+(\vec{3})\right]+\gamma++\gamma\longrightarrow\left[\left(2N_{gravity}\right)+(\overleftarrow{e^-})+(\overrightarrow{e^-})\right]+\gamma+\gamma$$

So the result of the above Graviton variants than accumulate to an even number which in variation from can be ignored, as it vanishes. The result is one term in the coupling of Gravity similar to the coupling of the strong which contain only one term. The one term indicate that similar to the Boson of the Strong, the Graviton is massless and it is short range.

$$\left[\left(2N_{gravity}\right)+(\overleftarrow{e^-})+(\overrightarrow{e^-})\right]+\gamma+\gamma\longrightarrow\left(2N_{gravity}\right)+Even$$

$$\left(2N_{gravity}\right)+Even\longrightarrow\left(2N_{gravity}\right)\tag{2.41}$$

Another option of the rise of the Graviton,

$$\left[\left(2N_{gravity}\right)+(\overleftarrow{3})+(\vec{3})+(\ddot{3})\right]+N_{V1}\longrightarrow\left[\left(2N_{gravity}\right)+(\overleftarrow{e^-})+(\overrightarrow{e^-})+(e^-)\right]+\gamma$$

These forms of gravity indicate that the Graviton is more likely to rise in elements with large number of Leptons, i.e. heavy elements, when we have the balanced form of Gravitons, those Bosons have to be timed, that is to be propagated in the same temporal segment for some arbitrary frame of reference.

$$\left[\left(2N_{gravity}\right)+(\overleftarrow{e})+(\vec{e})\right]+\gamma+\gamma\rightarrow\left[\left(2N_{gravity}\right)+(\overleftarrow{e})+(\vec{e})\right]+\gamma_{t_1}+\gamma_{t_2}\tag{2.42}$$

$$t_1=t_2$$

Photon Propagation

The photon propagation is presented in two different ways in the thesis. The first via a different form of the Feynman diagrams, using arrows and the framework of variational curvature vanishing in summation of even numbers:

$$[(24 \times 5) + (3)] + 5 \rightarrow \; [(24 * 5) + (e^{-})] + \gamma$$

$$e^{-} \searrow \quad \longrightarrow \; (\gamma) \quad \longrightarrow \; e^{-} \nearrow$$

$$(+3) \quad \longrightarrow (\gamma) \longrightarrow \quad (+3)$$

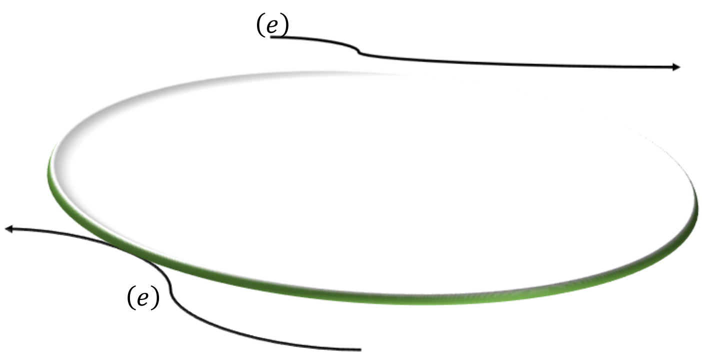
$$(+3) \quad \longrightarrow (+5) \longrightarrow \quad (+3)$$

$$(+3) + \;\; N_{V} = \; (+3) + 5 = 8$$

$$8 = Even$$

$$Even = 0$$

The second is via the photon absorption in a visual means:



The question and the subject matter is why does the electron repeal its other. Why does the Electrons does not get in to the curve which is the photon but rather "escape" to different directions. There exist several whys to do just that. The first is mentioned in the thesis, if the two Electrons would get into the curve, they will aspire the lowest point and meet each other. Such a scenario will lead to a vanishing of the two Electrons, making the primorial impossible to begin with, if we pre-condition the Electrons to propagate photons. That is the Pauli exclusion principle. For that reason, we presented the form of balanced Graviton with indexing the states of the electrons, to ensure they will not meet each other.

$$[(2N_{gravity}) + (\overleftarrow{3}) + (\overrightarrow{3})] + \gamma + \gamma \;\longrightarrow\; [(2N_{gravity}) + (\overleftarrow{e^{-}}) + (\overrightarrow{e^{-}})] + \gamma + \gamma \qquad (2.2.C)$$

There is a second way to explain this phenomena, the Electron which absorbed a photon has absorbed a net curvature of prime amount, it will pull the particle toward the curve putting it in a lower height, while the emitting electron just gave up a certain amount on net curvature which will elevate him to the higher direction. Those two heights will not cross, and thus the two electrons will not meet. This explanation can be put mathematical rigor.

Define the absorbing Electron using the Quantum manifold setting, i.e. using subscripts for classifying the absorbing/emitting elements and superscripts for the number of elements within the Electron.

$$\mathcal{H}_A\colon\left(\ e_K{}^{-(0)} \longleftarrow \gamma\right) \longrightarrow\ e_K{}^{-(1)}$$

$$\mathcal{H}_E\colon\left(\ e_K{}^{-(1)} \longrightarrow \gamma\right) \longrightarrow\ e_K{}^{-(0)}$$

Allocate the elevation parameter due to absorption by a term:

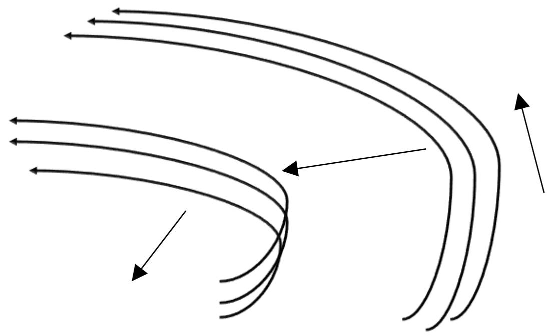
$$e_1^{-(0)} - e_1{}^{-(1)} = \Delta\downarrow$$

Allocate the opposite parameter due to emission:

$$e_2^{-(1)} - e_2{}^{-(0)} = \Delta\uparrow$$

Using the following idea, it is possible to imagine a new form of interaction between the Electrons. In such that they can pass on the same spatial coordinates but in different heights. The photon is pulling the absorbed particle to a lower elevation altitude, while its release leading to a higher elevation to the emitting Electron. The Feynman diagram now can be modified:

$$e^- \uparrow\ \ \longrightarrow\ (\gamma)\ \ \longleftarrow\ e^-\ \downarrow$$



The Quest of Defining $\widehat{H}$

The subject matter of this paper is the following. Is it possible to expend the idea of energy using variational manifolds? The term energy has been used and still is used all over the modern spectra of physics. However, no theory has been able to explain what is the idea that stands behind it. Since the main equation describes the phenomena of 'dark energy" or time invariant acceleration outward from extremum curvatures, supported by the coupling constants series, it is possible using that equation, to expend and clarify the idea of Energy. Consider the idea of a certain mapping:

$$\varphi\colon g \longrightarrow E$$

$$E = \widehat{H}$$

This mapping is between the Ricci curvature and the operator of energy in Quantum mechanics. So that the main equation (1.2) now can look as the following:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

If we consider outward acceleration from extremum curvatures on the manifold to the term of "energy", than energy is isomorphic to the degree of curvature. The more curved the matric on the manifold the more energy it has and vice versa.

The more flat the manifold is the less energy it contain. This idea than indicating that the manifold will aspire to reach the highest degree of flatness, indicating lowest degree of curvature overtime. That is in agreement with the idea of stationary manifold. "Energy" can also by analyzed in the context of the transformation between curvature to flatness, the manifold in the beginning was highly curved and as a result of being a part of the packet it was immediately flattened by the packet, which led to very high rate of change of curvature, which is isomorphic to energy, which manifested itself in the beginning. Once the manifold got flattened, the rate of change of curvature to time is significantly lower and aspire lower and lower value as the manifold expends. Each time net amount of curvature appearing matter is clustering toward it leading to formations of stars and galaxies. Using that construction, it is possible to construct the idea of potential energy. Potential energy is value, which describe the amount of curvature within fermion cluster. This term also include the fact that each matter unit itself is composed by Quarks, which are vanishing curvature spikes. Therefore, the potential energy can be put in rigor as the sum of two equations (2.12) and (3.13.B):

$$U = \sum_{i=1}^{N} \delta g_i + \sum_{1=1}^{M} \delta g_i \qquad (1.55)$$

$$\sum_{1=1}^{M} \delta g_i \subset \sum_{i=1}^{N} \delta g_i \qquad (1.56)$$

Equation (1.56) meant to express the idea of a matter cluster with Bosons that propagate within it. As the subset of Bosons is larger, the more amount of matter being clustered making the potential energy higher. It is important to clarify that matter itself is only a part of the picture itself, as it has no curvature itself, but it is composed to arbitrary amounts of curvature that must vanish to keep the manifold stationary, which are two distinct elements which differ in sign, or Quarks. The total energy of the specific manifold is described by:

$$\hat{H} = \frac{\boldsymbol{\partial g}}{\boldsymbol{\partial t}} + \sum_{i=1}^{N} \delta g_i + \sum_{1=1}^{M} \delta g_i = \hat{T} + \hat{U} \qquad (1.57)$$

Wave Functions and Spin

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$N_V = 2\left(V + \frac{1}{2}\right); \; V \ge 0$$

$$N_V \in \mathbb{P} \cup (+1); \quad \mathbb{P} \to Set\ of\ Primes$$

$$N_V = P_{max} \in [0, \mathbb{R}] \cup (+1); \; P_{max} \in \mathbb{P}$$

The second form of the primorial is locating each prime on the prime critical strip. This construction leading to a new form of the original equation, which assumed to be describing the trait of spin. We can solidify that claim using the fact in Quantum mechanics, spin of systems can only change in discrete amounts, that is a positive indication as there is one critical strip in which the Bosons are arising from.

$$\text{Spin } 0\text{: } 2N_{\mathrm{O}} \text{ variations}$$

$$\text{Spin } \frac{1}{2}\text{: } 2N_{\mathrm{O}} + 3 \text{ variations}$$

$$\text{Spin } 1\text{: } 2N_{\mathrm{O}} + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_{\mathrm{O}} + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

That is the first point of intersection with Quantum mechanics. The second point of intersection, is the following. In the paper, "Net Versus Spin", page 140 in the thesis, author argued that the state of the system depends upon the number of elements on the prime critical line, if it is even, the system will behave like a wave, if odd like a Fermion, or particle like. Same argument arisen without the author correlating the arguments at the time, in QM. In particular, symmetrical wave functions versus anti-symmetrical wave functions. Odd numbers obey the Fermi statistics, and Even numbers obey the Bose statistics, which is exactly what the primorial is indicating and the same formalism used to describe the Bosons which act like Fermions, or the Particle wave duality. The author would like to dive deeper into the subject of identical particles and symmetrical versus anti-symmetrical wave functions which serve as a significant part in QM. Suppose a given set of Bosons of a given coupling:

$$K = \{\gamma_1 \ldots \gamma_n\}$$

Since all the Bosons are isomorphic to a unique prime there index can change without any difference, i.e. it is impossible to distinguish between two photons.

$$K \to N_{V=2}$$

$$\forall\, \gamma_n \in K$$

The same apply to each Boson of each coupling in the series. The notion of equivalence can be solidified using the idea of class. All Bosons belong to the class of curvature on the manifold, page 176 in the thesis, and thus it is possible to expend the idea of indistinguishable to classes of Bosons. As an example, consider the arrow:

$$\mathrm{T}\colon (K \to N_{V=2}) \longrightarrow K_2$$

Alternatively, more generally:

$$\mathrm{T}\colon (K \to N_{V=Z}) \longrightarrow K_Z$$

Since all Bosons belong to the same class, we can create an higher class, summing the distinct classes of Bosons;

$$\mathcal{T} = \{K_1 \ldots K_Z\}$$

$$K_1 \equiv K_2 \ldots \equiv K_Z$$

The last point of intersection is the nature of Bosons versus the nature of Fermions, excluding the complication arises from the duality of the Electron and W Boson. Since Bosons has only one sign, that is they are net amount (assumed positive, although it makes no difference and considered negative) they are described under one sign in the thesis. And thus, if the Boson is interchanged it makes no difference to sign of the wave function. Consider the set of signs to the class of Bosons to be a subset of discrete amount:

$$\mathfrak{X}_B \subset \mathcal{T}$$

$$\mathfrak{X}_B = \{+\}$$

While Fermions are vanishing curvature spikes, the set of elements for class for Fermions, excluding the Electron, would then be:

$$\mathscr{F} = \{\delta \mathrm{g}_1, \delta \mathrm{g}_2\}$$

Consider the set of signs to the class of Fermions to be a subset of discrete amount:

$$\mathfrak{X}_F \subset \mathscr{F}$$

$$\mathfrak{X}_F = \{+, -\}$$

Thus the interchange of Bosons does not change the sign of the wave function, while the interchange of Fermions does changes the sign of the wave function. The immediate result is that Bosons can be propagated as wave to long-range distances, while Fermions cannot. That is similar to stating that the Fermions will accelerate toward one another. Another way to explain it is to state that the opposite curvature ripples cancel each other out, yielding an higher level entity which has no curvature manifestation, what we call matter. A threefold combination must match another threefold combination to eliminate the curvature ripples, in agreement with stationary manifold. The exclusion of the Electron is due to the fact that it is isomorphic to the Boson of the weak interaction, which imposes a complication as it can theoretically belonged to either Fermions or Bosons.

Summing up in three points. First point, the wave function of systems should be classified according to certain criteria. The first is the Bosonic or Fermionic classes, the second is the number of elements in the class. Second point, Fermion class must contain an even number of elements, Bosonic class can contain any number of element, if the number is even, the statistic obey the Bose rules, if it is odd than Fermi rules. Third, the number of elements dictates the spin summation using the prime critical line. The spin summation determines the behavior of the system, which can be either a smooth wave or particle like. The symmetry of wave function is due to subset of signs to each of the two distinct classes. The number of elements also dictating the Quanta's of energy in the system.

$\hat{T}$ as a Sum of Accelerations

The main equation of the 8T is describing the variation of a Lorentz manifold, which according to the second equation (1.1) can be expressed as being part of a manifold packet. Such a theoretical construction manifested in one equation, is able to provide an answer to three major questions at the heart of major cosmology. The flatness puzzle, the "dark energy" puzzle and the "dark matter" puzzle by (1.2).

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

The subject matter of this paper is the following question, can we represent the Hamiltonian of the manifold as a sum of spikes arbitrary spikes all across the matric. The author will argue that the answer is positive. First, let us represent the Hamiltonian of the system as presented in pages 205-206 within the thesis:

$$U = \sum_{i=1}^{N} \delta g_i + \sum_{1=1}^{M} \delta g_i$$

$$\sum_{1=1}^{M} \delta g_i \subset \sum_{i=1}^{N} \delta g_i$$

$$\hat{H} = \frac{\boldsymbol{\partial g}}{\boldsymbol{\partial t}} + \sum_{i=1}^{N} \delta g_i + \sum_{1=1}^{M} \delta g_i = \hat{T} + \hat{U} \qquad (1.57)$$

The potential energy is arbitrary variation clusters which vanish into matter, than Bosonic ripples propagating within them, that is vanishing spikes and non-vanishing curvature spikes. The kinetic energy is given by the Ricci flow equivalent to the acceleration in (1). Now to make the Hamiltonian more accurate it is possible to decompose the kinetic term:

$$\boldsymbol{\frac{\partial g}{\partial t} = \sum_{\phi=1}^{K} (\frac{\partial g}{\partial t})_{\phi}} \qquad (\mathbf{1,58})$$

Such an operation would allow us to regard the kinetic the term as the sum of acceleration of distinct galaxies. As new areas of extremum curvature are being created, $K \longrightarrow \infty$ and energy, as previously mentioned is not conserved as the Hamiltonian term is a subject to constant variance, which is increase. The increase does not interfere with the stationarity of the manifold as matter is appearing in a way that does not allow curvature to manifest itself. There could be additional uses for the kinetic term decomposition such as a collusion between two galaxies, which now mean that there is new area of extremum curvature, with new rate of acceleration. The new rate of acceleration is the summation of the kinetic terms of each distinct galaxies:

$$(\frac{\partial g}{\partial t})_{\phi=1} + (\frac{\partial g}{\partial t})_{\phi=2} = (\frac{\partial g}{\partial t})_{\phi=1+2}$$

Momenta and Wavelength

$$\left(\boldsymbol{2}_{\mu}^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + \boldsymbol{e^-}_{\mu}\right) + \gamma_{\mu} = 30{,}128{,}850{,}9254 \ldots$$

The subscript stands for a five vector that is given by:

$$\mu = (\nabla^2,\ t_n,\ \Phi_n)$$

$$\frac{\partial^2}{\partial t_n^2} N_V = \nabla^2 N_V$$

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{t}_\mathrm{n}^2} = \frac{\partial^2 g}{\partial x^2} + \frac{\partial^2 g}{\partial y^2} + \frac{\partial^2 g}{\partial z^2}$$

In the recent past 8T has defined "Energy" or the "Hamiltonian" of the system as the arrow:

$$\varphi : g \longrightarrow E$$

$$E = \widehat{H}$$

Given that introduction, it is possible to construct an analog for the relation that defined physics of the past century, the relation between momenta and wavelength. That can be done in several ways. Since each photon is a net curvature diverging unbound, and by the arrow above, that curvature is accounting for a certain energy, the more curved the element the more energy it contains. That is how one presented the EMT symmetry of equation . The setting of the theory is stationary manifold in which curvature is "not allowed", i.e. the manifold aspires to reach the lowest state of energy, or flatness, because of being of a packet of manifolds which flatten each other via areas of extremum curvatures. Therefore, for that we have momenta, which must be in inverse relation to the wavelength. The shorter the wavelength, the higher the diverging rate of the curvature across the matric, due to the stationarity condition. The longer the diverging process, the amount of energy is devised across larger areas so that the manifold can "get rid" of those elements which violate the stationarity condition first. What is new here is not the relation of the two terms, but rather the reasoning and the nature of photons when considered in a variational curvature framework. Than we can extrapolate the usual relation, curvature is inversely proportional to wavelength, and wavelength is inversely proportional to momenta. Which indicating that the momenta is directly proportional to curvature/energy. The shorter wavelength the higher the energy, the higher the momenta, and the faster the wave or ripple or curvature travels or diverge all across, so as a result this is the 8T explanation to the fact that the earthly sky are blue.

The Grand Field

The Primorial equation of the 8T is describing the coupling magnitudes of all known interactions and the interactions which are not yet discovered. In the thesis the primorial is has several forms which are correlated to different uses and ideas of this unique series of dimensionless numbers. In the beginning of the thesis, the even terms of each coupling are correlated to Fermions which are two and three divisible to vanish into matter. In this paper, the even terms will represent a direct product of fields, which add up to a one Grandfield, which may or may not have a physical meaning.

$$F_{V=0} \;\; = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

Since the first multiplier is representing the summation of Gluon type, it relates to the strong interaction. We have proven each Boson to be in a state of one to one correspondence with a unique prime. Since the primorial is taking each prime in the set of primes and multiplies it with the Gluon type, we get a term, which contains all the Bosons of the known interactions and the next interactions in line. The following form of the primorial is somewhat more "advanced" as it appears in the end of the thesis but it is identical to (1.1).

$$\left(\mathbf{2}_{\mu}^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + \boldsymbol{e}^-{}_{\mu}\right) + N_{V\mu} = \left(\mathbf{2}_{\boldsymbol{\mu}}^{e^-} \times \boldsymbol{N}_{(\boldsymbol{V}=\mathbf{1})\boldsymbol{\mu}} \times \dots \boldsymbol{N}_{(\boldsymbol{V}=\boldsymbol{k})\boldsymbol{\mu}} + \boldsymbol{e}^-{}_{\mu}\right) + N_{V\mu}$$

For the first three interactions, we get the term:

$$\mathbf{2}_{\mu}^{e^-} \times \mathcal{W}_{\mu} \times \gamma_{\mu} = (\mathbf{2}\boldsymbol{e}^-\mathcal{W}\gamma)_{\boldsymbol{\mu}}$$

This idea is very different from the original idea that appeared in the beginning of the thesis and regard the even terms to vanish into nucleons. Rather it shows that there exist one term which contain all the Bosonic 'particles' within it. Since those Bosons are net curvature on the manifold, they belong to the same class, which solidifies that idea of one united field, over an idea of distinct fields for each Boson type. This new interoperation of the primorial many indicate that there is ripples intersection among the Bosons as the arrow of time develops. That makes sense as those higher Bosons come from the original first term $\mathbf{2}_{\mu}^{e^-}$ as proven previously. In contrast to QFT which has many type of fields which are hard to grasp, 8T aspire to examine those Bosons as excitements or curvature spikes of one entity which is the manifold. The new form of the primorial is expressing that idea. The idea was also presented under the name "Gravity classes" which defined the Bosons to be distinct object of the same class, the curvature class.

$$G_{class} = \{N_V \,|N_V \in \mathbb{P} \cup (+1)\}$$

One last point, In contrast to other theories of physics, the symmetry break of the strong electroweak is something that happens constantly given the Bosons of the three first interactions sums up to the first coupling term:

$$\mathbf{2}_{\mu}^{e^-} + 1 = \left(\mathcal{W}_{\mu} + \gamma_{\mu}\right) + \mathfrak{g}_{\mu}$$

$$\left(\mathcal{W}_{\mu} + \gamma_{\mu} + \mathfrak{g}_{\mu}\right) > \mathcal{W}_{\mu} \cup \gamma_{\mu} \cup \mathfrak{g}_{\mu}$$

The separation accrues as each element has energy of discrete amount, and all of them unified has higher energy than each as distinct, so first the strong depart, than the Electroweak depart from one another. Gravity is not there as it is the class, which is already broken given the first three distinct elements, which serve as representative of the class. In the 8T it is the mapping between Ricci flow to Energy which set to clarify the ambiguous term of "energy". The universe aspires reaching flatness by the stationarity condition, which is in one to one correspondence for lowest state of energy.

SUSY and Invariant Three

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$\delta g_1 + \delta g_2 \dots = \sum_{i=1}^{N} \delta g_i$$

$$\delta g_i = 0$$

The alignment of the first three interactions was based upon aligning the net variations, which stand for Bosons according to theorem two, which is part of three theorems that yielded the primorial. The alignment was presented in two ways, for simplicity sake the author will present only the second as it is simpler. The alignment is due to two real net variations going from the photon to the Gluon.

$$F_{V=0} = 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

$$8 + (1) + 2 \colon [(8 * 3) + (3)] + 3 : [(24 * 5) + (3)] + \mathbf{3}$$

$$8 + (1) + 2 \longrightarrow 8 + (3)$$

$$8 + \mathbf{3} : [(8 * 3) + (3)] + \mathbf{3} : [(24 * 5) + (3)] + \mathbf{3}$$

$$[(24 * 5) + (e)^{-}] + \gamma \longrightarrow [(24 * 5) + (e)^{-}] + W^{-}$$

$$[8 + (\mathfrak{g} + 2)] \longrightarrow [8 + (W^{\ -})]$$

We said that the modification could not affect the invariant three, which is the electron. The reason it cannot effect the electron is because it is isomorphic to the Bosons of the first interaction, as both are represented by the same number, and in particle physics one of the Bosons of the weak interaction carry the same charge as the electron.

$$[(8 * 3) + (3)] + \mathbf{3}$$

$$3 \equiv (3)$$

$$(e)^{-} = W^{-}$$

Therefore, a modification on the electron is identical to modification on the alignment Boson which is in the case of the first three interactions is the Weak interaction. The only term in which the net variations unbound can modify on the third term than. Is the first term. It is important to emphasize, as reader may rightfully ask why the modification cannot affect the lepton. As a result of those exclusions on the Lepton and the Boson the only modification which is allowed will result in alignment at:

$$(8 * 3) + 2 = 26$$

Quantum Variantics

O Manor

October 14, 2021

Index:

Introduction

This paper is in depth analysis with the flaws of Quantum mechanics, by the author of the 8T, theory which unified the known interactions using variational manifolds, by doing so provided simple answer to several major unanswered questions, both in Quantum scale and in cosmological scales. Quantum mechanics is a set of ideas which derived by a set of experiments. While the experiments dictate the kind of equations and descriptions that are in the set of ideas. While one certainly cannot doubt what experiments indicate, it is possible to examine and improve the ideas which are describing reality, and in particular the methods, questions and equations. As Dirac once indicated that, there should be a more complete version of Quantum Mechanics. Let us begin with the flawed formulation.

First of all, the most obvious flaw in formulation is with the definition of "Energy". How can one solves equations in QM without a proper definition of "Energy"? The operator E and H does not mean anything, so it is possible to calculate with it, but understanding the meaning of energy is still not part of the current formulation of QM.

$$E\Psi(x,t) = \hat{H}\Psi(x,t)$$

This equation may be solvable but it is not clear, it's too abstract and it does not tell you anything about nature. One can argue that we know the definition of energy as to the summation of kinetic and potential. If so one must also ask, how does mass form, as there exist both mass positive and massless particles. And mass plays a rule in the formulation of the kinetic and poetical energy. Below is another example of the flawed formulation of Quantum mechanics.

$$\langle B|\hat{L}|A\rangle$$

Another dominating theme is the following transformations between two states by a linear operator. First of all, its too abstract, and it does not tell you anything about nature, despite being solvable. What's the worth of calculating without understanding? This is what computers do. These things are solvable but they are telling very little in intuitive fashion. The authors of QM are not explaining why QM is described by linear operators rather than non-linear operators, which is another flaw in this formulation. Let alone the fact that it goes from right to left, rather than all equations from left to right. One must clarify that it is not a case against QM but a case against how QM is described. There is a difference. The questions concerning the issues of "why" are just as important the Questions concerning "what", the entire extrapolation of the primorial coupling series was built on the notion of "why". In QM there exist very little to no explanations to why things are the way they are and that another major flaw in the current formulation of Quantum mechanics. So the challenge in hand is first of all, given the recent advancements in the field of Theoretical physics, and the unification of the interactions using manifolds is to re-build the flawed QM by using axioms and mappings. From here on out, QM is considered old formulation, and QV is the new formulation, which stands for **Quantum Variantics**. The new formulation is of variational curvature which will aspire to build more complete analogs for the dominating themes of QM. The most urgent mapping that is lacking in the old formulation of Quantum mechanics, is the following map between Ricci flow to Energy, which meant to provide a clear and solid definition to "Energy".

$$\varphi: g \longrightarrow E$$

The Schrodinger equation for the electron than is describing how does a non-vanishing curvature spike which has spin one half is moving across a nine-fold combination of two distinct elements which differ in sign. The electron has a superscript which describe the number of elements it contains. There is no need to use the Planck constant, which is a measureable constant. The problem with using this constant is that it is not a result of a variational principle. The equation with the Planck constant, has a flawed beauty for two reasons. First, it is not clear what it is. Second it is not clear why it has the value it has. Why that number and not another?

$$\Psi(M_\mu, t) = e^{(\partial g/\partial t)}\Psi(M_\mu, t_0)$$

Where the term in the exponential stands for:

$$\left(\frac{\partial g}{\partial t}\right) = i\hat{H}\Delta t/\hbar$$

Notice the interesting result and the major simplification. That is, in extremum energy, the equation reduces:

$$e^{\left(\frac{\partial g}{\partial t}\right)}\Psi(M_\mu, t_0) \longrightarrow e^{(0)}\Psi(M_\mu, t_0)$$

$$\boldsymbol{\Psi}(M_\mu, \boldsymbol{t}) = \boldsymbol{\Psi}(M_\mu, \boldsymbol{t_0})$$

If one is correct than the only parameters which will describe at extremum are the amplitudes and the matric itself. That is to say that the motion of the Electron would be an exclusive result of the space-time configuration. Assuming lowest energy, there exist only one electron in the system, and so the spin is half integer. At ground state, the electron will act as a particle. If the electron than at that stationary state would absorb a net amount of curvature, that would result in the change in its nature.

Independent Theory

An additional problem with the modern QM, and QFT is that both uses measured constants in their formulations, constants such the Planck, the speed of light, and energy, which being used all over without a proper definition of what exactly it is. Other than the usual insufficient definition of kinetic and potential, or the idea which is not correct in the 8T, of the conservation of energy. It is incorrect as matter is being created across the manifold, and anti-matter is not being created in the same amount, which makes the S matrix varied over time, so energy is not conserved, as mentioned in the thesis, pages (). A final theory must take the form which is free of measured constants an values, but will point to the same values those measurement indicate, what is theory than otherwise. A set of ideas which must match the observed and at the same time, free of the observed, which is not the case of the modern formulation of Quantum mechanics and Quantum field theories. The only theories of that sort to date, is the theory by the great man, Albert Einstein and the suggested successor the 8T, which takes the original ideas of curvature as means of meditating the interactions in nature and expends it to the Quantum realm, using the Euler Lagrange setting. To date the theory is synoptic in five equations, which are:

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \tag{2.1}$$

$$1\le i<k$$

$$2\le j\le k+1$$

As the main equation, which puts the solution on flatness, dark energy and dark matter creation and Boson manifestation in one equation. The Primorial, which provide description of the interaction in Quantum scales.

$$F_{V=0}=2^{e^-}+(1) \tag{1.1}$$

$$\left(\boldsymbol{2}^{\boldsymbol{e}^-}\times\prod_{V=1}^{V=R}N_{V\mu}+(\boldsymbol{e}^-)_\mu\right)+N_{V\mu}=30{,}128{,}850{,}9254.. \tag{1.2}$$

Orthogonality

That is another dominating theme in QM old formulation which needed to be shaded light upon is the subject of orthogonal states. Is there a simpler way to explain why it is important, before diving into the unclear notation of QM? This idea is used in a sense of "distinguishable states". First of all, the uses of the word "state" is too abstract, state of what? In QV all we have is the manifold. So that is much clearer. Given two distict states of manifolds, there exist zero probability of joint union, they are disjoint.

$$\langle \mathrm{M}_{\mu 1}|\mathrm{M}_{\mu 2}\rangle=0$$

$$(\mathrm{M}_{\mu)\mathrm{k}}\in \mathrm{s};\mathrm{k}\in\mathbb{R}$$

$$s=(\mathrm{M},\mathrm{g})$$

Let us examine the following equation:

$$\delta_{ij}=\begin{cases}0\rightarrow\ i\neq j\\1\rightarrow i=j\end{cases}$$

Such does not tell anything about nature. Again it's not incorrect just badly crafted. No matter how many "important calculations" can be made with equations of that sort. What we can tell about Fermions and Bosons using the Knocker delta? The idea of orthogonal states can be used in different manner and contexts. Below are several of those new ideas. First, orthogonality between Fermions and Bosons as an example. Alternatively, between Bosons and Bosons, that is to state that there could not be a Boson which Is the inner product/average of two Bosons, that is that distinguishable Bosons are orthogonal.

$$\langle N_{V=k1} | N_{V=k2} \rangle = 0$$

It can also be used to describe the orthogonality of universes:

$$\langle s_n | s_{n+1} \rangle = 0 \ ;$$

$$0 < \mathrm{n} < K$$

But here is the interesting turn of events. Since the main equation of the 8T requires:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

Given two distinct manifolds, which indistinguishable extremum curvatures:

$$\left\langle \frac{\partial g}{\partial t_n} \middle| \frac{\partial g}{\partial t_{n+1}} \right\rangle \neq 0$$

One must ask what is the physical implication of such an equation. It comes to an agreement with the Hamiltonian of the 8T.

$$\hat{H} = \frac{\boldsymbol{\partial g}}{\boldsymbol{\partial t}} + \sum_{i=1}^{N} \delta g_i + \sum_{1=1}^{M} \delta g_i$$

$$\frac{\boldsymbol{\partial g}}{\boldsymbol{\partial t}} = \sum_{\boldsymbol{\phi=1}}^{\boldsymbol{K}} \left(\frac{\boldsymbol{\partial g}}{\boldsymbol{\partial t}}\right)_{\boldsymbol{\phi}}$$

Either way the theory is providing an answer to why QM operators must be flat. The areas of extremum curvature flattening each other, causing the manifold to accelerate outward, that is basic in the thesis. There is a very good chance that some, and maybe all above examples do not have a computational applications, but computation is what computers do, and it does not require thinking. Still those equations are saying something as oppose to those terms in QM that are too abstract.

Is it better to have a theory which is all-computational, not simple, impossible to imagine and full with vague terms and arbitrary numbers as the current form of QM? Alternatively, a theory which is highly simple and free of constants and un-important calculations such as 8T, which is the attempt for QM analogs using VC (Varying curvature) framework, a theory which in a sense deemed the highly important Planck constant and the speed of light as not necessary, as the coupling magnitudes are attainable without it, in a sense a theory which generate all the numbers of nature with zero measurements or effort using one algorithm.

Amplitudes

Another major subject which appears in QM formulation is the subject of amplitudes. The square of the amplitude gives a certain probability of occurrence. In relativistic QM the phases are independent from the amplitudes. The latter can be consider an as overlap. The amplitudes in QM are synonymous with energy. Now given the arrow which takes Ricci curvature to "Energy":

$$\varphi \colon \mathrm{g} \longrightarrow E$$

The probability of occurrence is proportional to the square of Ricci curvature, or the square of the new amplitude. assuming Ricci curvatures are constants, which will make the calculation easier to make.

$$(\frac{\partial \mathrm{g}}{\partial \mathrm{t}})_{\phi=1} = 0$$

$$|\,(\frac{\boldsymbol{\partial}\mathbf{g}}{\boldsymbol{\partial}\mathbf{t}})_{\boldsymbol{\phi}=\mathbf{1}}\,|^{\mathbf{2}} = P_{\mathbb{R}}$$

Shading light on the mechanism:

$$\int_{M1}^{M2} |\Psi(M_{\mu}, t_n)|^2 dM = \nabla^2 \mathrm{g}$$

To make things more complete, in order to understand what is the probability to find a particle at 3D regions on the three dimensional matric M_{μ}, one must compute the Ricci curvature of the system in three dimensional space, as the Ricci curvature defines the geometrical setting in which effecting the motion of the particle and thus it's potential location. As an example consider a situation where:

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{x}_n^2} = 0, \qquad \frac{\partial^2 \mathrm{g}}{\partial \mathrm{y}_n^2} = 0\,, \qquad \frac{\boldsymbol{\partial}^{\mathbf{2}}\mathbf{g}}{\boldsymbol{\partial}\mathbf{z}_{\boldsymbol{n}}^{\mathbf{2}}} \neq \mathbf{0}$$

Since the curvature does not vary in time segment on the first two spatial dimensions but only on the third, there is a major simplification and one now need to compute just one term instead of three. The particle will be found in between a range of a matric which two set of coordinate vary only in the third spatial dimension.

In rigor, there exist a certain probability to find a particle in coordinate:

$$[x_1, y_1, z_2] \leftrightarrow [x_1, y_1, z_K]$$

$$z_K - z_2 = \Delta z$$

In other words, the probability of finding a particle is correlated to Ricci curvature configuration at time segment. The curvature orientation is dictating the probability to find a particle at a certain location. The more flat the matric, the wider the variance, and the probability to find a particle at a certain location would be equalized. Not yet computational and maybe not at all, but still a clearer version than the formulation of QM, computational as it can be. The probability to find the particle somewhere along Δz is one.

$$P(\mathrm{X}, \mathrm{Y}, \Delta z) = 1$$

Since reality is much complicated those are oversimplifications. In real situation we would expect:

$$P(\Delta \mathrm{X}, \Delta \mathrm{Y}, \Delta z) = 1$$

And we would also expect different distributions at different times. such would exclude any preferred location for the particle. The particle will aspire to reach the lowest point on the Ricci curvature, but it is not possible to tell where this point will be. Since the particle is effected by curvature ripple, which is wavelike it will move as a smoothly as a wave. This new version of QM aspires to eliminate the use of the Planck constant from those equations.

It Takes Two for Singularity

$$\frac{\partial \mathcal{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t}-\frac{\partial \mathcal{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2}=0 \qquad (1)$$

Given by mapping the manifold to the Φ parameter.

$$\Phi:(M,g_E)\longrightarrow(M_E,g)$$

The mapping led to the second form of the main equation:

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1\le i<k$$

$$2\le j\le k+1$$

$$F_{V=0}=2^3+(1) \qquad (1.1)$$

$$F_{\mathbb{R}}\#=\left(2^3*\prod_{V=1}^{V=\mathbb{R}}N_V+(3)\right)+N_V=30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$[(8\times 3)+(3)]+3$$

$$[(24\times 5)+(3)]+5$$

$$[(120\times 7)+(3)]+7$$

$$\ldots\ldots$$

$$[(8\times 3)+(3)]\to\left[2N_1+\frac{1}{2}\right]$$

$$[(24\times 5)+(3)]\to\left[2N_2+\frac{1}{2}\right]$$

$$[(120\times 7)+(3)]\to\left[2N_3+\frac{1}{2}\right]$$

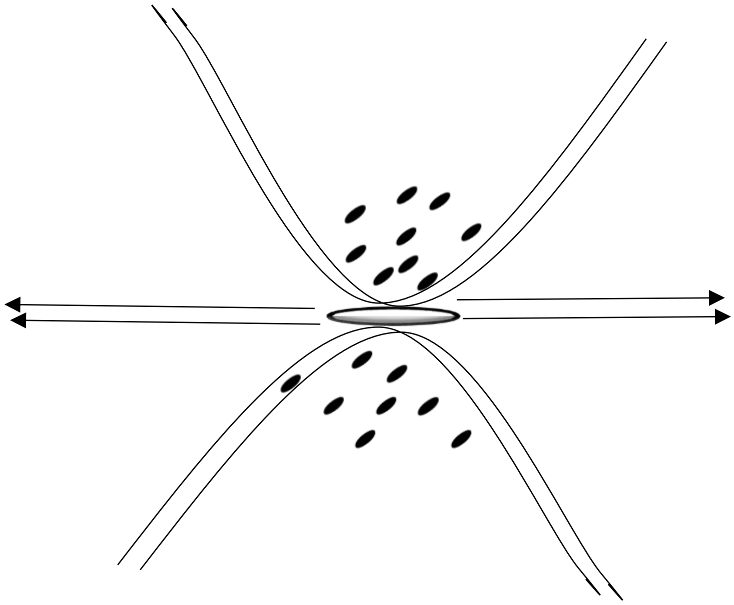
$$\ldots..$$

$$[(2^3\times 3)+(3)]+3\to\left[2N_1+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(2^3\times 3\times 5)+(3)]+5\ \to\left[2N_2+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(2^3\times 3\times 5\times 7)+(3)]+7\ \to\left[2N_3+\frac{1}{2}\right]+\frac{1}{2}$$

As each universe is being flattened by two manifolds, as was proven in the thesis (pages) as the index of the main equation appears twice under real range, it means that each manifold is confined by mass energy density much larger than itself. That makes sense as if each manifold were confined by just one similar manifold, the pressure on each would cancel each would cancel each other perfectly, such that those manifolds would not be flat. The analysis of singularity using that framework makes it somewhat easier to understand. The key idea that for singularly one needs two ancient manifolds, and an object that appears in between.



Once that object, which assumed to be departed from the original manifold arises, it is getting flattened by the two manifolds. as that thing expends endlessly, arbitrary variations arises and vanish into matter, net curvature causing the newborn manifold to retain structures such as galaxies and clusters of galaxies. So that eventually it will look similar to one of the ancient manifolds. the question is how the newborn manifolds is being created, and how is the orientation is the curvature is determined.

$$\delta g \neq 0 \qquad at \qquad t = Q(t)$$

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

There is always a chance net curvature will appear at later continuation of time. That is Bosonic fields given by the primorial coupling series:

$$\delta g = 0 \qquad at \qquad t = Q(t + \Delta t)$$

$$\delta g \neq 0 \qquad at \qquad t2 = Q(t + \Delta t + \Delta t)$$

$$\delta g = N_V$$

QM Axioms

What really stands at the heart of the QM that is so "hard to grasp"? The author does not think there exist such a thing. What is hard to grasp is the methods and techniques that are used to describe the reality of QM. That is the methods are the source of the problem and in particular the dominant part of LA, which is horrendous as means of **trying to imagine** what is happening. At the heart of it QM is composed of few simple Axioms which are:

(1) The spectrum of 'Energy' is **discrete**

(2) A physical **system** has a **set** of **potential arrows** leading to different results.

(3) there exist a **chance** to **each arrow**. The sum of all arrows is one.

(4) Objects are randomly generated.

(5) Physical systems has **objects**, which are **disjoint, joint, and semi-disjoint**. That is orthogonal, identical or entangled. Distinct arrows are orthogonal.

(6) **Time variance** of objects has an Iso-arrow to **3D spatial variance**.

Quantum Tunneling

What is the analog of tunneling using varying manifolds? Since photons can travel via matter, in a solid compact formation, and Bosons are belonging to the same class as Fermions, that is also given by the Electron and it's duality to the Boson of the weak interaction, there result of this construction is the following: matter and in particular electrons can travel via matter. A statement which is synonymous with the idea of tunneling. Now since 8T is relativity new, it is less evident to date, on how to perform the calculations on the probability of tunneling, as this framework does not have constants such as the Planck, which is used in almost all calculations In QM. Instead the author will follow reason in trying to predict.

It is possible to assume that there are several factors which effect the probability of tunneling. The first is the amount of matter which the tunneled particle should cross. The bigger it is the smaller the probability of crossing. That is assumed correct as the larger the matter count in volume, the bigger the chance the particle would be 'trapped' or pulled onto one on the nucleons. The second element is the tunneled particle energy, which is proportional to momenta.

The higher the energy, the bigger the momenta, the particle diverges faster and thus will go via the matter cluster in faster pace, which will decrease the chance of being trapped in the matter liar. There exist another option concerning tunneling, which involves the idea of identical particles. If one had an electron in region, which was destroyed by pairing it with the positron and in the mean time, the liar of nucleons propagated from within it a distinct electron, which now is outside the region, since the two Electrons are manifested by the same number, it is impossible to distinguish them. One can conclude that the Electron crossed the barrier.

$$\left(\mathbf{2}_{\mu}^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + \boldsymbol{e}^-{}_{\mu}\right) \in [A,B]$$

$$\boldsymbol{e}^+{}_{\mu} \in [A,B]$$

$$\boldsymbol{e}^-{}_{\mu} + \boldsymbol{e}^+{}_{\mu} \in [A,B] = 0$$

$$\mathbf{2}_{\mu}^{e^-} \longrightarrow \boldsymbol{e}^-{}_{\mu 1} \in [C,D]$$

$$\boldsymbol{e}^-{}_{\mu 1} \equiv \boldsymbol{e}^-{}_{\mu}$$

$$[C,D] \notin [A,B]$$

Because of the Electron duality to the Boson of the weak interaction, any feature which is related to the class of Boson, should be inherited by the Lepton. This version of Boson Fermion duality is by the primorial second term, which is the most symmetrical.

$$8 + (1){:}\,\big(24 + (3)\big) + 3{:}\,\big(120 + (3)\big) + 5{:}\,\big(840 + (3)\big) + 7 \ldots$$

$$[(8 * 3) + (3)] + \mathbf{3}$$

$$3 \equiv (3)$$

$$(e)^- = W^-$$

We can define the inheritance conduction by equalizing the classes. The Fermion class are of vanishing curvature spikes and the Electron. The Bosonic class are discrete prime amount of curvature, which are non- vanishing, and the Electron. The Electron is the unique term that belong to both classes.

$$\mathbb{F}_{Class} = \{2n \cup \boldsymbol{e}^{-} | \, (2n \cap \boldsymbol{e}^{-}) \in s\}$$

$$\mathbb{B}_{Class} = \{\mathbb{P} \cup (+\mathbf{1}) | \, (\mathbb{P} \cup (+\mathbf{1}) \in s\}$$

$$s = (M_E, g) \longleftarrow (3,1)$$

$$\mathbb{F}_{Class} \cap \mathbb{B}_{Class} = \boldsymbol{e}^{-}$$

$$\boldsymbol{e}^{-} \equiv (3) \in \mathbb{P}$$

The unique term that belong to both classes must exhibit the features of both classes. That insight was known long before 8T was crafted. However, the primorial validates and shade light on way those things are correct. It does so in such a simple fashion, compared to QFT which has to go via SUSY to reach the insight of alignment at 26 variations.

The Atom

$$(\delta g_1 \delta g_1 \delta g_1)$$

$$(\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1)$$

$$(\delta g_1 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_2)$$

$$(\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_1)$$

$$(\delta g_3 \delta g_3 \delta g_3)$$

The pairing of atoms is such that inverse threefold combinations pairs.

$$(\delta g_3 \delta g_3 \delta g_3)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_2) \leftrightarrow (\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

That is due to the conditions of stationarity on the Lorentz manifold. The order of the pairing is not evident in the 8T, as the author did not consider it relevant at that point. The physics is was important in that context back in the day, while the 8T was still in early stages of construction. Now emphasis will be made on the formation of atoms. Since the pairing of each threefold is incomplete in a sense that not all threefold combination bring an element to itself:

$$(\mathrm{\delta g_1 \delta g_2 \delta g_2})$$

That element will pair to another threefold combination that is imperfect and include the inverse signs. That is synonymous with the process of just two arbitrary variations vanishing to zero, given by the stationarity condition. It is possible to examine the threefold combinations in terms of edges. Those edges will pull another threefold combinations, thereby creating elements with heavier Hadrons, i.e. large number of Hadron composites.

$$(\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_1)$$

And all of those formations are due to the condition of stationary manifold.

$$\delta g_1 + \delta g_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

Another important note is the following. The most stable state in the set of the threefold combinations must be the lowest with the lowest energy. Since we had the mapping from Ricci curvature to energy, the most stable threefold combination must be most flat. Now another point which is important is the following. It is impossible to associate to each threefold combination different degrees of curvature, i.e. energy. The threefold combination does not tell how volatile are the arbitrary amount of curvature. To demonstrate:

$$(\delta g_1 \delta g_2 \delta g_1) \longrightarrow E_{121}^{\mathcal{L}_0}$$

$$(\delta g_1 \delta g_2 \delta g_1) \longrightarrow E_{121}^{\mathcal{L}_1}$$

$$E_{121}^{\mathcal{L}_0} \neq E_{121}^{\mathcal{L}_1}$$

Such a construction will allow us to indicate that the direction of development would be as such that threefold combination will aspire lowest energy state. That is in agreement with 8T idea of emission of the electron. And it is also similar to the Quantum formulation of subscript and superscript on the electron, to indicate his aspiration to reach lowest energy state. We can make the transformation between energy state of threefold combinations.

$$E_{121}^{\mathcal{L}_1} = E_{121}^{\mathcal{L}_0} + \boldsymbol{e}^-$$

Using that idea it is also possible to solidify the direction of the families formation. As the manifold develops, i.e. accelerates due to being a part of the packet, flatter and flatter combinations should rise. That means lower and lower masses. In the 8T, the Quark masses pattern indicate to that direction, i.e. third family is the first and first family is the third.

$$19{,}600 \longrightarrow 1400 \longrightarrow 56$$

$$176{,}400 \longrightarrow 1400 \longrightarrow 6.3 \longrightarrow 0.113 \longrightarrow$$

Using those theoretical insights it is possible to reason for the similarity of the generations, they are the class of arbitrary variations, which differ in their level intensity. The latter is proportional to the arrow of time.

Immense Spin Formations

$$(\delta g_3 \delta g_3 \delta g_3)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_2) \leftrightarrow (\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_1)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2) \leftrightarrow (\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \leftrightarrow (\delta g_2 \delta g_1 \boldsymbol{\delta g_1}) \leftrightarrow (\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_2)$$

Using the endless clustering of matter, i.e. construction of the periodic time table, which will eventually yield a proportional number of electrons as each of those threefold combination will and can emit an electron given by the primorial.

$$(\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \leftrightarrow (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \longrightarrow \mathrm{K}\boldsymbol{e}^-$$

$$\mathrm{K} \in \mathbb{R}$$

Since those electron has spin, given the second form of the primorial, the immense cluster of electrons and therefore the Bosons they emit contain spin as well. The summation of spin must be valid in large-scale formation of matter, i.e. arbitrary variations of the manifold, which takes the form of threefold combinations of two distinct elements, which differ in sign and summed as zero, or thanks to the contributions of physicists, Quarks. The large formation of matter must posses spin, or angular momenta around a self-Axis. The spin summation is due to the contribution of Electrons and Bosons in the cluster.

$$\mathcal{S} = \sum_{i=0}^{N} \boldsymbol{e}^- + \sum_{k=1}^{N} Z_k \sum_{k=1}^{N} N_{Vk}$$

$$\mathcal{S} \in \sum_{i=1}^{N} \delta \mathrm{g}_i = 0$$

The two-fold summation reason is the following. One must sum across the kind of Bosons in play inside the matter cluster. Such a construction allow one to make a prediction:

(1) All mega scale Fermion formations, stars and galaxies must have spin. The matter spirals of galaxies should spin around the axis of the center of galaxy and stars should spin around a self-axis taken from pole to pole.

Gravity within Fermion Clusters

$$(\delta g_3 \delta g_3 \delta g_3)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_2) \leftrightarrow (\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

$$\sum_{i=0}^{L} \boldsymbol{e}^- = e^-{}_1 + e^-{}_2 + \cdots + e^-{}_L$$

At any given time an heavy element which has two "clouds of probability", i.e. electrons, and those electron propagate on a common segment, there exist a chance those the Electrons will emit a discrete amount of net curvature at the same time. That spatial alignment and temporal alignment will result in the Graviton. That nature of the composition given by the spin two trait, is what makes the Graviton short range.

$$\left(\mathbf{2}^{e^{-}} * \prod_{V=1}^{V=R} N_{V\mu} + (\boldsymbol{e}^{-})_{\mu} + (\boldsymbol{e}^{-})_{\mu}\right) + N_{V1\mu} + N_{V2\mu} = 2N_{()} + 2$$

$$\left(N_{V2\mu} \equiv N_{V1\mu}\right) \cup \left(N_{V2\mu} \not\equiv N_{V1\mu}\right)$$

The only condition one is requiring is the five vector to be aligned, that the ripples will interest, both on the spatial and temporal. Since both contain the Laplacian in the five vector, and time as well, it is important to align all the elements on the five vector. Than the decay of the Graviton can be put as two Photons/or any two Bosons and two Electrons.

$$(\boldsymbol{e}^{-})_{\mu} + (\boldsymbol{e}^{-})_{\mu} + N_{V1\mu} + N_{V2\mu} \leftrightarrow \mathrm{G}$$

Thus the Graviton may likely be rising at large scale Fermion formations, where there exit immense amount of Leptons which may emit together, yielding an higher spin particle, such as the Graviton. In the 8T, for those reasons has infinite combinations. Gravity, i.e. curvature is the class, where different objects, given by the primorial are rising. The interaction among starts than is taking place by long range meditator such as light, which is represented by one independent term of prime.

Threefold Binders

$$(\delta g_3 \delta g_3 \delta g_3)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_2) \leftrightarrow (\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

Imagine that a threefold combination could break to a certain spatial coordinate, its matched pair is breaking to another spatial coordinate, that is a violation of stationarity on the manifold.

$$\sum_{i=1}^{N} \delta g_i \neq 0$$

Within each threefold combination, there must be than at least by reason a threefold binder. The nature of the threefold binder is related to the size of the prime paring, given by theorems two and three of the 8T.

for the threefold binder the element is represented by $N_{V1\mu} = +1$. Those threefold binders are net curvature on the manifold. Each net is increasing the chance of another net to arrive to its positon. The result an endless succession of net curvature converging toward the threefold combination, or a "sea of Gluons", which ensures the trapped nature of the two distinct elements.

$$\left(\delta g_1{}^{(\leftrightarrow)} \delta g_1{}^{(\leftrightarrow)} \delta g_1\right) \leftrightarrow \left(\delta g_2{}^{(\leftrightarrow)} \delta g_2{}^{(\leftrightarrow)} \delta g_2\right)$$

$$(\leftrightarrow) \;=\; \sum_{i=1}^{K} g_i = +1 + 1 + 1 \ldots$$

Curvature scattering by matter

Within a threefold combination we assumed there exist a sea of threefold binders. That is given by the term:

$$\left(\delta g_1{}^{(\leftrightarrow)}\delta g_1{}^{(\leftrightarrow)}\delta g_1\right) \leftrightarrow \left(\delta g_2{}^{(\leftrightarrow)}\delta g_2{}^{(\leftrightarrow)}\delta g_2\right)$$

Imagine the following scenario in which higher coupling Boson is propagating directly into matter. Since the threefold combination is emitting the Lepton and the Lepton is responsible for the Boson emissions, it is possible to assume that for the higher coupling Boson will not penetrate directly but rather by scattered by the threefold combination.

$$N_{V1\mu} \longrightarrow \left(\delta g_1{}^{(\leftrightarrow)}\delta g_1{}^{(\leftrightarrow)}\delta g_1\right) \leftrightarrow \left(\delta g_2{}^{(\leftrightarrow)}\delta g_2{}^{(\leftrightarrow)}\delta g_2\right) \searrow N_{V1\mu}$$

It is getting interesting, it is possible to assume that the higher term Boson did get in to the threefold cluster, and the scattered Boson is composed by the same amount of distinct elements. such that the photon which came in, is not the photon which came out, but five net curvature which were in the original Fermion.

$$\searrow N_{V\mu} = \sum_{i=1}^{5} \mathrm{g}_i = +1 + 1 + 1 + 1 + 1$$

Curvature Subsets

The subset condition, for any fermion cluster we have, which Bosons propagate within it, by the three critical theorems of the 8T, we have that the Bosonic class is a subset of the Fermion cluster. That is the:

$$\sum_{k=1}^{N} Z_k \sum_{k=1}^{N} N_{Vk} \subset \left(\sum_{i=1}^{N} \delta \mathrm{g}_i = 0\right)$$

The Road to Reality

$$(\delta g_3 \delta g_3 \delta g_3)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_2) \leftrightarrow (\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \overset{(e^-)_\mu}{\rightleftarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_1)$$

$$(\delta g_1 \delta g_1 \delta g_1) \overset{(e^-)_\mu}{\rightleftarrows} (\delta g_2 \delta g_2 \delta g_2) \overset{(e^-)_\mu}{\rightleftarrows} (\delta g_1 \delta g_1 \delta g_1) \overset{(e^-)_\mu}{\rightleftarrows} (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu}{\rightleftarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_1}) \overset{(e^-)_\mu}{\rightleftarrows} (\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_1 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_1)$$

$$(\delta g_1 \delta g_1 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_2 \delta g_2 \delta g_2) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_1 \delta g_1 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_1}) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_2)$$

…

$$(\delta g_2 \delta g_2 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}}{\rightleftarrows} (\delta g_1 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_1)$$

$$(\delta g_1 \delta g_1 \boldsymbol{\delta g_1}) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\boldsymbol{\delta g_2} \delta g_2 \delta g_2) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_1 \delta g_1) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\boldsymbol{\delta g_2} \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_1}) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}\rightarrow}{\rightleftarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_2)$$

…

High Energy & Probability of Life

The main equation of the theory is describing the variation of a Lorentz manifold, which according to the second equation (1.1) can be expressed as being part of a manifold packet. Such a theoretical construction manifested in one equation, is able to provide an answer to three major questions at the heart of major cosmology. The flatness puzzle, the "dark energy" puzzle and the "dark matter" puzzle by (1.2).

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

The question in which the author will try to answer is the following: what are the full implications of the Ricci curvature term, $\partial \mathrm{g}/\partial \mathrm{t}$. In the 8T it stands in two different contexts. The first is the usual Ricci curvature, which in discrete amounts is isomorphic for Bosons. The second and the one which is the more mysterious is that the term $\partial \mathrm{g}/\partial \mathrm{t}$ stands for a space in it itself. That is because of two reasons, the first is the arrow correlated to that term in the 8T. The second is the condition $\partial \mathrm{g}/\partial \mathrm{t} = 0$. The arrow that presented was:

$$\varphi\colon \mathrm{g} \longrightarrow E$$

$$E = \hat{H}$$

That arrow than resulting in a term that is energy to time in the main equation. In addition, such a term is separated in a sense, as none of us ever witnesses raw energy varying over time. The second reason was the condition, $\partial \mathrm{E}/\partial \mathrm{t} = 0$ which is needed for explaining the phenomena of outward acceleration from extremum curvatures. If the 8T is describing manifolds which interact with each other, in particular flatting each other, and yet as residents of one manifold, we have not seen the flattening universe. That is indicating they are separated by some way, which serve as the role for that space, which, if one intuition is correct, serve as a common gate for both manifolds.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

$$\frac{\partial g_i}{\partial t_i} = \frac{\partial g_j}{\partial t_j} = 0\,;$$

It makes sense to consider that space as a space which accessible at extremum energy. Such space has a feature of partially time invariant, and as far as one can see, it is the space in between two distinct manifolds interacting via extremum curvatures. That can be explain as the areas of extremum curvature interact with each other, they create a repulsion which is synonymous with energy, that energy direction is away from that extremum curvatures, leading to the flattening and the acceleration from them areas. The following can be explained in another manner. If there was not a separating space, there will not be a finite dimensional manifolds, i.e. universe, but infinite dimensional. Another possible way to analyze is to ignore all the terms in the main equation other than the last two.

$$\frac{\partial g_i}{\partial t_i} - \frac{\partial g_j}{\partial t_j} = 0$$

Those manifolds has areas of extremum curvature but with opposite orientation, leading to manifestation of total energy. Since all manifold pair in the packet share the same relation, that is same as stating $k \longrightarrow \infty$ or:

$$\left(\frac{\partial g_i}{\partial t_i} - \frac{\partial g_j}{\partial t_j} = 0\right) \forall\, \Phi_\omega$$

$$\Phi_\omega = \Phi_i + \Phi_j$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

The number of this space projections is half of the number manifolds in the packet. This space must be manifested as flat, time invariant partially and accessible at extremum energies. Since it is the same for all, imagine that a race reached an extremum energy of the matric:

$$\frac{\partial g_i}{\partial t_i} = 0$$

Since:

$$\frac{\partial g_i}{\partial t_i} = \frac{\partial g_j}{\partial t_j} = 0$$

By lowering the energy, it now can access complimentary manifold. The same applies endlessly over the packet. The term $\partial g / \partial t$ serve as the kernel of distinct manifolds and the key space allowing to jumping, by requiring $\partial g / \partial t = 0$ it turns to the Kernel of those two manifolds. another point that one would analyze is the probability of life. We have assumed that those manifolds has the same curvature areas with different arbitrary variations distributions which vanish into matter. when the latter summed across the area of extremum curvature it is equalized among the two manifolds.

$$\sum_{i=1}^{m} \delta g_i \longrightarrow \mathcal{R}^{s_1} \in [0,1]$$

$$\sum_{i=1}^{n} \delta g_i \longrightarrow \mathcal{R}^{s_2} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

$$\sum_{m=1}^{K/2} \delta g_i \equiv \sum_{n=1}^{K/2} \delta g_i$$

Suppose for the sake of the argument that the distribution in at least part of the manifolds in the infinite packet is identical, that there exist a subset of universes in which there is alignment of stars which due to their size can be considered life-harboring, i.e. earth-like diameter, water containing and at the right distance from a light emitting star. Than at each distinct star harboring life, there exit some chance that exit life in at least some distinct manifold distribution on the packet. Take the infinite manifolds of the packet and the probability will aspire one. Of course that is no indication life would form as it is on earth. The chain of accidents would be most likely very different; the stages of life would be very likely different as well. To put that in rigor:

$$\sum_{i=1}^{m} \delta g_i \longrightarrow \mathcal{R}^z \quad \in [0,1]$$

$$\mathcal{R}^{zk} \in \mathcal{R}^z; z, k \in \mathbb{R}$$

$$\sum_{i=1}^{n} \delta g_i \longrightarrow \mathcal{R}^L \quad \in [0,1]$$

$$\mathcal{R}^{Lp} \in \mathcal{R}^L; L, n \in \mathbb{R}$$

$$\mathcal{R}^{zk} \equiv \mathcal{R}^{Lp} \longrightarrow \sum_{\boldsymbol{\mathcal{A}=1}}^{\mathbb{E}} [0,1]_{\boldsymbol{\mathcal{A}}};$$

$$z = L;$$

$$k = p;$$

$$\left(\sum_{m=1}^{\frac{K}{2}} \delta g_i \equiv \sum_{n=1}^{\frac{K}{2}} \delta g_i\right) \cap \left(\mathcal{R}^{zk} \equiv \mathcal{R}^{Lp}\right)$$

$$P_{(life)} \longrightarrow 1$$

That is there exist a finite subset of distributions of size $\mathbb{E}$ that are identical in **size** and in **distribution** in the packet, meaning matter wise. That is synonymous with stating that there is a succession of life harboring starts aligned on infinite dimensional space, which is composed by finite dimensional manifolds interacting via extremum curvatures, flattening each other. For matching it to the complexity of reality, we can state that at least part of the overall arbitrary variations distribution is identical; in particular, for the purpose of the paper, the areas that represent star harboring life.

If there is in fact a valid case to claims of distinct life forms observed in space near our earth, it would be more reasonable to assume that they would come from very close rather than a very far. That is, to assume they come from another finite dimensional manifold flatting our own, rather than a distinct galaxy in our own manifold, as the distance would be too great to travel even at the speed of light. There is no indication for exceeding the speed of light is possible, in agreement with Einstein theory of private relativity, which regard the latter as the upper limit, and the Michelson Morley experiments of the C invariance. But how large is the subset of identical variation distributions $\mathbb{E}$? In other words, how many life-harboring planets aligned on the roughly same coordinate over the packet, it is most likely will never be answered, but can be estimated as a fraction of infinity. It could be several hundred life-harboring planets or several billions, just at our aligned at our own point. This would apply to each life harboring planet on this manifold.8T would indicate that there should be a celebration of life in space.

Gravity Mass Cancelation

October 18, 2021

Abstract:

By analyzing the primorial coupling constants equation alongside the Quark series, the author present the set of potential deflections by two scalar coefficients, $\mathcal{N}^{div}$ and $\mathcal{N}^{con}$ which dictate the orientation of the total deflection. There are overall two ways to analyze deflections, by the inverse rations of the series, or by Gravity which rises from large scale formations Fermionic formations reach in Electrons. Those ways to not contradict each other. The author analyzed how Curvature is canceling the mass of the particle in Quantum scales. that is by gathering the insight of the direction of propagation.

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Introduction

The main pillars of the 8T can be classified as part of two subclasses. The first subclass is curvature diverging, isomorphic to prime numbers, an idea which yielded the primorial coupling series. The series takes the form which is invariant to all coupling terms, i.e. $8 + (1)$ for the first and $8 \times (\mathcal{P}_n) + (K)$ for the higher coupling terms, in which the parameter (K) is composed of invariant three, i.e. the Lepton and the max prime in a prime sequence, $(\mathcal{P}_n)$, under a real range, standing for the Boson. That is $(K) = 3 + (\mathcal{P}_n)$.

$$\left(2^3 * \prod_{V=1}^{V=R} N_{V\mu} + (e^-)_\mu\right) + N_{V\mu} = 30{,}128{,}850{,}9254\ldots \tag{1.2}$$

The theory is also considering the mass sequence to be of the form $8 - (1)$ given by a decrease pattern of all masses given by the ratio aspiring zero.

$$19{,}600 \longrightarrow 1400 \longrightarrow 56$$

$$176{,}400 \longrightarrow 1400 \longrightarrow 6.3 \longrightarrow 0.113 \longrightarrow$$

The subject matter in hand is the following question: what would be the interaction between quantum masses and interactions? The first case is the following – the amount of curvature diverging is equalized by the curvature converging. In that case the total interaction would be linear and no curvature will be manifested in either direction.

$$8 + (1) + 8 - (1) = 0$$

There will be no manifestation of force. The second case is the in which the curvature diverging is stronger or larger in amount than the curvature converging, in this case there will be a positive net belong to the diverging ripple the Quantum mass will be "pulled" toward this curvature ripple. Curvature diverging is synonymous with force in classical physics. One will take two scalar coefficients, $\mathcal{N}^{div}$ and $\mathcal{N}^{con}$ to put the idea in rigor:

$$\mathcal{N}^{div}\big(8 + (1)\big) + \mathcal{N}^{con}\big(8 - (1)\big) > 0$$

$$\mathcal{N}^{div}\big(8+(1)\big)+\mathcal{N}^{con}\big(8-(1)\big)=\Delta\epsilon$$

$$\mathcal{N}^{div},\mathcal{N}^{con}\ \in\mathbb{R}$$

as the degree of deflection. In the second case is the mass deflection by Bosonic $\Delta\epsilon$" curvature ripple. The last case is where the curvature diverging is weaker than the curvature converging, leading to a negative net, this is where the mass will bend the Bosonic curvature, i.e. a photon as an example into it's direction, and that is in one to one correspondence with the prediction of General relativity and bending of light.

$$\mathcal{N}^{div}\big(8+(1)\big)+\mathcal{N}^{con}\big(8-(1)\big)<0$$

$$\mathcal{N}^{div}\big(8+(1)\big)+\mathcal{N}^{con}\big(8-(1)\big)=-\Delta\epsilon$$

As previously mentioned in contrast to General Relativity it is not matter itself causing the bending but rather short-ranged Bosonic composition propagating from matter. Since matter cluster is composed by infinite amount of Quarks, it provides a sufficient ground for the rise of the Graviton, which requires emitting of primes (distinct or equivalent) at the same time, by several distinct Leptons.

$$\big[(2N_{gravity})+(\overleftarrow{e^-})+(\overrightarrow{e^-})\big]+\gamma+\gamma\ \ \longrightarrow(2N_{gravity})+Even \qquad (6)$$

Therefore, if we apply the same elements to Quantum scale it is possible to predict that heavy nucleons will deflect light, or that high energy set of photons will deflect the trajectory of light mass particles, such as the neutrino, assuming it carries some positive mass. The same result of General Relativity light bending should be manifested and predicted in particle scales given the 8T framework of Quantum scale curvature. Take a set of elements such as a ray of photons, and compare it with the number of estimated mass particles in a star and the result would be:

$$\mathcal{N}^{con}\gg\mathcal{N}^{div}$$

That is a noticeable net curvature deflection, which is negative, i.e. oriented to the photonic ray by the star. Assuming the ray has smaller number of elements, the formation within the star will exceed the inverse ripples. That does not mean $-\Delta\epsilon$ is a strong deflection as many elements are in the star, and it represented by higher coupling term which are immensely weaker. There are two ways to examine this relation. The first by the opposite ratios, the second is by Gravity, which rises in clusters of $\big(8-(1)\big)$ as those contain many Quark formations, thus many electrons that are vital for the Graviton, which arise in large-scale mass particle formations and can be considered as a variant composition of net elements. In other words, Gravity is the more detailed version on the subject of deflection. So taking the two scalar coefficients, $\mathcal{N}^{div}$ and $\mathcal{N}^{con}$ does not contradict the structure of deflections given by the thesis and the actual structure of gravity. To sum in several points. First, Quantum deflections can be analyzed in two different ways. The first is by the mass series, the second and more complicated is by Gravity, which rises in Mass rich environment and serve as a minor deflection to light. Second, in cases where light is much exceeding the mass, the mass will be "pulled" toward it, and if they are equal no curvature either way. The relation above was used to express the stability of stars. That is a stability of star is given by:

$$\mathcal{N}^{div}\big(8+(1)\big)+\mathcal{N}^{con}\big(8-(1)\big)=0$$

The amount curvature diverging is equal to the curvature converging is synonymous with saying that the star is stable. The same formula was used to explain how mass carrying Bosons could travel at the speed of light. That is because of their diverging curvature, the mass operator cancels out and the Boson mass carrier is not effected by their innate mass, and thus travel in linear mode as if they are massless, in other words it will travel at the speed of light.

$$8+(1)+8-(1)=0$$

Third and last point, in quantum scale, Gravity can presented by (2) as net elements diverging, leading to the formations of the spin two particles. Since Gravity is the class, both ways, diverging and converging curvature, are valid. Gravity diverging is force, Gravity converging is mass. The short range diverging are Gravitons. Photons are net curvature diverging independent and unbound, Gravitons are short ranged diverging and composed particles. Curvature can diverge inward to a point, which provide a mass for the particle, large scale mass particles formations are rich in electrons which lead to the Graviton rise and thus for the deflections as predicted by General relativity, those large scale Fermion clusters are forming higher coupling terns, which is synonymous with the weakness of Gravity. In order to make it the argument more clean:

$$\left(8 * \prod_{V=1}^{V=R} N_{V\mu} + (e^{-})_{\mu}\right) + N_{V\mu} \longrightarrow spin\ 1|\ L.range\ curvature\ Diverging$$

$$\left(8 * \prod_{V=1}^{V=R} N_{V\mu} + \overleftarrow{(e^{-})_{\mu}} + \overrightarrow{(e^{-})_{\mu}}\right) + N_{V\mu} + N_{V\mu} \longrightarrow spin\ 2|\ S.range\ curvature\ Diverging$$

$$8 + (1) \longrightarrow Diverging\ curvature \longrightarrow Force$$

$$8 - (1) \longrightarrow Converging\ curvature \longrightarrow\ Mass$$

The interesting thing according to the classification is that Gravity is separated from mass. It arises from where mass in large scale exist, but as far one can see, it is composed by varying set of Bosons belong to the $8 + (1)$ class. **In other words, Gravity cancel the mass**.

$$\left(2N_{gravity}\right) + Even \in 8 + (1)$$

$$\mathcal{N}^{con}\left(8 - (1)\right) \longrightarrow M_p$$

Where M_p stand for the mass particle. That is a mass positive particle moving in curvature ripple will lose its mass. We already know that result to be true in large scale, now it applicable in Quantum scale.

The Operators Fiasco

October 19, 2021

Abstract:

The author analyzes the weakness in the idea of operators of creation and destruction in the QFT formulism, using the new framework of varying manifolds. It is possible to cut by half the number of operators needed to describe nature. It also allows to deem the anti-matter operators as irrelevant and problematic, as they indicate high state of energy which is against nature tendency to each the lowest energy state, the author elaborate on the alternative to this idea. Second part of the particle is presenting a way to combine spin operators with the coupling constant series.

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Introduction

One of the major pillars of the QFT formalism is based upon a sequence of operators, which represent creation and destruction of particles. By analyzing from several angels using the recent developments of variational manifolds, it become evident that the operator formulism is problematic. The first problem was already briefly mentioned in previous papers and is the following, if for each particle matter created there exist an anti-matter, would mean that they exist in equal amounts. Define the set of operators and two scalar coefficients.

$$\lambda = \{a(t), a^{\dagger}(t), K_1 . K_2\}$$

$$K_2 a(t) = a^{\dagger}(t) K_1$$

$$K_2 a(t) a^{\dagger}(t) K_1 = 0$$

Based upon cosmological observation the ratio is majorly unbalanced toward matter.

$$K_2 a(t) \gg a^{\dagger}(t) K_1$$

Such an idea also means that there exist constant amount of high-energy release in space-time due to pairs of creation and destruction, which means that the universe in QFT formulism cannot reach lowest energy state, but rather the opposite due to those vanishing pairs it is in the highest state of energy.

$$\langle K_2 | K_1 \rangle = 0$$

QFT physicists tried to those vanishing pairs to explain "dark energy" they created the biggest mismatch between an idea an observational value, by magnitude of several tens of zeros, solidifying the problem with this idea. That is not a case against anti-matter, as we know it does exist, the subject matter in hand is about creating a setting in which matter creation does not interfere with the stationarity condition of the universe. In the new framework of varying curvature, the objective is easily within reach, as matter pairs in such way that does not allow arbitrary curvature to manifest, the stationarity condition of the manifold is preserved.

Additional side point is assuming nature itself is Lagrangian oriented, why would it bother to create a set of elements, and then create an inverse set of elements, of the same magnitude, just to destroy them both? In other words, why create two sets of elements instead of just one? The new framework of variational curvature has just one set of elements, which does not interfere with the stationarity condition as it vanishes into zero, without the need for Anti-matter. In the 8T, the idea of vanishing curvature spikes into matter:

$$\sum_{i=1}^{N} \delta g_i = 0 \ ; \ Z = 1$$

In QFT,

$$K_2 a(t) a^{\dagger}(t) K_1 = 0 \ ; \ Z = 2$$

Where Z denoting the number of sets. The second set of elements assuming to contain an infinite number of elements, which will require nature to much more work, which again a indication of theoretical fiasco. A third point is the following, if the operator idea was correct than it would require a 'constant care' to ensure the number of operators is equal both direction. Such an idea is than is in contradiction to the randomness and spontaneous nature of nature, as we are familiar with it. That is that the requirement of both operators to be equal at all times is synonymous with magic, we would lose the randomness and the spontaneous features of nature, the operators must be aligned at both temporal and spatial dimensions. Such restriction does not exist in the 8T.

$$(K_2 = K_1) \ \forall \ \mu$$

$$\mu = (\nabla^2, \ t_n, \ s_n)$$

The succession of operators being created and annihilated is troublesome notion wise and can be infinitely long.

$$\left(a(t) a^{\dagger}(t)\right)_1 \dots \left(a(t) a^{\dagger}(t)\right)_n$$

For those reasons, it is possible to claim that the operator idea is problematic. Reader may rightfully ask about the suggested alternative. The 8T is suggesting the following. Matter and anti-matter are not equal in creation, which is preserving the stationarity condition. Matter is being created across the manifold, it is manifested in such way that no curvature is allowed da facto. Energy is not preserved, but the stationarity of the manifold is. Instead of two sets of operators, there exist just one, which summed in one term instead by infinite sequence. Its full proof Lagrangian oriented, as the number of elements reduced by a factor of one infinity, it does not involve high energy or anti-matter, which will invoke the manifold far from stationary, and this term it still vanishing to zero, all in one without anti-matter. It also allows the spontaneous nature of nature to manifested as those are **arbitrary** variations rather than directed and pre-calculated two-fold set of operators equal in size. One final point, if that idea of equal two-sets of operators was in fact correct, than matter, stars and galaxies would not have been existed in the first place. If one impose a restriction of that sort, one must specify in which time segments in applies. QFT does not tell from when temporal segment it becomes valid which is another problem.

Spin Orientations

$$\left(\mathbf{2}_{\mu}^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + \boldsymbol{e^-}_{\mu}\right) + \gamma_{\mu} = 30:128:850:9254\ldots$$

The Primorial, which has several forms including a unique spin, form which led to the following classification:

Spin 0: $2N_{\text{O}}$ variations

Spin $\frac{1}{2}$: $2N_{\text{O}} + 3$ variations

Spin 1: $2N_{\text{O}} + 3 + N_V$ variations

Spin $N = 2N_{\text{O}} + 3 + N_{V1} + N_{V2} \ldots$ variations

The missing art is the following, the primorial does not provide the actual direction of spin propagation in three dimensions. As a result, one must consider the three-direction combination as a mean to present the orientation of the spin:

$$\theta: (\phi_x + \phi_y + \phi_z) \in t_n) \in s_n$$

That is, spin orientation taken for some arbitrary time, for some arbitrary manifold. The new arrow is:

$$\theta: \boldsymbol{e^-}_{\mu} \longrightarrow \boldsymbol{e^-}_{\mu\theta}$$

$$\theta: \gamma_{\mu} \longrightarrow \gamma_{\mu\theta}$$

The second power will given by the joint terms in the subscript each of the spin operator is joining the diverging Laplacian such that:

$$\frac{\partial^2 \mathrm{g}}{\partial \mathrm{x}_n^2}(\phi_x) + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{y}_n^2}(\phi_y) + \frac{\partial^2 \mathrm{g}}{\partial \mathrm{z}_n^2}(\phi_z) \in t_n$$

$$(\phi_x^2 + \phi_y^2 + \phi_z^2) = 1$$

The purpose of the new combined term is not only to describe the curvature diverging on the manifold but also to allocate in addition the spin components for each spatial coordinate such that putting net and spin under one frame.

$$\theta: \left(\mathbf{2}_{\mu}^{e^-} * \prod_{V=1}^{V=R} N_{V\mu} + \boldsymbol{e^-}_{\mu}\right) + \gamma_{\mu} \longrightarrow \left(\mathbf{2}_{(\mu\theta)}^{e^-} * \prod_{V=1}^{V=R} N_{V(\mu\theta)} + \boldsymbol{e^-}_{\mu\theta}\right) + \gamma_{\mu\theta}$$

Majestic Bosons

The main pillars of the 8T can be classified as part of two subclasses. The first subclass is curvature diverging, isomorphic to prime numbers, an idea which yielded the primorial coupling series. The series takes the form which is invariant to all coupling terms, i.e. $8+(1)$ for the first and $8\times(\mathcal{P}_n)+(K)$ for the higher coupling terms, in which the parameter (K) is composed of invariant three and the max prime in a prime sequence, $(\mathcal{P}_n)$, under a real range. That is $(K) = 3+(\mathcal{P}_n)$.

$$\left(8*\prod_{V=1}^{V=R} N_{V\mu}+(e^-)_\mu\right)+N_{V\mu}=30,128,850,9254\,...$$

The theory is also considering the mass sequence to be of the form $8-(1)$ given by a decrease pattern of all masses given by the ratio aspiring zero. The subject matter in hand is the following question: what is the implications of the spin form concerning the classes of particles. In the 8T, there exist the following classification:

Spin 0: $2N_{\text{O}}$ variations

Spin $\frac{1}{2}$: $2N_{\text{O}}+3$ variations

Spin 1: $2N_{\text{O}}+3+N_V$ variations

Spin $N=\ 2N_{\text{O}}+3+N_{V1}+N_{V2}$ ... variations

For the sake of this idea, it is possible to expend and specify the last category as the following:

Spin 0: $2N_{\text{O}}$ variations

Spin $\frac{1}{2}$: $2N_{\text{O}}+3$ variations

Spin 1: $2N_{\text{O}}+3+N_V$ variations

Spin $\frac{3}{2}=\ 2N_{\text{O}}+3+N_{V1}+N_{V2}$ ... variations

Spin $2=\ 2N_{\text{O}}+3+N_{V1}+N_{V2}+N_{V3}$ variations

It does not have to be three Bosons for the spin two category, two lepton emitting together is valid option as well. The key point to take is the following. According to the primorial in spin form, there exist a class of Bosons with Fermionic spin. The author used that fact the express the particle wave-duality which is the result of spin variation of the system due to measurement. However it was not emphasized at the time. the coupling term than of the Lepton and the Bosons can be considered a decay of this Bosonic particles, let $\mathscr{M}$ stand for "Majestic" .

$$\mathscr{M}_{Bose}\leftrightarrow(e^-)_\mu+N_{(V)_{k1}\mu}+N_{(V)_{k2}\mu}$$

$$\mathscr{M}_{Bose}\leftrightarrow(e^-)_\mu+(e^-)_\mu+N_{(V)_K\mu}$$

Since the Electron is isomorphic to the Boson of the weak interaction, it is possible to represent as the following:

$$\mathscr{M}_{Bose}\longrightarrow(\mathcal{W}^-)_\mu+(\mathcal{W}^-)_\mu+N_{(V)_K\mu}$$

$$(e^{-})_{\mu} \equiv (\mathcal{W}^{-})_{\mu} \equiv 3$$

The isomorphism is given the by coupling second term. It is supported by the fact that both carry the same charge. This new class of Bosons will present a behavior typical of Fermions, that is they may repel each other, not present a wave-like motion such as their lower class Bosons of spin one, but rather "particle like" behavior, they will obey Fermi rules. Since at each class of Bosons, additional terms are needed, the chance of creating the alignment is aspiring zero, so according to that, the stability of those Bosons, which are composite, is aspiring zero, and can be considered short ranged. The same arguments used on the Graviton compositions. The interesting thing is, that despite this short lifetime, the chance of observation will increase at high-energy particle collusions, as the collusion creates the condition of alignment of Bosons, which needed extra amount of quanta as they contain more terms. So perfect alignment of Bosons in spatial and temporal, will lead to their alignment in such way that higher spin forms will present themselves and then decay to their composite Bosons. In contrast to the particle wave duality idea which emphasized only the total spin of the system, and referred only to the observed particle varying Quanta and spin due to another Boson which was inserted during measurement, this idea is different as it regard each coupling as a possible decay of a particle. It also different is it allocate an entire class between the classes of spin one particles, and spin two particles. If spin is incremented in half units, there must be additional classes between those integers' particles.

Manifold Automorphisms

Abstract:

By analyzing the general idea behind the framework of varying curvature, it is possible to put the major equations describing Fermions and Bosons as a result of a more general principle, which is object automorphism, in particular manifold automorphism, which is synonymous with self-variance. The Fermionic and Bosonic configurations at spatial and temporal coordinate are direct results of variations of the object.

Introduction

The main ideas of the 8T framework can be put in concise way using just the main equation. This equation describe the varying manifold which is part of the packet of manifolds of the same class. Those manifolds has areas which are highly curved and isomorphic to acceleration from those areas. Let M_E denote the Einstein manifold, while the subscript is indexing the manifolds itself.

$$\frac{\mathscr{L}\partial}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\mathscr{L}\partial}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

Fermions were proven to be arbitrary variations of the manifolds, which are vanishing curvature spikes. The idea of Fermions can be put in rigor using an Iso-arrow from the manifold self-variation to the manifold.

$$\sum_{i=1}^{N} \delta g_i = 0$$

$$\psi: (M_E, g) \longrightarrow (M_E, g)$$

That is to state that the manifold image after the arrow operation is the same manifold with additional constant, which is N size, and represent a certain number of elements which no curvature da facto. The Bosons are generated from the state of the additional arrow, which is synonymous with theorem two. Once a pair satisfying a certain condition, i.e. being two and three devisable, a Boson can be propagated. i denote the number of primes in the N-tuple. For simplicity sake the coupling constant presented prime pairs.

$$(P_1, P_2); i = 2$$

$$[2,3] | \sum_{i=1}^{i=2} P_i \Rightarrow True$$

The Bosonic arrow is a continuation of the previous arrow of Fermions vanishing into matter, or the automorphism of the Lorentz manifold.

$$\Upsilon: \big(\psi: (M_E, g) \longrightarrow (M_E, g)\big) \longrightarrow (M_E, g)$$

The Bosonic arrow is again to the same manifold. This arrow however is indicating that there is some net curvature on the manifold, which rose from the original arrow. This arrow is a violation of the stationarity condition that causes Fermions to cluster. The Bosonic arrow is a continuation of the Fermion arrow, and can be executed if the condition above is fulfilled. It is possible to expend the beauty of arrows using another major idea of the 8T. That is the idea of manifold flatting each other via areas of extremum curvature. Each manifold pairs has inverse curvature orientation, the Flatting arrow is than in rigor:

$$\cancel{f}: (M_E, g)^{i-1} \Leftrightarrow (M_E, -g)^i$$

$$1 \leq i \leq K;$$

$$K \in \mathbb{R}$$

Which is similar to the main equation. That arrow is the packet constructor, as it takes the inverse flows to zero, flattening each two manifolds.

$$\Lambda: [(M_E, g)^{i-1} \Leftrightarrow (M_E, -g)^i] \longrightarrow 0$$

$$\Lambda : \Upsilon \longrightarrow 0$$

$$(M_E, g)^{i-1} - (M_E, g)^i = 0$$

$$(M_E, g)^{i-1} = (M_E, g)^i$$

Summing up, those objects called manifolds can be put in two different kinds of arrows. The first class of arrows are automorphism arrows, from the manifold to the same manifold. Those arrows are the Fermion and Boson constructors. Those arrows **than** leading to areas of extremum curvatures, which invoke the second class of an arrows, interaction among manifolds at those areas, which lead to flatness as there exist acceleration from those areas, given by the main equation.

It is important to emphasis that those are **dual classes** of arrows. Such that they are aligned in time. It could have put differently by saying that the interacting manifolds leading to flatness, is causing for the Fermions to appear in such way that no curvature is manifested **and then** Bosons are constructed.

In other words, it is impossible to distinguish which condition come first, and it is not important for that matter. The whole 8T construction should be examined as one set of arrows, from the manifold to itself, and from manifold to complimentary manifolds in the packet.

Axions and the $\mathscr{L}$ Theorem

October 21, 2021

Introduction

Among the major features of the 8T, is the arbitrary variation term that vanish into matter, by mathematical proof. Such a feature can shade light on the subject of dark matter and, in particular, it can drastically reduce the number of options that can be considered a solution to that problem.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

The rule of dark matter was analyzed in the thesis, in two different ideas. The first idea was the Quark masses series, which dictate the direction of creation of matter particles. The original goal of the idea was to eliminate the question of the three families by searching for the series of families. Later in the thesis, the question of dark matter was analyzed via variational distributions, given by the packet. Let M_E denote the Einstein manifold, while the subscript is indexing the manifolds itself.

$$\sum_{1=1}^{m} \delta g_i \longrightarrow \mathcal{R}^{s_n} \in [0,1]$$

$$\sum_{i=1}^{n} \delta g_i \longrightarrow \mathcal{R}^{s_m} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

$$m = n$$

The variational distributions dictate the formation of matter cluster identical in size and different in configuration, while the mass series indicate the direction of families formation, indicating lower and lighter particle masses at each family below first generation, which is really third.

The key point, which was not included in the thesis, is the following. The 8T indicating that nature is Lagrangian oriented, i.e. that it will generate only one class of matter, over infinite set of objects, i.e. manifolds.

The main equation of the 8T, which allowed the constructing of the primorial, is clearly indicating that there is not another form of matter being created. That is in contrast to QFT and modern theories of physics that require:

$$\left(\sum_{i=1}^{N} \delta g_i = 0 \ \cap \{\mathbb{W}\}\right); \ Z = 2$$

That is two sets, one for known matter, another one for weakly interacting massive particles, or Axions, denoted by $\mathbb{W}$. While the 8T has one infinity factor less than those theories as it requires only:

$$\left(\left(\sum_{i=1}^{N} \delta g_i = 0\right) \forall \ \Phi ; \right) \ Z = 1$$

The problems with their theory are several. First, those theories are based upon observation, not on variational principle. In other words, the dark matter has to be **inserted** to the theory, and not derived from the innate axioms and equations, as the primorial third value was derived first and matched the observation later.

Another way to state it, is that the theory should generate the major features of reality without observation or measurements but must match them perfectly afterwards. Both in particle scales and cosmological scales. The current theory of dark matter does not answer those qualifications criteria. Another major point is that the increase of one factor of infinity is a vital setback and a major theoretical fiasco.

As the $Z = 2$ is synonymous with generating one infinity more of a new kind of Fermions, which is not the minimal class of particles needed for a Lagrangian oriented theory. Moreover, it does not provide **any reason** for the generation of the new kind of particles other than matching observational results. Why it has to be that way. Why two classes and not three and so on. Reasoning must be a fundamental value in a theory. If a theory cannot predict it first, it's innate nature is flawed and incomplete. In order to expend the idea of a Lagrangian oriented theory, one will postulate another theorem:

The ($\mathcal{L}$) Theorem – Nature would aspire to generate extremums on the classes of objects that it contains.

Using the following theorem, 8T is taking the Lagrangian equations to new horizons much beyond the spectra of physical nature, but make it an **innate feature** of nature. This feature is creating a demand on the object classes, principles and equations a theory must have. In particular, it demands nature to be described by extremums. With regards to the following features: minimal equations, minimal manifold classes, minimal kinds of matter, and on the contrary, maximal number of phenomena to be explained and predicted with those equations and classes.

Using that feature of a Lagrangian orientation theory, the variational distributions combined with the masses series is seems simpler solution then to allocate another kind of particles, which breaks the Lagrangian demand on nature. It is the most Lagrangian oriented idea we have as $Z = 1$.

D'alembert's Principle - Modern Variation

October 22, 2021

Introduction

Fermions in the 8T and Bosons are described by the same idea. The sole difference in that context between the two classes of particles is the type of number, which represent their formations. The Bosons were proven isomorphic to prime numbers, while the Fermions appear by even amount of variations. Using that insight, alongside the fact that the Fermion class has two signs versus one sign for the Boson class, i.e. Fermions anti-commute. The set of signs for Fermions:

$$\mathscr{F} = \{\delta \mathrm{g}_1, \delta \mathrm{g}_2\}$$

$$\mathfrak{X}_F = \{+, -\}$$

While Bosons do commute. In addition, considered discrete amount of net curvature on the manifold given by the primorial:

$$\mathfrak{X}_B \subset \mathcal{T}$$

$$\mathfrak{X}_B = \{+\}$$

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

Fermions vanish in even number toward matter, i.e. threefold combinations of two distinct elements, which differ in sign and appear nine different variations. if one considers the main equation of the Theory, and aspire to expend it:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

It means that for Fermions

$$\sum_{i=1}^{N} \delta g_i = 0$$

We have:

$$\sum_{i=1}^{N} \delta g_i - \sum_{i=1}^{N} \delta g'_i = 0$$

$$\left(\frac{\partial g}{\partial t}\right)_i - \left(\frac{\partial^2 g'}{\partial t^2}\right)_i = 0$$

It also means that for Bosons:

$$\sum_{i=1}^{N} \delta g_i > 0$$

We have according to the same idea:

$$\left(\frac{\partial g}{\partial t}\right)_i - \left(\frac{\partial^2 g'}{\partial t^2}\right)_i > 0$$

Which is the modern variation of D'alembert principle:

$$F - I = 0$$

$$\frac{\partial g}{\partial t}_i \Rightarrow F_i$$

$$\frac{\partial^2 g'}{\partial t^2}_i \Rightarrow I_i$$

For Fermions, the summation of arbitrary curvature and accelerations must be taken summed exactly to zero. That is because of the anti-commutation relation and is synonymous with saying it vanishes in even numbers. Therefore, if the expansion of the main idea is correct, we would expect Quarks and matter formations to be in a state of zero acceleration. In contrast, because of the commutation relation of Bosons, the summation of Bosons is always positive, which means they can not find rest. Another point which is important to emphasize that if we consider the Bosons to reach a finite speed which is non varying once obtained, i.e. the speed of light, than by that condition it is possible to require non varying acceleration term:

$$\frac{\partial^2 g'}{\partial t^2} = 0$$

That is an indication that the Bosons can be represented as on term pure curvature, which is synonymous with force in classical physics. It is valid to represent the Bosons in such way as there exist a finite limit which can not be exceeded. That means that it does not vary over time, leaving us with one term for Bosons, which is varying curvature overtime. The varying curvature was mapped to energy:

$$\varphi: \mathrm{g} \longrightarrow E$$

So it is equivalent to stating that a Boson would have different amount of energy overtime as the term is indicating rate of change of energy over time, while its speed is still invariant, which is C. That idea can be linked to redshifts. Since light is net curvature, the 'usual' redshift is equivalent to gravitational redshift. So for Fermions the summation of curvature and acceleration is taken to zero, resulting in matter. While in Bosons it is taking a positive value, and if postulating the invariance of the speed of light, the Bosons can be considered as pure curvature, as the second term vanishes to zero. The curvature can change overtime, isomorphic to changes in term "energy" by the given mapping.

Principles First – Pure Theory

This section is about a general idea that revolves around the nature of doing physics. The dominating theme in physics is aligning experiment and theory. It is the normal way of doing physics in the last century. However, the author would like to postulate a "new way" of doing physics. That is by principles first. Matching to observation later. The Primorial coupling constants series is a principle, an equation, a set of ideas, which did **not revolve arbitrary measured constants**, but does indicate to what those constants are providing.

A final theory of physics should stand as pure set of principles, free of measurement and external constants, which are not a priori part of the axioms and equations of the theory. That utter difference between principles and measurements is the vitally ground upon progress must be made.

A "fine" theory must provide the same numbers, predictions and phenomena **without relying upon measured values**, but extracting them out of principle. A theory that has to be modified than is flawed. Putting the $\mathcal{L}$ axiom into work, the final theory must have extremum length, minima, that is described by a set of principle aspiring zero. Summing up, in contrast to the partial theories of physics of the 20-th century and discoveries it contained due to measurements, the final theory of physics should rely upon, as one believes, **Principles only**.

That is because in a sense we have gathered a wealth of knowledge from CERN operations despite their low-energy compared to the Planck Energy. From those principles, all the observed values and phenomena must be exactly or generally derived. It was done with the primorial, and the main equation, which match the observed phenomena and values of couplings, the remaining major question is the variational principle of the masses. In other words, finding out why the upper limit of the first family, which is Top-Bottom, is what it is. Than the Quark masses series can be complete by the descending values.

Reasoning Three Generations & Particle Mixing

October 23, 2021

Abstract:

By analyzing the general idea behind the framework of varying curvature, it is possible to present a reason for the question of three generations. That is by the type form of the primorial, which was presented in the beginning of the thesis. The argument is revolves around the coupling constant of the weak interaction, which state that there are exactly three Bosons which meditate the weak interaction. The author present the mathematical formulism behind Fermion mixing, and make a prediction concerning Bosonic mixing, using the weak interaction coupling term and an additional theorem which was postulated in order to expend and reason the scope of phenomena which is available in nature.

Introduction

The 8T has Bosons as net curvature on the manifold, which was invoked stationary. The setting of total curvature vanishing due to stationarity demand on the manifold to net curvature yielded the primorial series, which is describing the coupling magnitudes.

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

The following form is the third from which represent the multiplier of the invariant scalar, eight, as a form representing the kind of "fields" each interaction has. The question at the heart of this paper is a result of a postulate the author will make just for this paper – the postulate: The Quark series is partly wrong. Suppose there exist only three generations and the pattern presented in, the 8T is partly wrong. The question is can this arbitrary number be reasoned using the primorial. Using the equivalence of matter, i.e. the Electron and the Boson of the weak interaction, it could possible to reason that there exist exactly three generations, which is similar to stating there exist three kinds of Electrons.

$$\big(8 \times 3 + (3)\big) + 3 = 30$$

$$\big(8 \times 3 + \boldsymbol{e}^-{}_{\mu}\big) + \boldsymbol{W}^-{}_{\mu} = 30$$

$$(3) = 3$$

$$\boldsymbol{e}^-{}_{\mu} \equiv \boldsymbol{W}^-{}_{\mu}$$

The key for the argument at the heart of this paper:

$$\Psi_i = 3$$

Which was used to describe the three kind of Bosons associated with the coupling of the weak interaction. Because of the isomorphism between the Electron and the weak interaction Boson, it is possible to claim there exist exactly three kinds of Electrons. Three kinds can be similar in a sense of color charge, that is differ within a specific generation, an idea which has no experimental validity as far as one knows. The second option is to claim it has a validity in terms of generation type, as with the two higher generation analogs, the Muon and the Tao it exactly three kinds of electron which differ in their mass, similar to how the Bosons of the weak interaction differ in their mass. If accepted we must require that the rest of spin one-half or matter, which belong to the Electron class, will have two higher analogs which differ in their mass. That is simpler and elegant solution to the enigma of three generation, which is utilizing the coupling constants series, and in particular the beautifully crafted weak interaction, which one used for the idea of SUSY and SEW unification, which revolves around aligning the net variations between interactions, using two nets from the third to the first:

$$8 + (1) + 2: [(8 \times 3) + (3)] + 3 : [(24 \times 5) + (3)] + \mathbf{3}$$

And the aligning will modify the point of intersection on the middle interaction:

$$(8 \times 3) + 2 = 26$$

The question of three generation is either an infinite series decreasing mass aspiring zero, which will allow the elimination of this arbitrary number of families. Or assuming this idea of Quark masses is wrong, there exist exactly three kinds of families as the multiplier of the weak interacting is identical to the Electron, and thus there exist three kinds of Electron which differ in their mass. This is a simpler solution than the Quark mass series, both in argument complexity and the length of description. The fact that the Bosons differ in their mass, means that different amounts of curvature is manifested in those numbers, it also applies to the Electrons, the more mass, the more curvature converging exist on that particle, since we mapped the Ricci curvature to energy, the more curvature converging, the more energy it has. That is by the arrow:

$$\varphi : \mathrm{g} \longrightarrow E$$

Since we mapped the Ricci curvature to energy, nature will aspire by the stationarity condition to the lowest state of curvature, i.e. energy, which is synonymous with a stationary manifold, which is flat. It also means that the lowest mass, i.e. curvature converging would be the most common, which is in essence a prediction. That prediction can be joined to the other predictions concerning type, which is the photon type:

$$\left(8 \times 3 \times 5 + \boldsymbol{e}^{-}{}_{\mu}\right) + \boldsymbol{\gamma}_{\mu}$$

$$\Psi_i = 5$$

Which lead to predicting a set of five distinct photons.

$$\mathcal{B} = \left\{\left(\boldsymbol{\gamma}^{\boldsymbol{i}}{}_{\mu}\right); 1 \leq i \leq 5\right\}$$

The subscript is the five-vector, the superscript the photon kind index. The question of three generation could be the hardest question in the history of Physics. The answer must take the form of an infinite series, or an exact reason of this arbitrary number and no other. Comparing to The Quark series it is more elegant and simple as no manipulation was needed, where the Quark series was based on artificial manipulation, which makes the idea less elegant.

Therefore, with the increase of sensitivity devices, if a four family at the ranges of masses will be ruled out, we can rely upon again the coupling series and the equivalences between the weak interaction Bosons and the Electron to explain why there are exactly three kinds of Electrons that differ in their mass.

That is because there are only three Bosons meditating the Weak interaction. So all the universes because of the invariance of the prime ring, will posses three families of matter. But that is only explaining why there are only three families with decreasing masses, it does not provide the variational principle of those numbers, why those numbers were chosen in the first place. One additional point is using the $\mathscr{L}$ theorem, which state that nature generate extremums on objects and classes. So if we consider the families class, the Quark series require generating more objects than the solution suggested by of the primorial. Using that idea the second solution is more likely.

$$(\Psi_i \equiv 3)\ \forall\ t$$

Where in the Quark series, the number aspiring infinity with time.

$$\left(\not{f}^M{}_i \longrightarrow \infty\right) \propto t$$

Where $\not{f}^M$ denote the family masses, while the subscripts runs all over the families. It is given than:

$$\not{f}^M{}_i > \Psi_i$$

The objects nature would aspire to generate is minima, those minimal objects apply across maximal range of other objects. Using the $\mathscr{L}$ theorem it is clear that it has the edge. In addition, it is aligned with the current understanding of three Electrons which differ in their mass. Either way, this idea of type primorial should be examined on the set of photons as means of validating the prediction.

It **does not** mean that the idea of **the Quark series** is **completely wrong**, as we still needs a way to shift from one generation to the other, all it means is that the series should not exceed the third family. It is important to emphasize as the Quark series has provided among the most useful ideas which used all across the thesis, which is the $8 - (1)$ variations, indicating curvature converging as the cause of mass. Than with the proof of the primorial, when a mass is in a curvature ripple it cancels:

$$2^3 - (1)\ \ + 2^3 + (1)\ \ = 0$$

So, putting in concise manner, when one state that the Quark series is wrong, it means that the succession beyond the third family, which is the Up-Down Quarks does not exist.

The idea of the $8 - (1)$ is still holding as true, and is given by the Jumps across the families using the invariant multiplier, seven. The new idea is imposing a restriction on the number of jumps which is possible, the validity is due to the equivalence of the Electron to the Boson of the Weak interaction.

Fermionic Mixing

In the thesis, there exist a symmetry among the three generation, which is imposed by requiring the invariance of the actual coupling magnitudes. That is, the coupling are the same for all three generations.

$$[(24 * 5) + (3)] + 5 \rightarrow\ [(24 * 5) + (e^-)] + \gamma$$

$$[(24 * 5) + (3)] + 5 \rightarrow\ [(24 * 5) + (\mu^-)] + \gamma$$

$$[(24 * 5) + (3)] + 5 \rightarrow\ [(24 * 5) + (\tau^-)] + \gamma$$

Which result in the following relation:

$$(e^-) \equiv (\mu^-) \equiv (\tau^-) \equiv (3)$$

Now consider the following scalar devisor on each of those particles such that:

$$\frac{(e^-)}{3} \equiv \frac{(\mu^-)}{3} \equiv \frac{(\tau^-)}{3} \equiv (1)$$

$$\frac{(e^-)}{3} \equiv \frac{(\mu^-)}{3} \equiv \frac{(\tau^-)}{3}$$

Now take the combination of each of those:

$$\frac{(e^-)}{3} + \frac{(\mu^-)}{3}) + \frac{(\tau^-)}{3}\ =\ 3$$

Alternatively:

$$\frac{(e^-)}{3}+\frac{(\mu^-)}{3}+\frac{(\tau^-)}{3} = (\tau^-)\cup(\mu^-)\cup(e^-)$$

That means each Fermion of each generation can be composed by a threefold combination of a three-generation Leptons. That the Tao in fact contains a mixture of Leptons. The combinations can take an infinite variety as long it sums to number of the original particle.

$$\frac{(e^-)}{3}\equiv\frac{(\mu^-)}{3}\equiv\frac{(\tau^-)}{3}\longrightarrow(e^-)^{\mathcal{D}}\equiv(\mu^-)^{\mathcal{D}}\equiv(\tau^-)^{\mathcal{D}}$$

The superscript meant for "divided" and for making the notation easier. Instead of writing those fractions of the integer three, each of the rescale standing for one. Now it is possible to take any fractions we would like, combine them as such that the summation will again reach the number of the original particle.

$$\frac{\mathcal{A}_1(e^-)^{\mathcal{D}}}{K_1}+\frac{\mathcal{A}_2(\mu^-)^{\mathcal{D}}}{K_2}+\frac{\mathcal{A}_3(\tau^-)^{\mathcal{D}}}{K_3}=3$$

Where multipliers and devisors are real scalars:

$$(\mathcal{A}_{1\to n}\cap K_{1\to n})\in\mathbb{R}$$

However, is it legitimate to create such infinite mixtures, is another subject. The author will postulate another theorem, which will be coined as the V theorem. The letter chosen as it is the first in the word: Variety of Variation, the first as to express infinite mixing options, and the letter as it is the dominating mathematical and physical theme of the 8T.

The $\mathcal{V}$ theorem – what is not excluded, will be physically manifested.

In other words, if nature does not forbid it, it is allowed and it will appear. Nature does not impose a restriction upon it, and that is a sufficient condition for the existence of phenomena. That theorem is important as it allows to make many predictions, without focusing on the question of "why". It is an elegant way to answer questions of the sort – "why there exist Quark mixing?".

The answer is according to the theorem: **simply because it is not forbidden by nature**. Another point concerning the nature of mixing. Since the Electron contain much less mass and thus much less energy, we would expect that the Tao part would aspire zero in its combination. On the other hand, the Tao can be represented with a "fair share" of an Electron in its combination due its immense mass. Using that idea it is possible to add the mixing angles, which are results of trigonometric angles in such way that the combination will add up to the right number at the end. Since the Electron and its higher analogs are isomorphic to the Boson of the Weak interaction, the idea of particle mixing should be inherited to Bosonic class as well.

The difference is that Bosons vary according to type, while Fermions according to Generation. That is how the paper began. For the Weak interaction, there exist three distinct Bosons, which were synonymous with three Electrons of distinct kind to which we associate the idea of "Generation". That means that each Weak interaction Boson itself is a combination of the three Bosons, itself included.

$$\frac{\mathcal{A}_1(W^-)^{\mathcal{D}}}{K_1}+\frac{\mathcal{A}_2(W^+)^{\mathcal{D}}}{K_2}+\frac{\mathcal{A}_3(Z^0)^{\mathcal{D}}}{K_3}=3$$

$$\frac{\mathcal{A}_1(W^-)^{\mathcal{D}}}{K_1}+\frac{\mathcal{A}_2(W^+)^{\mathcal{D}}}{K_2}+\frac{\mathcal{A}_3(Z^0)^{\mathcal{D}}}{K_3}=W^-$$

The result can be extended to any other interaction. As an example, it is possible to state that the photon kind is a mixture of five distinct photons, itself included and so on, When the fractions are summed, leading to the original kind photon. Nature does not forbid it, and thus it will appear. From bird's eye view, the only exclusion we have in the 8 theory is when trying to combine two Leptons, which leading to their vanishing and to the Photons propagated from nowhere, which is forbidden, also known as the Pauli exclusion. The framework of the 8T is immensely rich in theoretical predictions due to the correlation of real numbers to particles, a feature of great beauty and simplicity. As an example, it is possible to predict that the Electron will be form as a combination of three Gluons.

$$\frac{(e^-)}{3}+\frac{(\mu^-)}{3}+\frac{(\tau^-)}{3}=1+1+1=3$$

$$1+1+1=e^-$$

And thus three Gluons, identical or distict would lead to:

$$1+1+1=W^-$$

Elimination of Free Parameters

Equations (1.1) and (1.2) allows the elimination of the three gauge interactions free parameters. The standard model contains twenty-six of those parameters. Since the Quarks were theoretically predicted, in particular, two distinct elements that differ in sign, create nine threefold combinations and appear in even number. The author will argue that it is possible to eliminate or at least reduce the number of elements in that sector too. That is because of the following reason, since Quarks are two distinct elements, and we have eight gauge fields which meditate the strong interaction, i.e. operate in between those Quarks:

$$2^c=8$$

$$c=3$$

With the equivalence between the Boson of the Weak to the Electron it was predicted three Electron type particles to which we associate generation. That means analogs for matter particles. Overall summation

$$(\delta g_1,\delta g_2)\times 3=6$$

$$6c=18$$

$$(e^-)^{\mathcal{D}}\times 3=3$$

$$v_{e^-}\times 3\ =3$$

The coupling constants series, which the restriction allows us the count twenty four Fermions, with their anti-matter particles we reach forty eight. With the three interaction ,eight for the strong, three for the weak and the photon assumed at SM as one (8T predicted five), we reached almost the full standard model.

$$8+3+1=12$$

$$12\times 2=24$$

Adding the anti-matter duals. Now adding the Higgs and the Graviton (SM -1, 8T-∞):

$$48+12+1=61$$

In the 8T the number of particles is infinite, given by the Primorial as each prime is not only a new interaction type, but also contain a versatile variants across that number range. That is, the given prime multiplier in real range of the scalar eight is the "type kind". For the next coupling, author will the coin the name as the Γ_μ Boson:

$$\mathcal{B}=\left\{\left(\boldsymbol{\Gamma}^{\boldsymbol{i}}{}_{\mu}\right);1\leq i\leq 7\right\}$$

So in that sense, the infinity is reached much rapid rate, as each interaction has indexed typed variants isomorphic to the magnitude of the prime. The infinity can also manifested in the number of Graviton compositions as was previously presented. So summing up, if we count those twelve free parameters out as it is possible to derive their existence from principle, (leaving out the question of the masses value), we have sixteen parameters less, twelve for the Fermion sector, three gauge interactions and one Graviton. The free parameters which left unaltered are the eight mixing angles and the Higgs free parameters. The parameters of Fermions are ruled out as we can derive them from principle (except masses), including the reason for three generation only.

Weak interaction Decay

Consider the decay between the following pairs:

$$e^-e^+ \longrightarrow W^-W^+$$

It is possible to expend using the primorial would be the question of this article.

$$e^-e^+ \rightarrow \big(3 + (-3)\big) = 0$$

Which is similar to the Boson of the weak interaction. It is possible than to correlate the e^+ to the W^+ which is in agreement with the fact that their charges are the same. The release of energy takes the form of the Bosonic pair, as it was Energy was mapped to curvature, and the Bosons are net curvature diverging.

$$\varphi: g \longrightarrow E$$

The amount of energy released can be correlated to the total sum represented by their number:

$$|e^-e^+| = +(6)$$

And therefore, so does the resulting pair.

$$W^-W^+ = +6$$

Since the W^-W^+ pair is isomorphic to the $|e^-e^+|$ pair, which vanish into zero, it is possible to state:

$$W^-W^+ = 0$$

Which is similar to how matter is formed given by the main equation arbitrary variation term:

$$\sum_{i=1}^{N} \delta g_i = 0$$

Which means that the Boson pair could decay into matter. That is that matter of certain sort, whether it is Lepton or Hadron components may rise as a result of the:

$$W^-W^+ = 0$$

It is the only interaction in which the thing is currently possible as the photon was not found to have an anti-matter particle distinct from itself, and the Boson of the strong interaction is confined in the hadron components, which are bound states of the Quark formation. So using that decay alongside the equivalence of those elements, the e^- and the W^- it is possible to explain the range of the decay of the weak interaction. This can be described using the theorem, if one process is allowed, so does the inverse process is:

$$W^-W^+ \longrightarrow e^-e^+$$

Using the V theorem, if it is not forbidden it will appear. It is possible to make another prediction without the Weak interaction Bosons, but only with the Electron Positron pair.

$$e^-e^+ \longrightarrow \delta g_1 \delta g_2 \delta g_1 + \delta g_2 \delta g_1 \delta g_2$$

It is possible to predict that in more general form:

$$[M][AM] \longrightarrow (\delta g_i \delta g_j \delta g_k)^A + \big(\delta g_j \delta g_i \delta g_j\big)^B$$

Where $[M][AM]$ denote matter anti matter pair, and the indexing on the right side can take any two values:

$$(i, j, k) \in (1 \cup 2)$$

If:

$$((i \equiv j) = Val_1) \in A$$

Than:

$$((j \equiv k) = Val_1) \in A$$

And:

$$((i \equiv j) = Val_2) \in B$$

$$Val_1 \neq Val_2$$

Else if:

$$(i \not\equiv j) \in A$$

Than:

$$(k \equiv i) \cup (k \equiv j) \in A$$

While:

$$((k \equiv i) = Val_1) \in A$$

Do:

$$((j \not\equiv i) = Val_2) \in B$$

While:

$$((k \equiv i) = Val_2) \in A$$

Do:

$$((j \not\equiv i) = Val_1) \in B$$

The result of the algorithm is that Lepton pair can from matter configuration in which curvature is not allowed. It is possible to present the idea in a simpler fashion without the conditionals and the indexing. Simply stating that the Lepton pair and matter anti-matter pair will end up being identical.

$$e^- e^+ \longrightarrow [M][AM]$$

$$[M][AM] = \{q\bar{q}\}$$

Manifolds Parity

Consider the main equation of the 8T using the manifold packet form:

$$\frac{\partial \ell}{\partial s_m} \frac{\partial s_m}{\partial M_E} \frac{\partial M_E}{\partial g} \frac{\partial g_m}{\partial t_m} \delta g_m - \frac{\partial \ell}{\partial s_n} \frac{\partial s_n}{\partial M_E} \frac{\partial M_E}{\partial g} \frac{\partial g_n}{\partial t_n} \delta g_n = 0$$

$$1 \leq m, n < k/2$$

It is possible to map the following manifolds to inverse signs of spatial dimensions, i.e. curvature orientations such that:

$$s_m = (M_E, g) \rightarrow (+)$$

$$s_n = (M_E, g) \rightarrow (-)$$

The main equation will be the same under parity transformation, i.e. transformation of the spatial while retaining the temporal:

$$s_m = (M_E, g) \rightarrow (-)$$

$$s_n = (M_E, g) \rightarrow (+)$$

Leading to:

$$\frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g_n}{\partial t_n}\delta g_n - \frac{\partial \ell}{\partial s_m}\frac{\partial s_m}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g_m}{\partial t_m} \quad \delta g_m = 0$$

Which is another way to state that those manifolds are topologically invariant. That is that the curvatures on the manifolds, are identical and flat each other out assumed perfectly. Thus if changing the signs of the manifolds it makes no difference, and the main equation obey the parity transformation, which is represented in Quantum theories using:

$$\Psi(x, t) \longrightarrow \Psi(-x, t)$$

Hadron Formations

Using the main equation, the formation of atoms was presented as the following set:

$$(\delta g_3 \delta g_3 \delta g_3)$$

$$(\delta g_1 \delta g_1 \delta g_1) \leftrightarrow (\delta g_2 \delta g_2 \delta g_2)$$

$$(\delta g_1 \delta g_2 \delta g_2) \ \leftrightarrow (\delta g_2 \delta g_1 \delta g_1)$$

$$(\delta g_1 \delta g_2 \delta g_1) \leftrightarrow (\delta g_2 \delta g_1 \delta g_2)$$

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

It recently became evident to one, that there could be different stages in the formations of Hadrons: that is, they can be variants of the form:

$$\delta g_2 \delta g_2$$

Leading to attachment to the inverse variants:

$$\delta g_1 \delta g_1$$

Such that the hadron will contain an even number of arbitrary variation, leading to zero curvature overall. Partitioning:

$$(\delta g_1 + \delta g_1) + (\delta g_2 + \delta g_2) = 0$$

So the Hardon will be presented as an even formations of Quarks.

$$\delta g_2 \delta g_2 \delta g_1 \delta g_1$$

Using the V theorem, it is not forbidden so it will be allowed and it will appear in nature. There could be such states in which the hadron is formed in stages.

$$(\delta g_2 \delta g_2) + \delta g_1 \rightarrow (\delta g_2 \delta g_2 \delta g_1)$$

Which will pair to the inverse:

$$(\delta g_2 \delta g_2 \delta g_1) \leftrightarrow (\delta g_1 \delta g_1 \delta g_2)$$

Such that the stationarity condition will hold true. As one is not a particle physicist, those combinations may already have definite names and have already been discovered. the point of this section is to expend the theoretical range of matter formations given by the main equation. The same equation which yielded the primorial. Theoretically it is possible to expend the result to any number. As an example take the scalar multiple:

$$2 \times \delta g_2 \delta g_2 = \delta g_2 \delta g_2 \delta g_2 \delta g_2$$

Which will pair:

$$2 \times \delta g_1 \delta g_1 = \delta g_1 \delta g_1 \delta g_1 \delta g_1$$

Leading to eightfold formations in the hadron.

$$\delta g_2 \delta g_2 \delta g_2 \delta g_2 \delta g_1 \delta g_1 \delta g_1 \delta g_1$$

The probability of this however is aspiring zero as we require perfect alignment of two distinct elements again and again, that is three transformations from an element to itself in succession to each kind.

$$\delta g_2(e) \delta g_2(e) \delta g_2(e) \delta g_2 \delta g_1(e) \delta g_1(e) \delta g_1(e) \delta g_1$$

"e" Denote the natural transformation of group theory. So the probability of creation is inversely proportional to the number of times we require a specific operator:

$$\leftrightsquigarrow = \{e, O, Y\}$$

Which denote the set of operators, which currently contains three distinct maps between those varying elements, so the chance of one appearing is than smaller than one:

$$P_e < 1$$

Thus the chance for an eightfold formation is aspiring zero with the increase of index count,i:

$$\sum_{i=1}^{6} (P_e)_i \rightarrow 0$$

Weak Interaction Photon coupling

Given by the isomorphism of the Electron to the Boson of the Weak interaction given by the Weak coupling term, it is possible to predict that the interaction between the Photon and the Electron should be identical to the photon and the W^- Boson interaction. Put another way, the Photon should couple to the W^- exactly as it is couples to the e^-.

$$[(8 \times 3) + (3)] + 3$$

$$3 = (3)$$

Higgs Fields

Given by first coupling term, which used to describe the type of Gluons, it is possible to make another prediction according to spin form of the primorial. That is that the first coupling term, which is correlated to spin zero by the classification:

Spin 0: $2N_0$ variations

$$\text{Spin } \frac{1}{2}: 2N_0 + 3 \text{ variations}$$

$$\text{Spin } 1: 2N_0 + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_0 + 3 + N_{V1} + N_{V2} \dots \text{ variations}$$

Examining the first term of the coupling and comparing with the spin classification:

$$2N_0 = 2^{e^-} = 8$$

It is possible to predict using the type form of the primorial that there will be just eight types of spin zero particles, i.e. Higgs fields. That Is in contrast to the prediction of the infinite Higgs field as presented in earlier stages of the thesis.

Higgs Mass Series and the Gamma Bosons

October 27, 2021

Abstract:

Introduction

The 8T is a variational manifold setting consisting of the main equations. The first equation describes the Einstein manifold invoked stationary by the Euler Lagrange operator. This equation validates the idea of the equivalence principle between Gravity and acceleration.

$$\frac{\mathscr{L}\partial}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\mathscr{L}\partial}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

the two equations (1.1) and (1.2) are representing the set of ideas, which yielded the primorial coupling series. The form of (1.2) presented in this type is the "type form" primorial which takes the prime multiplier to present an index of variants within each interaction.

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$\left(\mathbf{2}_{\mu}^{e^-} * \prod_{i=1}^{i=N_V} \Psi_i + \boldsymbol{e}^-{}_{\mu}\right) + N_{V\mu} = 30: 128: 850: 9254 \dots \tag{1.2}$$

$$\prod_{i=1}^{i=N_V} \Psi_i = +N_{V\mu}$$

Higgs Mass

This section the author will postulate a set of theorems and ideas to answer the question of the Higgs mass, and in addition trying to eliminate this free parameter by predicting the masses of the other Higgs particles using the Primorial coupling constants setting. The setting will use the spin formation.

Theorem (1): Higgs mass creation is related to a symmetry break within the spin zero term.

Theorem (2): Spin symmetry break is due to an additional term.

Theorem (2.1): The additional term must be non-vanishing, i.e. a prime.

Theorem (3): The prime must be proportional to the term itself.

The spin formation of the main equation:

$$\text{Spin } 0\text{: } 2N_0 \text{ variations}$$

$$\text{Spin } \frac{1}{2}: 2N_0 + 3 \text{ variations}$$

$$\text{Spin } 1: 2N_0 + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_0 + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

Since the Higgs is spin zero, the terms which represent this object are the following marked in black:

$$2^3 + (1)$$

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3 \to \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (3)] + 5 \to \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} \times \mathbf{7}) + (3)] + 7 \to \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Since there is no need for the higher terms of spin for the analysis of this paper, the author will eliminate them.

$$2N_0 = 8$$

$$2N_1 = (8 \times 3)$$

$$2N_2 = (24 \times 5)$$

When the invariant three appears from the second term and above, it appears outside of the parenthesis and term is presenting the massive Bosons as it is isomorphic to the Lepton. Now the same idea will be used inside the spin zero using the first theorem. Since the first term does not have a corresponding prime, the symmetry does not break and it will be manifested as a massless scalar field.

$$H_0 = 0\ GeV$$

They symmetry will break from the second term and above. For the first term symmetry break, using the rest three theorems, the prime must be proportional to the term, appear inside the zero spin term parenthesis and it's non-vanishing nature due to it being a prime, will ensure the mass would be present for all temporal segment.

$$(8 \times 3 + 3) = 27$$

The mass of the second Higgs would stand as

$$H_1 = 27 \text{ GeV}$$

The second coupling term, symmetry break:

$$(24 \times 5 + 5) = 125$$

The mass of the third Higgs would stand as:

$$H_2 = 125 \text{ GeV}$$

The mass of the rest, assuming eight distinct Higgs particle given by the type representation of the first coupling term:

$$8 + (1)$$

Which is the only term that does not involve the invariant three and thus spin one-half, i.e. the only term which is naturally correlated to spin zero. The right element in each term is representing the variants count of each interaction that is the idea used to state there exist eight Gluon fields.

$$8 \times 1 = 1 \times 8$$

The higher Higgs particle index is, the higher masses it should have innately contain. The overall series predicted eight Higgs particles, one massless, seven heavy:

$$H_0 = 0\ GeV$$

$$H_1 = 27 \text{ GeV}$$

$$H_2 = 125 \text{ GeV}$$

$$H_3 = 847 \text{ GeV}$$

$$H_4 = 9251 \text{ GeV}$$

$$H_5 = 120{,}133 \text{ GeV}$$

$$H_6 = 2{,}042{,}057 \text{ GeV}$$

$$H_7 = 38{,}798{,}779 \text{ GeV}$$

We already know there exist a massless scalar field, which is the Goldstone Boson if one is correct, and the prediction of the third term is accurate with experiment. Any other prediction of masses in between the first and third or higher index than the third would validate the idea to a greater extent as one measured value is far from enough, at least two are needed. The idea and the direction of the series seems to be coming in agreement with the fact that the mass of the Higgs considered light. summing up, mass creation of spin zero particle is theorized to be a result of an additional element appearing in the zero spin term, causing it to account mass. The term is prime, i.e. non-vanishing, and it was taken from the primorial which given the appearance of the invariant three, resulting in the appearance of massive Gauge Bosons, where before the Gluon with only two terms are massless. Additional term account for massive mass, inside the term of spin zero. To put the idea in rigor, the Higgs mass is a result of a symmetry break of the form:

$$(2N_{0\to K} + N_V)$$

$$N_V \propto 2N_{0\to K}$$

Higgs Decay

By retaining the original form of the spin zero, i.e. the form:

$$2N_{0\to K}$$

Which represent an even amount of variations, which is taken to zero given no other terms such as the invariant three:

$$\big((2N_{0\to K}=0)\ \forall\ k\big)$$

So there exist a spectra of decay, it could decay to matter anti matter pairs, which also vanish into zero. It could vanish to an even number which than will decompose to odd number of Bosons. As few examples:

$$2N_{0\to K}\longrightarrow e^-e^+$$

$$2N_{0\to K}\longrightarrow W^-W^+$$

$$2N_{0\to K}\longrightarrow(\delta g_1+\delta g_2+\cdots\delta g_l)$$

Since the mass of this particle is relativity high, it would be more reasonable to assume that the particle would decay to heavier particles with similar mass range. Making that less likely to decay to light mass as the first family, when considering decay to matter. When considering decay to Bosons, the Heavy bosons of the weak interaction are the most reasonable option, as they possess mass compared to Gluons or photons. If the Bosonic mass pattern is correct, the Gamma Boson should possess mass as well, which makes the author to predict that Higgs could decay to this new exotic Gamma Boson. To predict the mass of the Gamma Boson the author will postulate a theorem:

The $\mathcal{M}$ theorem: The magnitude of mass is proportional to the prime element of net variation.

That means that for the Weak coupling term takes the form:

$$[(\mathbf{8}\times\mathbf{3})+(3)]+3\longrightarrow[(\mathbf{8}\times\mathbf{3})+(e^-)]+W^-$$

The mass of the Weak interaction Boson is proportional to the net variation

$$({W^{\pm}}_M)\propto(3)\cong 80.3\ GeV$$

$$({Z^0}_M)\propto(3)\cong 91.2\ GeV$$

Let the subscript denote the mass feature of the particle. For the Gamma Boson:

$$\big((\mathbf{120}\times\mathbf{7})+(3)\big)+7\longrightarrow[(\mathbf{120}\times\mathbf{7})+(e^-)]+{\Gamma_\mu}^i$$

$$({\Gamma_\mu}^i)_M\ \propto(7)$$

$$1\le i\le 7$$

For clarification, μ denote the five-vector, the diverging curvature over spatial dimensions, the superscript i denoting the count of the seven type Gamma Bosons predicted to exist and the M is indicating the mass feature.

$$\frac{(7)}{(3)}\cong 2.333$$

The Gamma Bosons mass range than should account for:

$$2.333\times 80.3\ \le({\Gamma_\mu}^i)_M\ \le\ 2.333\times 91.2$$

$$186.66\ GeV\le({\Gamma_\mu}^i)_M\ \le 212.33\ GeV$$

Making the Gamma Bosons range possible decay of the next Higgs in the series.

$$H_3 \longrightarrow {\Gamma_\mu}^i$$

At the mass range of that Higgs, approximately four Gamma Bosons can be produced as a result.

$$\frac{H_3}{({\Gamma_\mu}^i)_M} \cong 4$$

Updating the index:

$$H_3 \longrightarrow {\Gamma_\mu}^{i=4}$$

Indexing using the superscript in such way is improving the length of notation, which instead of writing the produced particles in linear terms as:

$$H_3 \longrightarrow \Gamma_\mu \quad \Gamma_\mu\Gamma_\mu\Gamma_\mu$$

$$H_3 \longrightarrow (\Gamma\Gamma\Gamma\Gamma)_\mu$$

they are contained in one term. The superscript also does not indicate which particles the Higgs decayed onto, making it more general statement and thus much better as many compositions are allowed.

Higgs Self Interaction

In the Lagrangian of the Higgs in Quantum field theories, there is a term that describe the interaction of the Higgs with itself. This section will aspire to describe the phenomena of this interaction. Since The Higgs relate to terms which are scalar multiplies of each other, it is possible to claim that each higher interaction Boson is the same interaction, which interact with itself via the scalar. Or to put it in rigor:

$$2N_n = 2N_0 \times \rho_1 \times \rho_2 \ldots \times \rho_n$$

Alternatively:

$$2N_n = 2^{e^-} \times \rho_1 \times \rho_2 \ldots \times \rho_n$$

Where the set:

$$\rho_{1\to n} \in \mathbb{R}$$

Where the 2^{e^-} denote the invariant massless Higgs Boson as it does not correspond to a prime, so it's symmetry does not break.

Higgs on VC Framework

The purpose of that section is to describe the phenomena of the Higgs using the framework of variational curvature. The emphasis will not be on rigor, but on ideas. Since the Higgs is classed as a Boson, it is a certain amount of curvature on the manifold. During the interaction with other elements, this element called the Higgs is inserting certain amount of curvature onto the Bosons, synonymous with inserting a mass. Since the Higgs is considered a scalar, it has a unique feature. If one is correct, the Higgs could be thought as a standing curvature rather than diverging curvature, as a diverging curvature coming across this standing curvature, some of the standing curvature is being inserted into the diverging ripple and by doing so the mass is being inserted. By the modern variation of the forces and accelerations present in the first part of the thesis, since the Fermions are also in a sense standing potential curvature, there should be an interaction between the Higgs field and the Fermion sector. The main idea is correlating the standing curvature to the Higgs field, and using the opposite traits of diverging curvature meeting standing curvature as means to explain how mass is formulated. There are more than few open questions such as the reason the Photon does not couple into the Higgs while the Bosons of the Weak interaction do.

Forms of Symmetry Break

This idea seems to manifest itself in several forms. The first form was used back in the day, in early 2021, when the coupling series was first derived and the enigma of the invariant three was analyzed , which one regard it as an additional term which broke the symmetry of the coupling series. The term at the time was considered a "destabilizer" of the series. The second from of symmetry break was when a vanishing from of variations, such as eight multiplies is mutated toward a certain direction. The plus toward a Boson diverging, short or long ranged, and the minus toward an insertion of mass. The minus was used to derive the Quark masses series, which now seems to be only partly correct as there exist a limitation for the number of Electrons. Thus, the devisors must not exceed the third family. The last form of symmetry break is the most recent and it is correlated to the insertion of an additional element to the zero spin terms in the primorial, as means to break the symmetry of the Higgs itself. Assuming there exist eight Gauge fields, one massless, and seven with increasing mass order. That series include a Boson with the observed mass, which is the third Boson in the series, and the second with mass. Summing up, symmetry break takes the same form in different contexts, and is related to a spontaneous appearing of an additional element. The element can be positive or negative. The placement of this element on the primorial is determining which symmetry break there is. If it is within the zero spin term, the symmetry break is getting the mass to the Higgs. If it is outside, it is the symmetry break on the Bosons. In the more general form, symmetry break of a plus sign than it is correlated to diverging curvature or force, whereas a minus sign is of a mass generation. Since the Higgs is standing curvature which is responsible for mass generation on Bosons and Fermions, it should be considered as $8-(1)$. So to make things clear, the Higgs is of the form of mass generator:

$$2^3+(1)$$

Which leads to cancelation of the Destabilizer marked in black:

$$2N_{0\to K}+\mathbf{\frac{1}{2}}+\mathbf{\frac{1}{2}}$$

Leading to the term:

$$2N_{0\to K}$$

Now note that the sole term is massless. From here, it is possible to incorporate the idea of the spin zero term breaking, by adding an additional term inside the spin zero term, which is proportional to prime sequence. That was the idea above which lead to the series of the eight Higgs particles, seven heavy one massless, i.e. the first. Third Higgs with mass matched the observed value measured, as far as one knows it was $125.35\ GeV$ by CMS collaboration:

$$\frac{125}{125.35}=99.72$$

Which is about one hundred percent accurate. However, in order to make sure the idea is correct, at least one of the other Higgs should be found, as it could be just a coincidence. "Best" case would be lighter Higgs, $27\ GeV$ and the corresponding heavier Higgs, i.e. the $847\ GeV$ validating the idea of the Higgs series.

Higgs as Universal Quantity

This idea of universal quantity meant to express that the Higgs masses are invariant across the packet. That is because according to the idea and the four theorems made, the symmetry breaking causing to mass accumulation on the Higgs is prime related, and prime proportional on each term. Taking into account that the prime ring is universe invariant, each universe must have the same Higgs particles, both in kind and in mass. If the same Higgs particles are related to the observed particles masses, both in the Boson sector and the Fermion sector, the conclusion is that the same masses must appear at all universes across the packet. The question of how exactly does the Higgs inserting the masses is still vague, i.e. why the coupling to the Higgs are what they are. The author will attempt to put this new ideas in rigor. Assuming Higgs is mass generator:

$$\mathrm{X}\big(8-(1)\big)$$

While the Bosons are diverging curvature ripple:

$$\varsigma\big(8+(1)\big)$$

Let:

$$\mathrm{X}\big(8-(1)\big)+\varsigma\big(8+(1)\big)=-\lambda^{1\to k}$$

Or

$$\mathrm{X}\gg\varsigma$$

The difference in the above multipliers leading to a set of parameter, by requiring that the amount of standing curvature to exceed the diverging curvature, it is possible to create an insertion on the diverging ripple. That insertion is the mass absorbed onto the ripple. The set of masses is manifold invariant which is in agreement with the $\mathscr{L}$ theorem, assuming there exist only one set of Higgs particles across the manifold packet. The 8T would like to create a setting in which all particles appear exactly the same way, in the same way across the packet, given by this theorem. If the Higgs is universal property given by the prime symmetry break that the mission is accomplished as the question of the masses was the last question needed for reaching that objective. Fermions are manifold invariant as they are the result of stationary manifold condition, which is imposed over all the manifolds in the packet.

The Bosons are invariant across the packet as the are primes, and the prime ring is manifold invariant, and the last pillar was the question of the masses, which can be solved by the above idea. First ensuring the Higgs is manifold invariant by the prime sequence and using it to develop the trait of similar observed mass for Both Fermion and Bosons. It was known long before the 8T was constructed that nature is "satisfied with simplicity" as Newton stated, and that is what is presented here. It is rather complicated to generate set of new particles with new masses for each universe, or a new set of laws, rather than using one set of laws for all.

Similar to there is no special direction in space, there should be no special universe in the packet, they must obey the same laws. If one is allowed to create new version for Newton statement on simplicity, it would be by replacing the simplicity with the word "minima" or "extremums".

Effective Lagrangians on Variational Manifolds

October 27, 2021

Abstract:

By analyzing the general idea behind the framework of varying curvature, it is possible to present a modern variation of the effective Lagrangian, which taking out ignorable variables. In the 8T framework, the ignorable variables are the higher coupling Bosons rising within the Fermion cluster. They are considered as ignorable variables for two reasons, first due to their alignment time, or lifetime, which aspires zero, the second due to their weakness.

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Introduction

Fermions in the 8T and are arbitrary variations which vanish into matter. Those matter combinations appear in such way that no curvature is manifested da facto. Thus we presented the Lagrangian as the kinetic minus the matter distribution, as it represents the potential curvature of the manifold. Using the main equation of the 8T:

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

For fermions:

$$\sum_{i=1}^{N}\delta g_i = 0$$

We have discrete amount of net curvature, which is a subset of the original set that vanished into matter:

$$\left(\sum_{i=1}^{m}\delta g_i > 0\right) \in \sum_{i=1}^{N}\delta g_i = 0$$

Leading to a set:

$$\sum_{i=1}^{N-m}\delta g_i = 0$$

Out of the arbitrary variation belonging to the Bosonic class, it is possible to classify according to a spin criteria, in particular:

$$\left(\sum_{i=1}^{m_1} \delta \mathrm{g}_i \; < \; 2N_k + \frac{3}{2}\right) \longrightarrow A$$

$$\left(\left(\sum_{i=1}^{m_2} \delta \mathrm{g}_i \; \geq \; 2N_k + \frac{3}{2}\right) \cap > 0\right) \longrightarrow \mathrm{B}$$

$$\left(\left(\sum_{i=1}^{m_2} \delta \mathrm{g}_i \; \geq \; 2N_k + \frac{3}{2}\right)\right) + \left(\sum_{i=1}^{m_1} \delta \mathrm{g}_i \; < \; 2N_k + \frac{3}{2}\right) = \sum_{i=1}^{m} \delta \mathrm{g}_i > 0$$

That construction yielded the primorial coupling constants series. At the heart of this paper, few subjects will be covered. In particular, can we create an effective Lagrangian, which excludes ignorable variables. The author will attempt in construct this new form using variational manifolds. The kinetic term represent the acceleration of the manifold in an invariant or varying rate, depending on the demand one is imposing. The potential term represent matter formations at immense scale which contain short ranged Bosonic terms which holding them in form.

Those are so called "Gravitons" which appear at a Fermion and Lepton reach environment. To avoid the complication of diverging Bosons within the potential term of the Lagrangian we can deem the **spin one Bosons as ignorable variables within the Fermion cluster** that is because their mass pattern and the Boson pattern cancel each other out.

$$\big(8 - (1)\big) + \big(8 + (1)\big) = 0$$

$$\big(8 - (1)\big) + A = \; 0$$

If the original Lagrangian would be represented as:

$$\mathcal{L} = \frac{\partial^2 g'}{\partial t^2} - \left(\sum_{i=1}^{N-m} \delta g_i + \sum_{i=1}^{m} \delta g_i \;\right)$$

$$\left(\sum_{i=1}^{N-m} \delta g_i + A + B\right)$$

$$\sum_{i=1}^{m} \delta g_i \;\; = A + B$$

If the Bosons within the Fermion cluster belong to the A cluster, i.e. independent primes, they must be terminated as they cancel with the mass pattern of the Fermion cluster. Such that in the end within a Fermion cluster only higher spin Bosons, such as Gravity count.

$$\hat{\mathcal{L}} = \frac{\partial^2 g'}{\partial t^2} - \left(\sum_{i=1}^{N-m} \delta g_i + B\right)$$

$$\hat{\mathcal{L}} = \frac{\partial^2 g'}{\partial t^2} - \left(\sum_{i=1}^{N-m} \delta g_i + \sum_{i=1}^{m_2} \delta g_i\right)$$

Such that only the Higher coupling Bosons will be presented within the Fermion cluster:

$$\left(\sum_{i=1}^{m_2} \delta g_i \; > \; 2N_k + \frac{3}{2}\right)$$

To avoid the second derivatives, the effective Lagrangian:

$$\hat{\mathcal{L}} = \frac{\partial g}{\partial t} - \left(\sum_{i=1}^{N-m} \delta g_i + B\right)$$

Which is varying curvature overtime, synonymous with an acceleration, minus the potential curvature in matter clusters and the higher spin Bosons which are short ranged and formed within the cluster.

The Fermion cluster is composed by two arbitrary terms of varying arbitrary curvature, which differ in sign and summed to zero in an even amount. This Lagrangian is assumed true in all the manifolds across the packet, that is because the main equation is index invariant as was proven before, and it is in addition obeying the parity transformation. Given by the first term, if the fermions are stationary, and no curvature is manifested da facto, than the first term, $\partial g/\partial t$ is describing varying curvature correlated to independent Bosons.

In other words, The Independent Bosons dictate the acceleration of the manifold and in particular the Bosons which are composed using a **single prime**. As there exist discrete amounts of prime curvature, the first term can be presented as a summation of arbitrary amounts of curvature, as was previously analyzed the kinetic as a sum of accelerations:

$$\frac{\partial g}{\partial t} = \sum_{\phi=1}^{K} (\frac{\partial g}{\partial t})_\phi$$

To making the effective Lagrangian:

$$\hat{\mathcal{L}} = (\frac{\partial g}{\partial t})_z - (\delta g_i + B)$$

$$1 \leq \; z, i \; \leq \; k$$

Summing up the idea, the Kinetic term of a varying manifold is a summation of Bosons which diverging across, which are net curvature and are independent. The Potential term of the manifold are the matter clusters which are potential curvature and within them the higher spin Bosons which are holding them together.

By the proof of the 8T, those δg_i taking the form of threefold combinations of two distinct elements that differ in sign, and no curvature is allowed the facto. By Requiring:

$$\sum_{i=1}^{m_2} \delta g_i \; \geq \; 2N_k + \frac{3}{2}$$

Then excluding the complimentary term A from the Lagrangian to reach the effective form, all the combinations of the independent elements within the Fermion cluster are deemed as ignorable, leaving us only with the higher spin Bosons, and theoretically simplifying the Lagrangian of the manifold.

Energy – Momenta Relation

October 31, 2021

Abstract:

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Introduction

The 8T is a variational curvature framework, which consists of one equation:

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

For Fermions:

$$\sum_{i=1}^{N}\delta \mathrm{g}_i = 0$$

For Bosons, we have discrete amount of net curvature, which is a subset of the original set that vanished into matter:

$$\left(\sum_{i=1}^{m}\delta \mathrm{g}_i > 0\right) \in \sum_{i=1}^{N}\delta \mathrm{g}_i = 0$$

That construction yielded the primorial coupling constants series, which is covered in depth in the thesis and proved that the Bosons are isomorphic to prime numbers as presented in the next page in equations (1.1) and (1.2).Which is covered in depth in the thesis.

$$F_{V=0} \;= 2^3 + (1) \qquad (1.1)$$

$$F_{\mathbb{R}}\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \qquad (1.2)$$

$$N_V = 2\left(V + \frac{1}{2}\right);\; V \ge 0$$

$$N_V \in \mathbb{P} \;\cup\; (+1)\,;\;\; \mathbb{P} \to Set\ of\ Primes$$

$$N_V = P_{max} \in [0,\mathbb{R}] \cup (+1)\;;\; P_{max} \in \mathbb{P}$$

The two major themes of the 8T, are two symmetry breaks, that is mutation of the eight to two directions:

$$8 + (1) \cup 8 \prod_{V=1}^{K} N_V + K$$

$$K = 3 + N_{V=k..}$$

Which is the symmetry break of the gauge interactions. The second symmetry break is of mass, given by the decrease in order masses of the generation Fermions.

$$2^3 - (1)$$

Consider the Einstein relationship as presented in QFT, where the constants of Planck and c are normalized to one:

$$E^2 = p^2 + m^2$$

Which means:

$$E^2 - m^2 = p^2$$

The problem with this relation is the following: If one dives deeper and asks what exactly meant by the term "energy" is and what is meant by the term "mass", the relation and the theory is not able to answer it. Any theory that present terms which are not clearly defined is incomplete. To the author of the 8T, the Einstein relation is partial and insufficient, and thereby the same applies for the Klein Gordon equation. To solve the problem of those terms, the author used the mapping of Ricci curvature into Energy:

$$\varphi: g \longrightarrow E$$

Such that the energy is taken to the Hamiltonian of the 8T:

$$E^2 \equiv \widehat{H}$$

$$\widehat{H} = \widehat{\mathrm{T}} + \widehat{\mathrm{U}}$$

$$\widehat{\mathrm{T}}_i = \frac{\partial^2 g'_i}{\partial t^2} = \frac{\partial g_i}{\partial t} \; ; \; \forall \; \Phi_{1\to n}$$

$$\widehat{U}_i = \sum_{i=1}^{N} \delta g_i \, ; \; \forall \; \Phi_{1\to n}$$

Now according to the Einstein relation we can create an Iso-arrow between the variational curvature Hamiltonian and the latter. The momenta is isomorphic to the kinetic term of the 8T, and the mass is isomorphic to the arbitrary variations vanishing into matter. The potential energy as matter is confined curvature which is not manifested da facto. That is the insertions:

$$\varphi^A: \widehat{\mathrm{T}}_i \longrightarrow p$$

$$\varphi^B: \widehat{\mathrm{U}}_i \longrightarrow m^2$$

Meaning that the new Einstein relation describe energy as the summation of curvature diverging given by a kinetic energy, and the potential energy, which is curvature diverging or mass. Notice that the first mapping does not need to be squared at the kinetic term is already second power. Energy is the summation of converging and diverging curvature on the manifold, which are in inverse relation to each other and cancel each other out.

$$8 + (1) + 8 - (1) = 0$$

Moreover, the momenta is the sum of curvature minus the converging curvature. Mass is the sum of curvature minus the diverging curvature. The previously vague terms in the Einstein relation, within the new setting, are clearly defined.

Graviton Decay

We have presented several forms to the formation of unseen particles, which contain higher spin and composed by several sub-elements. Since in particle physics it is not natural to compose particles, but rather to derive the nature of particle based on their decays, the author will make several predictions concerning a potential set of decays of the Graviton using the coupling term of spin two particle using the primorial coupling constants series. The first possible decay is the following.

$$G^{K=1} \longrightarrow (\overleftarrow{e^-}) + (\overrightarrow{e^-}) + \gamma + \gamma$$

The superscript is meant to indicate that infinite compositions are possible. It can be parametrized:

$$K \in \mathbb{R}$$

The arrows on the Electrons as during the decay they can not be combined or interact with each other. Each electron must appear with a distinct photon, such as the decay is coming to an agreement with the one of the terms describing Gravity in the 8T:

$$[(2N_{gravity}) + (\overleftarrow{3}) + (\overrightarrow{3})] + \gamma + \gamma \longrightarrow [(2N_{gravity}) + (\overleftarrow{e^-}) + (\overrightarrow{e^-})] + \gamma + \gamma$$

Another two possible decays:

$$G^{K=2} \longrightarrow (\overleftarrow{e^-}) + \gamma + \gamma + \gamma$$

$$G^{K=3} \longrightarrow (\overleftarrow{e^-}) + (\overrightarrow{e^-}) + \widetilde{(e^-)} + \gamma$$

Using the isomorphism between the Electron and the Boson of the Weak interaction given by the second coupling term:

$$[(\mathbf{8} \times \mathbf{3}) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$(3) = +3$$

$$(e^-) = (W^-)$$

$$G^{K=4} \longrightarrow (W^-) + (W^-) + \gamma + \gamma$$

$$G^{K=5} \longrightarrow (W^-) + (W^-) + (W^-) + \gamma$$

$$G^{K=6} \longrightarrow (W^-) + \gamma + \gamma + \gamma$$

The options are infinite as each four Bosonic decay is indicating a spin two particle. That classification was used to predict the Higgs via two photons relation, given by the classification:

$$\text{Spin } 0\text{: } 2N_{\bigcirc} \text{ variations}$$

$$\text{Spin } \frac{1}{2}\text{: } 2N_{\bigcirc} + 3 \text{ variations}$$

$$\text{Spin } 1\text{: } 2N_{\bigcirc} + 3 + N_V \text{ variations}$$

$$\text{Spin } N = 2N_{\bigcirc} + 3 + N_{V1} + N_{V2} \ldots \text{ variations}$$

Each Boson is in itself represented by half unit spin, as it is ever confined with the Electron; those spins add up to one. That is an additional indication that the additional Boson is a discrete amount of curvature. Therefore, any decay involving a fourfold multiple of Bosons is synonymous with spin-two particle decay, i.e. a "Graviton".

$$\frac{1}{2} \times 4n = xG^{K=1}$$

$$n, x \in \mathbb{R}$$

Galactic Bending

Using the 8T setting, taking into account that matter has no curvature appearing da facto, as proven by the arbitrary variation term of the main equation

$$\sum_{i=1}^{N} \delta \mathrm{g}_i = 0$$

According to the author, the extremum bend on the matric is given by the probability of Bosonic propagation, which, as the variation cluster increase in size, so does the chance of the higher coupling terms to be physically manifested. As the first term of each coupling is an even term which assumed to vanish into matter. That is in contrast to the approach taken back in the day, which considered the invariant three to prevent the vanishing into matter of the even term. Therefore, those immense areas of matter are those in which there exist the higher probability of Bosonic emitting by Fermions. Those Bosons are net curvature on the matric, overall the summation of all the Bosons over the pure number and their kind is the measure of the bend galaxy has and the summation is the same curvature that is being flattened by the complimentary manifolds in the packet.

"Dark Matter" – Patterns

As suggested by the main equation of the 8T, the same form matter is being created in other manifolds as well.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k + 1$$

The variational distributions are identical in size and different in configuration.

$$\sum_{m=1}^{K/2} \delta g_i \longrightarrow \mathcal{R}^{s_1} \in [0,1]$$

$$\sum_{n=1}^{K/2} \delta g_j \longrightarrow \mathcal{R}^{s_2} \in [0,1]$$

$$\mathcal{R}^{s_1} \not\equiv \mathcal{R}^{s_2}$$

$$\sum_{m=1}^{K/2} \delta g_i \equiv \sum_{n=1}^{K/2} \delta g_j$$

The key point of this section is the following, despite the assumption of the different distributions per manifold; the general pattern must be identical and can serve as a source of prediction. That is, our manifold can serve as a sample manifold for a prediction. If the amount of matter is more dense as one get closer to the center of galaxies in general, so does the amount of "dark matter" must increase at the same rate. In other words, the distributions patterns must be identical, as it is just matter from a distinct manifold flattening our own. The density of dark matter should be identical to the density of "regular matter" in "our galaxies" on this manifold.

Prediction (1): Dark matter density per volume must be identical to matter density on this galaxy.

Prediction (1.1): Dark matter should be more common in high-density areas across galaxies. As the distance from the core of the galaxies increase, dark matter density decrease. In other words dark matter amount should be inversely proportional to the distance from the core of the galaxy, assuming implicitly that the matter density in the core is higher than in the spirals.

Prediction (2): dark matter should be increased proportionally to time.

Manifold Sampling

Using the fact that the number of dimensions of other manifolds is not known, it is assumed to be identical as to create perfect flattening of manifold pairs. Assuming we know about dimensions of only one manifold, can we prove mathematically that there exist only one class of manifold, i.e. the Lorentz manifold with $(3,1)$ signature? The author will attempt at proving just that. Assuming there exist two pairs of two manifolds per pair flattening each other:

$$\frac{\partial \mathscr{L}}{\partial \Phi_1} - \frac{\partial \mathscr{L}}{\partial \Phi_2} = \mathfrak{Z}_1$$

$$\mathfrak{Z}_1 + \mathfrak{Z}_2 = 0$$

Assuming we live on the first manifold, which has three dimensions, in order for the universe to be flat, the second complimentary manifold in the pair must be three-dimensional as well, or else one dimension will not get flattened. As those dimensions are composing the three dimensional volume of the manifold, and the volume must aspire zero as the manifold is getting flattened. Sounds counter intuitive but it is possible to claim that the volume decrease while the surface area of the manifold increases.

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi_1} - \frac{\partial \mathscr{L}}{\partial \Phi_2}\right) + \left(\frac{\partial \mathscr{L}}{\partial \Phi_3} - \frac{\partial \mathscr{L}}{\partial \Phi_4}\right) = 0$$

Now take the second pair of universe and replace our manifold with the corresponding first manifold in the pair.

$$\frac{\partial \mathscr{L}}{\partial \Phi_1} \rightarrow \frac{\partial \mathscr{L}}{\partial \Phi_3}$$

$$\frac{\partial \mathscr{L}}{\partial \Phi_3} \rightarrow \frac{\partial \mathscr{L}}{\partial \Phi_1}$$

Such that:

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi_3} - \frac{\partial \mathscr{L}}{\partial \Phi_2}\right) + \left(\frac{\partial \mathscr{L}}{\partial \Phi_1} - \frac{\partial \mathscr{L}}{\partial \Phi_4}\right) = 0$$

Now the fourth manifold must be three dimensional, and according to the original construction and this construction so does the third.

The third as to be three dimensional due to the second being three dimensional as a result of the first manifold, "our manifold" being three dimensional. So in a sense our manifold can be used as a sample manifold that each other manifold pair which create an endless set of identical manifolds in their dimension count, each manifold with a unique arrow and a unique flattening moment.

The stationarity condition is imposing a restriction on the manifolds. That is, if the number of dimensions is different, those manifolds will not be stationary, i.e. flat, as dimensions are related to volume. Therefore, by knowing the number of dimensions on one manifold, and constructing distinct manifold pairs using the same manifold, i.e. sampling one manifold over the set of pairs, it is possible to mathematically derive, if one is correct, the fact that the sampled pairs universes due to one manifold must be identical in dimensions to our own manifold. Now there exist four manifolds which can be sampled and the rate of sampling is fourfold compared to one manifold.

Which is coming to an agreement with the $\mathscr{L}$ theorem of the 8T, nature is creating extremums on objects and classes, and in particular aspire to minimize their class and while maximizing the number of objects within that class. As a result of the construction there exist an even number of finite dimensional manifolds of the same kind. Each manifold proven three-dimensional can serve as a "sample manifold" after compared with our own. In a way it is an endless process, and a full proof will never be attained as the number of manifold is infinite, but using the algorithm of manifold samples set which also increase at a rapid rate, so it is possible to proof that a smaller infinity of manifolds is identical to our own.

Proof: Equivalence among Distinct Infinites

Abstract:

The following is a proof that two infinite sets with zero elements in common can be equivalent to each other and converge to the same infinity despite seemingly going aspiring two distinct infinites. Methods used are set theory, functors and category theory, graph theory, Euler LaGrange equation and calculus of variations.

Introduction

Define two empty sets –

$$A \to \{\,\emptyset\}$$

$$B \to \{\,\emptyset\}$$

Define an operator on the sets, to bring each set to itself, from empty set to empty set.

$$\Delta\colon A \to A$$

$$\Delta\colon B \to B$$

Define an insertion operator on the set, so the set are no longer empty:

$$\Delta t\colon A \to A'$$

$$\Delta t\colon B \to A'$$

Let the insertion operator act on the set for all times; require that for all time the union of the sets to be Empty, that is:

$$A' \cap B' = \emptyset\,;$$

$$0 < t < \infty$$

Therefore, we have two varying sets in number of elements, which have no common elements, and they Aspire infinity in number of elements. Define a functor:

$$V\colon Set \to Graph$$

Operate the functor on the sets:

$$V\colon A \to A'$$

$$V\colon B \to B'$$

To obtain the trees of the sets A and B. define an ordering operator on the graph

$$O\colon A' \to A'(desend)$$

$$O: B' \to B'(desend)$$

To achieve an ordered graph whose vertices are descending in value; let each vertices have two children. We could have done the same before we switched to graph, by defining ordering operator on the sets. It does not matter. We did it on graph as computer scientists working often with them and we already possess sorting algorithms, so by doing it on graph maybe some practical uses can be found. Define additional functor:

$$\mathrm{Z}: Graph \to Top$$

To obtain the varying trees on the topological space. Set the space to be complex analytical to ensure differentiation is possible at all times. Write down the Euler Lagrange for the varying trees:

$$L(A, A', t), L(B, B', t)$$

Or:

$$\frac{\partial L}{\partial A} - \frac{\partial L}{\partial A'}\left(\frac{d}{dt}\right)$$

$$\frac{\partial L}{\partial B} - \frac{\partial L}{\partial B'}\left(\frac{d}{dt}\right)$$

We can also write this equation as the following

$$\Delta A - \Delta A'\left(\frac{d}{dt}\right)$$

$$\Delta B - \Delta B'\left(\frac{d}{dt}\right)$$

But remember that ΔA is an empty set which stay as itself, meaning it does not vary, which means that in the topological setting $\Delta A = 0$ and $\Delta B = 0$. The Euler Lagrange equation than becomes:

$$\Delta A'\left(\frac{d}{dt}\right) = 0$$

$$\Delta B'\left(\frac{d}{dt}\right) = 0$$

$$\Delta A'\left(\frac{d}{dt}\right) = \Delta B'\left(\frac{d}{dt}\right) = 0$$

Meaning that all the elements insertion into the set itself vanished at the border. In the Graph representation we can say that the Top vertex and all his children converged into Zero, that despite that the infinites to have no elements in common, they converged to the Same value, so the total is the same for two distinct infinites at the time of examination.

$$\Delta A'\left(\frac{d}{dt}\right) - \Delta B'\left(\frac{d}{dt}\right) = 0$$

Both have no common elements, Union is null, they have no similar vertices values in Common and their infinities are the same. That is by putting the trees on Topological space, Constructing the EL equation, and taking into Account **that we started with empty sets, Which stay as they are**, that is: $\Delta A = 0$ and $\Delta B = 0$. Therefore, the variations over time must vanish, and so, despite they are different at all times In set representation and graph representation, they are equivalent, as they converge to the same value in graph theory, Top Vertex is equal to all children, even though the value of each children is different in both trees, they Summed to the same number and in topological representation the variations vanished at border. Concluding, if we start from two empty sets, which stay empty, insert infinite number of distinct elements to each one, which null as their union, we can reach the same infinity and so given the starting conditions to hold true, we can state: two distinct infinities with no elements in common are equivalent.

End of Proof.

Predicting Exotic Decays Using the Primorial

November 4, 2021

Abstract:

By analyzing the general framework of the 8T, the author will present several additional ideas, which are new forms of Lepton decay or Weak interaction decay, the curvature "paradox" which indicating that the manifold is extremely curved and extremely flat both at the same time, leading to the overall shape of the universe which is a three-dimensional flattened sphere which has increasing surface area and decreasing volume. Last section of the paper is devoted to the features of the primorial function, which are the lack of dependency on units, and lack of higher power terms in the formula, leading to the simplest and most elegant way to obtain mastery over the domain of coupling constants and Gauge interactions as presented in particle physics.

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Introduction

$$F_{V=0} \;= 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$N_V = 2\left(V + \frac{1}{2}\right);\; V \geq 0$$

$$N_V \in \mathbb{P} \cup (+1);\;\; \mathbb{P} \rightarrow Set\ of\ Primes$$

$$N_V = P_{max} \in [0, \mathbb{R}] \cup (+1)\;;\; P_{max} \in \mathbb{P}$$

Using the proof of the invariant three to be an electron it is than possible to make prediction concerning its decay:

$$e^- \longrightarrow \mathfrak{g} + \mathfrak{g} + \mathfrak{g}$$

Which is similar to another decay given by the primorial:

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

That is because the Electron and the weak interaction Boson are represented by the same number, i.e. the invariant three. It is possible to make such claim as the Electron propagate from the Hadron that contains two components, sea of Gluons and Quark triplet. Since the Electron is not a Quark, the only option that is left is that the Electron is a Gluon mixture. Since the Electron is isomorphic to the Boson of the Weak interaction, the argument is valid on the Boson as well, and the Boson is just a combination of Gluons or net curvature. It is in agreement with the setting of variational manifolds, as curvature is all this framework contain, the difference between Fermions and Bosons is the class of numbers which they belong. Fermions are vanishing curvature spikes, while Bosons are non-vanishing, i.e. Primes.

In addition, the original three theorems were based upon the idea of net curvature arising from total curvature pairs. The verification of such a decay can be rather rare and even not observed at all. Simply because there isn't any known way to break three Gluons which attract one another as each is a net curvature unbound which increases the probability of arrival for another Gluon. That argument is valid to the lack of observed decay of the Electron. It does not valid to the short lifetime of the Weak interaction Boson. So despite being represented by the same number given by the second coupling:

$$[(8 \times 3) + (3)] + 3 \longrightarrow [(8 \times 3) + (e^{-})] + W^{-}$$

One represent stability and the other represent short lifetime and a lack of stability. That imposes a complication on the similarity among these two elements and changes it to partial similarity, they have to differ in certain manner which should be predicted in principle. It could be that the mass of those Bosons is the reason for their instability, which rises from the interaction with the Higgs Boson.

$$(8 \times 3) \leftrightarrow W^{-}$$

The other two Bosons are not represented by zero additional term and two term beside the invariant multiplier. For Gluons:

$$(2^{e-}) + 1$$

For Photons, there are two terms:

$$((2^{e-} \times 3 \times 5) + 3) + 5$$

That was the idea which yielded the Bosonic mass pattern. For no terms or even amount of terms without the invariant multiplier (2^{e-}), the Boson will be massless, for odd amount of terms, as with the Weak interaction Bosons and the predicted seven Gamma Bosons the mass will be positive, massive and proportional to the net variation element.

$$\big((\mathbf{120} \times \mathbf{7}) + (3)\big) + 7 \longrightarrow [(\mathbf{120} \times \mathbf{7}) + (e^{-})] + \Gamma_{\mu}{}^{i}$$

$$(\Gamma_{\mu}{}^{i})_{M} \propto (7)$$

$$1 \leq i \leq 7$$

$$\frac{(7)}{(3)} \cong 2.333$$

$$2.333 \times 80.3 \ \leq (\Gamma_{\mu}{}^{i})_{M} \leq \ 2.333 \times 91.2$$

$$186.66\ GeV \leq (\Gamma_{\mu}{}^{i})_{M} \ \leq 212.33\ GeV$$

Is it possible to reason why it has to be that way? It is possible to speculate that in a sense of interacting with the Higgs, only odd number of elements matter, as even amount of elements vanish to zero, leading to Higgs self-interaction with no extra terms. Therefore, as a result only terms which are even in their sequence, second, fourth and so on, will possess positive mass. That was presented in the thesis under the section of "Bosonic mass pattern" given by:

$$\mathcal{X}\colon\ \mathbb{M} \longrightarrow \mathfrak{B}_{\mathbb{M}}$$

$$\mathfrak{B}_{\mathbb{M}\,=\,0} \colon \mathfrak{B}_{\mathbb{M}\,>\,0} \colon \mathfrak{B}_{\mathbb{M}\,=\,0}$$

As $\mathbb{M}$ denote the Bosonic mass, and $\mathcal{X}$ is denoting the arrow taking the mass to the image that represent the mass as a feature of the interaction type itself. It is possible to add the number of elements added to the Higgs spin zero term as means to emphasize the main idea of this assay, denoted by the superscript:

$$(\mathfrak{B}_{\mathbb{M}=0})^{\mathcal{H}=0} \colon (\mathfrak{B}_{\mathbb{M}>0})^{\mathcal{H}=1} \colon (\mathfrak{B}_{\mathbb{M}=0})^{\mathcal{H}=2}$$

Zero to evens means is massless Gauge Bosons, odd number of multipliers is predicted to mass positive. So the Gamma Boson, $\mathcal{H} = 3$:

The Curvature "Paradox"

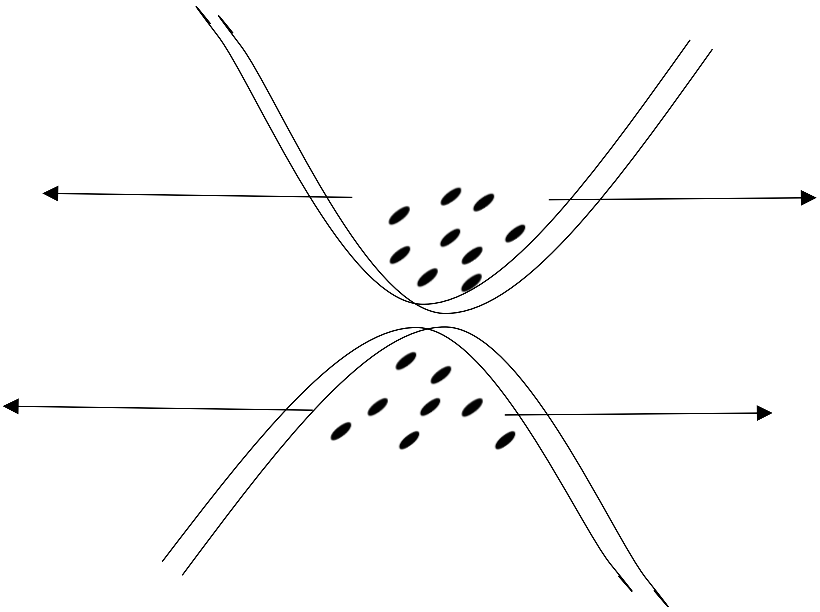
Given by the main equation:

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

Each manifold has areas, which are extremely curved, extremums of maxima class, which stay as they are over time. That being said, given by the interaction with distinct areas of extremum curvatures of a distinct manifold, those areas and the overall manifold is being flattened. The "paradox" is that those areas do not change, they yield extremum curvature overall, and yet the manifold is flat at all the temporal segment of its existence. Therefore, it is both highly curved and highly flat at the same time, which is not really a paradox, considering it is part of an infinite packet of manifolds that interact with each other via those areas, leading to an acceleration outward and expansion of the manifold and to overall flatness.



3D Flattened Spheres

Each manifold in the pair, using the manifold sampling technique has the same number of dimensions, which flat each other perfectly. The shape of the manifold must take the form of a flattened sphere or a surface which contain the same number of dimension due to being confined by other manifold of same class. The manifold can be spanned as a sphere which has a certain degree of curvature at singularity, which then leading to the flattening moment by the packet at the very same moment. That is also an obvious result by the main equation which shows the curvature and acceleration equivalence relation:

$$\frac{\partial \mathcal{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathcal{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

$$\frac{\partial g}{\partial t} = \frac{\partial^2 g'}{\partial t^2}$$

The transformation of the main equation can be put in terms of an arrow, which takes the manifold and "deform" or act on it to attain the shape of a flattened three-dimensional sphere. Define the arrow:

$$\mathscr{L}: (M_E, g)^{(3,1)} \longrightarrow (M_E, g)^{(3,1)^{\mathcal{F}}}$$

Where the superscript on the image, $\mathcal{F}$, meant to express that the operator is flattening the manifold, from a three dimensional sphere, to a three-dimensional flattened sphere. Using the $\mathscr{L}$ theorem it is possible to put the idea as the following: nature would aspire to minimize the volume each three-dimensional sphere possess. Alternatively, nature would aspire to maximize the number of distinct manifolds in the packet of the Lorentz class with $(3,1)$ signature. The fact that an object has a certain amount of dimension does not imply how "large" it is, or in which way it is spans space. if the volume decreases that does not mean that the manifold is compressing, as it is possible to claim that the surface area of the three dimensional sphere is increasing in size, due to the flattening by the other manifolds.

$$(M_E, g)^{(3,1)^{\mathcal{F}}}: \big((V \to 0) \cap (\mathcal{S} \to \infty)\big)$$

$$\mathcal{S} = 4\pi r^2 \in \ (M_E, g)^{(3,1)^{\mathcal{F}}}$$

Which meant to express that the flatting operator taking the volume to zero and the surface area to infinity. Which means that the radii of the manifold increase while its volume decreases. Since the Ricci flow was mapped into energy, as curvature cannot be manifested on flattened sphere, the "energy" of the manifold aspire the lowest state, which is synonymous with the most flat state possible over time. As previously mentioned the random appearance of matter as the manifold is invoked stationary does not interfere with the stationarity condition as matter does not manifest as curvature positive entity as proven Fermions are described by:

$$\delta \mathrm{g}_1 + \delta \mathrm{g}_2 \ldots = \sum_{i=1}^{N} \delta \mathrm{g}_i$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

Matric Space Propagations

Consider the following matric space:

$$R(X, p)$$

Define two points, which differ in distance:

$$a, b \ \in R(X, p)$$

$$p: |a - b| \longrightarrow \varepsilon;$$

$$a \neq b$$

Define an observer, $\mathcal{Q}^1$, consisting of matter trying to cross the distance ε:

$$\left(\sum_{i=1}^{O} \delta \mathrm{g}_i = 0\right) \Longrightarrow \mathcal{Q}^1$$

This observer has net curvature, which keep him from decomposing into Quarks, which for simplicity sake are ignored. Now to cross the distance he must take one of two choices. First, linear crossing the distance, which is what is been doing by modern technology. However, a more sophisticated choice would be to generate a high-energy

Bosonic ripple, which is diverging ripple of net curvature from the start point. Since the curvature diverges to the direction of the endpoint, it is synonymous with acceleration, so an observer able to generate high-energy ripple of curvature toward the end-point will generate an acceleration of itself toward it. One observer uses chemical reactions, the other uses the nature of space-time itself to get to the desired endpoint. Creating a ripple of curvature is simpler and more efficient as it does not involve the creation of heat. Heat is a result of larger scale propagation systems, there is no heat in particle physics or general relativity. The most elementary form of arrow, the Iso-arrow between Gravity/curvature and acceleration is leading to the most efficient form of propagation and at the same time the simplest. The choices of which curvature to generate are limitless, the subject matter in hands is how to generate enough to see the actual bending of space-time.

Primorial Hidden Beauty

Additional point never before mentioned is that the primorial is an infinite set of dimensionless numbers, which are independent from the units humans made for themselves in studying nature. That means that it is possible to start from any system unit of measurement, and if the innate logic of the equations is accurate, it is possible reach the same set of numbers in several ways. This as an example is vivid in the fact that there exist several ways to reach the value of the fine structure constant, which depends upon different units and constants of measurement. As an example:

$$\frac{e^2}{2\varepsilon_0 ch} = \frac{ke^2}{\hbar c} = \frac{c\mu_0}{2R_K} \ldots$$

Another point is that the Primorial is a function that values are obtained in "linear time" as it does not involve higher powers at any coupling term, and is much simpler than the current methods used in particle physics to reach the same numbers, methods with run according to Fermion and Boson loops, which contribute to the gauge Boson self-energy. QED and QCD vary according to energy according to:

$$[a_i(q^2)]^{-1} = [a_i(\mu^2)]^{-1} + \beta \ln\left(\frac{q^2}{\mu^2}\right)$$

Leading to the reduced strength of the strong interactions at high energies to be represented by the term:

$$.a_S^{-1} \approx 9$$

Leading to the Electric coupling to be represented by:

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

In addition, for the Weak:

$$a_W^{-1} \approx 30$$

Which are in complete agreement with the primorial is predicting for the first three Gauge interactions, and none of measurement constants was originally involved, or the vague term of "energy" variation was never used. If Feynman methods such as the famous diagrams or path integration formulation is the most accurate method to provide an answer to a subset of the questions at the realm of the Quantum world, than the primorial is the easiest and most accurate method to answer questions of the narrow domain of the coupling constants of Gauge interactions. That is because of the features that are linearity and lack of dependence upon measured constants and agreed upon human systems of measurement.

Simplicity & Length

The last section of this paper will deal with the notion of simplicity of a final theory of Physics. While the primorial equation of coupling constants could be the simplest equation in the entire physics, the chained PDE is quite the opposite of simple and maybe not even solvable as it is an immense task to solve much simpler set of PDE's such as presented in the Hamilton formulism or even in Quantum formulism. However, it is "simple" if we define simple as part of length of description. This equation contains all the phenomena within this universe and all the similar universes which interact with our own. It has all the SM model particles, all the couplings and thus the first three

Gauge Bosons, cosmological phenomena such as flatness and invisible matter are an immediate results of this equation, which is self-contained all the other ideas of the 8T. Despite the author never presented a solution of (1), it is simple considering the length of description, which is just one equation.

$$\frac{\mathscr{L}\partial}{\partial\Phi_i} - \frac{\mathscr{L}\partial}{\partial\Phi_j} = 0$$

$$\Phi_{i,j} \in \left((M_E, g)^{(3,1)}\right) \forall\, i, j$$

Neutrino masses

The subject of this section revolves around the subject of neutrino masses. The author mentioned that according to the primorial the masses of the neutrino should be zero, that is, as the primorial does not indicate it exist, which leads to a perfect vanishing operator of the sort:

$$v_e \longrightarrow 8n\,;$$

$$n \in \mathbb{R}$$

$$[(24 \times 5) + 8 + (3)] + 5 \to [(24 \times 5) + v_e + (e^-)] + \gamma$$

$$[(24 * 5) + v_e + (e)] + \gamma = 128$$

$$v_e = 0$$

$$[(24 \times 5) + v_e + (e^-)] + \gamma \longrightarrow [(24 \times 5) + (3)] + 5$$

Suppose the neutrino propagated as massless, that is by a perfect vanishing operator given by eight as a multiplier without any additional element. Does it imply that the Neutrino will retain its feature as massless? Consider the following transformation in time:

$$t\colon [(24 \times 5) + v_e + (e^-)] + \gamma \longrightarrow \left((24 \times 5) + (e^-) + \gamma\right) + v_e$$

$$\left((24 \times 5) + (e^-) + \gamma\right) + \ v_e = a^{-1} + v_e$$

Now the neutrino is outside of the coupling term and the restraint on symmetry break concerning mass does not apply anymore as the coupling term is clustered in the parenthesis. That means that using that representation it is possible to represent the neutrino as an entity, which start as massless but could retain mass at later segment of time. Using the V theorem, if it does not forbidden, it will appear. The following idea can be presented as the arrow:

$$t\colon 2^{e^-} \to 2^{e^-} - 1$$

Similar to the manner in which one presented the process of acquiring mass for the massive Weak interaction Bosons, and the Higgs Boson, which is a result of an additional term appearing in the numerical entity of the coupling. The placement of the additional Element determines which entity is going to receive the mass. Within the spin zero, it is the Higgs symmetry break from the second element in above:

$$H_0 = 0\ GeV$$

$$H_1 = 27\ \mathrm{GeV}$$

$$H_2 = 125\ \mathrm{GeV}$$

$$H_3 = 847\ \mathrm{GeV}$$

$$H_4 = 9251\ \mathrm{GeV}$$

$$H_5 = 120{,}133\ \mathrm{GeV}$$

$$H_6 = 2{,}042{,}057 \text{ GeV}$$

$$H_7 = 38{,}798{,}779 \text{ GeV}$$

and outside the spin zero, it is the Bosons of the odd index couplings, such as the Weak interaction Bosons and the Gamma Bosons,

$$(\mathfrak{B}_{\mathbb{M}=0})^{\mathcal{H}=0} : (\mathfrak{B}_{\mathbb{M}>0})^{\mathcal{H}=1} : (\mathfrak{B}_{\mathbb{M}=0})^{\mathcal{H}=2} : (\mathfrak{B}_{\mathbb{M}>0})^{\mathcal{H}=3}$$

Predicted in range of $186.66\ GeV - 212.333\ GeV$ using the ratios of net variation given by the $\mathcal{M}$ theorem.

Scalar, Vector, Tensor Entities

The notion of the word "field" is barely used throughout the thesis. The reason it is not used as fields are defined to be "functions of space time", which are eventually embedded in the manifold elements. Define the open set of 'Quantum fields':

$$Q_f^{\mathcal{A}} = \{Q_f^1 + Q_f^2 \ldots + Q_f^N \,|\, f = (x, y, z, t_n, \Phi_n)\}$$

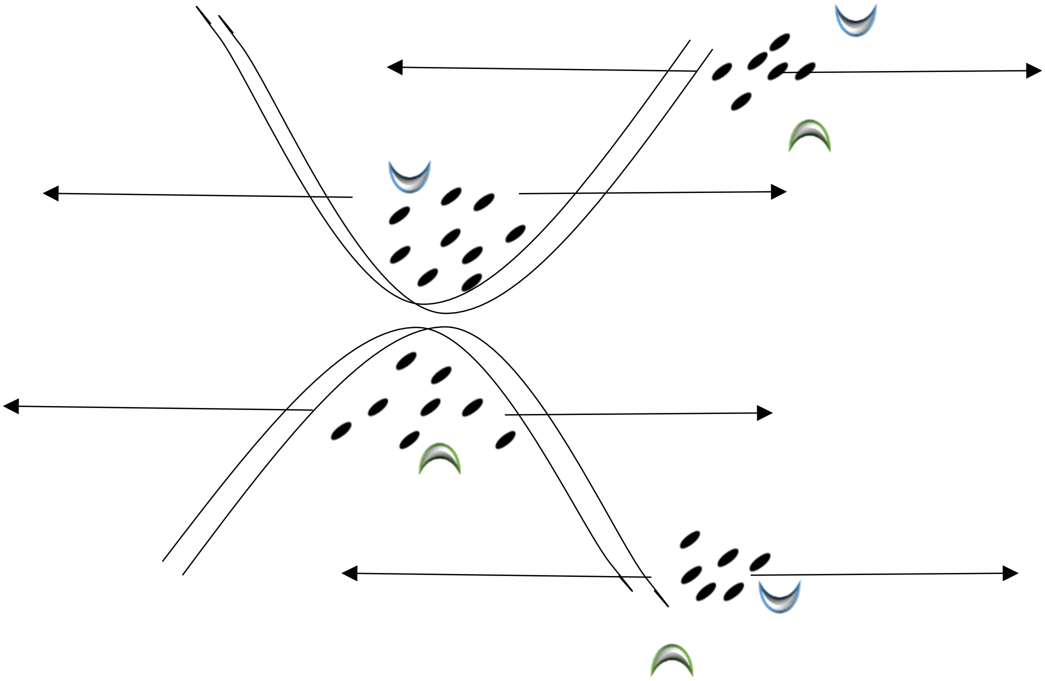
$$Q_f^{\mathcal{A}} \in (M_E, g)$$

The Bosonic 'fields' are prime isomorphic amount of curvature. The Fermion 'fields' are even amount of vanishing curvature. The entire set of 'fields' is embedded in the (M_E, g) and therefore there is no need to analyze each field separately. However, it is possible to make classifications according to the nature of each entity type. The Higgs is associated with standing curvature with has mass, thus it will be described as a scalar field. A function of location, that is also vivid by the fact that the spin zero term is "trapped" as presented in the primorial. It is separated from the invariant three. The Fermion fields such as the invariant three, i.e. the Electron, has one more degree of freedom in a sense it is unbound across the nuclei, which means that matter ideally would be represented by a vector type of field, excluding the Electron itself.

Matter pairs in such way that its motion will be determined using the Ricci curvature, and also the innate short ranged curvature which rises from higher coupling Bosonic terms such as Gravity. The Bosonic fields are completely unbound, which adds up to additional degree of freedom. If each degree of freedom is isomorphic to an index, than Bosons will possess two indexes, such as presented in Einstein theory of General relativity. There is constant interaction with the Fermion clusters which has Bosonic propagations within them as well, the interaction is creating a unique mixture, similar to how Tensors create unique mixtures of elements in each frame of reference. Another way to state it, the short and long-range ripples from the matter cluster and the curvature ripples of the Boson unite to one system which is unique and indexed according to the observer.

Manifold partitioning

In earlier stages the author presented the main equation as a result of two distinct manifolds interacting with each other via areas of extremum curvatures. Those two manifolds had areas of "opposite curvature orientations". It recently became evident to one, that each manifold curvature orientations can be classified in two directions, two signs. That means that each manifold interact with at least one more manifold than presented in the thesis, that is two minimal.



Which means that the original idea of two manifolds interacting firstly in pairs is only partly correct. from the above illustration as each manifold contains exactly two distinct orientations of extremum curvature, the inverse arrows are leading to the expansion of the manifold from one extremum to another, while keeping the extremum as it is. Therefore it takes two distinct manifold to flat another manifold in between. Define the flatted manifold.

$$\Phi_i = (M_E, g)$$

In addition, the flattening manifolds as:

$$\Phi_{i+1} = (M_E, g)$$

$$\Phi_{i-1} = (M_E, g)$$

Consider partitioning the flattened manifold curvature orientation according to two signs, plus and minus given by an imaginary axis, to two sets. The first of positive extremum curves, as presented in the top right, marked in Green, and to negative orientation, marked in blue. The green areas of the flattened manifold is interacting with blue areas of the complimentary two manifolds and vice versa. Such that each cluster is in constant repulsion from another cluster on the manifold. The "direction" of expansion is along the diagonal in between the two Pharrell lines on the same manifold. According to the new picture it takes a set of threefold distinct manifolds, one being flattened and the rest are the flatteners, which are classified according "curvature orientation". A set of green areas of the middle flattened manifold:

$$(\mathscr{g}^n = \{\mathscr{g}^1, \mathscr{g}^2 \ldots \mathscr{g}^n\}) \in \Phi_i \quad = (M_E, g)$$

Will interact with the "blue areas of the complimentary manifold"

$$\mathcal{D}^n = \{D^1, \mathcal{D}^2 \dots \mathcal{D}^n\} \in \Phi_{i-1} \quad = (M_E, g)$$

The set of blue areas of the flattened manifold will interact with the green areas of the remaining manifold.

$$\mathcal{D}^n = \{D^1, \mathcal{D}^2 \dots \mathcal{D}^n\} \in \Phi_i \quad = (M_E, g)$$

$$(\mathscr{g}^n = \{\mathscr{g}^1, \mathscr{g}^2 \dots \mathscr{g}^n\}) \in \Phi_i \quad = (M_E, g)$$

he key point is that the summation now is changing from pairs to triplets.

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi_{i-1}} + \frac{\partial \mathscr{L}}{\partial \Phi_{i+1}}\right) - \frac{\partial \mathscr{L}}{\partial \Phi_i} = 0$$

The total sum of manifold must be three devisable and aspiring infinity.

$$(i-1) + i + (i+1) = 3i$$

Gamma Bosons Mass Distribution

It was predicted that there exist seven Gamma Bosons which are massive Bosons about two and a third heavier than the Bosons of the Weak interaction. The question is what is their mass distribution. The author is going to present several options. The first is that they are discrete jumps in mass according to each Boson. That is the first Boson has one of the limit mass ranges, as an example the lowest bound, and the second differ in a certain positive amount, until the last one which is possess the upper bound.

$$\Gamma_\mu{}^1 \approx 186.66\ GeV$$

$$\Gamma_\mu{}^2 \approx 191\ GeV$$

$$\Gamma_\mu{}^3 \approx 195.3\ GeV$$

$$\Gamma_\mu{}^4 \approx 199.7\ GeV$$

$$\Gamma_\mu{}^5 \approx 204\ GeV$$

$$\Gamma_\mu{}^6 \approx 208.3\ GeV$$

$$\Gamma_\mu{}^7 \approx 212.3\ GeV$$

Flatness rank

The order of multiverse flatness is correlated to the number of manifolds in the packet. Assuming that regardless of each unique arrow of each manifold, the number increases invariantly over packet whether it is from our manifold or any other manifold. That is because each manifold can be considered as a spanning entity of new manifold, which rise from it. Similar to order rank of Group theory, the author will build an analog using the idea of manifolds. It is possible to state that the flatness rank of each manifold in the packet is of the number of distinct manifolds in the packet.

Define the flatness rank of each manifold in the packet:

$$\mathfrak{K} \propto [\Phi_1 \dots \Phi_N]$$

Suppose that each manifold was flattened at different time, that is was created at different time, that means that there is unique flatness rank to each manifold. An older manifold would be more flat than a manifold which not yet experienced the flattening moment. That means that for each manifold we have a unique flatness rank.

$$\Phi_1 \longrightarrow \mathfrak{K}_1$$

$$\Phi_2 \longrightarrow \mathfrak{K}_2$$

$$\dots$$

Which denote the number of manifolds that existed in packet at the moment of creation. If the manifold with the lowest index is older, one would expect that the flatness rank would be larger as it is more time in the packet. However, on the other side, if the higher index manifold has a younger arrow, it means that more manifolds are participating in the flattening and thus the rate of flatness must increase. So it is quite a dilemma, how can one determine the flatness rank of two distinct manifolds, if there exist two factors which contribute to the rank, one contribute to the older arrowed manifold and the other contribute more to the younger arrowed manifold. The arrow of time on one hand, and the number of manifolds participating in the flattening are the major factors in the flattening process, the latter contributing more to the "younger" manifolds flattening rate, the first to the "older" which was flattened with smaller number but in an earlier time, and thus at the beginning the rate of acceleration would have been smaller due to the smaller number of manifolds. The easy way out of this complication is to assume that the differences in the two factors are canceling each other out and the flatness rank of all the manifolds is the same.

$$t_1 - t_2 = \Delta t$$

Denote the difference at the number of manifolds at the moment of flattening as

$$\Phi_1 - \Phi_2 = \Delta\Phi$$

Assuming those two factors cancel out so that the Flatness rank of distinct manifolds is identical.

$$\Delta t - \Delta s = 0$$

Gravity as "Standing Curvature"

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Because Gravity is composed by four distinct elements which must be aligned to create the Graviton, i.e. higher spin composite particle, with varying compositions, the Graviton is short ranged.:

$$\left(8 * \prod_{V=1}^{V=R} N_{V\mu} + \overleftarrow{(e^-)_\mu} + \overrightarrow{(e^-)_\mu}\right) + N_{V\mu} + N_{V\mu} \longrightarrow spin\ 2 |\ S.range\ curvature\ Diverging$$

Suppose one to define the range of the Graviton aspiring to zero,

$$(2N_{gravity}) + Even \in r_{gravity}\ ;$$

$$r_{gravity} \rightarrow 0$$

That is the alignment of spin two particle can not last for more than infinitesimal interval, that is because it could be composed by two leptons which aspire to opposite states and cannot be aligned

$$[(2N_{gravity}) + (\overleftarrow{e^-}) + (\overrightarrow{e^-})] + \gamma + \gamma \longrightarrow (2N_{gravity}) + Even = G^{K=1}$$

$$G^{K=2} \longrightarrow (2N_{gravity}) + (\overleftarrow{e^-}) + \gamma + \gamma + \gamma$$

$$G^{K=3} \longrightarrow (2N_{gravity}) + (\overleftarrow{e^-}) + (\overrightarrow{e^-}) + \widetilde{(e^-)} + \gamma$$

In that case as the range of Graviton aspires zero it could be thought of standing curvature rather than short ranged curvature diverging, which is synonymous with stating that Gravity could be thought of as a point of a center of a star. The latter is exactly the way in which Classical Gravity is being described. It also makes sense that Gravity will rise within stars as the author presented the idea of Gravitons rises in immense variation clusters, rich in Leptons and in matter. Of course that as it is a Boson which can not find rest as it is the net amount of certain sort it can not really stand, excluding the Higgs Boson, the standing curvature for the Graviton is meant to express the aspiring zero range of the interaction due to the Higher spin which indicate a depended composition. All those combinations are leading to the same skeleton:

$$G^K = (2N_{gravity}) + 2$$

$$K \in [1, \mathbb{R}]$$

Quantum Gravity

The Quantum form of Graviton does not allow it to be put in means of any indexed operator, such as a tensor or a vector. That is because of two reasons, the first, the Gravitational interaction is a varying composition of elements, which in certain instances can not be aligned for more than infinitesimal interval, if it contains as an example, two opposing leptons.

$$\left[\left(2N_{gravity}\right) + \left(\overleftarrow{e^-}\right) + \left(\overrightarrow{e^-}\right)\right] + \gamma + \gamma \quad \longrightarrow \left(2N_{gravity}\right) + Even$$

Sooner than later The Graviton will decay two its composite elements. All that information was given by the higher spin formation of the Gravitons, dictated by the primorial. That is also the idea behind the classification of Gravity as a short-range interaction. That being said, how can theories such Einstein theory and Newton theory be correct, as the Graviton cannot meditate the interaction among Fermion clusters in long ranges, and that claim is solidified by the lack of detection of the Graviton. The 8T answer is simple; the interaction among the clusters of Fermions is meditated by light, which is a single prime interaction, long ranged and independent on the manifold. Quantum Gravity is indeed everywhere.

Higher Dimensional Matter & Commuter

November 13, 2021

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi^{'}}\frac{\partial \Phi^{'}}{\partial M_E}\frac{\partial M_E}{\partial g^{'}}\frac{\partial^2 g^{'}}{\partial t^2} = 0 \qquad (1)$$

Given by mapping the manifold to the Φ parameter.

$$\Phi: (M, g_E) \longrightarrow (M_E, g)$$

The mapping led to the second form of the main equation:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$1 \leq i < k$$

$$2 \leq j \leq k+1$$

The commuter of the theory was presented as:

$$[\delta g, \delta g'] \pm 0$$

For Fermions and Bosons accordingly. That is because Fermions are vanishing curvature spikes that appear in even numbers of opposite two signs and create threefold combinations:

$$\delta g_i = \delta g_1 + \delta g_2 \ldots$$

$$\sum_{i=1}^{N} \delta g_i = 0$$

While Bosons are non-vanishing curvature spikes, with an Iso-arrow to the set of primes, and contain one sign.

$$\delta g_k > 0$$

$$\sum_{k=1}^{M} \delta g_k = 0$$

$$M \in N_V$$

The commuter indicate that Fermions will accelerate toward one another in short range, and terminate each other to create matter, while Bosons are net curvature unbound, each unbound Boson increase the probability arrival to itself. Since the manifolds flatten each other out, one can represent the commuter equation by the second form of the main equation, (2.1).

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}\delta g_i - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}\delta g_j = 0$$

That is, instead of the acceleration term, we will have arbitrary variation of the complimentary manifold, which vanish into matter, the commuter for Fermions and Bosons accordingly:

$$[\delta g_i, \delta g_j]\pm = 0$$

That means that for Fermions from the complimentary manifolds each with finite set of dimensions will be immensely close to one another, as the term was previously describing the Fermions acceleration toward one another on one manifold. The new form of the commuter for Fermions indicate that matter from our own manifold will be accelerated toward matter on the complimentary manifold. That is synonymous with additional gravitational poll, or with the "invisible matter" which must then be very close to our own. That is because the manifolds according to equation (2.1) has inverse signs, it is possible to state that those manifolds will accelerate toward one another and thus flatten each other out. That is a major insight given by the commuter new form, which was not available from the original form of the main equation, which describe only one Lorentz manifold. That is solidifying the claim of the 8T, which state that invisible matter is an immediate result of the main equation. Since it is on a different manifold, with finite set of dimension that our own, it can not be directly detected.

Vanishing Bosons

Using the setting of vanishing arbitrary variation, the author will present the following question. Given an even amount of Bosons on the manifold which summed as an even number, can they vanish into matter?

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

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

Let us analyze the third coupling term:

$$[(2^{e^-} \times 3 \times 5) + (e^-{}_\mu)] + \gamma \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

Taking four photons, which summed as an even number of higher spin:

$$\gamma + \gamma + \gamma + \gamma = 2n \times 5$$

$$n = 2$$

Can an even number of that sort vanish into matter, is the key question. The author of the 8T present the following argument against such a scenario. That is because Bosons has commutation relation while Fermions have anti-commutation relation. For Bosons to terminate in even numbers they must possess opposite signs, which is not the case, as they are net amount of certain sort, which contain only one sign. Therefore, the commutation relation of Bosons impose a restriction on the nature of the Bosons and forbid them from vanishing into matter. Although Bosons and Fermions are both curvature spikes of the manifold, due to their innate nature, one rises from the demand of stationarity of the manifold:

$$\delta g_i = 0$$

The other from violations of the stationary condition:

$$(\delta g_k > 0) \in \delta g_i$$

Ideas of Vanishing Bosons clusters into matter is forbidden, excluding the Electron. As in SEW unification it is possible to vary the Bosonic number to the number represented by the Electron, which is similar to the number of the Weak interaction Bosons. So in the context of that issue, the author will postulate an exclusion:

The X ($\mathbf{Ch'i}$) Exclusion: Due to their commutation relation, Bosonic composition of even amount will not vanish into matter.

The Chi exclusion indicate that a Bosonic composition of higher number could be a result of a decay of a higher spin particle. In particular spin two multiple particle, such as a certain Graviton Composition:

$$\gamma + \gamma \ + \gamma \ + \gamma = \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

The Spike Exchange

$$F_{V=0} \ = 2^3 + (1) \tag{1.1}$$

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

$$2^3 + (1)$$

$$[(2^3 \times 3) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(2^3 \times 3 \times 5 \times 7) + (3)] + 7 \ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

Given the manifold contain a certain amount of net curvature, is there a guarantee that a non-vanishing curvature spike of prime amount will stay as it is? Suppose that the given photon in a short time interval has morphed to a lower number Bosons by trading two exchanges to another photon:

$$\gamma \longrightarrow W^{\pm}$$

In addition, at an additional interval, it receives additional two units of net amount and now it is back where it was before the original exchange:

$$\gamma \longrightarrow W^{\pm} \longrightarrow \gamma$$

Alternatively:

$$\Delta^{t1}: +5 \longrightarrow +3$$

$$\Delta^{t2}: +3 \longrightarrow +5$$

An observer which measure the photon before and after those infinitesimal exchange will not notice any difference, as the photon varied to itself.

$$\Delta^{t1}\Delta^{t2}: (+5) \longrightarrow (+5)$$

$$\Delta^{t1}\Delta^{t2} \longrightarrow 0$$

Such an idea is not forbidden and if it is not forbidden it will appear using the $\mathcal{V}$ theorem. The setting allow us to expend the scope of phenomena of the theory, as there exist no guarantee that certain amount of curvature will stay as it is overtime.

Manifold Embedding's

Toward the end of the thesis the author presented another formulation of the main equation, as the manifold is three dimensional, it has areas of extremum curvature on three dimensions, that is leading to the need for at least two manifolds which interact with it and flat it with both curvature orientations.

$$\left(\frac{\partial \mathscr{L}}{\partial \Phi_{i-1}} + \frac{\partial \mathscr{L}}{\partial \Phi_{i+1}}\right) - \frac{\partial \mathscr{L}}{\partial \Phi_i} = 0$$

Overall, the author would like to suggest another idea which could be simpler than the one presented with the three manifolds. That is the original idea, but this time adding a relation between the two manifolds. Each newborn manifold is embedded within another manifold, such as the pressure from the areas of extremum curvature wrap around the newborn manifold.

$$\frac{\partial \mathscr{L}}{\partial \Phi_1} - \frac{\partial \mathscr{L}}{\partial \Phi_2} = 0$$

Defining a spanning operator:

$$\mathcal{j}: \Phi_2 \in \Phi_1$$

Those manifolds still interact via extremum curvature but now they are embedded into one another, each newborn manifold experience a pressure from a succession of manifolds which rose earlier and wraps around it completely, so the overall packet is flat, and newborn manifold getting flattened even more rapidly. Thereby that idea in a sense is simplifying the complication presented in the part of manifold partitioning. Either way, the main idea of the 8T is still invariant; those universes interact via areas of extremum curvature and flatten each other out constantly either way, the process of flattening leading to acceleration of the manifold from those areas. The complication arise from examining flattening a three dimensional sphere with a volume.

Solving the Partitioning Problem

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

Notice that each manifold from $i = 2$ is being represented twice, which means that each manifold has two manifolds which flatten it, the author did not think about this at the time, but it solves the problem presented in earlier stages of the thesis.

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=1}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_{j=2}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=2}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_{j=3}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

Same index indicate same manifold:

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=2}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}=\frac{\partial \mathscr{L}}{\partial \Phi_{j=2}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}$$

So the author intuition was correct and each manifold is being flattened by two manifolds not just one (expect the first and the last in the packet). In order to solve that first and last problem it is possible to assume that there exist an additional packet of universes, or to assume that those first and last manifolds are flattened only by one manifold instead of two. The problem can also be solved by taking the packet to infinity, and thus ensuring there will be no last manifold in the packet. It can also be solved by the symmetry of the packet, which ensures that the indexes can be replaced and thus there is no first manifold as well.

Invariance of the Main Equation

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

In contrast to field equations of QFT, which contains the spatial and temporal variables in one variables to include variable form, the main equation of the 8T is not presented using four vectors. First, to obtain that Ricci flow mathematical definition. However, it has already all the four dimensions embedded in it. That is because the three spatial are part of the Einstein matric tensor.

$$(x, y, z) \in M_E$$

With the additional time operator, it is exactly equivalent to a four vector.

$$\partial M_E \rightarrow (\partial x, \partial y, \partial z)$$

$$\frac{\partial M_E}{\partial g_j} = \frac{(\partial x, \partial y, \partial z)}{\partial g_j} \times \frac{\partial g_j}{\partial t_j}$$

So using it the varying elements are equivalent to a four vector, as the coordinate vary according to the flow, which is a function of time. The fact that the spatial coordinate appear in the numerator and time in the denominator is coming to an agreement with Einstein theory and in particular the Minkowski matrix which has inverse signs for time and the three spatial coordinates.

$$\frac{\partial M_E}{\partial g_j} = \frac{(\partial x, \partial y, \partial y)}{\partial g_j}$$

$$\frac{(\partial x, \partial y, \partial z)}{\partial g_j} = \frac{(\partial x, \partial y, \partial z)}{\partial g_j \times \frac{\partial g_j}{\partial t_j}} = \frac{(\partial x, \partial y, \partial z)}{\partial^2 g_j / \partial^2 t_j} = \frac{(\partial x, \partial y, \partial z)}{\partial^2 g_j} \partial^2 t_j$$

Inserting the time to the spatial terms in first partial derivative, while keeping one partial derivative out.

$$\frac{\partial(\partial t,\ \partial x, \partial y, \partial z)}{\partial(\partial g_j)}$$

Inserting the partial derivative:

$$\frac{(\partial^2 t, \partial^2 x,\ \partial^2 y,\ \partial^2 z)}{\partial^2 g_j}$$

Time and spatial partial derivatives will vary according to Ricci flow. Similar to stating that curvature is bending space-time. Assuming one derived the interplay between the last chain terms correctly. That is a beautiful result as the main equation clearly indicate that the Ricci flow term varying according to time, and by the above equations, the time parameter is ending up aligned with the three spatial coordinates, which leading to a four vector varying according the Ricci flow.

This is in agreement with Einstein theory of General relativity and as far as one can see, and it solidifies the strength on the theories, GR and 8T. The spatial coordinates and time are connected in the numerator to the Ricci flow in the denominator and thus each rate of change of Ricci flow will lead to a unique rate of change of space-time, which is synonymous with Einstein theory of Private relativity. It also shows why at singularity Einstein theory can not be valid as than one would require to put:

$$\frac{(\partial^2 t, \partial^2 x,\ \partial^2 y,\ \partial^2 z)}{\partial^2 g_j = 0}$$

Which is a mathematical problem as it does not have a solution. As the main equation of the 8T, it is not a problem as:

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\boldsymbol{\partial g_i}}{\boldsymbol{\partial t_i}} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \qquad (2.1)$$

$$\frac{(\partial^2 t, \partial^2 x,\ \partial^2 y,\ \partial^2 z)}{\partial^2 g_j} \times \frac{\partial g_j}{\partial t_j}$$

Taking one partial derivate out to match the original equation.

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j} \times \frac{\partial g_j}{\partial t_j} = \frac{\partial M_E}{\partial g_j} \times \frac{\partial g_j}{\partial t_j}$$

Inserting it back:

$$\frac{\partial^2 M_E}{\partial^2 g_j} \times \frac{\partial^2 g_j}{\partial^2 t_j}$$

$$\frac{(\partial^2 t, \partial^2 x,\ \partial^2 y,\ \partial^2 z)}{\partial^2 g_j} \times \frac{\partial^2 g_j}{\partial^2 t_j}$$

Back to 8T original:

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j} \times \frac{\partial g_j}{\partial t_j}$$

Now it is possible to require $\partial^2 g_j = 0$ as it is in the numerator and then leading to vanishing of variation on the chained third term. The Ricci flow is than varying the spatial and temporal coordinates, but at the same time the Ricci flow itself is being a subject of variance by time. Space-time is varied by Ricci flow, and Ricci flow is subject of variance by time. At extremum curvatures, time does not pass and space freezes because:

$$\frac{\partial g_j}{\partial t_j} = 0$$

As it is chain to the previous term:

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j} = 0$$

All of it was known using Einstein theory of General relativity. Now consider the mapping of the main equation, of Ricci flow to Energy.

$$\varphi : g \longrightarrow E$$

At extremum energy, time does not pass and space, i.e. the three spatial dimensions freezes, as the variance was taken to zero. Assuming the moment of singularity was such a moment, than time does not existed, or did not pass at that moment, it was a moment in which the newborn manifold experienced a radical amount of energy, i.e. curvature, which is synonymous than with extremum acceleration from it as a result of being part of the packet, given by the 8T original main equation.

$$\frac{\partial \mathscr{L}}{\partial \Phi}\frac{\partial \Phi}{\partial M_E}\frac{\partial M_E}{\partial g}\frac{\partial g}{\partial t} - \frac{\partial \mathscr{L}}{\partial \Phi'}\frac{\partial \Phi'}{\partial M_E}\frac{\partial M_E}{\partial g'}\frac{\partial^2 g'}{\partial t^2} = 0 \tag{1}$$

One requires for singularity:

$$\frac{\partial g}{\partial t} = 0$$

Which is synonymous with the demand:

$$\frac{\partial^2 g'}{\partial t^2} = 0$$

The chained term:

$$\frac{(\partial^2 t, \partial^2 x,\ \partial^2 y,\ \partial^2 z)}{\partial^2 g_j} \times \frac{\partial^2 g_j}{\partial^2 t_j} = \frac{\partial}{\partial}\left(\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j} \times \frac{\partial g_j}{\partial t_j}\right)$$

Is indicating that there exist no universal time, but also indicating that there exist no universal energy. In other words, energy is not conserved as there is no definite Energy at all. Each rate of change of flow would vary the spatial coordinates, including time, and by the right term, each rate of change of time would result in a unique Rate of change of Ricci flow, which in the 8T was mapped to Energy. That is by:

$$\varphi: g \longrightarrow E$$

The immediate conclusion is That Energy of the system is then also dependent upon the main equation, and there exist infinite set of potential energies, by the chained terms. In particular a set of potential rates of change of Ricci flow. That is also the case in Quantum Mechanics and in particular that a system has a set of potential eigenvalues, i.e. energies that mapped to states of measurement, once a measurement is made, the system is aligned on one of the eigenvalues.

One could have assumed beforehand that the Einstein matric contains the time parameter which is the easier route, however as a matric is a class which measure distances, one chose to assume it contains only coordinate which measure distances, i.e. spatial coordinates. Than one proved by using the main equation that time itself must be included in the matric, that time is "forged" to space coordinate to one entity, as Einstein and his fellow men firstly discovered which vary according to flow. Using those insights on the 8T, for Fermions:

$$\delta g_n = 0;\ \frac{n}{2} \rightarrow True$$

For Bosons:

$$(\delta g_m > 0) \in N_V$$

given by the Primorial:

$$F_{V=0} = 2^3 + (1) \tag{1.1}$$

$$F_R\# = \left(2^3 * \prod_{V=1}^{V=\mathbb{R}} N_V + (3)\right) + N_V = 30{,}128{,}850{,}9254.. \tag{1.2}$$

$$N_V = 2\left(V + \frac{1}{2}\right);\ \ V \geq 0$$

$$N_V \ \in\ \mathbb{P}\ \cup\ \ (+1)\,;\ \ \mathbb{P} \rightarrow Set\ of\ Primes$$

$$N_V\ = P_{max}\ \in [0, \mathbb{R}]\ \cup\ \ (+1)\ \ ;\ \ P_{max} \in\ \mathbb{P}$$

Fermions do not bend space-time, but Bosons do. The more energy a Boson contain, the more volatile the space-time bending. It was covered in depth earlier parts of the 8T. Using as axiom the idea that time cannot be negative; one requires varying the spatials signs only:

$$\frac{(\partial t, -\partial x,\ -\partial y,\ -\partial z)}{\partial g_j}$$

Inserting the additional partial:

$$\left(\frac{(\partial t, -\partial x,\ -\partial y,\ -\partial z)}{\partial g_j}\right)\left(\frac{\partial}{\partial}\right) = \frac{(\partial^2 t, -\partial^2 x,\ -\partial^2 y,\ -\partial^2 z)}{\partial^2 g_j}$$

Which is almost identical to Minkowski matrix of private relativity. Other than the Ricci flow, which really is the essence of GR, the space-time configuration vary according the Ricci flow, the flow vary according to time, which is part of space-time configuration.

For clarification:

$$\frac{(\partial x, \partial y, \partial z)}{\partial g_j \times \frac{\boldsymbol{\partial g_j}}{\boldsymbol{\partial t_j}}}$$

Is **not** instead of the fourth term of the chained PDE of the 8T, it is used because the Ricci flow vary according to time and in order to prove that the Einstein matric includes time. As far as one can see, it would have worked using also:

$$\frac{(\partial x, \partial y, \partial z)}{\partial g_j \times \frac{\mathbf{1}}{\boldsymbol{\partial t_j}}} = \frac{\left(\boldsymbol{\partial t_j}, \partial x, \partial y, \partial z,\right)}{\partial g_j}$$

Which meant to prove that the Einstein matric containing four parameters instead of three, time must be aligned with the spatials coordinates.

Time Has a Length

The only unit of measurement, which is given by the 8T, is length. That is because the main equation is a variation of the EL equation, which takes length as a parameter.

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

This unit of Length can be used to expend the available insight of the theory. First notice that the variance of length is proportional to the variance of the manifold. That is by the numerators on the first two terms.

$$\partial \mathscr{L} \propto \partial \Phi$$

And in continuation to that relation, the variance of the manifold is proportional to the variance of the matric, which is four parameter entity, three for spatial and one for temporal.

$$\partial \Phi \ \propto \ \partial M_E$$

Such that:

$$\partial \mathscr{L} \propto \ \partial M_E$$

$$\partial M_E = \frac{(\partial t, -\partial x, \ -\partial y, \ -\partial z)}{\partial g_j}$$

Which is evident from the main equation as the three are in succession. Now since one has presented in the matric, the temporal variable, time, as the manifold expends, due to pressure from the packet, its length vary and expends as well, and thereby the matric tensor, expends. Since time is part of the matric, the immediate conclusion is that the length of time is expending as well. That the expansion of the manifold is proportional to the expansion of time. In other words, the main equation indicate why we can measure time, which is because we can measure space, and if the length space expends, so does the length of time. Inversely, Bosons leading to compression of time, so if two observers have different compositions of matter and Bosons will lead to different lengths of time. it is a different idea than the ideas in private relativity which uses measured constants such as the speed of light, or the Lorentz contraction which describe the contraction of objects. The reason relativity works using the 8T, is first of all because time has a length, which is compressed in unique amounts given by each unique composition of matter which include Bosons that responsible for the bending. As the manifold has zero, non varying length, so does the length of time, is zero and non-varying. As the length of time expends, so does the manifold and the matric, which increase the amount of arbitrary variation which could appear as there exist more space, so the creation of matter is proportional to the length of time, and thus to the length of the manifold.

Five-Fold Universe Stacks

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

As presented earlier, running the indexes on the main equation, each manifold is flattened by two manifolds. The author will attempt at solving the first index problem. Assuming our manifold is the second manifold and it is flattening the first.

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=1}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_{j=2}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=2}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_{j=3}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

same index is indicating same manifold:

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=2}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}=\frac{\partial \mathscr{L}}{\partial \Phi_{j=2}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}$$

Now taking the third manifold, which is interacting with our own and with additional manifold, indexed by:

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=3}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_{j=4}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

The manifold indexed by four is interacting with exactly one more manifold.

$$\frac{\partial \mathscr{L}}{\partial \Phi_{i=4}}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial \mathscr{L}}{\partial \Phi_{j=5}}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

Instead of going endlessly, it is possible to suggest that because of the chain of connections between the manifolds in the packet, the five manifold is interacting with the first, and thus solve the problem of the first index. Now if the idea is correct than there exist either one packet of five-fold stacks which perfectly flatten each other out:

$$\varkappa_1: 1 \rightleftarrows (2 \leftrightarrows 3 \rightleftarrows 4) \rightleftarrows 5$$

$$(1 \rightleftarrows 2) \cap (1 \rightleftarrows 5)$$

....

$$\varkappa_n: K \rightleftarrows (K+1 \leftrightarrows K+2 \rightleftarrows K+3) \rightleftarrows K+4$$

Such that if the idea is correct, assuming these five-fold universes packets has similar distribution of matter, in different configurations, as presented in the 8T:

$$\sum_{m=1}^{M} \delta g_m \longrightarrow \mathcal{R}^{\Phi_1} \in [0,1]$$

$$\sum_{n=1}^{K} \delta g_n \longrightarrow \mathcal{R}^{\Phi_2} \in [0,1]$$

$$\left(\mathcal{R}^{\Phi_1} \not\equiv \mathcal{R}^{\Phi_2}\right) \cap \left(\sum_{n=1}^{K} \delta g_n \equiv \sum_{m=1}^{M} \delta g_m\right)$$

Than the matter configuration in each manifold would account for about one fifth of the overall packet, as there are five-fold in the stack. That is:

$$1 \leq i, j \leq 5$$

If the idea is correct, than one would predict that the higher/lower dimensional matter would account for:

$$1 - \frac{1}{5} = \frac{4}{5}$$

Of the five-fold packet. Four hundred percent more invisible matter than visible matter. If our matter were responsible for five percent of the overall mass energy density, than dark matter would account for twenty percent.as far as one knows it could agree with invisible matter estimations. The packet is still infinite of course, but can be divided to five-stacks of universes sub-packets, the idea was to eliminate the issue of the first index manifold flattened by one manifold alone, which indicate that there exist a unique manifold in the packet.

Breaking the Photon

The author presented in earlier stages of the thesis, the SEW unification by aligning the net variation elements which stands at the heart of each coupling term.

$$2^3 + (1) : [(2^3 \times 3) + (3)] + 3 \; : \; [(2^3 \times 3 \times 5) + (3)] + 5$$

That was done by two real exchanges from the third to the first.

$$[2^3 + (1)] \longrightarrow 2^3 + (1) + 2$$

$$[(24 \times 5) + (3)] + 5 \longrightarrow [(24 \times 5) + (3)] + 3$$

Such that:

$$2^3 + \mathbf{3} : [(2^3 \times 3) + (3)] + \mathbf{3} : [(24 \times 5) + (3)] + \mathbf{3}$$

Align the net variations of the SEW gauge interactions on the Bosons of the weak interaction.

$$\gamma \longrightarrow W^-$$

$$[(24 \times 5) + (e)^-] + W^-$$

$$[8 + (\mathfrak{g} + 2)] \rightarrow 8 + W^-$$

The net variation, which are prime, are of different nature than the vanishing curvature spikes, which was proved to be photons. The author suggested the form for Bosons to manifest as a chain of arbitrary curvature, which is prime in length and thus not devisable by two and cannot vanish. The multiplication meant to express the notion of the particle which is one entity, as the curvature is the same, there is no real difference among the multiplying elements, other than the number of repetitions.

$$N_V = \prod_{\phi=1}^{\phi=N_V} \delta g_\phi = \delta g_{\phi=x} \times \delta g_{\phi=x+1} \times \delta g_{\phi=x+k}$$

$$\delta g_{\phi=x} \equiv \delta g_{\phi=2} \equiv \delta g_{\phi=x+1} \ldots \delta g_{\phi=x+k}$$

In contrast to Fermions:

$$\sum_{i=1}^{N} \delta g_i = 0$$

Which obey the condition of being devising by:

$$\delta g_k = \mathrm{N}_{\mathcal{S}}$$

$$[2,3] \mid \mathrm{N}_{\mathcal{S}}$$

Now using that idea, in SEW unification, one is breaking the photon, and moving part of the photon into the Boson of the Strong interaction, which is the Gluon. The two real exchanges.

$$\gamma = (\delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3} \times \delta g_{\phi=4} \times \delta g_{\phi=5}) \longrightarrow \delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3}$$

$$\gamma = \prod_{\phi=1}^{\phi=5} \delta g_\phi \longrightarrow \prod_{\phi=1}^{\phi=3} \delta g_\phi$$

Which mutate the Strong interaction Boson:

$$\mathfrak{g} = \prod_{\phi=1}^{\phi=1} \delta g_\phi \longrightarrow \prod_{\phi=1}^{\phi=3} \delta g_\phi$$

Which is exactly similar to the Weak interaction:

$$W^- = \delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3}$$

$$W^- = \prod_{\phi=1}^{\phi=3} \delta g_\phi$$

$$(\mathfrak{g} \equiv W^- \equiv \gamma) \longrightarrow \prod_{\phi=1}^{\phi=3} \delta g_\phi = (\delta g_{\phi=1} \times \delta g_{\phi=2} \times \delta g_{\phi=3})$$

Using that idea it is easier to see why there exist a need for relativity high energy for those Bosons are chained by the prime condition, multiplied into one entity, while atoms do not have such connection, but attract each other by opposite combinations.

$$(\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\leftrightarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_1}) \overset{(e^-)_\mu + N_{V\mu}}{\leftrightarrows} (\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\leftrightarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_2)$$

Thus it is "much easier" to break the atom, i.e. separate the neutrons and protons, than to break the net curvature, which are the Bosons. In the process both the photon and the Gluon would acquire mass, which is the subject of the next section.

Explaining the Mass Pattern

In earlier stages of the Thesis the author presented the Bosonic mass pattern:

$$\mathcal{X}:\ \mathbb{M} \longrightarrow \mathfrak{B}_{\mathbb{M}}$$

$$\mathfrak{B}_{\mathbb{M}\,=\,0} : \mathfrak{B}_{\mathbb{M}\,>\,0} : \mathfrak{B}_{\mathbb{M}\,=\,0}$$

At this section the author will present an idea to why it that way. the argument is based upon the Higgs mass series. The Higgs is accumulating mass according to extra term which appear within the spin zero and thus break the symmetry. The author took the original primorial:

$$2^3 + (1)$$

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} \times \mathbf{7}) + (3)] + 7 \ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

And inserted the extra terms into the spin zero term. Now, since each extra term is non-vanishing, i.e. Prime, the key point, is that it is possible to present weak interaction coupling term as the following:

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3 \longrightarrow \left[\left(\left(\mathbf{2^3} \times \mathbf{3} + (\mathbf{3})\right)\right)\right] + 3$$

With the invariant three within the spin zero term, that is breaking the symmetry leading to an accumulation of mass on the Higgs, and thus on the $W^{\pm}$ Bosons. Moving to the next coupling term:

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (3)] + 5$$

Assuming the non-vanishing term of the previous term still exist, as it non vanishes:

$$\left[\left(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} + (\mathbf{3})\right) + (3)\right] + 5$$

Present the third coupling term as:

$$\left[\left(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} + (\mathbf{3})\right) + (3)\right] + 5 \longrightarrow \left[\left(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} + (\mathbf{3}) + (3)\right)\right] + 5$$

Which adds up to:

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5})] + 5$$

In other words move the extra term inside the spin zero term,
now there exist two non-vanishing term on the spin zero, which cancel each other to an even number, leading to a massless Boson, i.e. a photon. When the extra term appear, the author assumed it appears outside of the spin zero, however that is only one option. As it could appear inside the spin zero as well. The extra term is breaking the symmetry on the spin zero, causing it to accumulate mass. When the extra terms disappear the masses vanishes. When the author says that even amount of variation vanishes, it does not mean it vanishes to matter with mass, as it is two and three devisable it should vanish to a massless entity. Notice that this is a different representation of the Higgs series. This time it is directed toward answering the question of the mass pattern. Now as the photon can't appear by itself, the spin zero term would assume to "spit" the majestic three outside before the photon will appear:

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5})] \longrightarrow ([(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5})] + 3) + 5$$

However, the new invariant three is different than the one than vanished, as it vanished. The key point to take from this complication is that the mass of Bosons can possibly be classified if one takes into account the number of extra elements within the spin zero term. If odd, than Heavy Bosons, if even than massless.

Vanishing Quanta's

Another universal theme, which was not mentioned before, is a universal theme of vanishing Quanta's. As all the coupling terms take the same form in the Boson lepton absorption:

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3 \rightarrow [(\mathbf{2^3} \times \mathbf{3}) + (e^-)] + \mathrm{W}^\pm$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (3)] + 5 \rightarrow [(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (e^-)] + \gamma$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} \times \mathbf{7}) + (3)] + 7 \rightarrow [(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} \times \mathbf{7}) + (e^-)] + \Gamma^I$$

In particular, the lepton Boson numbers for each coupling from the second and above add up to an even number, which represent a vanishing of certain sort:

$$(e^-) + \mathrm{W}^\pm = 6$$

$$(e^-) + \gamma = 8$$

$$(e^-) + \Gamma^I = 10$$

As the Fermions are vanishing curvature spikes, excluding the electron which cannot vanish due to being represented as the number three, and the total sum adds up to an even number, the immediate result is that the even number has vanished into the Electron, alternatively appeared from within it. When it appears from within it, it adds up to a spin one entity.

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (3)] + 5 \ \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} \times \mathbf{7}) + (3)] + 7 \ \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

When it gets absorbed the transformation:

$$\Delta: (e^- + N_V\,) \rightarrow (e^-)$$

Pushes the Electron toward the nuclei, as the spin still stands on half an integer it is possible to consider the Electron at that form as the particle rather than a wave.

$$\left[2N_1 + \frac{1}{2}\right] \longleftarrow \frac{1}{2} = \left[2N_1 + \frac{\overleftarrow{1}}{2}\right]$$

$$\left[2N_2 + \frac{1}{2}\right] \longleftarrow \frac{1}{2} = \left[2N_2 + \frac{\overleftarrow{1}}{2}\right]$$

$$\left[2N_3 + \frac{1}{2}\right] \longleftarrow \frac{1}{2} = \left[2N_3 + \frac{\overleftarrow{1}}{2}\right]$$

The change in spatial orbital is synonymous with stating the Electron has higher energy, similar to rules suggested by Einstein.

Fermion Coupling to Weak Interaction

As the author did not make any distinction between the Electron and thus matter in the entire epos of the 8T, the same traits should apply to both. If the Electron is interacting with matter, so does the weak interaction Bosons should interact with matter, matter should participate in the weak interaction as it is similar to the electron class, the Electron and the weak interaction Boson intersect by the second coupling term, key idea which was used on several parts of the thesis.

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3$$

$$(3) = +3$$

Using that relation, if the weak interaction Boson carry certain amount of exotic traits, such as isospin. One can define an arrow, which take those exotic traits to matter:

The set of exotic traits:

$$\mathcal{E} \subseteq \left(W_T^{\pm} \cup Z^0\right)$$

Taking it into the Fermion class:

$$\text{⥈}: \mathcal{E} \longrightarrow (\delta g_k = 0) \ \cap \ e^-$$

Such that the immediate result of the arrow is that matter will possess the exact traits of the Weak interaction particles, isospin as an example. That is because of the coupling term of the weak interaction, an as far as one knows, it is also the case in modern particle measurement, Fermions do carry isospin and all of them participate in the weak interaction.

Chained Terms Interplay

$$\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}$$

For some readers it must have been confusing to read the previous parts, which indicate that time parameter, is both in the denominator and in the numerator. The purpose of that part is to demonstrate how the interplay of those terms takes places and why it is correct in the first place. As the left term indicate that the Ricci curvature is bending space-time:

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j}$$

Which is in agreement with Einstein theory of General relativity. At the same time it is impossible to know or predict when or where Bosons are going to be emitted, or even which Bosons are in play. That was the reason that the Primorial was presented as the form:

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A)\right) \qquad (3.33A)$$

Which meant to express that the "chance" of detecting the higher coupling Bosons is smaller from term to term. That means that as the left term, i.e. the Ricci flow is varying space-time:

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j}$$

There exist a "chance" that net variation would arise from the manifold, i.e. the matric, and thus from the temporal and spatial coordinate. As the net curvature belong to the Ricci flow, it will change the composition of the flow, which is synonymous with the fourth term.

$$\frac{\partial g_j}{\partial t_j}$$

And thus,

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j} \times \frac{\partial g_j}{\partial t_j}$$

And space-time to flow, flow to time.

Similarity of Strengths

$$\mathcal{P}_0 = 2^{\mathcal{M}} + (1) \qquad (1.1.A)$$

$$\mathcal{P}_N \# = \left(2^{\mathcal{M}} * \prod_{V=1}^{V=N} \mathcal{P}_V + (\mathcal{M}) \right) + \mathcal{P}_V = 30{,}128{,}850{,}9254.. \qquad (1.2.A)$$

Using the ratio of the net variation to the average of the total sum on the first three coupling, and in particular the strong interaction to the weak interaction, it than become evident that this two gauge interactions have almost similar strengths, which is an expected result considering the fact one is label strong and the other is labeled weak.

$$0.111 \sim 0.1$$

Which makes the Weak differ by approximately ten percent. Notice that the Electric is not that far behind, as

$$\frac{0.1}{0.039} \sim 2.5$$

As the series getting developed the differences become more and more noticeable, however it is interesting to examine how similar the ratios of strength between the first three coupling. Another point worth mentioning is that it is possible to take the actual average of the pair and reach the idea of similar strengths, although now it is less obvious how close they are. The strong to weak:

$$\frac{30}{9} \sim 3.33$$

Weak to electric:

$$\left(\frac{\frac{1}{30}}{\frac{1}{128}} \right) = \frac{128}{30} \sim 4.26$$

That is because the primorial is presenting the coupling magnitudes as:

$$a_S^{-1}, a_W^{-1}, \ a^{-1}$$

Which means:

$$\frac{a_S}{a_W} = \frac{\left(\frac{1}{9}\right)}{\frac{1}{30}} = \frac{30}{9}$$

Considering one is labeled weak, it is only about three times weaker than the strong, which is not significant difference and could be considered strong as well. For particle physicists familiar with running coupling measurements of QED and QCD using Feynman diagrams those insights may have been known already, however those values were derived from principle so it was less obvious to the author from the beginning, thus they appear toward the end of the thesis.

The Passage of Time

$$\frac{\partial\mathscr{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathscr{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \tag{2.1}$$

$$1 \le i < k$$

$$2 \le j \le k+1$$

Recall that from the previous parts of the paper, the expansion of manifold is proportional to the expansion on time, which is part of Einstein matric tensor.

$$\partial\mathscr{L} \propto \partial\Phi \propto \partial M_E$$

$$\partial M_E = (\partial t, \partial x, \partial y, \partial z)$$

Assuming the rate of acceleration is not a constant but rather increasing as the manifold expends. That is:

$$\frac{\partial^2 g'}{\partial t^2} \neq 0$$

The question is what will be the implications of such an idea. If the acceleration of the manifold increase, than the expansion of the matric and manifold increase as well, and thus the length of time expends as well. Taking into account that time is part of the Einstein matric Tensor, which is in the numerator of the third term, the immediate result is that the rate of expansion of time is not a constant element, but rather increate as the expansion rate of the manifold increase as well. In other words, if the manifold rate of expansion is varying, so does the rate of change of time, and in particular if the manifold expansion rate is increasing, so does the rate of expansion of time, or the rate of change of time, which is part of the matric tensor and thus part of the manifold expansion. In other words, the rate of change of time should increase as the manifold expending more rapidly, aspiring larger space-lengths in shorter time, and thus covering more time, as time and space are united in the Einstein matric tensor, or the fact that time is appearing both in the third and fourth coupling terms.

$$\frac{(\partial t, \partial x,\ \partial y,\ \partial z)}{\partial g_j} \times \frac{\partial g_j}{\partial t_j}$$

Even Sums and Higgs

$$[(\mathbf{2^3} \times \mathbf{3}) + (3)] + 3 \rightarrow \left[2N_1 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5}) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(\mathbf{2^3} \times \mathbf{3} \times \mathbf{5} \times \mathbf{7}) + (3)] + 7 \rightarrow \left[2N_3 + \frac{1}{2}\right] + \frac{1}{2}$$

At the beginning of the 8T, using the net variation from, the author considered the even variation terms, marked in black to be arbitrary variations, which vanish into matter, as they are two and three devisable, and that was the key idea in the extrapolation of the primorial. Using the spin form, the author considered them as spin zero, which correspond to the Higgs. The subject of this section is correlating the two forms and attempting linking the two forms. As matter is being described by:

$$\sum_{k=1}^{N} \delta g_k = 0$$

Leading to:

$$(\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\leftrightarrows} (\delta g_2 \delta g_1 \boldsymbol{\delta g_1}) \overset{(e^-)_\mu + N_{V\mu}}{\leftrightarrows} (\delta g_1 \delta g_2 \boldsymbol{\delta g_2}) \overset{(e^-)_\mu + N_{V\mu}}{\leftrightarrows} (\boldsymbol{\delta g_1} \delta g_2 \delta g_2)$$

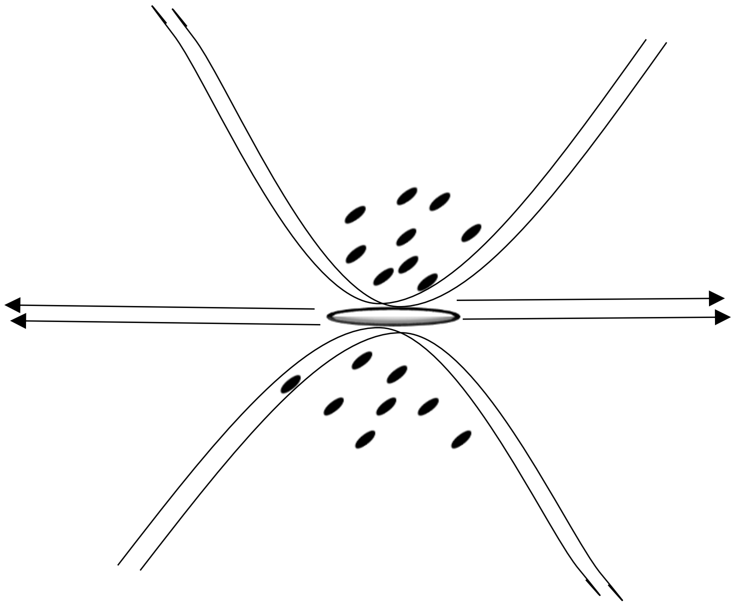
Alternatively, in the curvature code:

$$[\delta \mathscr{L} \delta \Phi \, \delta M_E] \delta g = 0$$

In other words, because of the auxiliary condition, Fermions can be considered as standing curvature, but standing curvature which has to vanish in threefold combinations of two distinct elements. The Higgs being trapped twice in spin form has zero degrees of freedom and considered as standing **net** curvature as well, which stands as a scalar in the theory. As Fermions are subject to spatial and temporal variance by net curvature, one cannot be considered as scalar entities. However suppose they were no Bosons where Fermions appear, than they could be considered as standing vanishing curvature in total form of threefold combination, but they are still standing as **non- vanishing** curvature when considered **as individual elements**, while the Higgs being standing net curvature as well. That is the key point to why it is possible to represent the two ideas using the same term of the primorial.

The Higgs has mass and couples to all fermions and Bosons, that is because in spin formations, it is always part of the coupling. In concise fashion, in spin form the even sums are Higgs spin zero particles, in net form they represent vanishing fermions. Scalar net curvature and vanishing curvature are represented by the even sum of the Primorial.

Continuous Singularity



In contrast to the idea of the symmetry of the universe packet, suppose that between two manifolds, a new manifold has emerged from one of the more ancient manifolds. by the above illustration it is dense and subject to pressure from areas if extremum curvatures of two distinct manifolds, casing radical expansion, now this new universe is trapped by the two ancient manifolds, which explains the notion of continuous expansion. So using that as a limitation condition on the idea of an index invariance, each universe should have a specific index, locating to its position in the packet. The second immediate result is that singularity is not something that happened the past, at a unique temporal moment such as 13.7B years, it is a continuous phenomenon which still and will go on as long as the universe exist, from the moment of creation to this very moment. In other words, the expansion of the universe today is the continuation of singularity which solidify the idea of the multiverse. Using another argument, to flat a universe one need at least one distinct another universe, and to radical flatting such as singularity, exhorting pressure of two distinct universes is the case as the main equation indicate as each index appearing twice under the real range. The key question is how the universes was inserted in between the two manifolds first place, and how does the first manifold was created. Overall, such an idea for singularity is serving one more vital point, which is to eliminate the arbitrary number, which we associate singularity with, 13.7B years as a unique moment which something unique happened. Singularity is still here, and the reason we can measure expansion today. The difference is that the rate of change of expansion of singularity is different from what demanded today, as the manifold was created it had no expansion rate, as it exist in between two manifolds it goes via a transformation, from no acceleration rate to extremum acceleration rate at singularity, however, if one requires $\frac{\partial^2 g'}{\partial t^2} = 0$ than the rate of change of expansion is not varying after singularity and it is fixed.

Massless Gravitons

In this section the author will attempt at reasoning the reason for lack of mass of the gravitons. That is by using the Primorial. As the Graviton is considered a composition of elements which add up to an even number, i.e. spin two. It also means that the article called the Graviton was not there in the first place, but rather it is a momentarily alignment of other Bosons, so for that reason it can be considered as massless as it is a result of prime composition.

$$\left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

Alternatively,

$$\left[2N_{gravity} + \frac{1}{2} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2}$$

The second reasoning behind the massless is that the four prime elements, either same or distinct are adding up to an even number, alongside with the additional even number it is leading to again an even number, or one element which is correlated to massless particle.

$$2N_{gravity} + 2 = \mathrm{E}ven$$

Which is isomorphic to a vanishing massless particle in the 8T, such as the Electron neutrino.

Mass Acquisition

The following is an attempt at reasoning the process of mass acquisition. The general idea at the beginning of the 8T, was to take the opposite way of force generation, which is to reverse the signs. This ideas agreed with the patterned of the masses which seem to be devised by seven multiples, which now seems only correct as nature impose a limit of the number of families as reasoned later. At the later stages of the thesis, the process of mass acquisition was presented using an additional term which breaks the even number, in particular it was used on the Higgs mass idea, and breaking the spin zero term. The appearance of the extra tern, whether it is the minus or the plus is responsible for the mass acquisition. When it is outside of the spin zero, the Bosons are getting the mass. When inside the Higgs, the symmetry of the even number is breaking and it is accumulating the mass. The latest evolution of the idea was correlated to the number of additional elements in the spin zero, or overall alongside the even number correlated to spin zero, when the number is even, the additional terms cancels to an even number and the correlated Bosons are massless. Those three ideas served different purposes, the first was attempting the masses and generation order, the second was at reasoning the spin zero masses, which was originally predicted massless by the author of the 8T. the latest was attempting the massless photons. Although the idea correlated to the Higgs mass predict one of the eight values correct, the process in which mass is inserted using the primorial is still vague, overall trying to reason what mass is and why the particles have the exact masses that they do, while some don't have mass at all, is still requires work. When the next interaction will be detected, and the corresponding new Bosons will possess mass of the range predicted, the issue of mass generation could be examined and revised again, more accurately. The main idea is that mass acquisition is the mutation of the eight and the eight multiplies to a certain direction by an additional element, which can be plus or a minus or both.

This part meant to present the complete idea of mass acquisition, by presenting the way in which all Fermions leptons and Weak interactions bosons are getting mass, using the third coupling term.

$$[(2^3 \times 3 \times 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \frac{1}{2}$$

Spin 0: $2N_0$ variations

Spin $\frac{1}{2}$: $2N_0 + 3$ variations

Spin 1: $2N_0 + 3 + N_V$ variations

Spin $N = 2N_0 + 3 + N_{V1} + N_{V2}$ ... variations

Now one is going to break the symmetry on the Higgs, but in a different way than before, however still leading to the observed mass of the Higgs.

$$(2^3 \times 3 \times 5 + 5) = 125$$

In other words, inserting an additional term to the spin zero term of the coupling and thus breaking it's feature of being two and three devisable. Now take the extra element, which is the invariant three.

$$(2^3 \times 3 \times 5 + 5) + 3$$

Since the symmetry has broken on the spin zero, the extra term will acquire positive mass. Since it is associated both with all the Fermions, i.e. Electrons and with the Bosons of the weak interaction, they will carry a positive mass. That is as the spin zero is a generator of a mass amount, which assumed to transfer to the higher spin entities. It is a different idea than the one presented earlier but it can simply explain why masses of Fermions are above zero, that is because the spin zero massless symmetry has broken, leading to mass positive Weak interaction Bosons and thus to thus to mass positive leptons which represented by the same number. Since the even number of spin zero is associated with vanishing matter as presented in the early stages of the 8T, the following argument applies and thus Quarks symmetry has broken and they will acquire positive mass as well. Therefore, that could serve as the simplest and most elegant idea of all on that section of mass creation. Just inserting an additional element on the spin zero, which is also representing vanishing threefold combinations, and suddenly all of the particles, Quarks, Leptons and the Bosons of the weak interaction now at mass positive state and the coupling term of the Electric has not varied, just the order of the elements has varied changed and in particular the extra term was inserted to the spin zero, and at the same time it agrees perfectly with the mass of the Higgs.

Wave function Collapse

The same idea which one used to explain the phenomena of particle wave duality can be used to explain the process in which measurement of a wave or a wave function, causing it to change it's nature or to collapse to a certain state, that is by additional half unit spin causing the system the transition to a Fermion spin.

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

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

Using the main equation, the transition can be described:

$$[\delta\mathscr{L}\delta\Phi\ \delta M_E]\delta g > 0 \longrightarrow [\delta\mathscr{L}\delta\Phi\ \delta M_E]\delta g = 0$$

Notice that it is impossible to derive which state the "wave function" will be aligned on. Using the main equation, it is possible to imagine that the additional element, cancels the curvature ripple of the system, leading to point like elements, which isomorphic to Fermions. This can be explained another way, and much cleaner way. Bosons are associated with non-vanishing propagations all across the matric, due to their prime number feature, now adding the additional element to the prime number which already has the wave like feature, and now the system is aligned on the even number realm which is synonymous with fermions. Recall one has defined the Chi exclusion, due to their commutation relation, Bosons will not vanish into fermions, as they carry the same sign and thus can not terminate like fermions. So the key point of the collapse is due to a change from the prime ring to the even numbers:

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

the desired conclusion is that the Bosons can not propagate as waves, but also they can not vanish into matter, thereby they will act like matter, or receive the features of point like particles rather than waves, which is synonymous with the collapse of the wave function, as particles can not behave as waves and fill spaces similar to waves, but rather exist at certain location. Summing up, an additional element shifting the spin, the commutation relation of Bosons ensuring they can't vanish into matter, however the system aligned on an even number which is similar to matter, this indicate Bosons will act like matter, or that the wave function has collapsed.

Volume Flattening

Using the main equation, the author has shown that each manifold is getting flattened twice, expect for the complication of the third and the last in the packet.

$$\frac{\partial\mathcal{L}}{\partial\Phi_i}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathcal{L}}{\partial\Phi_j}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0 \qquad (2.1)$$

$$1\le i<k$$

$$2\le j\le k+1$$

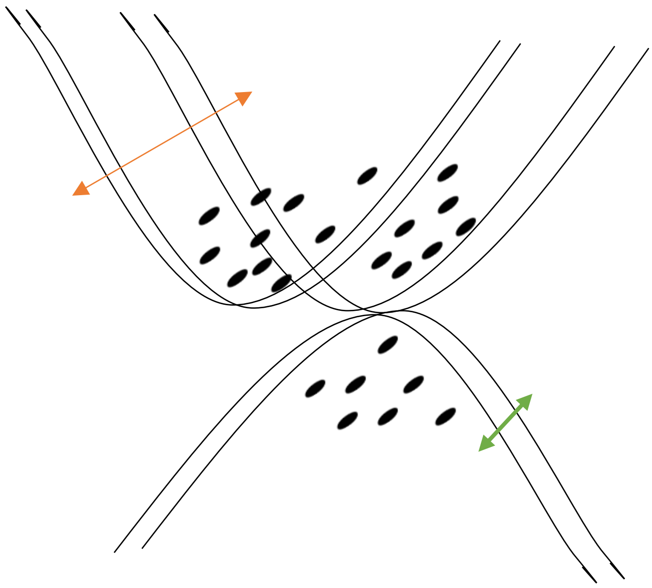
$$\frac{\partial\mathcal{L}}{\partial\Phi_{i=1}}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathcal{L}}{\partial\Phi_{j=2}}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

$$\frac{\partial\mathcal{L}}{\partial\Phi_{i=2}}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}-\frac{\partial\mathcal{L}}{\partial\Phi_{j=3}}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}=0$$

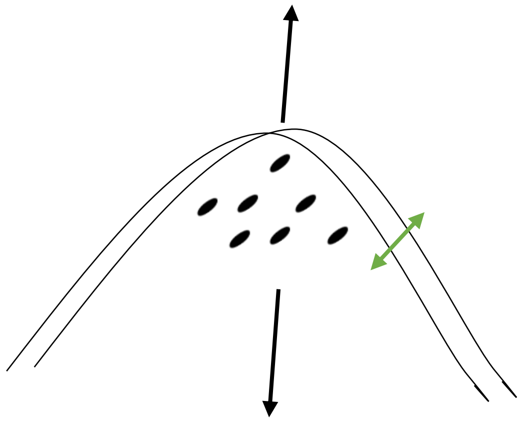
same index indicate same manifold.

$$\frac{\partial\mathcal{L}}{\partial\Phi_{i=2}}\frac{\partial\Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i}=\frac{\partial\mathcal{L}}{\partial\Phi_{j=2}}\frac{\partial\Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j}$$

Which means that the first manifold and third has the same curvature orientation. The second manifold is flattened in between the two manifolds. imagine the second manifold getting which is inserted in between the two flattened manifolds, the orange arrow is to emphasize the distance in between the two which is the manifold getting flattened, so imagine the inverse manifold getting inserted into the distance, represented by the orange arrow. The flattening however will be manifested in "closing the distance" or eliminating the volume of the manifold, marked in green.



In other words, flattening the volume of the manifold will lead to taking the surface area into infinity and the acceleration will take the arrows of the form:



The main equation has not varied, it is exactly the same, that is , that is an additional way to imagine how get a three-dimensional universe to get flattened in between two distinct three dimensional manifolds. Since each of the two flattening manifolds is connected to exactly another manifold to a five stack, the sum of matter in the five stack compared to one manifold should stand as:

$$1:4$$

Toward higher/lower dimensional matter than visible matter of one manifold. Which could agree with cosmological estimations. Thus the above illustration is a another way to imagine the main equation of the 8T, which into account the insight of two manifolds flattening rather than one. It is also possible to make a prediction, and state that the volume of the universe should decrease, while the surface area should increase alongside the unique arrow of the manifold.

Epilogue

"You have to make the rules, not follow them"

Isaac Newton

$$\frac{\partial \mathscr{L}}{\partial \Phi_i}\frac{\partial \Phi_i}{\partial M_E}\frac{\partial M_E}{\partial g_i}\frac{\partial g_i}{\partial t_i} - \frac{\partial \mathscr{L}}{\partial \Phi_j}\frac{\partial \Phi_j}{\partial M_E}\frac{\partial M_E}{\partial g_j}\frac{\partial g_j}{\partial t_j} = 0$$

We have came a long way, and hopefully the road to reality became less vague. One would like to kindly thank the reader for taking the time to read and analyze this Thesis. The great Paul Dirac once stated about another giant of history, Einstein, the following remark: "he always asked: 'If I was god, was I making the world like this?' And according to the answer he would decide whether he liked a particular theory or not". Einstein was right, the final equation representing unified theory of physics has given us among the most beautiful and the most simple equations (1.1) and (1.2), which describe the coupling magnitudes. Most importantly, it showed that nature is governed by reason, and those numbers were not chosen randomly, and **that** is the real beauty of the 8T construction, the ability to clearly reason, reason herself.

$2^3 + (1)$, $[(2^3 \times 3) + (3)] + 3$, $[(2^3 \times 3 \times 5) + (3)] + 5$, $[(2^3 \times 3 \times 5 \times 7) + (3)] + 7$ ...

M.Ohad8Theory

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