8 Theory – COMPLETE OVERVIEW

Manor O – 29.3. 2021

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Fermions, Manifolds and Arbitrary Variations

Define a Lorentz manifold, which is the connected manifold with $(3,1)$ signature:

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

Invoke it to be stationary by Euler Lagrange operator, $S = S_0 \times \mathbb{R}$:

$$\mathcal{L} = (\mathrm{s}, \mathrm{s}', \mathrm{t})$$

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

Develop the last equation:

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

If the Lorenztion manifold to be stationary and no data is attainable from the first three terms, we can require the manifold to those two conditions:

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

If these two are hold to be true, we have areas of extremum curvature on the manifold and negative 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 we speculate as "dark energy". Notice that M is now the matric tensor, g is the Ricci flow. That is the result of parametrizing the manifold to "s" variable and inserting it to EL operator, yielding agreement with Einstein principle of equivalence.

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

Equation reads, length to manifold, manifold to matric, matric to flow, flow to time. $\delta \mathrm{g}$ as amount of arbitrary variations, which by demands of stationarity we require to vanish. Discretizing and partitioning the term δg into a series of sub elements, we can derive the existence of fermions, i.e. showing 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.

$$\delta \mathrm{g}_1 + \delta \mathrm{g}_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

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

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 we need even amounts of equal elements of pluses and minuses. The amount must be even and summed as zero, ensuring stationary Lorentz manifold. Suppose that we 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, we require the series to have an even amount of variation elements, manifesting as two distinct elements in the series, which differ in sign. If we 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

$$\mathbf{O}: \delta g_1 \rightarrow \delta g_2$$

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

To:

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

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.

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

Therefore, to bring an element to itself given only two varying elements in the series we 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. We are 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.

So:

$$(1(e)1(e)1)$$

$$2(e)2(e)2$$

$$(221)$$

$$(112)$$

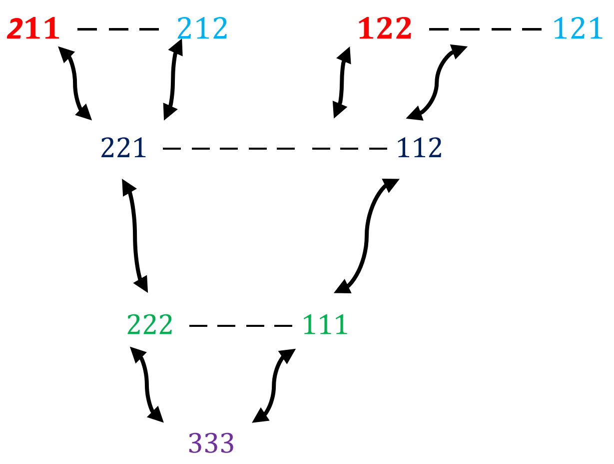
$$(211)$$

$$(122)$$

$$(212)$$

$$(121)$$

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. (Arrows to variations, colors to pairings):



Therefore, we have Lorenztion manifold with arbitrary variations, which vanish into matter based on that idea. 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 and the Coupling Constants Series

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 (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 all the 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 here is the great part. We only need to do it twice to find what nature does repeatedly.

Since we have only two varying elements in the series, we can eliminate almost all the options, as we require obtaining **a sum that is divisible by two and after yields a number divisible by three.** By The following reasoning: Two as we 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, there are more as prime pairs are infinite, but as one mentioned, it took two pairs to understand the principle:

Theorem (3) :

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

This will be vivid with actual examples:

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 we can ignore the element 8 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 devisible. We know we have three net variations so extract:

$$27 + 3$$

Now that is all you need to complete the series and calculate the **next element**:

Notice:

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

$$(8 * 3) = 24$$

Obtain the ratio:

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

$$[8+1]:[27+3] \ = \ [8+1]:[(\mathbf{8} * \mathbf{3})+(\mathbf{3})]+3$$

Next element $V = 2$ and $N_V = +5$ **so if the overall idea to be correct** we take this element, multiply by the even sum of the previous element in the series, add extra invariant three, and we know we need add to the sum the extracted N_V.

$$[(\mathbf{24} * \mathbf{5})+(\mathbf{3})]+\mathbf{5} \ = \ \mathbf{128}.$$

Next in line:

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

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

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

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30:128:850:9254.. \tag{1.2}$$

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

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

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

$$\mathcal{P}_0 \ = 8 + (1)$$

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

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 we associate N_V element

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

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

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

We saw that nature multiply the even sum by the next element of N_V

We found the invariant three element.

We obtained a number to which we add the extracted net variation

We 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 much 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:

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

Possible meanings of the Majestic (3)

Option 1

The **invariant three as a cause**. Notice that all the element within the closed term $(8 *..)$ 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$(8 * 3) \propto 3 \; and \; (24 * 5) \propto 5$.

Option 2

The **invariant three as a result-**There are perfect clusters of variations such $(8 * 3), (24 * 5)$, 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 we can them create mixtures (8*3) to destabilize by five net variations, and yield invariant three and all the beauty in which we attained than will be lost.

Option 3

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 we found a jewel, 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 we 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

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

$$F_{V=0} \quad = 8+(1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254..$$

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

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

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

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

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

$$\wedge{:}\,Top \longrightarrow Set$$

Now, we 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.

$$\mathbb{P} = (2n+1\ \cup (+1)\,);\quad \mathbb{P}\ \in\ \mathrm{K} \qquad (3.11)$$

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 equation (3.21).

$$\mathrm{E} = \ (2n\,);\quad \mathrm{E}\ \in\ \mathrm{K} \qquad (3.21)$$

Finally, there is a morphism, isomorphism in particular given by the same equation that validate Einstein principle of equivalence.

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}} \equiv \frac{\partial^2 g'}{\partial \mathrm{t}^2} \in\ \mathrm{K} \qquad (3.3)$$

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, we have shown that they create a non-abelian group with $1/2$ as generator, by using the anti-commutation relation and vanishing of even amounts of variation. It recently become evident to one that we can represent each element in the series in the following way:

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

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

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

Since three is a prime, and aligned on the prime ring located on critical line of $\frac{1}{2}$. The sums alongside of it are even sums such as $8, 24, 120$ and so on. These expressions are interesting, as one believes they represent the notion of matter or fermions. Notice that we omitted the additional net variation, which is also prime. Meaning it is also on the Prime ring located on $\frac{1}{2}$. Overall:

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

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

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

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.We already know these are Bosons, as we 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 we had in part two three ideas to it possible meaning. We have proved that the Majestic three is Spin. We also proved, that bosons will propagate within variation clusters destabilized by one-half, or matter. These are non-trivial statements. We only used one equation, not experiment nor inherited knowledge. **Using that framework, we can see why Bosons will propagate from Fermions.** Since its invariant, all matter must have the same spin one-half

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So (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: $(8 * 3) \to 3$ (weak particle),$(24 * 5) \to 5$ or a photon, so on.

Majestic (3) as the Electron

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

$$[(24 * 5) + (3)] + 5$$

$$[(120 * 7) + (3)] + 7$$

.....

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

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

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

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

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

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

In previous paper, (part three) we called the (1/2) an element to destabilize Perfect clusters of variations and causing a net variation to appear. In this part, we can **call it the Electron.** Later in the thesis, we will prove it by putting inside the equation of the fine structure constant.

$$[(24 * 5) + (3)] + 5 \rightarrow \left[2\mathrm{N}_2 + \frac{1}{2}\right] + \frac{1}{2}$$

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 we first discovered the coupling constants equation, we 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, we can get a deeper insight to what is going on. We are able to analyze the trait of spin, we 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.

Sure, we knew that, but we did not have the mathematical equation to describe it. The coupling constants equation has than another powerful use; it describes what it going on in elementary level, not just the magnitude of the interactions. It was only available to us when we examined the geometrical realm. Please notice that the electron is inside potential cluster $\left[2N_2 + \frac{1}{2}\right]$ so we 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.

$123 + 5 = 128.$

We have taken the third element in the series, as we 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

The main equation:

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

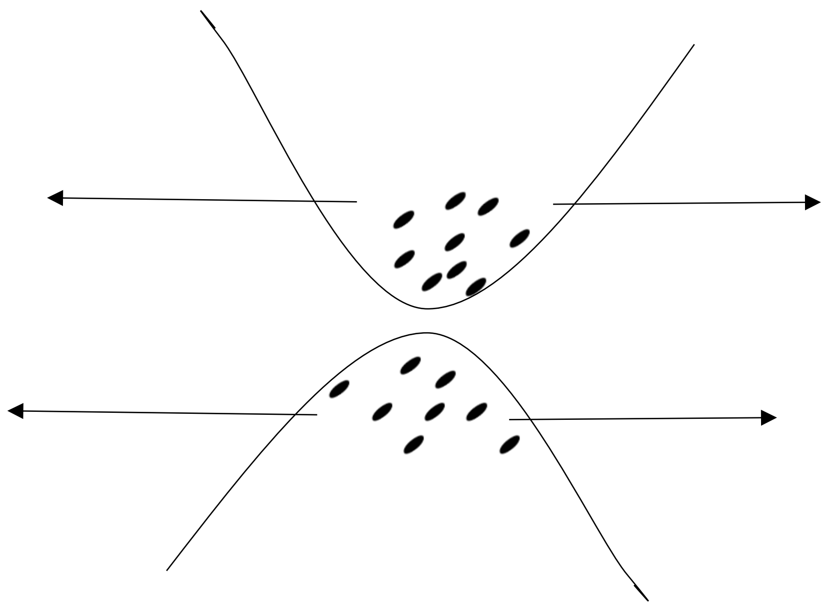
In agreement with our model of the universe. Negative time invariant acceleration From areas of extremum curvatures on the manifold. Validating the Einstein equivalence principle between gravity and acceleration. Again, we assume no data is available from the first three terms, no indication They agree with a stationary Lorentz manifold. Now we can represent the equation (1) in a different way, if there are many stationary Lorentz manifolds we can write:

$$\frac{\partial \mathcal{L}}{\partial S_1}-\frac{\partial \mathcal{L}}{\partial S_2}=0 \qquad (1.52)$$

Alternatively:

$$\frac{\partial \mathcal{L}}{\partial S_1}-\sum_{n=2}^{\infty}\frac{\partial \mathcal{L}}{\partial S_n}=0 \qquad (1.53)$$

$$\frac{\partial \mathcal{L}}{\partial S_1}\frac{\partial S_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=2}^{\infty}\frac{\partial \mathcal{L}}{\partial S_n}\frac{\partial S_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0 \qquad (2)$$



Weak Interaction Negative Left orientation

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30:128:850:9254.. \tag{1.2}$$

$$8 + (1)$$

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

$$[(24 * 5) + (3)] + 5$$

$$[(120 * 7) + (3)] + 7$$

....

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

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

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

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

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

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

Notice that each term in the series within the parenthesis is prime → $(123, 843{,}9243 \ldots)$…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. We are leaving out the net variation in this part.

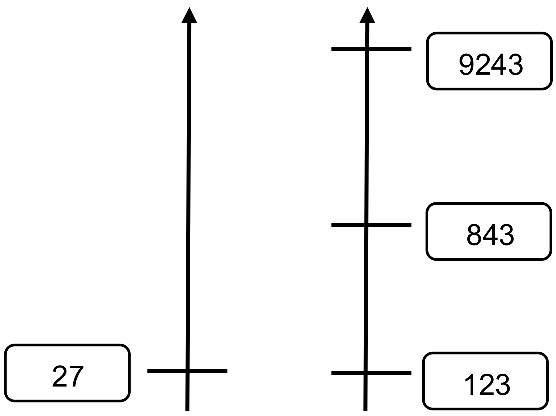
Notice that the only term which is not a prime after added the Majestic three or spin one half is the second element in the series, in which we associate with the weak interaction.

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

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, we would need that the sum of the parenthesis to be a prime, we look for the closest higher prime:

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

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 we 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. We have proved that the majestic three is really a different 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 us the beautiful 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, since the strong interaction is also not on the critical line, such orientation could exist in its regards as well.

$$27 - 29 = -2$$

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

The Coupling Constants Series – Majestic Three is the Electron

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

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

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

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

So we 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.

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

Mathematical Duality of Forces-Virtual Variations

We will take the equation built and first three developments:

$$8 + (1): [(8 * 3) + (3)] + 3: [(24 * 5) + (3)] + 5$$

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

$$[(24 * 5) + (3)] + 5 \rightarrow \ [(24 * 5) + (3)] + 3$$

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

$$[(24 * 5) + (3)] + 3$$

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

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. We can try 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 we can define a virtual exchange of variation → $(1v)$.

$$[8 + (1)] + 3 - (\mathbf{1v}): [(24 * 5) + (3)] + \mathbf{3}$$

The real variations are (+3) but to ensure the nature of the strong force, there is 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:

$$N_V = +(3).$$

$$[8 + (1)] + 3 - (\mathbf{1v}): \quad [(8 * 3) + (3)] + 3 : \quad [(24 * 5) + (3)] + \mathbf{3}$$

We can say 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:

$$[(8 * 3) + (3)] + 3.$$

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

$$((8 * 3) + 2) = 26.$$

The point where they three aligned will be $24 + 2$ variations. certain agreement with this number exist.

Proof: The Pauli Exclusion Principle

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

$$8 + (1)$$

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

$$[(24 * 5) + (3)] + 5$$

$$[(120 * 7) + (3)] + 7$$

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

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

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

We have seen that we can change the term outside the parenthesis, and so we can reach duality between the forces. When we did it in the first three terms, we saw that their duality is exactly on 24+2 variations, which is in agreement with what we know in other theories of GUT. We briefly mention in that paper, that we cannot touch the invariant three. This will be the subject of this part. If we for example combine:

$$[(24 * 5) + (3)] + 5 \pm \text{INTEGER} \ldots$$

We 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, we could not touch the invariant three and now we will examine deeply the reason.

$$[(24 * 5) + (3) + (3)] + 5 = [(24 * 5) + Even)] + 5$$

$$Even = 0$$

$$[(24 * 5) + 0)] + 5 \rightarrow \text{Impossible}$$

As even amount of variations vanish. Recall that the invariant three is the cause; It is the destabilizing factor yielding a net variation. In the case of the third element, it is the Electron. So using that framework, we can see why we cannot combine two electrons or 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. The equation is with complete agreement with our understanding; we are just examining additional meaning of it. It allows us to examine it from a deeper, more profound view. Now we can understand why fermions do not commute – because even variations vanish and so bosons will not be propagated.

If we eliminate the electron, than no boson will be propagate at all. However, consider the following:

$$[(24*5)+(3)]+5+[(24*5)+(3)]+5+..=$$

$$[(24*5)+(3)]+7+[(24*5)+(3)]+3+..=$$

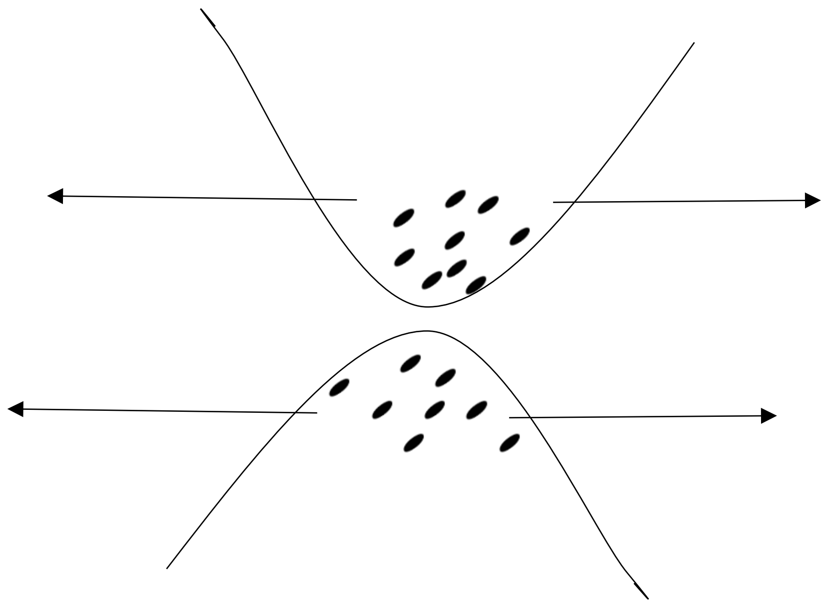
While we cannot touch the terms inside the parenthesis, we can change and combine the net variation, there seems to be no limitation in regards to that operation, we have done it before, and showed that the forces can be scalar multiples. We can cluster the net variations, which means that many electrons can emit net variations together, That is bosons, which agrees to what we know as laser, or what we know as bosons commutation relation in QFT. However, using the 8-theory framework we can get a new and fresh insight on why those things are the way they are using the coupling constant equation. As we mentioned in part four of the paper series on coupling constants, the invariant three blends in the total cluster of the fermions, so we cannot know where he is. That is in agreement with the Heisenberg principle of uncertainty.

Curvature is Not Allowed

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

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}}=0 \cap \frac{\partial^2 g'}{\partial \mathrm{t}^2}=0$$

$$\frac{\partial \mathcal{L}}{\partial s_1}-\frac{\partial \mathcal{L}}{\partial s_2}=0$$



We partitioned and discretized the arbitrary variation term and derived the existence of Fermion. 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.

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

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

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. 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 we 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, given by (2). The strongest interactions are perfectly ordered by the sequence of the Primorial.

$$\frac{N_V}{T_V} \longrightarrow R \qquad (2)$$

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

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 vanish into matter. When it does appear as net curvature on the matric tensor, which Is discrete amount isomorphic to primes, it is very small amount compared to total variations. Those two points indicate that the universe should be, flat. We reached the same conclusion without using the second representation of the universe packet.

Strikingly Beautiful Relation of Three Generations Masses

The idea, which is followed 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 we can search for a mathematical pattern. First, take all the masses, accurate as they can and combine them according to generation:

$$[1.9] \qquad [1320] \qquad [172{,}770]$$

$$[4.4] \qquad [87] \qquad [4240]$$

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

$$1320+87=1407$$

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

Seemingly nothing in common, luckily we can change it. Soon one will reason why the following exactly, 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 that

$$50 * 28 = 1400$$

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

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

but

$$28 = 7 * 4$$

$$14 = 7 * 2$$

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 we go from low to high it does not make sense physically, it should be Lagrangian oriented, nature is devising by increasing amount to minimize the arbitrary variations, so if correct we 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, we 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. We 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 we needed to readjust the scale by the factor of $8 + (1)$ as we 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, we need 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, we 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 ≈ 0.113113 Mev as family's below the six are neglected due to little contribution the total sum. So overall, we can write:

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

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

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

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

Overview of ideas

Mass is a variation of the manifold converging inward. Just like force but opposite in direction. Nature is eliminating the arbitrary amount of variations by devising in increasing amounts. That prediction is the rule of 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 we 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, thus below first generation of quarks, 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 thesis, 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:

$$[8 + (1)] + 3 - (\mathbf{1}\boldsymbol{v}): \quad [(8 * 3) + (3)] + 3 : \quad [(24 * 5) + (3)] + \mathbf{3}$$

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 in the thesis, the unification of the strong electroweak interactions.

$$[8 + (1)] \longrightarrow 8 + (1) + 2$$

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

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

$$8 + (1) + 2: [(8 * 3) + (3)] + 3 : [(24 * 5) + (3)] + \mathbf{3}$$

$$8 + (1) + 2 \longrightarrow 8 + (3)$$

The two real exchanges between the third and the first will modify the same middle element the exact same manner as presented in the 8T 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 (assuming we consider weak as longer ranged).

The Rise of the Arrow of Time

$$\frac{\partial \mathcal{L}}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}}-\frac{\partial \mathcal{L}}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2}=0 \tag{1}$$

$$F_{V=0}=8+(1) \tag{1.1}$$

$$F_R\#=\left(8*\prod_{V=1}^{V=R}N_V+(3)\right)+N_V=30:128:850:9254.. \tag{1.2}$$

In our framework we have a Lorentz manifold inside an Euler- Lagrange equation. The manifold experience arbitrary variations, which vanish into, matter, we proved it in previous papers. Each time net variation appear on the manifold, a boson 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, unique boson:

However, how does that relate to the arrow of time? 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. We saw that the total variations grew much more rapidly than the net, and we 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. So starts and galaxies must appear only after the strong, weak and electromagnetic.

Nature is going from high to low, from small amount or strong variations to weak amounts of net variations over bigger clusters of total variations. Keep in mind that when one say **variation he means curvature** as we built the 8- theory upon a Lorentz manifold. However, if we look at each element in itself, like electromagnetism for example we will not see any clues for the arrow of time, as it's not telling anything about the arrow. It is only when we found the series of Coupling constants and the intimate relation of the boson to primes and putted them in a row, than and only than we can see the rise of the arrow of time. In other words, we can reason why galaxies and cluster of galaxies can form only after the strong, weak and the electric. We are also able to reason the weakness of gravity and the interactions in higher terms in the series.

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

$$\longrightarrow$$

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

Continuous and Discrete Aspects of Nature

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

By analyzing equation (1 it is vividly clear that the setting is continuous, we 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 discrete in a sense that the Bosons are associated with discrete amounts of curvature, prime or one, in their nature. That was the idea that lead to the discovery of the primorial coupling series.

$$F_{V=0} = 8 + (1) \qquad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

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 (theoretically that is) 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, we have a mixture of both continuous setting, given by infinite smooth manifolds interacting with each other, and at the same time, discrete features such as prime numbers, isomorphic to Bosonic fields and discrete number of universes in the packet – which could be described as a graph if we can correlate the newborn manifolds to those they emerged from.

The Almost homogenous Universe

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

$$F_{V=0}=8+(1) \tag{1.1}$$

$$F_R\#=\left(8*\prod_{V=1}^{V=R}N_V+(3)\right)+N_V=30:128:850:9254.. \tag{1.2}$$

The reason the universe is not completely homogenous based on the framework is that the manifold experience arbitrary variations – which than vanish into fermions. marked in black.

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

Those variations are arbitrary amount of curvature of a manifold, and they are subject to net variations, which yielded the coupling constant equation. We saw that nature is really the interplay between total arbitrary variations to net variations. Net variations are prime in their nature, and so in the 8- theory Framework for each prime number there exist a boson.

$$8+(1)$$

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

$$[(24*5)+(3)]+5$$

$$[(120*7)+(3)]+7$$

The series gives rise to the arrow of time; we should see more interactions as time goes on and so, bigger and bigger 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 looking at those two equations we can see exactly why the universe or the Lorentz manifold in The 8-theory 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, we can see why the manifold cannot be homogenous, it is almost obvious. Of course, the question of the homogenous structure is a question in which we 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. We can see it in the framework of the 8-theory, or any Lagrangian oriented theory, which includes arbitrary variations, which must vanish at border. The beauty and innovative part in the 8-theory is that, all life forms, galaxies, clusters of galaxies **are** those arbitrary variations.

The Commutativity of the Coupling Constants Series

There is a symmetry we 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.

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

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

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 we 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:

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

Suppose you 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. We can vary the set as much we 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 coupling constants series from viewpoint of symmetry, order invariance or commutativity.

The Future Universe

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

$$\frac{\partial g}{\partial t}= 0 \text{ and } -\frac{\partial^2 g'}{\partial \mathrm{t}^2}= 0$$

This equation describes dark energy or time invariant acceleration from areas of extremum curvature on the Lorenz manifold. We assume no data is available from the first three terms, which describe a varying matric in spatial dimensions. To ensure universe collapse, we need to revert the signs so we will get:

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

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

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

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

Therefore, we 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 (2)? 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 we have the mathematical equation. We can also analyze the subject of expansion or collapse by using the coupling constant equation in its third representation, the arrow of time.

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

$$1 > \frac{1}{30} > \frac{1}{128} > \frac{1}{850} \ \cdots$$

$$\overrightarrow{1 > \frac{1}{30} > \frac{1}{128} > \frac{1}{850} \ \cdots}$$

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:

$$\overleftarrow{1 > \frac{1}{30} > \frac{1}{128} > \frac{1}{850} \ \cdots}$$

The physical meaning would be than, stars, galaxies and clusters of galaxies to deform and in an endless succession until we 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. In our framework, it means less manifold net variations (positive curving) over time. Physically it does not make sense, 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 our framework, there is no reason for such unnatural thing to happen.

Does The Universe has Limits? 8T

$$\frac{\partial \mathcal{L}}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}} - \frac{\partial \mathcal{L}}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0 \tag{1}$$

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}} = 0 \cap \frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0$$

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

The question at the heart of this assay is whether the manifold, i.e. the universe has borders. It is finite or infinite in its nature ? according to the above framework, 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, we 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. We 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 Coupling Constants Equation and Gauge Fields

The coupling constant equation:

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

Each term individually:

$$8 + (1)$$

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

$$[(24 * 5) + (3)] + 5$$

$$[(120 * 7) + (3)] + 7$$

Let us look at the first term:

$$8 + (1)$$

Remember back in the day, when we concluded that we could ignore the eight, since even amount of variations vanish, and just write that the first element is one.

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

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

We also know that there are eight gluon fields. These are meditating the strong interaction and color charge. However, this could be just a coincidence. Let us examine the next term in the series:

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

This term describe the nature of the weak interaction. Notice the right inside the parenthesis:

$$(8 * \mathbf{3})$$

We also know that there are three gauge fields meditating the weak interaction. The massive W the Z bosons. which we 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 we can examine the next term on the series, electromagnetism:

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

That is a daring statement to make, but if the assumption to hold true, There Should be five gauge fields meditating the electric interaction. 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. However, sometimes in theoretical physics, bold risks must be taken, and so the author of this paper will allow his belief regarding the great power of the equation to guide him and State: **8T predicts five gauge fields meditating electromagnetism.** Whether such thing could be correct, only time and experiment will tell.

Quark Mass Mixing and Mixing Angles

Take the masses of all the generations and combine them:

$[1.9]$ $[1320]$ $[172{,}760]$

$[4.4]$ $[87]$ $[4240]$

$$1.9 + 4.4 = 6.3$$

$$1320 + 87 = 1407$$

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

The idea by Quark mixture we 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 we can allow a slight variation of the first masses to be 6.29 Mev and not 6.3, it will be

$$6.29 * 1407 = 8850$$

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

Therefore, just a slight variation of 0.01 Mev and we 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, we can build 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 we 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 8-theory, 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 Coupling Constants series Orthogonal Curvatures

We have a proven that the coupling constants series 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, we 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 we 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). We can use equation (1.46) with leptons as elements of the inner product such as the electron and positron:

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

In addition, at the same time with bosons:

$$\left\langle \gamma_i \middle| \gamma^-{}_i \right\rangle = 0$$

Which are net curvature unbounded on the matric tensor in contrast to the electron, bounded by the nuclei, given by the fact it is within the bracket. 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), we can eliminate clusters of inverse curvature elements as long is the index is the same.

The Coupling Constant Equation and Higgs Mechanism

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

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

Let us look at the first term describing the strong. We saw that the eight vanish since it's an even in our framework.

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

We also know that from physics the gluons are massless. Let us examine the second term.

$$\big(24 + (3)\big) + 3$$

We know that the bosons that meditate the weak interaction do carry mass. Moreover, we know that 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. In our framework, 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, we can say it is "breaking the symmetry" by inserting the invariant three. So overall, we move from spin 0 – perfect clusters of variations. With the Majestic three Inserted by the Higgs Field we move to a matter with spin one-half, we did so by setting the equation on the critical line of the primes. This $three$ is really a destabilizing factor than yields a net variation, which is prime as well.

For example – Electromagnetism:

Perfect clusters of variations→2N

Destabilize the perfect 2N is the Majestic $(3) \rightarrow \left(\frac{1}{2}\right) \rightarrow \text{Electron.}$

Blends in the potential cluster to yield in that case→ $123.$

The result is the net variation, which is also prime: $\mathrm{N(V)} \rightarrow \left(\frac{1}{2}\right) \rightarrow +(5)$

The overall frame yields:

$\left[2N + \left(\frac{1}{2}\right)\right] + \left(\frac{1}{2}\right) \rightarrow \mathbf{123 + 5 = 128}.$ Magnitude of an interaction.

The main point of the part is that the Majestic three is a result of the Higgs field. It is the reason the majestic three appears. So overall, our framework does not contradict the Higgs Idea but support it and allow us an additional view on how the mechanism work. As the Higgs is responsible for additional terms in the Lagrangian, and in the 8-theory we see that the first elements in the series of coupling constant differ by an additional term, the Majestic three or spin $(1/2)$.

Anti-Matter & Dirac Delta Variation

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

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

$$\left[\frac{\partial \mathcal{L}}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g - \left[\frac{\partial \mathcal{L}}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial^2 g'}{\partial \mathrm{t}^2}\delta g' = 0 \qquad (1.1)$$

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

Reader should be familiar with the procedure. Now we have seen that we can derive the nature of fermions and the quark model by allowing the series, which contain two distinct elements to vary. So overall we obtain eight threefold combinations of those elements. Therefore, even though the elements are varying the series could vanish. That is in agreement with a stationary Lorentz manifold. There could be however, another way to ensure a stationary Lorenz manifold. Which will match each element in the series its mirrored element. That is

$$\delta g1 + \delta \exists g1 = 0$$

$$\delta g2 + \delta \exists g2 = 0$$

By mirror, it means the same but opposite in sign. So the overall sum of the Series will hold as zero. In the 8- theory framework, Quarks are regarded as arbitrary amount of curvature on a manifold. Based on this view, anti-quarks and anti-matter is arbitrary curvature with opposite direction. Same magnitude just different direction. So overall, that framework would allow the existence of anti-matter. That is in agreement with quantum field theory and with the Dirac equation for spinors. In fact, the moment of Singularity could be a result of the series not equal to zero.

$$\boldsymbol{\delta g \neq 0}$$

The moment the series is not equal to zero than means that we have net curvature, or maximal curvature on the manifold, which will yield a negative extremum time invariant acceleration from it.

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

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 8- theory was on point in regards to Issues on other theory could explain.

The Primorial Coupling Constants Series – Odds versus Primes

Shifting to spin representations:

$$[(8*3)+(3)]+3 \to \left[2\mathrm{N}1+\frac{1}{2}\right]+\frac{1}{2}= \; 2N+1$$

$$[(24*5)+(3)]+5 \to \left[2\mathrm{N}2+\frac{1}{2}\right]+\frac{1}{2}=2N+1$$

$$[(120*7)+(3)]+7 \to \left[2\mathrm{N}3+\frac{1}{2}\right]+\frac{1}{2}=2N+1$$

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

$$[(24*5)+(3)]+9 \to \left[2\mathrm{N}2+\frac{1}{2}\right]+\mathcal{R}$$

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

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

Therefore, as a result we will have a total spin that is neither one-half nor one. that is against experiment and against other leading theories such as quantum field theory. The point of this short assay 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 matric tensor. 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 we need to take into account the spin trait given by the second representation. Therefore, given by the term in equation with the $\mathcal{R}$ to those readers who wondered whether there should be a coupling term after the seven, with $N_V = +(9)$, the suggest answer is the following: given by spin representation considerations and by taking as an axiom that no spin between one half and one is allowed in nature, there should not be a coupling term associated with this number. Primes are imposing a strict limitation leading to a smaller infinity of bosonic ripple fields on the Einstein matric tensor.

Dirac Delta Variation

Our main equations in the framework:

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

$$F_{V=0}=8+(1) \qquad (1.1)$$

$$F_R\#=\left(8*\prod_{V=1}^{V=R}N_V+(3)\right)+N_V=30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

The Dirac delta in our 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, we require $\delta g=0$, as we did previously in this framework.

$$\delta g \neq 0 \qquad at \qquad t=0$$

$$\delta g = 0 \qquad at \qquad t>0$$

So the Dirac delta in our 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 can appear at any time, so we must modify the idea of the Dirac in our framework.

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

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

We 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, we have more flexibility with the 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:

$$\delta g \neq 0 \qquad at \qquad t_2 = Q(t + \Delta t + \Delta t)$$

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

$$\delta g = 2\left(n + \frac{1}{2}\right) \; ; n \geq 0$$

Than we have a ripple on the manifold which propagate all across, toward all directions. 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 metric is their prime number feature**. Define a bosonic ripple across the Lorentzian metric:

$$\nabla^2 = \frac{\partial^2 M_x}{\partial^2 g} + \frac{\partial^2 M_y}{\partial^2 g} + \frac{\partial^2 M_z}{\partial^2 g} \qquad (1.41)$$

That is curvature propagation across all metric spatial dimensions as:

$$M_\mu \in S$$

$$S = (M, g)$$

The Coupling Series, Photon Jets and the Higgs – 8T

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

$$F_{V=0}=8+(1) \qquad (1.1)$$

$$F_R\#=\left(8*\prod_{V=1}^{V=R}N_V+(3)\right)+N_V=30:128:850:9254.. \qquad (1.2)$$

Spin zero: $(2N\ variations)$

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

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

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

Suppose we have two photons pairing, photon and anti-photon, both were emitted from fermion clusters with opposite sign:

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

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

The result of combining the photons would be again, a cluster with zero spin as we 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 coupling constants series, which makes it easy to understand.

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

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

Reasoning for Spiral Structures of Galaxies

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

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

$$\left[\frac{\partial \mathcal{L}}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g-\left[\frac{\partial \mathcal{L}}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial^2 g'}{\partial \mathrm{t}^2}\delta g'=0 \qquad (1)$$

$$\delta g=0$$

Notice the first requirement:

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

In addition, the second requirement:

$$\delta g=0$$

Those two simple requirements combined together can allow us to a deep Insight into the structure of galaxies. In the 8-theory framework, we have 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 8-theory 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 we assume that those black holes, which we regard as areas of extrunum curvature inside galaxies also omit matter. We know it is the case, as we call it the hawking radiation $-\delta g(H)$.

$$\frac{\partial g}{\partial t}+\delta g+\left(-\delta g(H)\right)= 0 \qquad (1.442)$$

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 we require a hawking radiation Particle emitted from the area, so the first requirement will hold true.

Measuring the Electron – 8T

$$[(24*5)+(3)]+5 \to \left[2\mathrm{N}2+\frac{1}{2}\right]+\frac{1}{2}$$

$$[(24*5)+(3)]+5 \to \ [(24*5)+(e)]+\gamma$$

Electrons in this framework 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. Now 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. So 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 we 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 of time. 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.

$$[(24*5)+(3)]+5$$

$$(3)+5=8$$

$$8=0$$

The thing to take from this short assay is that the problem of measurement is not just due to radii leading to an infinite energy scales, as $r \to 0$ 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

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

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

We 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 Lorenztion manifold. Notice the numerical relations between the total to net:

$$\frac{N_V}{T_V} \longrightarrow R \tag{1.5}$$

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

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

$$\frac{5}{128} = 0.039$$

$$\frac{7}{850} = 0.008$$

$$0.111 > 0.1 > 0.039 > 0.008 \ldots \tag{1.51}$$

The reasoning was clear, as the coupling constant equation 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 we can vividly derive and predict the weakness of gravity. We can say 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:

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

The bosons in which we 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 we are 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 and the Higgs – 8T

If there is 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 the 8T thesis, we constructed four categories for particle classifications using the primorial coupling constants equation:

Spin zero*:* $(2N\ variations)$

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

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

Bosons with higher spin integers: $(2N\ variations + 3) + N_{V1} +\ N_{V2}\ + \cdots\ \rightarrow$

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.

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

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

We can expend that result and say that any amount of even inverse in sign, fermions of the kind of majestic (3), 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:

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

If we eliminate the destabilizer there is no need to analyze the photons pairing. As one is a mathematical physicist and not a particle physicist, 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 wonderful area of research.

The Coupling Constant Equation And The Wave-Particle Duality

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

We can vary the N_V outside of the parenthesis so by doing so, reaching duality among the three first forces at 26 variations was attained.

$$[8 + (1)] + 3 - (\mathbf{1v}){:}\quad [(8 * 3) + (3)] + 3 :\ \ [(24 * 5) + (3)] + \mathbf{3}$$

By analyzing the third element in the series, the propagation of a photon from a fermion so called the electron. Certain insight from the new framework is becoming vividly clear. In the context of wave particle duality.

$$[(24 * 5) + (3)] + 5$$

Since it is a prime net variation outside the parenthesis, it can not vanish into matter. As fermions vanish in even amounts. The ripple field of boson across the matric is mathematically described:

$$\nabla^2 = \frac{\partial^2 M_x}{\partial^2 g} + \frac{\partial^2 M_y}{\partial^2 g} + \frac{\partial^2 M_z}{\partial^2 g}$$

$$M_{x,y,z} \in S$$

$$S = (M, g)$$

Suppose, in an experiment we decide to measure the photon momenta of position. Its done by scattering an additional photon onto the photon, which already propagated Form the electron. For simplicity sake, we suppose it is one additional element that is only one photon:

$$[(24 * 5) + (3)] + 5 \ \rightarrow\ [(24 * 5) + (3)] + 5 \ \ + 5$$

$$[(24 * 5) + (3)] + 5 \rightarrow \left[2\mathrm{N}_2 + \frac{1}{2}\right] + \frac{1}{2}$$

$$[(24 * 5) + (3)] + 5 + 5 \rightarrow \ \left[2\mathrm{N}_2 + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2}$$

Those equations are the second variation of the coupling constant equation, which is the prime critical line. By adding the additional net variation, we reach a spin that is no longer associated with boson propagation, $3/2$ .Before our measurement the bosons had spin one, and by measurement with additional photon, a variance of spin has occurred, so now our Boson behave like a fermion, it has an additional half unit of spin. Overall in the 8-theory by analyzing the coupling constant equation in the second representation, it is possible to extrapolate the reason for the phenomenon of wave particle duality.

Fiber Bundles

In the 8T, we are analyzing a varying manifold, which is the connected manifold with $(3,1)$ signature. This manifold as you know 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:

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

The purpose of this short 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.

$$\frac{\partial \mathrm{L}}{\partial \mathrm{s}}\longleftarrow\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\longleftarrow\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\longleftarrow\frac{\partial \mathrm{g}}{\partial \mathrm{t}}$$

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

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

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

$$\psi\colon\ \mathbb{M}_T \rightarrow \mathscr{R} \qquad (1.32)$$

$$\psi^{-1}\colon \mathscr{R} \rightarrow\ \mathbb{M}_T \qquad (1.32.\mathrm{A})$$

On Gravity and Acceleration

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).

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

The question in which one will try to answer is the following: can we go further in reasoning this relation? Can we 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 we can imagine an arbitrary variation cluster which has mass, falling onto the curvature spike non vanishing. We can make an theorem and according to this theorem we 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.

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

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 we 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 on Varying Lorentzian Manifolds

In the 8-theory a varying Lorentz manifold is the entity of description. The Lorentz manifold Is inserted to an Euler Lagrange equation and by doing so, the main equation of the framework is obtained.

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

Are the conditions, which the framework is demanding to retain a stationary manifold. Those two conditions describe a time invariant acceleration directed from extrunum areas of curvature on the Lorenztion manifold. Intersection with the so-called dark energy.in addition, if no data is attainable from the first three term, it is vividly clear that there is an agreement with Einstein equivalence principle:

The coupling constant equation was obtained by demanding a stationary manifold to experience net variation,$N_V = 2(V+1/2)$; $V \geq 0$; $N_V \in P$ as P to be is the set of primes and the number one. Those ideas yielded an infinite series, in which each distinct Boson has a distinct prime, which is the N_V value. Even amount of variations vanish, $2V = 0$.

$$F_{V=0} = 8 + (1) \qquad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

The Feynman variation on Lorentz manifold - the objective of this part is to find out what is the probability transition of a boson from initial to final state on the manifold .Bosons are associated with prime amount of net variation $N_V \to 2\left(V+\frac{1}{2}\right)$ which propagates as ripples on the manifold, given by a variation of the Laplacian:

$$\nabla^2 = \frac{\partial^2 M_x}{\partial^2 g} + \frac{\partial^2 M_y}{\partial^2 g} + \frac{\partial^2 M_z}{\partial^2 g}$$

First, we define a manifold $s = (M, g)$ and insert it to an Euler LaGrange equation and an initial state of the manifold $S(0) = (M, g)$.

Than we require the manifold to experience arbitrary variations, which vanish into matter.

For simplicity of notation, define:

Let the arbitrary variations appear all across the matric on the manifold.

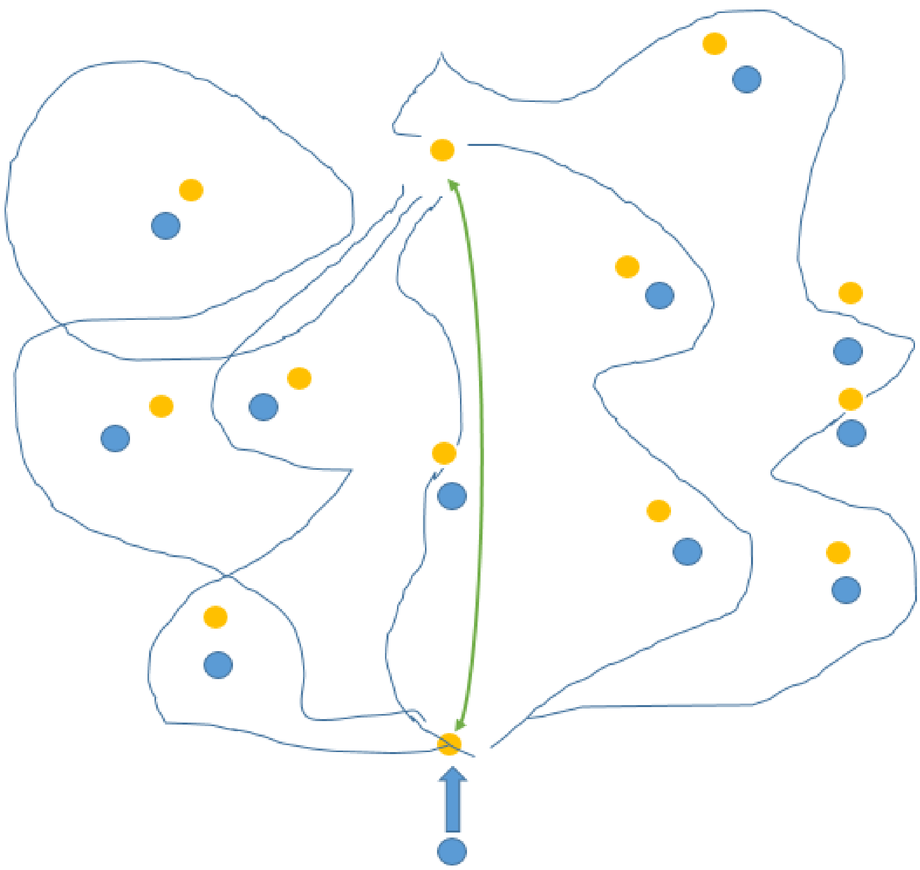
$$\delta g \in M(x.y, z)$$

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

$$q1 = M(x1.y1, z1)$$

And a final position of the matric ripple to arrive at

$$q2 = M(x2.y2, z2)$$



The green arrow is directing the from the initial position of the ripple wave to final Position. The blue dots are the electrons omitting bosons, in that case a photon, marked in yellow. The manifold has arbitrary amount of fermions on it, which get scatterd by the initial boson wave and omit a new boson. There are infentialy more ways than the above drawing, its vivid. The ripple wave will scatter all the arbitrary variaions, but the highest probablity of arrival will be at the path of least curvature. Each fermion which get scattered omitting a boson with random direction of propagation. the framework has no data regrading the position of the propagation. The more arbitrary Variations getting scattered, the less probable it is to reach the final position. The following can be analyzed by the equation. The more arbitrary variaions in the Path, the more curved the matric, as there is an accelaration of it outward. The accelaration outward is causing the path to be longer and less linear, and so the time to reach the final position is longer, if only.There is no gurentte a photon will reach the final position in this framework as arbitary variaions created in a random fashion, and in configurations which are not predictable. However, if a photon will reach it will be in the least curved path, or the path with the least fermions getting scattered.

$$P = \int_{q1(t(i))}^{q2(t(f))} dq \exp[(S0) \int_{t(i)}^{t(f)} L(s,s')dt] \qquad (10)$$

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 we can not sum all the paths if the paths vary at all times. it’s a complication of the feynamn result, But if we ignore the complication, the probablity transition should be calcuated using (10).

Gravitational Coupling Constant as a Combination of Particles

$$F_{V=0} = 8 + (1) \qquad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}128{:}850{:}9254.. \qquad (1.2)$$

We can also represent the equation in the form:

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = \frac{1}{30}:\frac{1}{128}:\frac{1}{850}:\frac{1}{9254}..$$

Let us analyze the third element – Electromagnetism:

$$[(24 * 5) + (3)] + 5$$

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

Spin 0: $2N_0$ variations

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

Spin 1: $2N_{()} + 3 + N_V$ variations

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

Given that framework, we can vividly see that gravity is belonging to the bosons with higher spin integers, as modern theories predict the gravitational interaction to have spin two. In the 8-theory framework, what does it mean? In the context of the coupling constants equation what does it mean? Since it has spin two, we can associate gravity to the category of bosons with higher spin integers, which could relate to a certain combination of elements in the coupling constant series, as the elements are getting weaker and weaker, if the gravitational coupling will not be found by keeping developing to infinity it could mean **gravitational will be found as a combination of elements in the series**. Since it is spin two there should be three net variations outside. Gravitation as a combination of elements, using the fact it has a boson with spin 2.

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

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

Using the second representation of the coupling constant equation, meaning spin. It also means that the gravitational is a lot more rare as it is requiring a combination of elements in the series to be emitted and not just a singular element.

The Growth of Galaxies

The new 8T framework regard bosons as net curvature on the matric tensor, as presented in equation (3.13B). The net curvature are of discrete amounts and is isomorphic to the prime numbers or one. Using three theorems made on a Lorentz manifold with $(3,1)$signature, it was possible to calculate the magnitude of the fine structure constant. Fermions are associated with arbitrary amounts of curvature in which curvature must vanish, their anti-commutation relation they appear in even amounts as in equation (2.12).

According to this new framework of varying curvature, we 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 matric tensor, causing fermions to cluster, the amount of fermions in the galaxy should be increasing overtime. Now in 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 and weaker. 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 we develop the less matter being clustered. We 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.

We can try and put it in mathematical rigor, suppose we took the amount of elements which vanished into matter by equation (1.35) and parametrized it:

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

In addition, we 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:

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

$$\frac{\partial F_r}{\partial t} \propto^{-1} \frac{\partial K}{\partial t} \qquad (1.36)$$

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

Using the Coupling Constant Equation to Predict the Exact Mass of the Graviton

$$F_{V=0} = 8 + (1) \qquad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

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

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

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

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

In the 8-theory framework, even amounts of manifold variations vanish. That feature allowed the following shift:

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

We know that the strong interaction has eight gauge fields meditating it. Those meditating particles do not carry mass. We also know that gravity has spin two. By switching to the second representation of the equation, we can represent gravity as the following:

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

$$\big[2N_{gravity} + 2\big] \rightarrow 2N_{gravity}$$

since even amount of variations vanish we 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 we can represent it in one term given the coupling constant equation, and by the analysis gravitation has only one term as well, we 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.

Indication That Fermions Are Closed Circles by the Coupling Constant Primorial Function Variation

$$F_{V=0} = 8 + (1) \qquad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

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

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

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

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

The following representation of equation (1) by replacing the invariant three with pi.

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V \rightarrow \left(8 * \prod_{V=1}^{V=R} N_V + (\pi)\right) + N_V$$

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

That is giving up certain accuracy on the coupling constant equation in order to get an insight regarding the shape of fermions. One is going to argue that such a representation is valid as we have a varying Lorenztion manifold, there could be a slight variations in the invariant three over time, toward pi and vice versa. In other words, the electron is not a perfect circle, but close to it. It is a varying circle, not a perfect shape. Varying in physical theories could mean vibration. The fact that we have a varying framework allow us to dynamically allow such slight variations without being rigid, the fact that it is not pi, could be a positive indication. Perfect shape of a circle would be problematic in a final theory, but a varying, imperfect circle seems to be much more elegant and suitable to a framework of constant variation. So according to this representation, a boson will be emitted from something close to a perfect circle, which is the electron. We gave up certain amount of accuracy and reached an astonishing insight regarding the shape of an electron. But we can go even further by representing the net variations in pi number multiples.

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

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

Such representation is beautiful but what does it mean? of course that the real answer is that one does not know. Two options come to mind. The first is regrading 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. The higher the net variations, the smaller the probability to find 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 we develop the coupling constant series into infinity. In agreement with the weakness of gravity. Since the 8-theory was born in 2021, there could be more variations to the coupling constant equation. Other indication fermions are of closed shape is the main equation:

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

Which describe a varying Lorentz manifold. Fermions were proved to be arbitrary variations of the manifold. If the manifold is of finite size, i.e. closed, the elements in it should be closed as well. They are not a separate entity of the Lorentz manifold, but appear as part of the Lorentz manifold and its ever varying nature. The closeness of the manifold indicate the closeness of the elements that appear in it. There could be more ways to prove that the following is correct.

Primorial Coupling Constants Equation and the Rise of the Arrow of Time

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

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

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

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

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 we don't 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 we 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:

$$8 + (1)$$

If the expended manifold experience multiple net variations of the first element than it is possible to cluster those:

$$\sum_{n=1}^{n=\infty} C_n = 8 + (1)$$

We can cluster into groups of three and get:

$$(8 * 3) + (1) * 3 = 24 + (3)$$

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

$$24 + (3) \rightarrow [24 + (3)] + 3$$

Therefore, we 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. **In the 8-theory what is time? 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 coupling constant equation, we can reason for the chronology of events from the moment of singularity to the present moment. We can reason for electrons propagation only after protons were created. We can reason gravitational interactions only after electric interactions and we 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 element as a building block for clustering after electric interactions and it is possible to explain how relatively fast galaxies formed in a short window of time, from the manifold being too hot to being too

Universe Packets – Creation

. let us examine the equation (2) which meant to express the idea of infinite amount of universes interacting with each other.

$$\sum_{n=2}^{\infty}\frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0$$

The second term indicate that there are more universes with negative orientation of curvature than the inverse orientation given by the first term. To create a flat universe packet we need infinite amount of pairs with opposite orientation that is as presented in the 8T thesis:

$$\frac{\partial \ell}{\partial s_1}-\frac{\partial \ell}{\partial s_2}=0$$

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

$$\frac{\partial \ell}{\partial s_1}-\frac{\partial \ell}{\partial s_2}=\mathfrak{Z}_1$$

$$\mathfrak{Z}_1+\sum_{n=2}^{\infty}\mathfrak{Z}_1=0 \qquad (2.\mathrm{A})$$

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 we need an even number of manifolds with inverse curvature orientation. Another way of representation is to vary the equation (2):

$$\boldsymbol{\sum_{m=1}^{K}\frac{\partial \ell}{\partial s_m}\frac{\partial s_m}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=1}^{K}\frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0} \qquad (\mathbf{2.A1})$$

When equation (2) was originally derived**, the idea** was to present the infinite packet as presented in the second term. However, (2..A1) and (2.A) are representing more accurate form of description as to how the packet is constructed, how much manifolds it must contain, i.e. an even number aspiring infinity with opposite curvature orientation. 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, endlessly. 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. That is in agreement with the demand of the stationary on the Lorentz manifold presented in the beginning of 8T thesis. So according to this idea, the parameter K is an even. One final point, equation (2.A) 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. That is by:

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

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

The Principle of Least Curvature and Cosmological Flatness

In the 8-theory a varying Lorentz manifold is the entity of description. The Lorentz manifold is inserted to an Euler Lagrange equation and by doing so, the main equation of the framework is obtained.

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

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

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

The framework regard (1.2) as the second main construction of the theory and currently has five representation and different uses of the equation. (1.2) represent the concept of Least variation, the most significant interactions in nature, are those with the largest Value of total to net $\frac{N_V}{T_V}$. By analyzing the ratios of the first elements in the series we Conclude the ratio $N_V/T_V \rightarrow 0$ as $N_V \rightarrow \infty$, the result is following ratios:

$$\frac{1}{9} = 0.111\,, \qquad \frac{3}{30} = 0.1\,, \qquad \frac{5}{128} = 0.039\,...$$

$$0.111 > 0.1 > 0.039 > 0.008\,...$$

The biggest rations are those with the least $N(V)$ amount and thus they are the most noticeable on the manifold. The third representation of (6) revolves around to the arrow of time. The direction of the series is assumed to match the direction of Time. So as we increment the time $t(1) = t(1) + \Delta t$ and allowing time aspire Infinity $t \rightarrow \infty$, the manifold will experience higher number of net variations $N_V \rightarrow \infty$. and at the same time the ratio of $\frac{N_V}{T_V} \rightarrow 0$, which means that the matric on the manifold Is getting more and more flat. The most curved, or intense interaction than is the first, the Strong interaction due to its largest value of $\frac{N_V}{T_V}$.

Using the coupling constant equation ratio between net to total variations (curvature) it becomes vividly clear that gravitation will be aspiring to flatness, due to the immense value of N_V. Gravity will be almost not noticeable. It is also possible to derive that the manifold will become more flat followed by the direction of the arrow. Flatness than, in the 8-theory is a continuous process given by the arbitrary variation term to vanish into matter and by ever decreasing ratio of total curvature to net curvature.

Prime-Fold Quark Chains & Anti Matter Terminators

We have described the arbitrary variations of the manifold by the term on the main equation:

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

We partitioned and discretized the arbitrary variation term and derived the existence of Fermion. 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.

$$\delta \mathrm{g}_1+\delta \mathrm{g}_2 \ldots=\sum_{i=1}^{N}\delta g_i$$

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

$$\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1$$

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

$$\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1 \ \rightarrow \ \xi=1$$

$$[\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1(O)\delta \mathrm{g}_2](Y)\delta \mathrm{g}_1 \qquad \xi=2$$

$$[\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1(O)\delta \mathrm{g}_2](Y)\delta \mathrm{g}_1 \qquad \xi=3$$

The $\xi=k$ is a winding number, counting the repeats from an element to itself. Recall that we need the exact chain in opposite order to be the paired element, so the overall curvature could vanish into zero. However, we 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. We can replace the last element in the chain with a **curvature terminator** $\delta \mathrm{g}_1 \rightarrow \delta \mathrm{g}_1{}^{\mathcal{T}}$, 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 $\delta \mathrm{g}_n{}^{\mathcal{T}}$ are an anti-matter terminators .

$$[\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1(O)\delta \mathrm{g}_2(Y)\delta \mathrm{g}_1(O)\delta \mathrm{g}_2](Y)\delta \mathrm{g}_1{}^{\mathcal{T}}$$

We 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.

$$[\delta \mathrm{g}_1-\delta \mathrm{g}_2-\delta \mathrm{g}_1-\delta \mathrm{g}_2-\delta \mathrm{g}_1-\delta \mathrm{g}_2])-\delta \mathrm{g}_1{}^{\mathcal{T}}$$

$$\delta \mathrm{g}_1-[chain\ of\ arbitrary\ variations]-\ \delta \mathrm{g}_1{}^{\mathcal{T}}$$

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 and the D'alembert Variation

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

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

$$N \in \mathbb{R}, N \to \infty$$

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

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

$$\sum_{i=1}^{N} \partial E_i/\partial t - \sum_{i=1}^{N} \frac{\partial E^2{}_i}{\partial^2 t} = 0 \qquad (2.1)$$

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, published earlier by the author.

Infinite Dimensional Multiverse

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

$$\frac{\partial\mathcal{L}}{\partial S_1}-\sum_{n=2}^{\infty}\frac{\partial\mathcal{L}}{\partial S_n}=0 \qquad (1.53)$$

$$\sum_{m=1}^{K}\frac{\partial\ell}{\partial s_m}\frac{\partial s_m}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=1}^{K}\frac{\partial\ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0 \qquad (2.\mathrm{A1})$$

Equation (2) is the second representation of the main equation. Notice that even though the main equation describe both Einstein theory of relativity (1) and time invariant acceleration away from extremum curvature on the manifold, it lacks providing the reason for such a process. Equation (2) is than used; our universe is wrapped in many similar, stationary manifolds, which are distinct. They are assumed topologically invariant. Such a construction than allow us to understand why each manifold can not have any number of dimensions, it is confined within many other manifolds. Its also more reasonable to assume that there are many stationary manifolds than to assume that there is only one stationary manifold. The (2) is more elaborated equation than equation (1). Suppose that each manifold has n-dimensions.

$$\sum_{m=1}^{K}\frac{\partial\ell}{\partial s_n}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} \quad\rightarrow\quad N_D^{Sm}$$

Take into account the number of manifolds wrapping our manifold making its matric accelerate outward and add those dimensions

$$\sum_{n=1}^{K}\frac{\partial\ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}\rightarrow\sum_{n=2}^{\infty}N_D^{s(n)}$$

So the number of dimensions in our framework is:

$$N_D^{S1}+\sum_{n=2}^{\infty}N_D^{s(n)}=T_D \qquad (2.11)$$

The Equivalence Principle in Quantum Scale

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

Suppose the matric has a fermion that is an arbitrary variation of the manifold given by the term $\delta g = 0$. What would be the consequence? Given by equation (1) the arbitrary variation will cause the matric to accelerate outward. That is in complete agreement of Einstein theory of gravitation, equation (1) implies:

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

Since the matric varied due to the arbitrary variation, which appeared in it, 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, but here there is no velocity. There is no such thing velocity in the 8 theory. The quark may conclude that the object is moving, but what is happening is that the matric itself is varying, because of that quark. We also have in this framework the invariance of the speed of light, given by the coupling constant equation, and the fact that the propagation process is similar in all interactions.

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

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

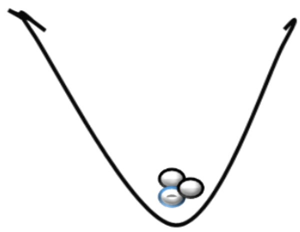
General relativity implies an equivalence relation between curvature and acceleration. 8 theory implies that as well, but also in addition implies that curvature will **cause** outward acceleration of the matric by (1). Einstein had to add the cosmological constant in an artificial way, but here it's the main equation. Such a condition than allow us to understand relativity in a new and elegant way. C is invariant, and every arbitrary variation of the manifold causing an outward acceleration of the matric, the matric itself varying in such way that those arbitrary variations will eventually measure different distances and times, the measured object can be standing still but it will observed as moving, but what is happening is that the matric is expending. The entire theory of Einstein is not only contained in just one equation but expended to a new horizon.

The Coupling Constants Series and Gluons Confinement

$$\sum_{1=1}^{N} \delta g_i = 0 \qquad (1.41)$$

Bosons are mentioned in the first paragraph are described as net curvature, given by the term (1.4) of the photon for example. Now, we have used the visualization of the sea of gluons on the Quark triplet in the following way.

$$\sum_{i=1}^{M} \gamma_i = \sum_{i=1}^{M} \delta g_i > 0 \qquad (1.4)$$



When we 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 (1), however since each boson is a curvature of certain magnitude it increase the probability of arrival to its position, therefore we have a "sea" of gluons. That was the analysis in the context of Quark confinement. Now assume we have 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.

$$\sum_{i=1}^{K} \mathfrak{g}_i = \sum_{i=1}^{K} \delta g_i \to \sum_{i=1}^{K-1} \delta g_i \qquad (1.4)$$

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 we could explain the phenomena of Gluon confinement. One final point, since there are eight gluon fields, we 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 matric tensor exactly differ from one another assuming they are all isomorphic to the same discrete number, i.e. $+(1)$?

Symmetry of a Universe Packet

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

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

$$\sum_{m=1}^{K} \frac{\partial \ell}{\partial s_n}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \sum_{n=1}^{K} \frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} = 0 \qquad (2.\mathrm{A1})$$

We can define a functor:

$$\wedge : Top \rightarrow Set$$

To switch from a topological space, as manifold wrapping into a discrete setting. Now the entire universe packet is an open set. For simplicity sake we assume it has finite amount of elements, and so it's really a closed set for the sake of the example. 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, confinement among many others.

$$\wp \rightarrow (S_1, S_2 \dots S_K) \qquad (1.83)$$

$$S_K = \left(M_{K,}\mathrm{g}\right); \ \ K \geq 1;$$

$$K \in \mathbb{R} \ ;$$

Equation (1.83) 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, we can vary each element order it won’t make a difference, equation (1) will hold. In particular, the conditions below equation (1) will hold either way, and for simplicity we assumed it 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 we can reach a new prediction:

The rate of acceleration from areas of extremum curvature should increase overtime, if (1.83) is an open set. We can describe the time invariant acceleration as a product of many connected manifolds, assumed stationary which interact at areas of extremum curvature. The order is not important and thus it is possible to vary the index of each manifold. The set itself is which increase overtime is the key.

$$\frac{\partial^2 g'}{\partial \mathrm{t}^2} = S_1 \oplus S_3 \oplus \dots . S_K \qquad K \longrightarrow \infty$$

Proof: Quarks are the Fundamental Building Block

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

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:

$$\delta \mathrm{g}_1 = \delta \mathrm{g}_a + \delta \mathrm{g}_b > 0$$

$$\delta \mathrm{g}_2 = \delta \mathrm{g}_c + \delta \mathrm{g}_d < 0$$

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

$$\delta \mathrm{g}_a + \delta \mathrm{g}_b + \delta \mathrm{g}_c + \delta \mathrm{g}_d \neq 0$$

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 the original 8T 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.

Using the Primorial Coupling Constants Function to Derive C Invariance Yang Mills Conjecture

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

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

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

The second representation of the primorial function using the prime critical line:

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

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

Notice that beside the variation cluster which get bigger, all the interactions are taking the same form. We have the destabilizing factor, which is the electron for example, or the $\frac{1}{2}$ inside the parenthesis, yielding a net variation which is also $\frac{1}{2}$ or prime, according to first representation of the primorial function. So the propagation speed of all boson of this type must be similar, precisely because there is no detail regarding the speed of propagation and because there is no difference among the bosons, they are all of the same hand. We already proved their dynamical nature by varying the net variations and as a result making them scalar multiples. Based on the framework of the eight theory, we can make an additional prediction. All bosons of the above type, $2n() + 1$, with no consideration of their mass, will propagate across at the same speed. The same speed applies for all. Even to bosons with mass. That is the Yang Mills problem, how can a boson that carry mass move at the speed of a boson, which do not carry mass. In the 8-theory the answer is given. Since mass is associated with $8 - 1$ variations, and boons are of the type $8 + 1$ the combination of a boson with mass will not effect on the propagation.

$$8 - 1 + 8 + 1 = 0 \tag{3.1}$$

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. In equation six, we took even amount of variations to vanish and so the result is zero. No curving to either direction. Of course, the ideal would be to extract the actual speed of light from the 8-theory. It is currently beyond reach. The equation does not change under any condition that means that the speed of propagation does not means under any conditions. In the case of the third element, than, speed of light is invariant to all. Therefore, the 8-theory framework suggest an elegant and simple solution to the Yang mills conjecture.

8T and QFT – Axiomatic Analysis

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, we can include the Feynman diagrams and the Feynman path integrations. In addition to arbitrary amount of matters appear and disappear by operators we 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 8-theory, 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. 8- Theory 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.

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.

Weaknesses in the QFT Framework

First, we can represent the QFT functional integral, equation that we 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 **we** 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.

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

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 we 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 we 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 we 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 we need 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 describing the electric coupling. We proved majestic three is the electron.

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

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

$$\sum_{i=1}^{N} e_i \rightarrow \sum_{i=1}^{N} (3)_i$$

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

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

As we did in the 8T thesis, the elements in the term describing matter anti commute, appear in an even number that differ in sign and vanish to zero when summed. However, the spinning electrons are added to a positive summation:

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

We have two conditions that are not aligned and contradict each other. Both were proven in the 8-Theory to be correct.

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

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

We have proven that the majestic (3), in the case of the electric coupling is the electron. The destabilizing factor yielding a net variation. Overall, the thesis main example was the third element in the series. Therefore the weak interaction did not get enough interaction regrading a very interesting feature it possess.

$$\left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = [(8 * 3) + (3)] + 3$$

We 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.

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

$$\left(8 * \prod_{V=1}^{V=R} (3) + N_V\right) + (3)$$

Hermitian Conjunction and Prime Numbers

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

$$N \to \infty$$

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

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

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

$$2n + 1 + 2n - 1 = 0$$

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:

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

Final Shot at Quantum Relativity

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

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

$$N \to \infty$$

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.

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

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

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:

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

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

$$\left[\frac{\partial \mathcal{L}}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g_{ik} - \left[\frac{\partial \mathcal{L}}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial^2 g'}{\partial t^2}\delta g'_{ik} = 0$$

$$\left[\frac{\partial \mathcal{L}}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g_{rk} - \left[\frac{\partial \mathcal{L}}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial^2 g'}{\partial t^2}\delta g'_{rk} = 0 \qquad (2.13)$$

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 we proved the yang mills conjecture we have the same propagation speed for all bosons:

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

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

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

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. What is different is the reason of relativity and the analysis of this beautiful idea in the 8T framework, which imposes additional complications, in quantum scale.

The Coupling Constants Series and Total Variations Pairing

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

We have 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. We gave 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, we 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; we 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 8T thesis we 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. We 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 we can reach the average value.

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

If we had four primes pairing, divide by four, six primes divide by six, to reach the average. Of course the average must be two and 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

$$\left[\frac{\partial L}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g-\left[\frac{\partial L}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial^2 g'}{\partial t^2}\delta g'=0 \tag{1}$$

$$\sum_{k=1}^{M}\delta g_k=0 \tag{2.12}$$

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

$$M=M_0\times R$$

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.

$$\sum_{k=1}^{M}\delta g_k\in\mathbb{R}$$

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. The bosonic ripple field is than described by:

$$\nabla^2=\frac{\partial^2 M_x}{\partial^2 g}+\frac{\partial^2 M_y}{\partial^2 g}+\frac{\partial^2 M_z}{\partial^2 g}$$

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, we can associate it to a complex field, which than require a Hermitian conjunction in order to perform measurement upon. In other words, we can associate bosonic fields to complex vector fields.

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

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

The Lagrangian Variation

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

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

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

How can a representation of the Lagrangian be made on the varying Lorentz manifold, is the main question one will analyze in this short assay. Of course, the real answer to that question is one does not know. However, educated guess will be made. The kinetic term could be associated to the outward matric expansion, due to $(\partial g/\partial t)$ term, which is synonymous with energy in physical theories.

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

That is the kinetic term. A Ricci Tensor overtime, yielding an energy expansion outward causing a matric acceleration on the object generating the energy. That is the main equation that was derived by putting an Einstein manifold in Euler Lagrange Equation. Now, what is the potential energy in the 8T framework? In physical theories, the potential is associated with the mass, which is certain feature of the object itself. In the 8T we do not have any objects, the objects are manifestations of discretizing and partitioning the term $\delta g \rightarrow \sum_{i=1}^{K} \delta g_i = 0$ in equation (1) to vanish into fermions. How can we translate that into a potential term?

$$\left[\frac{\partial \mathcal{L}}{\partial \mathrm{s}}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g - \left[\frac{\partial \mathcal{L}}{\partial \mathrm{s}}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial^2 g'}{\partial \mathrm{t}^2}\delta g' = 0 \qquad (1)$$

Since we would like to measure how much arbitrary variations the object we measure contain, and those arbitrary variations are two and three divisible to vanish into matter, two distinct elements which created threefold combinations, to get a measure of the amount of arbitrary variations, the action needed is the following Transformation:

$$\sum_{i=1}^{K} \delta g_i = 0 \rightarrow \sum_{i=1}^{K} |\delta g_i| = \mathcal{V}_{8T} \qquad (2.12)$$

The idea, whether correct or not, was to take the absolute number of varying elements participating in the construction of the object. The operation was done via the insight we gained in previous paper, two distinct elements which differ in sign, so by eliminating the minus sign we can estimate how many arbitrary variations appear in the cluster. To sum up, The energy, causing outward acceleration minus the total amount of arbitrary variations constructed in the cluster.

$$\mathscr{L} = \left(\frac{\partial g}{\partial t}\right) - \sum_{i=1}^{K} |\delta g_i| \qquad (3)$$

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.

$$S^{C}_{\beta\alpha} \to 0$$

What is the equivalent of the cluster decomposition principle on the Lorentz manifold (M, g_E) with signature (3,1), invoked stationary, $M = M_0 \times R$, is the subject of this paper.

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

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 we had two distinct arbitrary variations, that is by discretizing and partitioning the term δg in equation (1.11), as was done in previous papers of the 8T, to proof that these are fermions:

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

We 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.

The Perfect Symmetry of Hadrons

$$F_{V=0} = 8 + (1) \quad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \quad (1.2)$$

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

Now, in the 8T framework, up to this point, we nicknamed the left term of each element in the coupling as a variation cluster, which is divisible by two and three to perfectly vanish into matter. This variation cluster is destabilized by the majestic three, causing a net variation to appear, or in other words, to boson propagation from the fermion. Recently one noticed a very interesting fact, that the left terms of the coupling constant series for the weak interaction are identical to densest packing D_4 highest kissing number that is 24. So all 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 we only have 4D manifold, three spatial and one temporal. By looking at the coupling constant in that light, we can also regard the hadron as possessing an extreme density, as it has the highest kissing number in 4D, and the electron is not bound to it but revolves around it, as the majestic is a separate term. The following apply to each other term:

$$24 * 5 \rightarrow 120$$

$$24 * 5 * 7 \rightarrow 840$$

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

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

$$p_{12} \rightarrow 840$$

Of course, ignoring the higher dimensions complexity and focusing on the part of the highest kissing numbers, we can reach an insight, those fermionic clusters in each term are most dense, in agreement with what we 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 we 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 8-Theory however there is no use of any lattices. Rather we 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 we 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.

$$\frac{24 * N_V}{MOD\ (6)} = 0; \quad (3.12)$$

$$N_V = 2V + 1; V \geq 1$$

$$N_V \in \mathbb{P}$$

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

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30:128:850:9254.. \tag{1.2}$$

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

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

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

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

Examine the term describing the electric coupling. We proved majestic three is the electron in the 8-Theory thesis.

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

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

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

$$(+3) \longrightarrow (\gamma) \longrightarrow (+3)$$

$$(+3) \longrightarrow (+5) \longrightarrow (+3)$$

$$(+3) + N_V = (+3) + 5 = 8$$

$$8 = even$$

$$even = 0$$

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 the 8T 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.

The Axis of Evil

The main equations in our new framework:

$$\frac{\partial \mathrm{L}}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}}-\frac{\partial \mathrm{L}}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2}=0 \tag{1.1}$$

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

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, we 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. We know 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.

$$\frac{\partial \mathrm{L}}{\partial \mathrm{s}} \longleftarrow \frac{\partial \mathrm{s}}{\partial \mathrm{M}} \longleftarrow \frac{\partial \mathrm{M}}{\partial \mathrm{g}} \longleftarrow \frac{\partial \mathrm{g}}{\partial \mathrm{t}} \tag{3.12}$$

Reasoning Bosonic Probabilities

$$F_{V=0} = 8 + (1) \quad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30:128:850:9254.. \quad (1.2)$$

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

Examine the term describing the electric coupling. We proved majestic three is the electron in the 8-Theory thesis. The photon is represented as net variation, which is unbound. It is free to propagate all across the manifold.

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

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

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.

$$\sum_{i=1}^{N} \gamma_i > 0 \quad (3.13)$$

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

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

$$F_{V=0} = 8 + (1) \quad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \quad (1.2)$$

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

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

$$8 + (1) + 3 - (1v):\quad \big(24 + (3)\big) + 3{:}\quad \big(120 + (3)\big) + 3$$

In the paper about the interactions dynamic nature, we 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.

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

We can put the conservation law in rigor and construct an appropriate theorem:

Theorem (1.0) – The sum of net variations on all the coupling elements cannot escape the manifold.

Theorem (1.1): The sum of all net variations increase with time.

$$\oint_{t=0}^{t=Z} (dM)(M_0 \times R)\Big(\sum_{V=0}^{\infty} N_V\Big) \in M \quad (3.16)$$

$$Z \to \infty$$

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.

Bosonic Strings - Cyclic Groups

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30:128:850:9254.. \tag{1.2}$$

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

$$8 + (1)$$

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

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

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

Cyclic groups in mathematics are represented by the following, if a set of elements is generated by one single element, than we have a cyclic group. Since all the bosonic fields or net variations in the 8T 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:

$$(3) \rightarrow \mathcal{M}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(5)\mathcal{M} \ldots.\} \tag{3.17}$$

By representing the propagation in such fashion, we 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. We have proven the representation of the coupling constant series in the thesis:

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

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(\gamma)\mathcal{M} \ldots.\}$$

Therefore, that is a proof that bosonic net variations are cycles, or in physical theories, bosonic particles are in fact closed strings. That is because they are generated by the same element.

Curvature Absorptions

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

$$(3) \rightarrow \mathcal{M}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(5)\mathcal{M} \ldots.\}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(\gamma)\mathcal{M} \ldots.\}$$

All of this was covered in previous papers. The majestic three is a generator of a cyclic group of bosonic net curvature propagations, isomorphic to the primes or one. We made a Feynman diagram using the new framework:

$$\text{e} \searrow \quad \longrightarrow (\gamma) \quad \longrightarrow \text{e} \nearrow$$

$$(+3) \quad \longrightarrow (+5) \longrightarrow \quad (+3)$$

$$(+3) + \ N_V = \ (+3) + 5 = 8 \rightarrow 0$$

The point of this paper is that in order to understand how the manifold vary, 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.

$$\sum_{i=1}^{N} \gamma_i > 0 \qquad (3.13)$$

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

The point is, we 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 is Bending Space-Time

$$\left[\frac{\partial L}{\partial s}\frac{\partial s}{\partial M}\frac{\partial M}{\partial g}\right]\frac{\partial g}{\partial t}\delta g-\left[\frac{\partial L}{\partial s'}\frac{\partial s'}{\partial M}\frac{\partial M}{\partial g'}\right]\frac{\partial\partial g'}{\partial\partial t}\delta g'=0 \qquad (1)$$

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

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

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

By putting the Lorentz manifold in Euler- LaGrange framework and allowing arbitrary variations to appear, in which we require to vanish, in the 8T we discretized and partitioned the term (2.12) and were 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 $N_V=+(5)$. Such propagation is than yielding a positive summation, i.e. a positive curvature by (1.15), so fermion clusters are flat according to the 8T framework, but bosonic propagations are curvature on the manifold. The weird and unexpected result is that bosonic fields are deflecting fermion clusters and not the opposite as believed by GR. It is an unexpected result, but up until recently we thought there are only four forces, and such thought lead to thinking that physics can be unified.

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 we require them all to vanish, than we 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 we need equal amounts of plus and minuses. The overall amount must be even and summed as zero.

Suppose that we 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, we require the series to have an even amount of variation elements, manifesting as two distinct elements in the series, which differ in sign. If we 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

$$\mathbf{O}: \varpi\mathbf{s1} \rightarrow \varpi\mathbf{s2}$$

$$\varpi\mathbf{s1} + \varpi\mathbf{s1} + \varpi\mathbf{s2} + \varpi\mathbf{s2} = 0$$

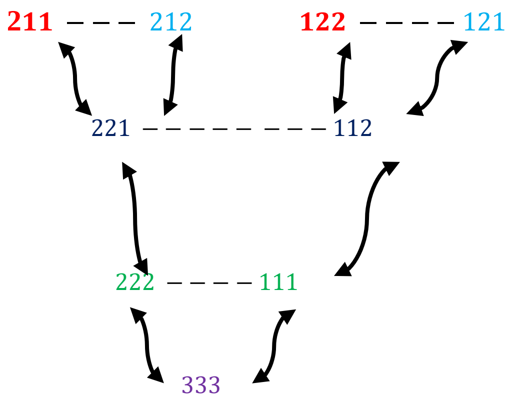
To:

$$\omega\mathbf{s1} + \omega\mathbf{s2} + \omega\mathbf{s2} + \omega\mathbf{s2} \neq 0$$

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.

$$\mathrm{Y}\colon\ \omega\mathbf{s2} \rightarrow \omega\mathbf{s1}$$

Therefore, to bring an element to itself given only two varying elements in the series we need 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. We are 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) here is how one built it, starting from those two natural maps. (Arrows to variations, colors to pairings):



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_h as meant "prime higher".

Define $P_h = \{2n + 1\}$ 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

$$P_t = P_h + P^m \text{ ; to be the set of all primes}$$

Define a functor V on P_h:

$$V\colon \text{set} \rightarrow \text{ring}$$

Analyze any multiplication or addition combination of P_h on the ring. Let the ring exist on a Lorentz manifold, a topological space.

<u>Multiplication</u>:

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:

$$[(2n_1 + 1)(2n_2 + 1)(2n_3 + 1)\ldots(2n + 1]) =$$

$$2\left[T\left((n_1\, n_2 \dots)\right) + (n1 + n2 + n3 \dots) + \frac{1}{2}\right]$$

$$= 2([T((n1\, n2 \dots)) + N(s) + 1/2]$$

$$N(s) = (n1 + n2 + n3 \dots) = 0$$

As sums of even amounts of arbitrary variations vanish. Since all the elements are two multiples, they all vanish. Final form:

$$2\left([T(n1\, n2 \dots)] + \frac{1}{2}\right)$$

Addition

Add any infinite **even series** of distinct higher primes to obtain

$$(2n_1 + 1) + (2n_2 + 1) + (2n_3 + 1) \dots = [2(n1 + n2 \dots) + \text{even}] =$$

$$[2(n1 + n2 \dots)]$$

$$\text{as even} = 0.$$

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

$$(2n_1 + 1) + (2n_2 + 1) + (2n_3 + 1) \dots =$$

$$[2(n1 + n2 \dots) + \text{odd}] =$$

$$[2(n1 + n2 \dots) + (\text{even} + 1)] \qquad (10)$$

However, even amounts of arbitrary variations vanish:

$$\text{even} = 0$$

$$[2(n1 + n2 \dots) + 1] \text{ or:}$$

$$2[n1 + n2 \dots + 1/2] \qquad (11)$$

Category transformations

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:

$$P_{\underline{h}} + P^{m} = P_{\hat{t}} \;;$$

Define a functor on P_f:

$$G'': \text{set} \rightarrow \text{group}$$

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 we 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, we 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:

$$\text{Riemann}: \text{Group} \rightarrow \text{ring}$$

All primes are forming an infinite ring on the critical line of 1/2 and only there.

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

Visualization - Photon Emission

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

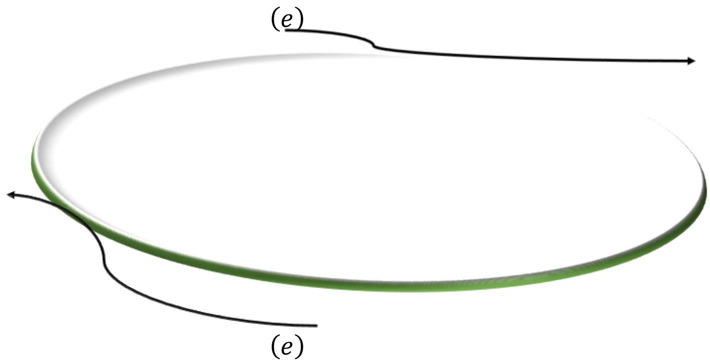
$$[(24 * 5) + (3)] + 5 \rightarrow [(24 * 5) + (e)] + \gamma \qquad (4)$$

$$(e) = (3) \rightarrow \mathcal{M}$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(5)\mathcal{M} \ldots.\} \qquad (4.1)$$

$$\mathscr{B} = \{N_1 = (+3)\mathcal{M}, N_2 = +(\gamma)\mathcal{M} \ldots.\}$$

Equation (4) 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. equation (4.1) describe the invariant three as the generator of a cyclic group, meaning all bosonic propagations are sub elements of that group and so we prove they are closed cycles themselves. Therefore, we can draw the interaction between two electrons and a photon emission in the following way:

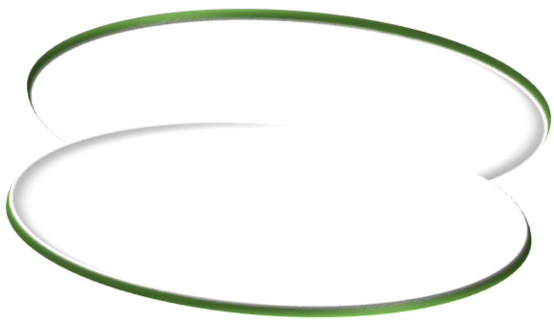


As was proven, they cannot move at the same orientation of the distortion due to their prime number feature, combined together there will be a vanishing and so the coupling series than would not make sense. The end conclusion would than imply that the boson propagated from nowhere which is impossible.

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 we perform 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 we define ripple operators $\between$ from a starting area to another area, the mutual area of both will be the amount of interference.

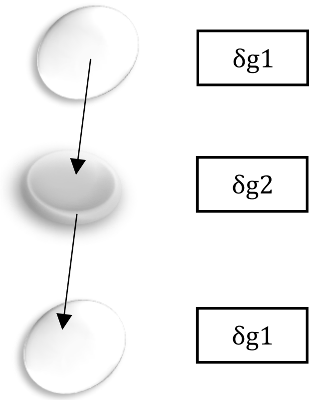
$$\between : A \rightarrow B$$

$$\between : A' \rightarrow B$$

Interference will accrue at the manifold segment that is mutual to both starting point. Define the interference operator:

$$\not\approx : A \cap A' \qquad (3.18)$$

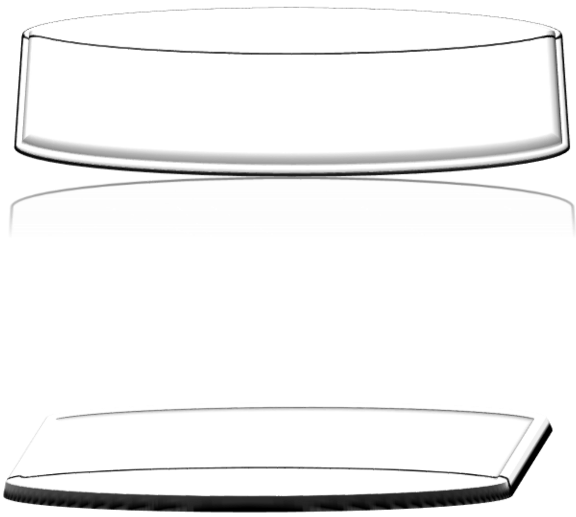
Quark Visualization



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 8 theory 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

$$\sum_{m=1}^{K}\frac{\partial \ell}{\partial s_n}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=1}^{K}\frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0 \qquad (2.1.\mathrm{A})$$



Strong Interaction – The Electron

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

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

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

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

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

$$[(\mathbf{24} * \mathbf{5}) + (\mathbf{3})] + \mathbf{5} \rightarrow [(\mathbf{24} * \mathbf{5}) + (\boldsymbol{e})] + \boldsymbol{\gamma}$$

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.

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

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

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

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, we 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 we 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 in the 8-theory? As we do not use force in the innate description of the theory, all we have is net curvature, N_V, on the Lorentz manifold, which was invoked stationary by the Lagrangian operator. We also did not use radius per se, it is different from the Riemann line element in which we associate curvature. One will suggest the following analogue for the equation (3.19):

$$\sum_{i=1}^{N} \delta g_i \partial L_i = 0 \tag{3.19.A}$$

The sum of all arbitrary variations per varying manifold unit length is summed as zero. As we say variations, we mean curvature, so the sum of arbitrary curvatures is taken to zero. We can similarly use that construction in the same manner and for the same purposes used in calculus of variations, to avoid describing the inner motions of a static body.

Curvature Knots

$$F_{V=0} = 8 + (1) \quad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \quad (1.2)$$

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

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

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

Suppose that instead of a prime number as in equations (1.2) describing the weak and the electric, we would have a number that is odd, which could be a composite of odd number primes. Define the odd number function:

$$\Phi_n = 2n + 1 \quad (3.2)$$

$$n \in \mathbb{R};\ \Phi_n \notin \mathbb{P}$$

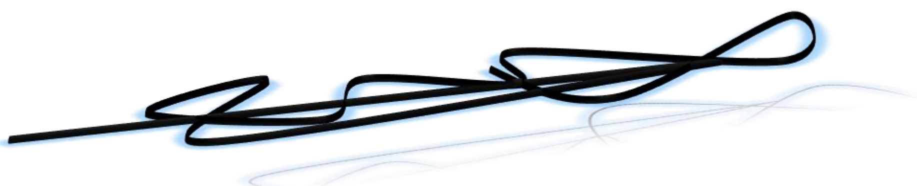
$$\mathbb{P} \longrightarrow set\ of\ primes$$

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:

$$\left[2\mathrm{N}_1 + \frac{1}{2}\right] + \Phi_{n1} \quad (3.21)$$

$$\left[2\mathrm{N}_2 + \frac{1}{2}\right] + \Phi_{n2} \quad (3.22)$$

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, we 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 we should be able to observe those knots on the matric tensor. Below an example to such knot.



Matric Tensor Fluctuations and the Birth of Universes

$$\frac{\partial \mathcal{L}}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}} - \frac{\partial \mathcal{L}}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0 \tag{1}$$

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

$$\frac{\partial L}{\partial S_1} - \sum_{n=2}^{\infty}\frac{\partial L}{\partial S_n} = 0 \tag{1.53}$$

$$\frac{\partial L}{\partial S_1}\frac{\partial S_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \sum_{n=2}^{\infty}\frac{\partial L}{\partial S_n}\frac{\partial S_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} = 0 \tag{2}$$

The matric tensor experience arbitrary variations that vanish into matter. We describe the process of arbitrary variations vanishing into matter in the thesis, by the variation of the Dirac Delta function.

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

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

$$\delta \mathrm{g}_1 + \delta \mathrm{g}_2 \ldots = \sum_{i=1}^{N} \delta g_i$$

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

There is always a chance net curvature will appear at later continuation of time. That is bosonic fields given by the primorial coupling series:

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

$$\delta g \neq 0 \qquad at \qquad t2 = Q(t + \Delta t + \Delta t)$$

$$\Delta t \to 0$$

Moreover, the amount of net curvature is either prime or one:

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

Now that we presented the 8T foundation, we 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 short 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

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.

$$[(24 * 5) + (3)] + 5 \rightarrow\ [(24 * 5) + (\mu^{-})] + \gamma$$

In addition, the Tau:

$$[(24 * 5) + (3)] + 5 \rightarrow\ [(24 * 5) + (\tau^{-})] + \gamma$$

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, we 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 Coupling Constants Series and Probability

First, we 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.

$$F_{V=0} = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30\colon 128\colon 850\colon 9254.. \tag{1.2}$$

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

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

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

$$8 + (1)\colon \big(24 + (3)\big) + 3\colon \big(120 + (3)\big) + 5\colon \big(840 + (3)\big) + 7 \ldots$$

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 we do not really know what is the probability of such an event, it is possible to assume that is the case. We 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 we develop, the smaller the probability to detect the boson as it is depended upon longer chain of events, with probability smaller than one. We can represent it in a simpler fashion by ignoring the constants:

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A) \right) \qquad (3.33A)$$

Let $A \rightarrow \infty$

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A) \right) \longrightarrow 0 \qquad (3.1)$$

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 we represent 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. We can make a prediction:

(1) The probability of locating the boson of the third term is significantly higher than the sixth term.

Asymptotic Freedom

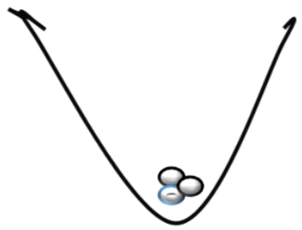
Bosons were proven discrete amount of net curvature on the matric tensor, we can represent them by the term in equation (1.3):

$$\sum_{i=1}^{M} \delta g_i > 0\,; M \longrightarrow \infty \qquad (3.13)$$

$$\sum_{i=1}^{M} \delta g_i \in (+1) \cup \mathbb{P}$$

$$\mathbb{P} \longrightarrow Set\ of\ Primes$$

Now, we have used the visualization of the sea of gluons on the Quark triplet in the following way.



In the context of asymptotic freedom, when we 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 (1), however since each boson is a curvature of certain magnitude it increase the probability of arrival to its position, therefore we have a "sea" of gluons. For example, in the third coupling term presented in equations (3) to (3.1):

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

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

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 we need is just two equations, (1) and the coupling constants series.

Manifold Jumps and Pharrell Transport

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

$$\frac{\partial\ell}{\partial s_1}-\frac{\partial\ell}{\partial s_2}=0$$

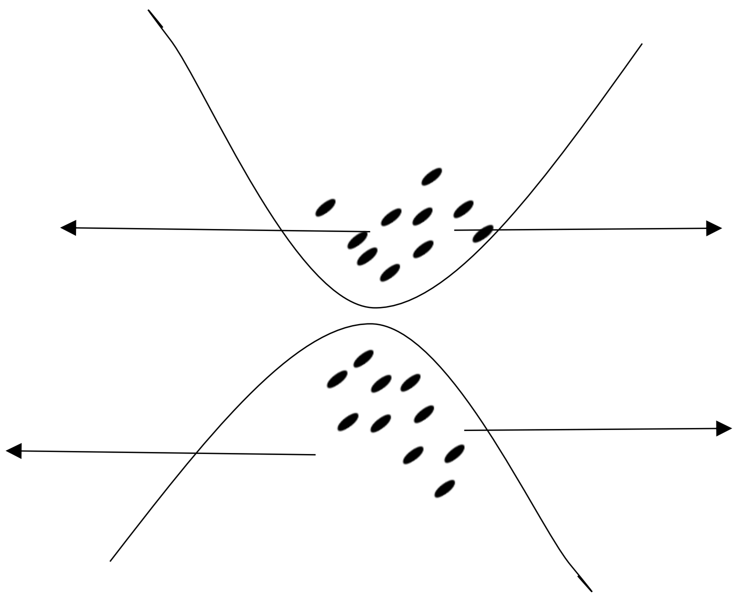
$$\sum_{m=1}^{K}\frac{\partial\ell}{\partial s_n}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=1}^{K}\frac{\partial\ell}{\partial s_n}\,\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0 \qquad (2.1\mathrm{A})$$

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 (2.1A) will not be correct; the universe would not be flat as we measure 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. We do not know whether it is actually the case but so it seems by equation (2.1A) 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). everything written up to this point was already covered in 8T previous papers. From here we a have a completely new paper.

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 (2.1A) 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 we 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. below are two illustrations, the first is the universe packet, the matric is the dark part and the flow is the white part between each two manifolds. the second illustration is an interaction of areas of extremum curvatures between two distinct manifolds, between each two there is the Ricci flow, which is the same for both. The jump from manifold to manifold can be done via this base space.

$\leftrightharpoons: M_1 \longrightarrow M_N$



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 (2.1A), 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

Imagine that instead of having just one electron in the primorial, we 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.

$$\left[(24 * 5) + \sum_{i=1}^{N}(e_i)\right] + \gamma_i \tag{3.41}$$

$$\odot:\ \sum_{i=1}^{N}(e_i) \rightarrow \gamma_i$$

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, $\odot$ 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

8-Theory, revolves around varying curvature 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 difference. 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. 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.

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

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. 8-Theory 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** (2.1A). It is that simple in can be encompassed in one equation.

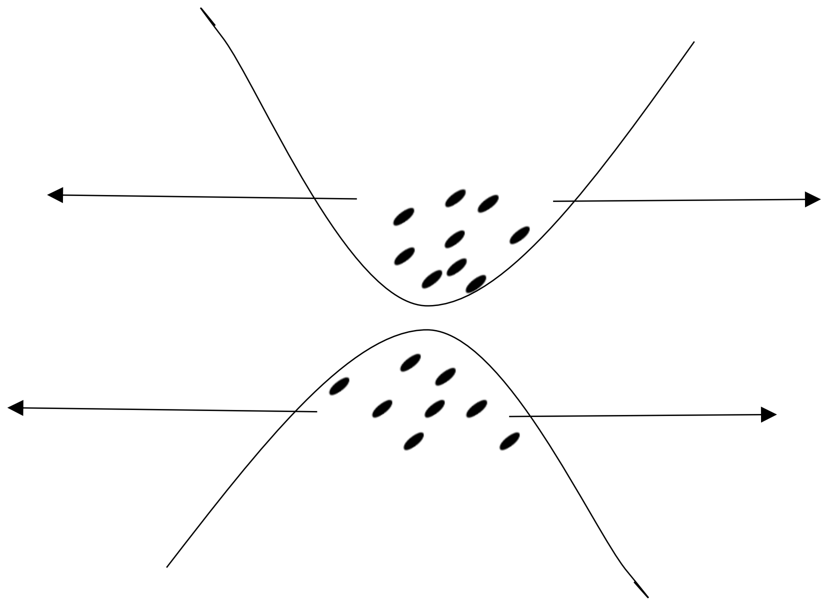
$$\sum_{m=1}^{K}\frac{\partial\ell}{\partial s_n}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=1}^{K}\frac{\partial\ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0 \qquad (2.1\mathrm{A})$$

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 we 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 and comparing to the new 8T, it seems to have been surpassed. .

Universe Packet Density

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

$$\mathfrak{Z}_1+\sum_{n=2}^{\infty}\mathfrak{Z}_1=\mathcal{D}_1 \qquad (1.2B)$$



Up to this point in the thesis, we 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. That is currently the only option presented in the 8T thesis. 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 we have 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 we 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 we know that the so-called "dark energy" is time invariant. Therefore, that could imply that there is a limitation of density in the packet. We can define this density limit by varying the main equation:

$$\sum_{m=1}^{K} \frac{\partial \ell}{\partial s_n} \frac{\partial s_1}{\partial M} \frac{\partial M}{\partial g} \frac{\partial g}{\partial t} - \sum_{n=1}^{K} \frac{\partial \ell}{\partial s_n} \frac{\partial s_n}{\partial M} \frac{\partial M}{\partial g} \frac{\partial g}{\partial t} = 0 \qquad (2.1\mathrm{A})$$

$$\mathrm{K} \in \mathbb{R}$$

We can parameterize the manifolds presented in (2.1A) 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 the universe packets:

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

In the 8T we 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. We require the term to vanish, so when partitioned we needed an even amount of two distinct elements which differ in sign.

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

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. We can visualize it and reason why that is from an angle of curvature on the matric tensor using the main equation and primorial. We 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 - 8T

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

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

Suppose we allocate to the terms, additional terms according to each variable in the main equation. Now as a result we have those fourfold terms for fermions and Bosons accordingly:

$$[\delta\ell\delta s\delta M]\delta g = 0$$

$$[\delta\ell\delta s\delta M]\delta g > \ 0$$

We do not know what are the values of the three terms inside the bracket, however since we know to associate the conditions in equations (2.12) and (3.13B) to be equal to zero and larger than zero accordinaly, these are in essence constraint to the rest of the unknown chained terms. For fermions, we can deduce:

$$[\delta\ell\delta s\delta M] = 0$$

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:

$$[\delta\ell\delta s\delta M] > 0$$

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 we presented the process of emission. Summing up, we do not know what are the chained three terms are, but we have proven the ideas two-pillar ideas of the 8T: (2.12) and (3.13.B) in which we can use, as auxiliary conditions. Those auxiliary conditions are used on the chained three terms, which we 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 - 8T

We have derived the main equation (1) by EL operator. The following way:

$$\ell = (\mathrm{s}, \mathrm{s}', \mathrm{t})$$

We can state that the 8T analysis in that form has one degree of freedom.

$$\ell = (\mathrm{s}_1, \mathrm{s'}_1, \mathrm{t})$$

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.

$$\ell = (\mathrm{s}_1 \dots \mathrm{s}_n, \mathrm{s'}_1 \dots \mathrm{s'}_n, \mathrm{t}_{1\to n}) \tag{1.61}$$

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:

$$\mathrm{s}_1 \longrightarrow dimen..(1 \to 3) + t_1$$

$$\mathrm{s}_2 \longrightarrow dimen..(4 \to 6) + t_2$$

$$\mathrm{s}_3 \longrightarrow dimen..(K \to K + 2) + t_K$$

$$K \in \mathbb{R}$$

Since we already presented a symmetry regarding the universe packet, we 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, we 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.

8T- Curvature Spectra's

we have seen the 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:

$$8 + (1)$$

The second term has three fields, the massive W and Z bosons, in accordance to the right multiplier, marked in black:

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

Since all we have in the 8T its 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, we 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, we know 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, we need to add it the coupling term of the electric without changing the magnitude of the coupling. If reader is familiar with the 8T two symmetry breaking – inward to generate mass:

$$8-(1)$$

Moreover, outward to generate a ripple on the matric tensor given by the term:

$$8+(1)$$

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, we 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:

$$v_e \longrightarrow 8n\,;$$

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

$$[(24*5)+8+(3)]+5 \rightarrow \ [(24*5)+v_e+(e)]+\gamma$$

$$[(24*5)+v_e+(e)]+\gamma = 128$$

$$v_e = 0$$

$$[(24*5)+v_e+(e)]+\gamma \longrightarrow [(24*5)+(3)]+5$$

Based on the 8T we 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

we 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. We 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 we no longer need to explain why there are three families.

$$19{,}600 \longrightarrow 1400 \longrightarrow 56 \longrightarrow 0.113 \ldots$$

$$19{,}600 * 9 \longrightarrow 1400 \longrightarrow \frac{56}{9} \;=$$

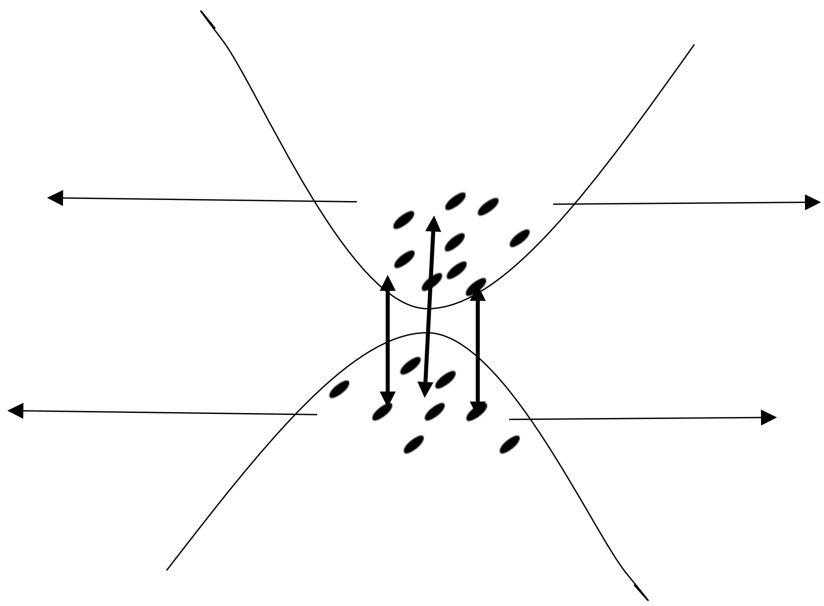
$$176{,}400 \longrightarrow 1400 \longrightarrow 6.3$$

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 we offer for the issue of dark matter? Notice that according to the main equation (1) or (1.2) we have 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 we are 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 we 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, we 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 we have 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.

$$\frac{N_V}{T_V} \;\longrightarrow R$$

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

We can take the original illustration and modify it



The Canonical Equations of Curvature Spikes

Suppose we would like to present a simple way to create an analog for the canonical equations of motion, presented by Hamilton. How can we 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 (1.48) and (1.49) to derive something fundamental about the momenta of Fermions and Bosons. Suppose we replace the known variable of Hamilton by:

$$\partial q_i \longrightarrow \partial g_i$$

And we know from the equivalence principle that

$$\partial g_i = \partial g'_i$$

We can present the canonical equation of curvature spikes, if one intuition is correct:

$$\dot{p}_i = \frac{\partial \ell}{\partial g_i}$$

In addition, since we know it vanish into zero, we cannot present it as being in the denominator. We can than represent the canonical equation of curvature spikes for Fermions:

$$\partial g_i = \frac{\partial \ell}{\dot{p}_i} = 0 \tag{1.7}$$

And since we 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. We can do the exact same thing for Bosons, since we know that they are isomorphic to prime numbers that cannot vanish into matter, the canonical equation of curvature spikes for Bosons is the following:

$$\partial g_i = \frac{\partial \ell}{\dot{p}_i} > 0 \tag{1.71}$$

Meaning that the Bosonic configuration must have some net momenta, we 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 - 8T

We have analyzed the term of Graviton as a combination of three net curvature that could be either distinct or identical. That is by the spin two trait. That spin two trait, in net curvature representation means that gravity is short ranged, as the three net curvature and the invariant three sums to be a positive number.

$$\left[\left(2N_{gravity}\right)+(3)\right]+N_{V1}+N_{V2}+N_{V3}=\left[2N_{gravity}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}+\frac{1}{2} \qquad (2.2)$$

$$\left[2N_{gravity}+2\right]\rightarrow\left[2N_{gravity}\right] \qquad (2.3)$$

Up until now, reader is probability familiar with every equation presented, as those are 8T thesis fundamentals. From here on out, we have a completely new paper. 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 we 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.

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}$$

$$\left[N_{VK1},N_{VK2},N_{VK3}\right]\in\mathbb{P}$$

$$K1\ldots KN\in\mathbb{R}$$

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, we 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 we 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, we need 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 we are 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. We 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.

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3} \rightarrow 2N_{()} + 2$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4} \rightarrow 2N_{()} + 2$$

Prediction: The Gravitational coupling constant is not a constant at all.

Curvature Terminators and Conservation of Energy - 8T

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. We allow the existence of anti-matter as the coupling magnitudes are preserved under sign reversal.

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

We 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, we will have to present the set of arbitrary curvature terminators, for fermions, it has two inverse elements.

$$\mathrm{X}=[-\delta g_1,+\delta g_2]$$
$$\langle\delta g_i|-\delta g_i\rangle=0 \qquad (1.46)$$

So overall, there are two main stages of curvature elimination. First arbitrary variation vanish into matter, as presented in the 8T 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. We have presented the same procedure of orthogonal curvatures to leptons and Bosons. We used equation (1.46) with leptons as elements of the inner product such as the electron and positron:

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

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:

$$\langle\gamma_i|\gamma^-{}_i\rangle=0$$

Summing up, if require the conservation of energy we 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 - 8T

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 we have the arbitrary variation term in equation (1.48) to vanish into matter, we 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):

$$P_A\# = \left(\mathrm{K} * \prod_{A=3}^{A=2n+1} P(A) + \mathcal{M}\right) + P(A)$$

$$A \in \mathbb{P};$$

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 we 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 8T 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 we use 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 we have achieved, from dark energy to the coupling series and the Quark masses series, is encompassed in just one equation and two conditions.

$$\frac{\partial \ell}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}} - \frac{\partial \ell}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0 \qquad (1)$$

In addition, all the standard model of particle physics is encompassed in just two conditions. For fermions:

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

Bosons as net curvature of discrete prime amounts:

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

Predicting the Value of the Next Planck Constant

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

The paper main point is to provide a theoretical prediction regarding the fourth interaction. Since from measurement we know the value of the Planck constant, and in our theory, it is associated with the net variation element of the third coupling term; we 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 we expect, as each net variation is larger than the preceding, now we 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:

$$9.27649806 \times 10^{-34}\ m^2\ kg\ /s$$

The Nature of the Primorial – 8T

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, we 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. The primorial is answering the criteria of a scalar function as her values are bounded to $\mathbb{R}$, it is defined within the boundary of the expanding manifold as given by the main equation (1). Since the 8T is built upon the EL operator and the action principle, the invariance under shifting frames is already embedded in the nature of the theory. However, it is also 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) :

$$\left[\left(2N_{gravity}\right) + (3)\right] + N_{V1} + N_{V2} + N_{V3} = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \tag{2.2}$$

$$\left[2N_{gravity} + 2\right] \rightarrow \left[2N_{gravity}\right] \tag{2.3}$$

We have 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 Coupling Constants

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 $\mathcal{r}$:

$$128 < \mathcal{r} < 850$$

$$\frac{\gamma + 7}{2} = 6$$

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. We 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. We can not associate a Boson to an even number, which vanish. In that sense it is imaginary.

The Chameleon Particle - 8T

We have 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, we 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.

$$\mathrm{H} = [\hbar_1 \dots \hbar_K]$$

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 we calculated the ratio of net to total. Here we only interested in the net. So according to this viewpoint, which is the electron for each higher term, we reached a prediction regarding the discovery of Max Planck. Now we 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 we take, we have an element which is either same for all, causing an emission of different bosons, according to the current thought tides. Alternatively, we have distinct particles manifested by the same number, causing net curvature of distinct amounts to appear on the matric tensor. We 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. In the 8T thesis, page sixteen, we presented the following classification:

Spin 0: $2N_0$ variations

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

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

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

$$2N_{(\ )} \rightarrow 2N_\mu$$

$$\mu \in \mathbb{R}$$

$$2N_\mu \in \mathbb{R}$$

Because of the parametrization of the first term in spin representation, we 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, we 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 – 8T

We derived the primorial by using total variations pairing, we searched for pairs that have certain features we know about fermions. In particular, the total sums of the pairs had to be two and three divisible. Below marked in black are the pairings we used to derive the series.

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

$$(5,3)\ \ (5,5)\ \ (5,7)\ \ (5,11)\ \ (\mathbf{5},\mathbf{13})\ \ldots$$

$$(7,3)\ \ (7,5)\ \ (7,7)\ \ (\mathbf{7},\mathbf{11})\ \ (7,13)\ \ldots$$

$$\ldots.$$

$$(29,19)(29,23),(29,29),(\mathbf{29},\mathbf{31})\ldots$$

We 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, we 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 (1.48) those prime pairs of variations are taken to vanish. Therefore, we can define the prime pairs that are not suitable for the coupling criteria:

$$(p_N,p_{N+K}) = S_N$$

$$S_N \not\equiv \mathrm{S}$$

$$[2\ ,3]\mid \mathrm{S} \qquad (2.15)$$

Assuming we 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.

$$\sum_{N=7}^{\infty}(p_N, p_{N+K}) \to \sum_{i=1}^{T} 0_i$$

$$T \dashrightarrow \infty$$

We 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:

$$\frac{\partial \mathcal{L}}{\delta g_i} = \frac{\partial \mathcal{L}}{\partial g_i} - \frac{\partial \mathcal{L}}{\partial \dot{g}_i}\left(\frac{d}{dt}\right) = 0 \tag{1.8}$$

$$\frac{\partial \mathcal{L}}{\delta g_i} = \frac{\partial \mathcal{L}}{\partial g_i} - \frac{\partial \mathcal{L}}{\partial \dot{g}_i}\left(\frac{d}{dt}\right) > 0 \tag{1.81}$$

The 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:

$$\sum_{i=1}^{T} 0_i = \mathcal{V} \tag{2.16}$$

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, 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.

The Coupling Constants Series – a Star's 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, we have 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:

$$19{,}600 \longrightarrow 1400 \longrightarrow 56 \longrightarrow 0.113 \ldots$$

$$19{,}600 * 9 \longrightarrow 1400 \longrightarrow \frac{56}{9} =$$

$$176{,}400 \longrightarrow 1400 \longrightarrow 6.3$$

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. We 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 we 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):

$$\left[\left(2N_{gravity}\right)+(3)\right]+N_{V1}+N_{V2}+N_{V3}=\left[2N_{gravity}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}+\frac{1}{2} \tag{2.2}$$

$$\left[2N_{gravity}+2\right]\rightarrow\left[2N_{gravity}\right] \tag{2.3}$$

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}$$

$$[N_{VK1}, N_{VK2}, N_{VK3}] \in \mathbb{P}$$

$$K1 \dots KN \in \mathbb{R}$$

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 we 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 we regard the Bosons to be discrete amount of energy or radiation emitted from the lepton. As was presented in the 8T 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.

$$\frac{1}{9} > \frac{3}{30} > \frac{5}{128} > \frac{7}{850} \ \ldots$$

$$\overrightarrow{0.111 > 0.1 > 0.039 > 0.008 \ldots}$$

We already have the radiation arrow and the cosmological arrow unified by the primorial. Now the last arrow, the thermodynamics arrow. How can we 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, we 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 we have 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. We can use functors to present that idea in rigor;

For simplicity sake, we can use a setting of a partitioned set:

$$\uplus : Top \to \text{set}$$

$$\boldsymbol{\Sigma}: \left[\sum_{i=1}^{N} \delta g_i = 0 \ , \sum_{i=1}^{K} Z_i \sum_{i=1}^{K} N_{Vi} = Z_1 N_{V1} .. Z_K N_{VK}, t_1\right] \tag{2.17}$$

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 $Z_1 \to Z_K$. At later continuation of time, according to the primorial, we will find that the new set is presented by (2.17.1):

$$\psi : \left[\sum_{i=1}^{N+\Delta N} \delta g_i = 0 \ , \sum_{i=1}^{K+\Delta K} Z_i \sum_{i=1}^{K+\Delta K} N_{Vi} = Z_1 N_{V1} .. Z_K N_{VK}, t_1 + \Delta t\right] \tag{2.17.1}$$

$$\Delta N \ , \Delta K \ \in \ \mathbb{R}$$

In other words, more matter was created, the number of non-vanishing distinct curvature increased, and their kind increased as well. We have 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.

The Coupling Constants Series – Net Curvature versus Spin

$$\frac{\partial \ell}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}}-\frac{\partial \ell}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2}=0 \qquad (1)$$

$$\frac{\partial \ell}{\partial s_1}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}-\sum_{n=2}^{\infty}\frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t}=0 \qquad (2)$$

$$F_{V=0} \quad = 8+(1) \qquad (1.1)$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \qquad (1.2)$$

$$8+(1)$$

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

$$[(24*5)+(3)]+5$$

$$[(120*7)+(3)]+7$$

This is the first representation of the primorial, discrete amount of net curvature on the manifold. It is a detailed representation as we have leptons, Bosons as separate entities. This does not exist in spin representation of the primorial, and that is preciously how we derived the particle wave duality, due to spin variation. In spin representation, we used the prime critical line. That is the transformation for matter:

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

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

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

The only thing we care 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. We do not make a clear cutting classification to particles in this representation. For Bosons:

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

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

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

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, we have one entity, the total spin of the element, either Fermionic or Bosonic. The photon before measurement had spin one, now we measured it and it varied to one-half, no longer bosonic spin. That was mentioned in the 8T thesis. However, it is important to emphasize the difference among the representations. In net curvature representation, we analyze each element separately, while in spin representation we care 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 – 8T

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

Shifting to spin representations for the third element in the series, which is electromagnetism:

$$[(24 * 5) + (3)] + 5 \rightarrow \left[2\mathrm{N}2 + \frac{1}{2}\right] + \boldsymbol{\frac{1}{2}}$$

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:

$$\left[2\mathrm{N}2 + \frac{1}{2}\right] + \boldsymbol{\frac{1}{2}} \rightarrow \left[2\mathrm{N}2 + \boldsymbol{\frac{1}{2}}\right] + \frac{1}{2}$$

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

Such a variation of the coupling series does not affect the overall magnitude of the element, but using it we 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 we 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.

$$\sum_{i=1}^{N} e_i \rightarrow \sum_{i=1}^{N} (+3)_i > 0$$

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).

$$\sum_{i=1}^{N} (3)_i > 0 \quad \cap \quad \sum_{k=1}^{M} \delta g_k = 0 \qquad (1.37)$$

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

$$\sum_{i=1}^{T} (-3)_i + \sum_{i=1}^{N} (3)_i = 0; \quad T = N \qquad (1.39)$$

$$\sum_{k=1}^{M} \delta g_k = 0 \qquad (1.40)$$

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.

The Equation for Exotic Charges - 8T

to bring an element to itself given only two varying elements in the series we 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. We are 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. So:

$$(1(e)1(e)1)$$

$$2(e)2(e)2$$

$$(221)$$

$$(112)$$

$$(211)$$

$$(122)$$

$$(212)$$

$$(121)$$

Up to this point, reader is most likely familiar with the everything as these 8T fundamentals exactly as presented in pages 4-5 From here on out, we have a completely new paper. 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 we derived must summed as positive or negative, integer, plus or minus one. Combined with the condition of the threefold, we 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, we 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

$$\delta g_1 \delta g_2 \delta g_1 \delta g_2 \delta g_1 \delta g_2 \delta g_1$$

$$\delta g_1 = +\frac{4}{7}$$

$$\delta g_2 = -\frac{3}{7}$$

$$+\frac{16}{7} - \frac{9}{7} = 1$$

We 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 we need 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 $n_2 = 2$

$$\frac{n_2}{2n_2 + 1} \longrightarrow \left(\frac{\mathbf{2n_1 + 1}}{2n_2 + 1}\right), \left(\frac{\mathbf{-n_1 - 1}}{2n_2 + 1}\right)$$

For $n_3 = 3$

$$\frac{n_3}{2n_3 + 1} \longrightarrow \left(\frac{\mathbf{2n_1 + 2}}{2n_3 + 1}\right), \left(\frac{\mathbf{-n_1 - 2}}{2n_3 + 1}\right)$$

The formula to represent the charge of each prime fold chain pair is the following

$$\frac{n_k}{2n_k + 1} \longrightarrow \frac{\mathbf{2n_1 + (k - 1)}}{\mathbf{2n_k + 1}}, \frac{\mathbf{-n_1 - k - 1}}{\mathbf{2n_k + 1}} \qquad (\mathbf{5})$$

$$n_k = k;$$

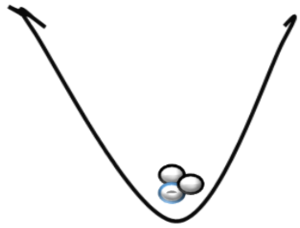
$$k \in \mathbb{R}$$

Unbounded Quarks

Since it was proven that fermions are described by the term:

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

It was possible to construct the visualization of Quark confinement as the following:



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 we can parametrize the sea of Gluons:

$$\sum_{i=1}^{N} \delta(+1)_i = K \tag{2.12.A}$$

$$\frac{\partial K}{\partial t} = 0 \tag{2.12.B}$$

If we accept 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, we 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 we understand, generating anti-particles in infinitesimal amount is almost beyond our technological reach, let alone multi-particle set. That being said, ignoring those complexities of the real world, theoretically if (1.49) is correct, it should be possible, given advanced enough technology.

The 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):

$$\sum_{i=1}^{M} \delta g_i > 0 \tag{3.13}$$

Now, we 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;.

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

$$\boldsymbol{\delta g \neq 0} \qquad \boldsymbol{at} \qquad \boldsymbol{t = Q(t + \Delta t + \Delta t)}$$

$$\Delta t \to 0$$

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

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

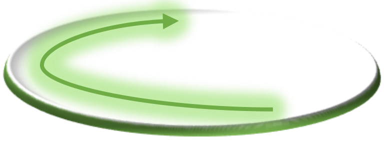
$$[(24*5)+(3)]+5 \to [(24*5)+(e)]+\gamma$$

Moreover, in spin representation:

$$[(24*5)+(3)]+5 \to \left[2\mathrm{N}2 + \frac{1}{2}\right] + \boldsymbol{\frac{1}{2}}$$

The visualization of the Boson in the theory:

Since it has spin, the net curvature is than a vortex of certain amount:

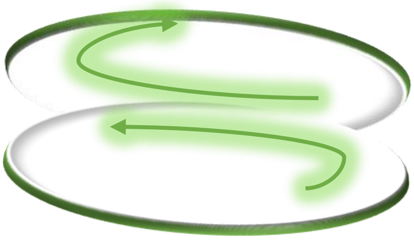


In addition, interference than could be constructed as two opposite curvature vortexes interfacing with one another. The area of cancelation is the area in which the opposite ripples on the matric tensor interest. The spinning curvature vortex is a more compete version of the phenomena of interference 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.

$$F_{V=0} \; = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3) \right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

So now, we can visualize the phenomena of interference in the following way by the two representations:



If we define ripple operators ≬ 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 as previously mentioned.

$$\not\approx : A \cap A' \tag{1.42}$$

Nested Curvatures

$$F_{V=0} \quad = 8 + (1) \tag{1.1}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.2}$$

Now, we can analyze the fifth term in the coupling constants series 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 we 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. We can think about the higher terms as nested net curvature of different amount. Similar to how we can represent any point in space using a set of independent vectors, we 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 we 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. We have 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. We 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. We can parametrized the patterns of converging and diverging curvatures

$$8-(1)\longrightarrow \mathcal{g}_c$$

$$8+(1)\longrightarrow \mathcal{g}_d$$

Curvature diverging $\mathcal{g}_d$ is equal to curvature converging, $\mathcal{g}_c$, times the square of speed of light. A new version of the Einstein equation, equation (1.9).

$$\mathcal{g}_d = \mathcal{g}_c c^2 \qquad (5.1)$$

8T – 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, we 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

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

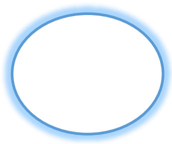
$$\delta g = 0 \qquad at \qquad t = Q(t+\Delta t)$$

There is always a chance net curvature will appear at later continuation of time. That is bosonic fields given by the primorial coupling series ;

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

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

Since we have $N_V = P(A)$ 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. We 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– Where 8T and GR Differ

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 Another major and matter to cluster, which is manifested in their isomorphism to prime numbers. significant difference is that in Quantum scale, we 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.

$$\left[\left(2N_{gravity}\right) + (3)\right] + N_{V1} + N_{V2} + N_{V3} = \left[2N_{gravity} + \frac{1}{2}\right] + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \qquad (2.2)$$

$$\left[2N_{gravity} + 2\right] \rightarrow \left[2N_{gravity}\right] \qquad (2.3)$$

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK3}$$

$$[N_{VK1}, N_{VK2}, N_{VK3}] \in \mathbb{P}$$

$$K1 \dots KN \in \mathbb{R}$$

Another possible composition, among infinity of others:

$$\left[\left(2N_{()}\right) + (3)\right] + N_{VK1} + N_{VK2} + N_{VK4}$$

$$N_{VK3} \not\equiv N_{VK4}$$

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 we 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 Overcoming Measurement Problem

We partitioned and discretized the arbitrary variation term and derived the existence of Fermion. 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.

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

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

In addition, with bosons, described by the term (1.49) as they were proven discrete amount of prime curvature on the matric tensor:

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

The 8T thesis, page sixteen, the author presented the spin classification of the primorial:

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 8T 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.

$$[(24 * 5) + (e)] + \gamma + \gamma \rightarrow 2N_2 + \frac{3}{2}$$

Up until now, reader is probability familiar with every equation presented, as those are 8T fundamentals. **From here** on out, we have a completely **new paper.** let us 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, we 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. We know the Higgs has spin zero, and therefore we scatter the Higgs onto the photon to perform the measurement, the result according to the primorial will look:

$$[(24 * 5) + (e)] + \gamma + \mathrm{H}^0 \to 2N_2 + 1$$

The spin of the photon has not changed; it is invariant to the Higgs particle, as it is not on the prime critical line. We can therefore make a **prediction:**

(1) By replacing a photon by the Higgs as a measuring tool, we could measure a photon without changing its nature, from wave like to a particle like.

8T – 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", we 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 we know 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. We have 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 we associate the Bosonic "fields" to independent, stable curvature spikes, as the author suggest in the 8T thesis that means that the stationarity cannot be preserved, if we keep developing the main equation using Ricci curvature:

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}} = -2Ric$$

Than the sign of (3.13.B) for Bosons reverse:

$$\sum_{1=1}^{M} \delta g_i > 0 \quad \rightarrow \quad \sum_{1=1}^{M} \delta g_i < 0 \qquad (3.13.C)$$

If we require the condition of stationarity to be (2.12) than we 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 8T thesis as it is quite a different framework than QFT or General relativity. The **key question** of the subject matter, can we created a theory in which random particles of all kind appear while keeping the manifold stationary? We know we can do it for Fermions, it was proven. However, can we 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

The 8T setting is a Lorentz manifold, $\mathrm{s} = (\mathrm{M}, \mathrm{g})$, with $(3,1)$ signature. The manifold is the connected manifold, invoked stationary, $s = s_0 \times \mathbb{R}$.. The manifold has areas of extremum curvatures that remain as they are overtime, this are yielding time invariant acceleration from them on the matric tensor M, given by two conditions below (1). The reason for the acceleration in the 8T is that the manifold is a part of an infinite packet of universes, which interact at areas of extremum curvatures, as g is the Ricci flow, and as a result flatten each other matric tensor causing it to accelerate in a time invariant rate, given by equations (1). By (2) those manifolds are topologically invariant. Flatness is an immediate result of this framework as given by the illustration below.

$$\frac{\partial \ell}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}} - \frac{\partial \ell}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0 \qquad (1)$$

$$\frac{\partial \mathrm{g}}{\partial \mathrm{t}} = 0 \cap \frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0$$

$$\frac{\partial \ell}{\partial s_1} - \sum_{n=2}^{\infty} \frac{\partial \ell}{\partial s_n} = 0 \qquad (1.53)$$

$$\sum_{m=1}^{K} \frac{\partial \ell}{\partial s_n}\frac{\partial s_1}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} - \sum_{n=1}^{K} \frac{\partial \ell}{\partial s_n}\frac{\partial s_n}{\partial M}\frac{\partial M}{\partial g}\frac{\partial g}{\partial t} = 0 \qquad (1.2.\mathrm{A})$$

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 we 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 $(1.4.B)$ we have created higher energies which can not be isomorphic to a Boson. We 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 we 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

We have presented the spin classification in the 8T thesis, page seventeen, while using the prime critical line:

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

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

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

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

In page fifty-five in the 8T 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 we 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 we analyze the number of elements total spin. So the primorial clearly shows:

$$\gamma + \gamma = \frac{3}{2}$$

thus taken from this point of view, shades light on the relation between spin and wave interference. But we can go even further, and by the difference make a prediction. According to the difference, author would make a prediction:

(1) The wave summation of the two photons would lead to a cancellation of 25% the wave of each photon individually.

Quantum Manifolds

$$s = (\mathrm{M}, \mathrm{g}) \longrightarrow (\mathrm{M}, \mathrm{g}, \mathcal{F}\ )$$

$$\boldsymbol{\varphi}: \boldsymbol{N_V} \longrightarrow \boldsymbol{\wp_i} \qquad (\mathbf{2.4})$$

$$N_V = 2\left(V + \frac{1}{2}\right);\ V \geq 0 \qquad (1.42)$$

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

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

$$\mathcal{F} = \sum_{i=1}^{i=N_V} \wp_i$$

$$N_V = +3 \longrightarrow \wp_{i=3}$$

$$\wp_i \in [0,1]$$

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, we will analyze the third coupling term, electromagnetism.

$$[(24 * 5) + (3)] + 5 \rightarrow [(24 * 5) + (e)] + \gamma \qquad (1.44)$$

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 we 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:

$$e^{\mathcal{K}} = e^{0}$$

We need to introduce a sub-script to differentiate the two electrons, so overall:

$$e^{\mathcal{K}} = e^{+1} \to e_1^{+1}$$

$$e^{\mathcal{K}} = e^{0} \to e_0^{0}$$

The point is now that each of those leptons has a distinct probability, we need 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. We 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 we aspire 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.

8T – 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:

$$\sum_{i=1}^{T} 0_i = \mathcal{V} \qquad (2.16)$$

Up to this point was introduction, reader is probability familiar with every equation presented, as those are 8T fundamentals. **From here** on out, we have a completely **new paper.** 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, we create 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 we consider it to be a time variant interaction.

$$\left[\left(2N_{gravity}\right)+(3)\right]+N_{V1}+N_{V2}+N_{V3}=\left[2N_{gravity}+\frac{1}{2}\right]+\frac{1}{2}+\frac{1}{2}+\frac{1}{2} \qquad (2.2)$$

$$\left[2N_{gravity}+2\right]\rightarrow\left[2N_{gravity}\right] \qquad (2.3)$$

$$\left[\left(2N_{()}\right)+(3)\right]+N_{VK1}+N_{VK2}+N_{VK3}$$

$$\left[N_{VK1},N_{VK2},N_{VK3}\right]\in\mathbb{P}$$

$$K1\ldots KN\in\mathbb{R}$$

Summing up, we have defined two kinds of homomorphism in the paper; the first is from prime pairs to zero:

$$\mho: S_N \longrightarrow 0_i \qquad (2.18)$$

The second is from lower composition of primes to reach a distinct higher prime:

$$\mathrm{Z}: \sum_{K=1}^{N} N_{VK} \longrightarrow N_{V(K1+K2\ldots)} \qquad (2.19)$$

$$N=2n+1;$$

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

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 we 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, we 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.

$$\varkappa: Top \rightarrow Set$$

$$\mathrm{T}=\left[\delta g_1,\delta g_2,\delta g_1\times\delta g_2\right]$$

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.

$$\delta g_1{}'\leftrightarrow\delta g_1$$

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 we 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 we consider 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 8T thesis we have 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.

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V \rightarrow \left(8 * \prod_{V=1}^{V=R} N_V + (\pi)\right) + N_V$$

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

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

Up to this point was introduction, reader is probability familiar with every equation presented, as those are 8T fundamentals. **From here** on out, we have a completely **new paper.** 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 we keep 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. We 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:

$$8 + \left(\frac{\boldsymbol{\pi}}{\mathbf{3}}\right) : \left(24 + (\boldsymbol{\pi})\right) + \boldsymbol{\pi}: \left(120 + (\boldsymbol{\pi})\right) + (\eta_n\boldsymbol{\pi} + \mathrm{E}_n): \left(840 + (\boldsymbol{\pi})\right) + (\eta_{n+1}\boldsymbol{\pi} \ + \mathrm{E}_{n+1})..$$

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:

$$\eta_n \pi \longrightarrow \infty$$

$$\mathrm{E}_n \longrightarrow 0$$

$$n \to \infty$$

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.

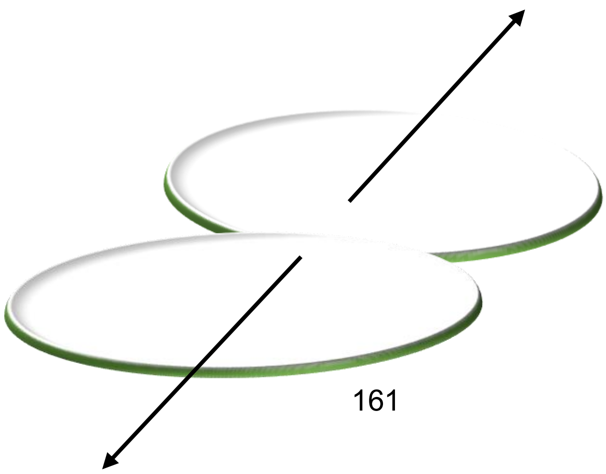
8T – Quantum Entanglement

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:

$$[(24 * 5) + (3)] + 5 + 5 \to [(24 * 5) + (e)] + \gamma + \gamma \qquad (1.44)$$

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.

$$[(24 * 5) + (3)] + 5 + 5 \to [(24 * 5) + (e)] + \overleftarrow{\gamma_1} + \overrightarrow{\gamma_2} \qquad (1.44.A)$$



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:

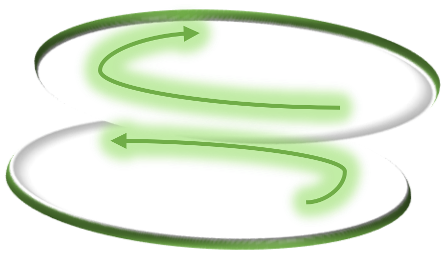
$$[(24 * 5) + (3)] + 5 \rightarrow \left[2N_2 + \frac{1}{2}\right] + \mathbf{\frac{1}{2}}$$

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:

$$[\delta\ell\delta s\delta M]\delta g = 0$$

$$[\delta\ell\delta s\delta M]\delta g > 0$$

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 (1.48) and (1.49) 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 ჲ from a starting area to another area, the mutual area of both will be the amount of interference.

$$ჲ: A \rightarrow B$$

$$ჲ: A' \rightarrow B$$

Interference will accrue at the manifold segment that is mutual to both starting point as previously mentioned.

$$\napprox : A \cap A' \tag{1.61}$$

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:

$$\between : \overleftarrow{\gamma_1} \longrightarrow M_1$$

$$\between : \overrightarrow{\gamma_2}\ ' \longrightarrow M_2$$

$$M_1 \not\equiv M_2$$

$$\napprox : \overleftarrow{\gamma_1} \cap \between : \overrightarrow{\gamma_2}$$

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.

Epilogue - The Meaning of It All

$$\frac{\partial \ell}{\partial \mathrm{s}} \frac{\partial \mathrm{s}}{\partial \mathrm{M}} \frac{\partial \mathrm{M}}{\partial \mathrm{g}} \frac{\partial \mathrm{g}}{\partial \mathrm{t}} - \frac{\partial \ell}{\partial \mathrm{s}'} \frac{\partial \mathrm{s}'}{\partial \mathrm{M}} \frac{\partial \mathrm{M}}{\partial \mathrm{g}'} \frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0 \tag{1}$$

We have came a long way, using just one equation. One can only commend the reader for taking the time to read and analyze this paper. 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 equations 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. However, Most importantly, it showed that nature is governed by reason, and those numbers were not chosen randomly, and **that** is the real beauty of this whole 8T construction, the ability to clearly reason, reason herself.

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

The 8T is dedicated to the memory of the one person who inspired the author to pursuit theoretical physics, to the memory of the inimitable Richard Feynman.

Manor Ohad

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