Searching for anti- info, some elementary **mathematics.**

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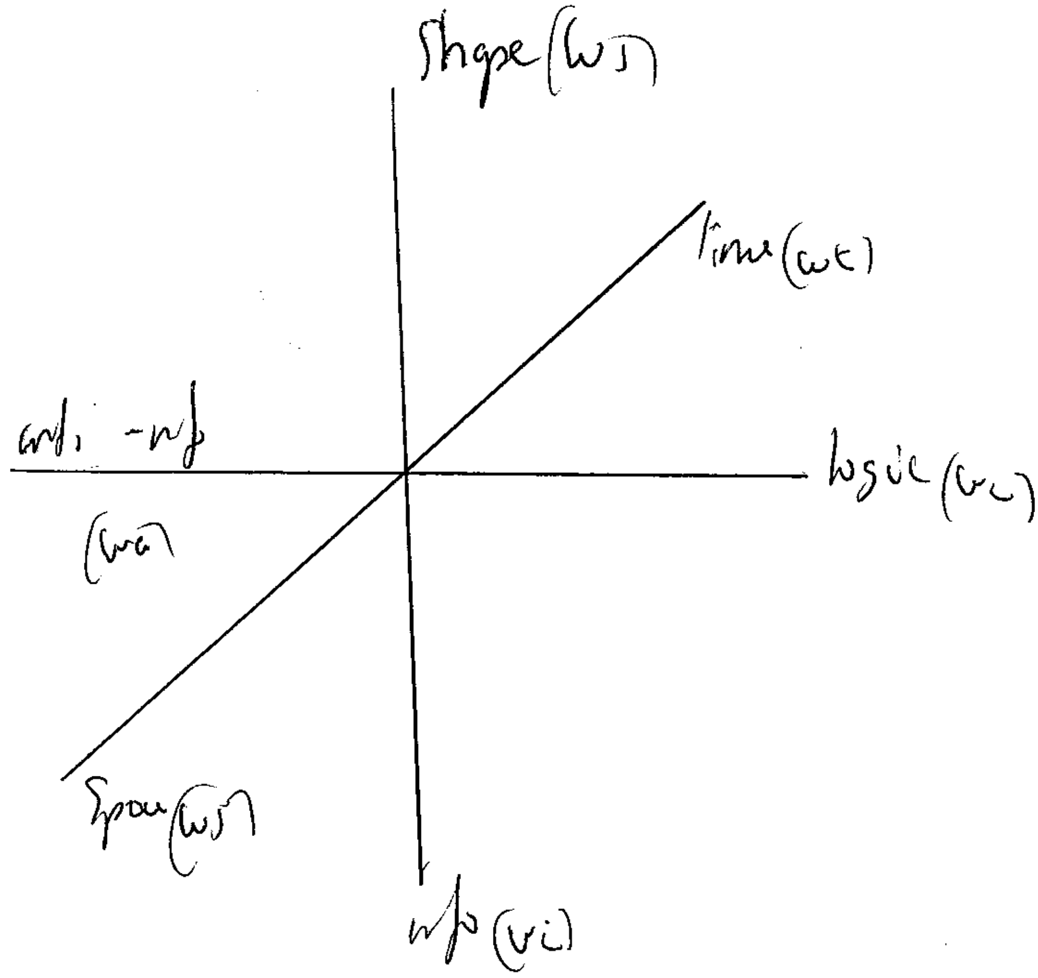
Abstract: There is a correction to be made, the last few articles describe branches/ strings as planck length/ c squared. They are more likely to be planck length in numeration. (See previous articles by author).

In this paper, due to the large amount of literature to be processed, I have developed a few mathematical arrangements of my own.

They relate to conservation of information, the relationship between size of various unsymmetric matrices and the relationship of negative numbers in a concept called reflectional equivalence. Discussed also it the hypothesis (sic) of whether the branches (loosely meaning strings) can be macroscopic in size. i.e varying from planck length to essentially the size of any known object.

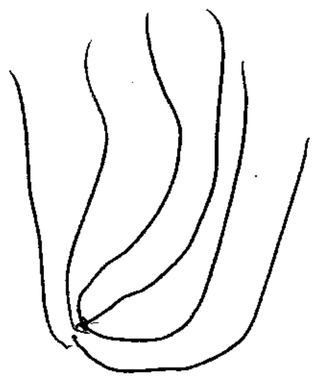
Introduction. The physical universe has long been considered a manifestation of the mental. Such spirituality has no place in current science, or as is supposed, is too far out of the limitations of mathematical encryption..

The philosopher Plato put forward in a sense of idealism, the notion of forms. These are mental/ metaphysical entities that are beyond our universe yet govern the nature of all things. For example a chair has the ideal 'form' of a chair. The idea of a chair exists even while there are no perfect chairs in our universe. In the papers, forthwith, I attempt to understand the mechanisms of how Platos forms can be expressed physically, in an analogous and sometimes quite efficaciously manner to the mechanics of string theory in such a way



$$(\omega s, \omega i, \omega t, \omega n, \omega t, \omega a) \in$$ hyper sl.d fashions

→ Becomes



as they can be broadened to explain some features of the universe(s) , considering the deep nexus between mathematics, physics and reality.

Component of the theory, called Anti- information theory, is the notion that the physical universe exists due to the existence of a logical universe and in this physical universe mathematics should be seen and heard.

I provide some postulates below that aid in the quantification and analysis of information flow..

Postulate 1) If a problem can be seen it is easier to solve.

Postulate 2) To analyse something it has to be broken down into it constituent parts. Paradox : the infinitely small is component of the infinitely large.

Postulate 3) Things move from high potential to low potential.

Postulate 4) The universe has no memory apart from large scale structures. i.e photons etc.

These may seem quite arbitrary and nonsensical but are necessary to understand phenomena such as time travel. Central to our revered field of physics is the notion of conservation of information.

I subscribe to this with one caveat. It is groups of information that are conserved. To demonstrate this point I have 'cooked up some linear algebra'.

First though we should cover the basic idea behind Anti- info theory.1)

The basic building blocks of the multi- verses , strings etc are "Branches" contacting centres, set up as a coordinate system above.

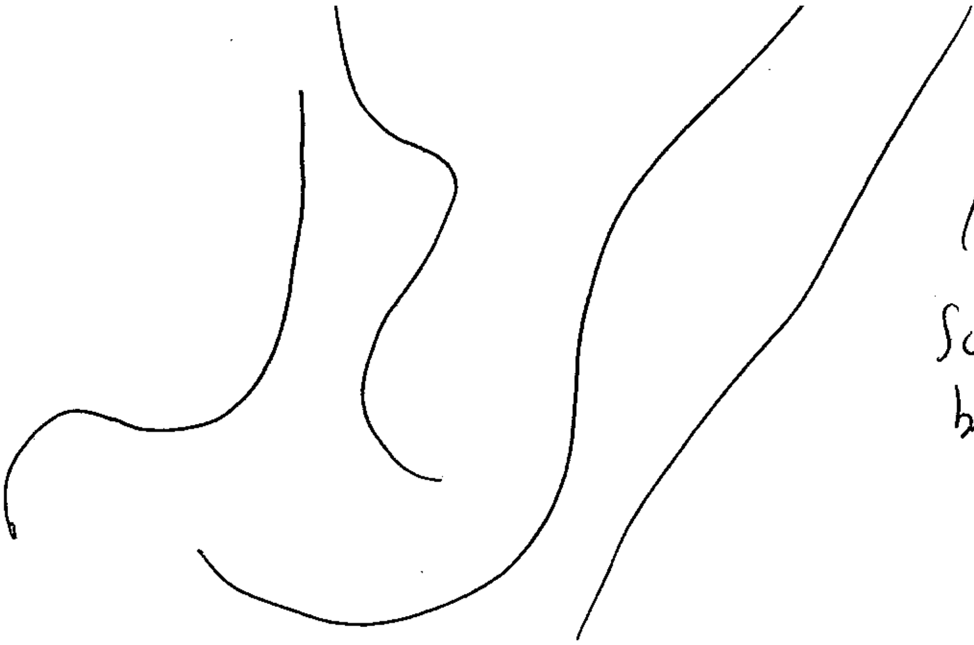
The conservation of information refutation goes as follows: 2) 3)

For a matrix describing a system

$$\begin{pmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} a_{11} + a_{12} + a_{13} \\ a_{21} + a_{22} + a_{23} \\ a_{31} + a_{32} + a_{33} \end{pmatrix} = \begin{pmatrix} d \\ e \\ f \end{pmatrix}$$

These $\{d, e, f\}$ however can be formed to a matrix C. However there is this. Convert back into the original matrix, given the matrix C only.

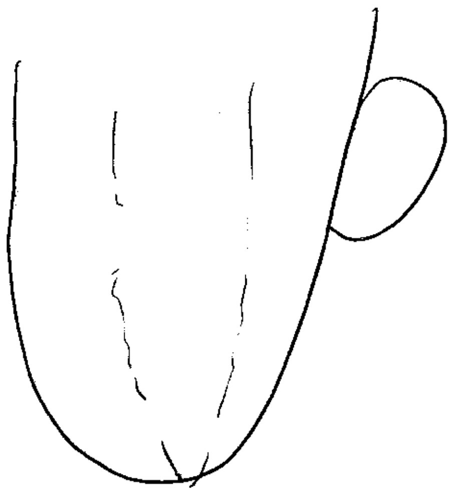
The answer may be that it is there on the page that it is written on, but if this is a physical process of destroying the information, the equation's information is not conserved, while in the physical universe it is ... of information that are conserved.



large scale border

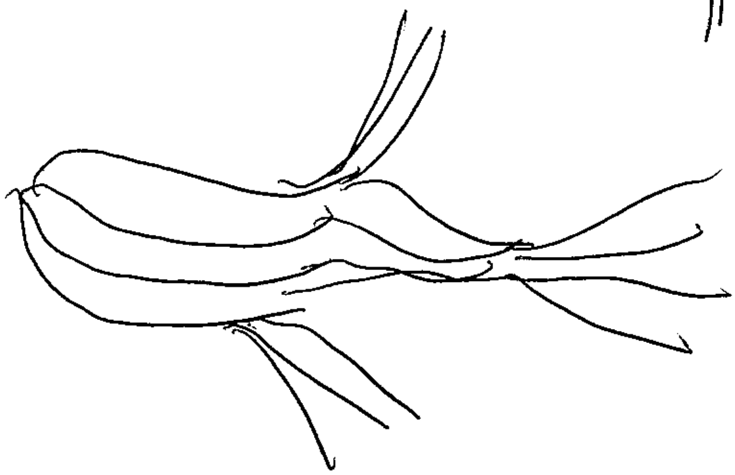
Their amplitude is given by.

$$\boxed{A = \int e^{iS\left(\frac{\partial X^\mu}{\partial \tau}\right)^2 - \left(\frac{\partial X^\mu}{\partial \sigma}\right)^2}}$$



A cup.

A whale



How then is the number c converted back into the original equation if the equation is lost? Rather than single entities being conserved it is groups of information that are conserved.

In addition the material already presented on fields we have the notion that the branches can be large, anything up to the diameter of the universes, and, can float around, contacting the centres.

This is the main tenet behind platos forms becoming physical.

To do this we need a manner of describing how small scale (Ground state) fields communicate to become large scale structures, and their interaction with large scale branches.

This depends on the transfer of information, which can most effectively be described as frequencies. 4)

(4)
(4)

i.e. & $\begin{pmatrix} a_1 & a_2 \\ a_3 & a_4 \end{pmatrix}$

$$\begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{1n} & a_{1p} \\ a_{21} & a_{22} & a_{23} & a_{2m} & a_{2p} \\ \vdots & & \ddots & & \\ \vdots & & & \vdots & \end{bmatrix}$$

* where the [illegible] has a small matrix and a large matrix [illegible] we have the notions of 'widows' and orphans

$\langle\psi| = \begin{pmatrix} x & y & z & \vdots \end{pmatrix}$ $A|\rangle = \begin{pmatrix} a \\ b \\ c \\ d \end{pmatrix}$

this should be a a widow

$\begin{pmatrix} x & y & z, & w \end{pmatrix}$ $\begin{pmatrix} a \\ b \\ c \\ d \end{pmatrix}$ ← this should be [illegible] an 'orphan' 'orphan'

①

~~a~~ The $\hat{\ }m$ gradient takes a small and makes all cells element to A to become large such

$A = \begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix}$ i.e. $\hat{\ }m \begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} = \hat{\ }m A$

$$C = \begin{pmatrix} \bar{a}_{11} & a_{12} & a_{13} & \cdots & a_{nm} \\ a_{21} & a_{22} & & & \\ \vdots & & & & \\ a_{nm} & & & & a_{nm} \end{pmatrix}$$

then $C - A = \widehat{\ }$

$$W = \begin{pmatrix} \bar{0} & 0 & a_{23} & a_{24} & \cdots & a_{nm} \\ 0 & 0 & & & & \\ \vdots & & & & & \vdots \\ a_{m} & & & & & a_{nm} \end{pmatrix}$$

$C + A$

$$\beta = \begin{bmatrix} \begin{pmatrix} a_{11} & a_{21} \\ a_{21} & a_{22} \end{pmatrix} & a_{22} & a_{12} & a_{17} & \cdots & a_{nm} \\ & a_{21} & a_{22} & a_{2,} & \cdots & \\ a_{21} & a_{22} & \cdots & & & \\ \vdots & & & & & \end{bmatrix}$$

thus a larger matrix is formed, encompassing the smaller matrix A.

$C + A_{\hat{nm}} =$

$$A \times C = \hat{nm}(A+C) - \hat{nm}(C-A)$$

$$= D = D = A$$

$$\hat{nm}(C-A) = W.$$

α is a function such that

$$\alpha\, \hat{nm}\, A = C$$

These matrices describe frequencies of the various branches.

For each field the number of frequencies equals the number of oscillations = 9 basic shapes to the power of 36 possible combinations is approximately equal to one over the planck length.

This is approximately equal to 10 e 34 possible frequencies. These frequencies are used to encode data about the universes. Thus there are 10 e 34 possible ways of describing the universe per one oscillation times the number of branches in the universe.

Each oscillation is derived from planck length divided by one over the frequency.

The moniker given to the theory is Anti – info theory so thus we should describe what this means mathematically, in common sense it is the disorder, badness of the universe.7)

Anti info can also be described in the matrix above, representing the conservation of information. If we cannot resurrect the original matrix from the constant c then it is anti – info at play.

The centres are present in the logical universe but cannot be seen in the physical one because they do not emit anything. They can however trade information with branches. The information coming to them moves from high potential (the physical universe) to low potential (the logical universe). Because of anti – info and other factors we cannot describe what happens in the medium outside the physical universe.

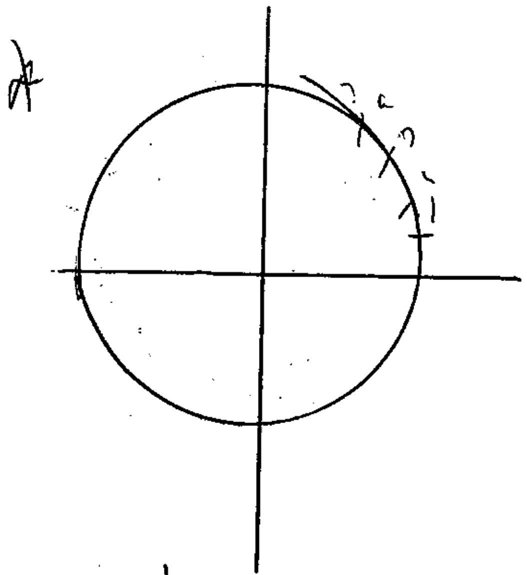
Gravity is an example of potential. The information at the centre of a group of matter creates a well of potential, this then draws other information into it, also creating an 'acceleration' of information.

Below are some hypotheses (sic) of how the information in branches can create physical phenomenom.

(7)

$S = \frac{d}{t}$

$C = \frac{\frac{pL}{1}}{\delta} = 1.878 \times 10^{43}$ oscillations/second



For a set of numbers, they can be represented by a circle of infinite r

$x = 1, 2, 3 \ldots n$

If we have a function: $y = x^2$

the set x can represent all functions.

$x^2 \cap x^2_{circ} \neq \alpha$

α = infinite generally

...

thus α (...) are not part of the solution set.

Gravity. Particular frequencies caused by the grouping of information. The information comes from high potential (free space) into low potential (mass). Also particular frequencies communicate through branches and cause information to gravitate to the mass.

Charge: A grouping of information such that the frequencies are strongly attracting each other.

Quantum entanglement: Communication through the centres.

Light propagation: Information passing from branch to branch, dependent on the frequency of the branches.

Particles: A grouping of information.

This is an appropriate time to introduce the concept of a "String metric". A string metric is the logical distance between two groups of information, such as two words. This is very useful here, especially when saying that if two branches and their information approach each other there string metric decreases.

For branches, large scale and ground state, exchanging info from one to another the string metric is. 8)

If the string metric is 0 the two branches coincide physically. A functional relationship can also be developed for string metric and physical distance.

The entropy of a distribution of large scale branches is also given . 9)

Black holes are special cases of fields where there branch length is reduced until finally they collapse into a centre. The entropy of a system where only centres exist is given below.

9)

(8)

$(a, b) \in \Sigma$

$d(a,b) > 0 \quad d(a,b) = 0$ if $a = b$

$d(a,b) = d(b,a)$

$d(a,c) \leq d(a,b) + d(b,c)$

$a = a_1, a_2, \ldots a_n \quad b = b_1, b_2 \ldots b_m$

$$d_{i0} = \sum_{k=1}^{i} w_{del}(b_k) \quad 1 \leq i \leq m$$

$$d_{0j} = \sum_{k=1}^{j} w_{ins}(a_k) \quad 1 \leq j \leq n$$

$$d_{ij} = \begin{cases} d_{i-1, j-1} & \text{for } a_j = b_i \\ \min \begin{cases} d_{i-1,j} + w_{del}(b_i) \\ d_{i,j-1} + w_{ins}(a_j) \\ d_{i-1,j-1} + w_{sub}(a_j, b_i) \end{cases} & a_j \neq b_i \end{cases}$$

for $1 \leq i \leq m$

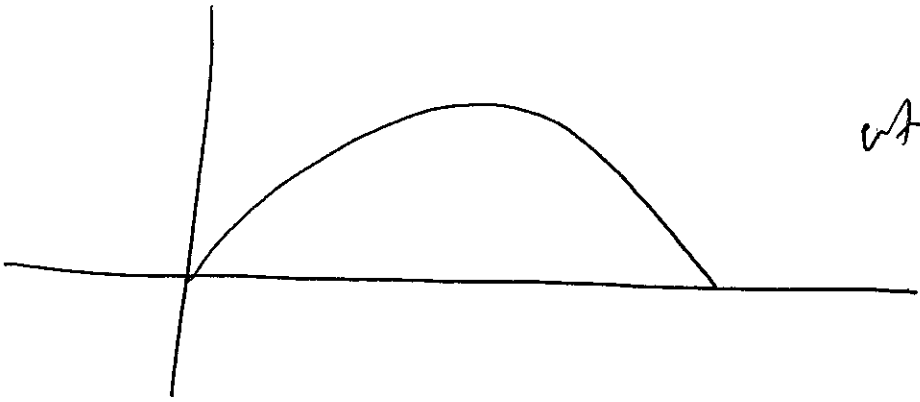
$1 \leq j \leq n$

this is the information distance between two branches

(9)

information content $= \{ I$

$$\{ I = \sum_{x} p(x) \log \frac{1}{p(x)}$$



entropy is concave

$$\{ I_1 + \{ I_2 = \sum_{(x,y)} p(x,y) \log \frac{1}{p(x,y)}$$

$$I_{x,y} \leq I_x + I_y$$

of Entropy of certain ..

$$S = \frac{A}{4G} \qquad A = \text{area of certain/system}$$

$h = $ constant

According to the postulate above, information moves from high potential to low potential. The universe expanding is a relationship of both between the creation of new fields and the effect that angular momentum has on information, notably that the rate of change of angular momentum with respect to information is proportional to the angular momentum..10)

The distribution of large scale branches in this free space is a bell curve, that distribution in matter is unknown and would be especially valuable.(especially for the brain). The Free space distribution of large scale branches is the standard bell curve and is given below.

ω = angular information

T = conformation

$$\boxed{\frac{dw}{dT} = kw}$$

$$\int \frac{dw}{dT} = \int kw$$

$$\Rightarrow \int \frac{dw}{\omega} = \int k\,dt$$

$$\ln \omega = kT$$

$$\boxed{\omega = e^{kT}}$$

the constant k is estimated to be [illegible] 6.

$$\boxed{f(x \mid \mu, \sigma^2) = \frac{1}{\sqrt{2\sigma\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}}$$

The transmitionof information between branches and centres is a matter of shape. There are many shapes but the taylor series can be used to reduce these combinations into a calculable format.11)

Also the string metric can be equated, in many cases with the separation of branches.

The centres are a matter for exploration. They connect the logical with the physical. Their surface area can be obtained as below.11) 1

The speed at which frequencies in the fields can travel is dependent on the wave function.12)

(10)

$$\boxed{f(x) = \sum_{n=0}^{\infty} \frac{f^{n}(a)}{n!} (x-a)^n}$$

Information flows from these approximations to the centre, and other bodies in groups of qubits.

δ $S[f]$

$= n(\bar{x}-\bar{m})^2 + n(\bar{y}-\bar{m})^2 + n(\bar{z}-\bar{m})^2$

∂ String value $= \sum_{i=1}^{n} (x_i - \bar{x})^2$

∂ $\Delta E = T\,ds$ $\quad S = \frac{d}{6}$

$\frac{1}{2} m v^2 = T\,ds$

$\frac{1}{2} m d^2 = \sum T\,ds \Rightarrow$ Spring potential energy

$\frac{1}{2} k d^2 = \sum T d$

$d^2 = \text{area}$

$\frac{\pi}{2} k A = \sum T\,ds$

$$\boxed{\therefore \text{ Surface area } A = \frac{\sum T\,ds}{\pi/2\,k\,\alpha}}$$

k is called the spring constant (S).
Perhaps the curves can grow constant

* then we start with a few basic formulae

$S = \frac{d}{t}$ $\quad \int \psi \, dt$

Speed = frequency × wavelength

$$f = \frac{c}{\lambda}$$

$$S = \frac{\int \sqrt{1 + \left(\frac{dy}{dx}\right)^2} \, dx}{\Delta t}$$

$$= \frac{\int \sqrt{1 + \left(\frac{dy}{dx}\right)^2} \, dx}{c/\lambda}$$

$$= \frac{\int \sqrt{1 + \left(\frac{dy}{dx}\right)^2} \, \lambda}{c}$$

$$= \frac{\int \sqrt{1 + \left(\frac{dy}{dx}\right)^2} \, dx \text{ } \lambda}{c}$$

which depends on $\psi(x)$.

The ratio of the length of ground state branches to large scale branches lies between 0 and 1 and can be thought of as a function.13)

If the string metric between large scale branches and ground state branches are constant these are called strings in the usual sense, perhaps with a qualification of size!

There are many different mathematical functions described by one branch. The mathematics of this is as follows. Also described is the notion that the infinite can be represented by a finite number of functions. This implies that the centres communicate with a wider set than our own universe.

Fourier analysis is crucial in large scale branches (branches that are large in size, essentially large string like structures). This can turn ordinary, periodic functions into a frequency. I will not supply formulae for fourier analysis as it can be obtained easily.

If the large scale branches are functionally equivalent to ground state branches, this should show up mathematically i.e the formulae for classical, large scale phenomena should be similar to that of quantum mechanics. This is as follows. 14)

Also a little set theory regarding the equality of small scale (ground state) branches (strings) with large scale ones. 15)

We should also talk about a concept called ' virtual motion' this is where information transferred gives the illusion that a body has actually moved. Due to the centres being gateways to outside the rules of the universe, this information can travel faster than c.

.

3

$$\frac{L_1}{L L_0} = \cancel{f(x)} = \delta(x)$$

The [illegible] that many functions are described by one branch

for limits we have

$$|x - \sigma| < \delta$$

$$|f(x) - L| < \epsilon$$

Also $L = x < \delta + \sigma$

$$|f(x) - (\delta + \sigma)| < \epsilon$$

$$|f(x) - \delta - \sigma| < f(x) = \delta f(x)$$

$$\delta_n \ldots f_2 f(x) = \sum_n f(x)$$

where $\delta f(x_i) > f(x)$

$$\sum \delta_n f(x) > |f(x) - \delta - \sigma|$$

$$f(x) - f(x) = -\delta - \sigma$$

therefore sums of functions are a constant.

4 Let the Lagrangian of a small scale (ground state) be represented as follows

$$|H_1\rangle = -\frac{1}{2}\frac{\partial^2 \psi}{\partial x^2} + \frac{1}{2}\omega^2 x^2 \psi$$

for large scale branch.

$$H\rangle = \frac{1}{2}\dot{x}^2 + \frac{\omega^2}{2}x^2$$

$$\left\{-\frac{1}{2}\frac{\partial^2 \psi}{\partial x^2},\ \frac{1}{2}\omega^2 x^2 \psi\right\} = \left\{\frac{1}{2}\dot{x}^2,\ \frac{\omega^2}{2}x^2\right\}$$

$$-\frac{1}{2}\frac{\partial^2 \psi}{\partial x^2} = \alpha\ \frac{1}{2}\dot{x}^2$$

$$\frac{1}{2}\omega^2 x^2 \psi = \beta\ \frac{1}{2}\omega^2 x^2$$

$$\therefore \frac{\partial^2 \psi}{\partial x^2} = \psi \frac{\partial}{\partial x}$$

thus the large scale oscillator are a [illegible] of the quantum states

$$\boxed{\alpha = -\psi \frac{\partial}{\partial x}}$$

$$\boxed{\alpha = -\psi \frac{\partial}{\partial x}}$$

Let elements of good state
things (x) belong to a larger set

$$x \subset N(x)$$

i.e. $x = \alpha N(x)$

of x, α N

$$x = \alpha(N)$$

$$N \subset N(x)$$

Thus α is a function
perhaps describing frequencies,
rates of change

. A postulate above says that if the problem can be seen it is much easier to solve. This is an analogy to the notion that the fields can 'see' each other and can process information according to their shape. Here is a mathematical foray into why a problem should be seen before processing.16)

Also the notion that a set is of higher potential than a function that selects elements from that set, domain → range. This implies that mapping takes energy, in which energy is a way of moving from low potential to high potential.18)

Below we equate the string metric with the logical distance between two branches. 18)19)

Analogy that 'seeing' a problem makes it easier to solve

Consider the ket & bra vectors

$$K_2 = \begin{pmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \end{pmatrix} \qquad K_a = (\alpha_1 \ \alpha_2 \ \alpha_3)$$

$$|K|n\rangle = (\alpha_1, \alpha_2, \alpha_3, \ \alpha_1 \alpha_2, \alpha_2, \ \alpha_2, \alpha_1, \alpha_3 \ldots)$$

Such that all possible combinations are encountered.

$$\langle K_2 n| \, |K|n\rangle = (\alpha_1 \beta_1, \ \alpha_2 \beta_2 \ \ldots)$$

all possible combinations.

<u>But</u> we only have 3 values per each, 6 in all

$$\omega = \begin{pmatrix} \alpha_1 & \alpha_2 & \alpha_3 \\ \beta_1 & \beta_2 & \beta_3 \end{pmatrix}$$

thus any possible combination can be found simply by looking at (seeing) the matrix ω.

A set is of higher potential than a function of that set

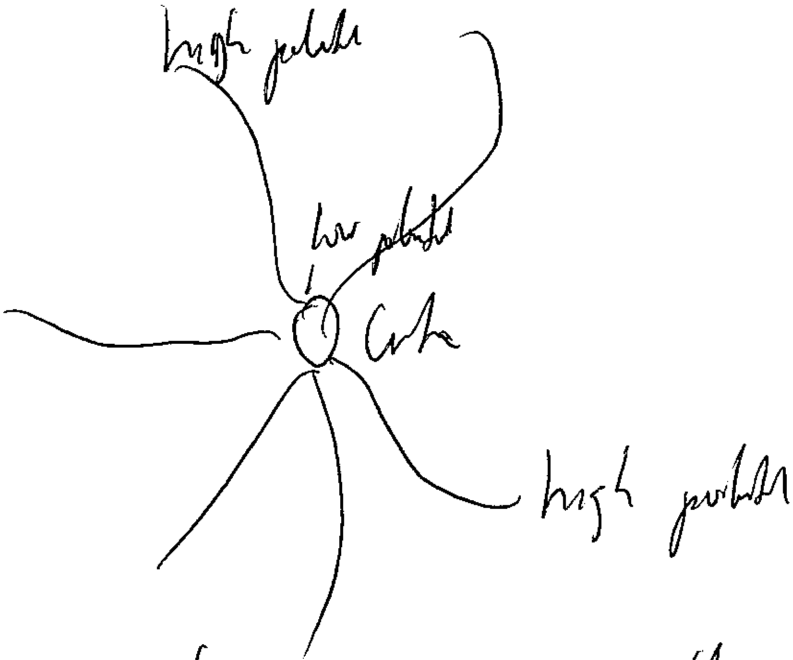
$$X \in (a_1\ a_2\ a_3\ \ldots\ a_n)$$

$$f(x) = (a_1\ a_2)$$

$$|f(x)| < |x|$$

$\therefore$ $|X|$ has higher potential (domain) than its corresponding function, unless that function is a map.

Mapping however requires energy!!



If we equate the stirring motion with liquid distance, we have

$$(x-\bar{x})^2 = \text{diffusion}$$

$$= \xi I \qquad I = \text{information}$$

& χ^2-law as is seen. So from the formula for area of circles above we have

$$(x-\bar{x})^2 = \frac{\xi I \, ds}{\pi/2 \, kd}$$

at $ds = d$

$$(x-\bar{x})^2 = \frac{\xi I}{\pi/2 \, g}$$

$$dx = \frac{\xi I}{\pi/2 \, g}$$

$\{ I = dx$

$(x - x^2) = \dfrac{dx}{\frac{1}{2}\sqrt{\pi}}$

$x^2 = \dfrac{dx}{1/2\sqrt{\pi}}$

$dI = dx = \dfrac{x^2\sqrt{\pi}}{2}$

Thus the [illegible] of [illegible] of [illegible] is proportional to the square of [illegible] distance :)

The 'key' to the centres and why they open can be expressed as the following function.20)

Finally we have a little math to attempt to quantify the notion of reflectional equivalence within the universe. Essentially this is a 'mirror' which I propose exists to describe such things as consciousness and much of the symmetry in physics.

The essential motivation here is the set of negative numbers. In physical reality we cannot have a negative object. I.e there are no negative number of apples. Can it be that this logical emancipation means that there do actually exist negative things within the universe? 21) The mathematics below ties closely to the notion that 'seeing' a problem makes it easier to solve.

The algorithm is as follows.

1) Convert every variable to its negative. Except the subject of the equation.
2) Rearrange the equation to make one of the negative variables the subject
3) Invert , meaning change the sign of all the variables except The new subject of the equation.

   This algorithm has squares as an especial sort of interest. Perhaps the algorithm is closely related to odd and even functions in analytic geometry.

$$K = F(f, \omega, \alpha, g)$$

f = frequency

ω = angular momentum

α = other features, string number

g = coupling constant, gluing factor!

E.g.

$y = (x)^2 + 2(x)$

— change sign

$y = (-x)^2 + 2(-x)$

— rearrange for new subject

$(-x)^2 = -2(-x) + y$

i.e. $(-x)^2 = y - 2(-x)$

$x = \pm\sqrt{y - 2(-x)}$

— invert (change sign)

$x = \pm\sqrt{y + 2x}$

doing this for many functions a pattern seems to emerge of plus' and minuses. This I believe is a sort of "reflectional equivalence" in the inverse

Conclusion: The hypothesis (sic) that there are large scale branches (essentially large scale strings) needs examination. These appear necessary to give order to the universe. They can still communicate with the centres. Theoretically they tie information with the physical universe.

They appear however to be mathematically banal. Perhaps this is a limit of my imagination and they are in fact extremely fascinating, taking in many mathematical extraordinaries.

The main tenet behind the theory is that information can turn into matter.

The logical universe (perhaps chaos) has a lower potential than our physical one. This is the driving vitae between thought and reality.

The idea of reflectional equivalence is indeed tantalising. There appear to be many symmetries in the world and reflectional equivalence may go someway to explaining these.

If anyone wants to discuss these hypotheses/conjectures with me I can be contacted at jpeel6942@gmail.com. Also in regard to this, and previous papers, much, much credit goes to Leonard Susskind and his amazing, amazing series of lecture – see leonard susskind quantum mechanics you tube.

Happy truth hunting!. " I have not come to break the law but to uphold the law" – jesus Christ.