# *More on the connection between logic and matter and the winding number of strings.*

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**Abstract:** The last paper (see "More on logic being the fundamental components of string theory) gave further analysis of the important concept of information producing fields which can then be configured into strings.

Here we look at the topological connection between branches and centres (singularities) and some more information on branch structure and also some concepts of how angular momentum can produce calculations.

**Introduction:** To clarify things , rays, which are the connections between branches are not exactly straight lines. They need to be curves which take a minimum path between branches to contain the information processing of each branch.

They must conform geometrically such that the fields can fit together in a "jigsaw puzzle" sense.

The main concern to be studied is a "gluing" function that ties momentum of branches with processing in centres with processing (logical, informational) variables in general.

I have offered a cash prize of $500 for someone to tell me what I forgot when going for a cup of coffee , it involves a large number of fields making it impossible to see one field and the fact that you cant know everything! I have since remembered and you can send me your answer via email! Jpeel6942@gmail.com

Essentially the entire point of these papers is to connect logic/information with matter. This is necessary to explain consciousness.

There is another way of examining why the branches exist. Here if we only consider points appearing in a closed space, bounded by some parameter, it is possible for a particle to trace out many trajectories. If they are travelling at an infinite speed, all trajectories are accounted for and this is trivial.

Secondly if a wave is probabilistic of being at a point, the certain component of the wave, i.e a point would have to be probabilistic, other wise we would be able to sum the points to get a trajectory, hence the branches.

As an analogy to einsteins equation E = mc we have the equation

E= mg where g is a gluing function rather than a constant?

The following is some mathematics describing the essence of the fields, fields are branches, Centres (singularities) in combination with their Rays (rays connect the outer boundaries of the fields)

The main tool used here is topology. This can be utilised to equate the branches with their corresponding states in the centres.

If we find the union of all sets of the charts of dimensions within centres we have an atlas , or, the world.

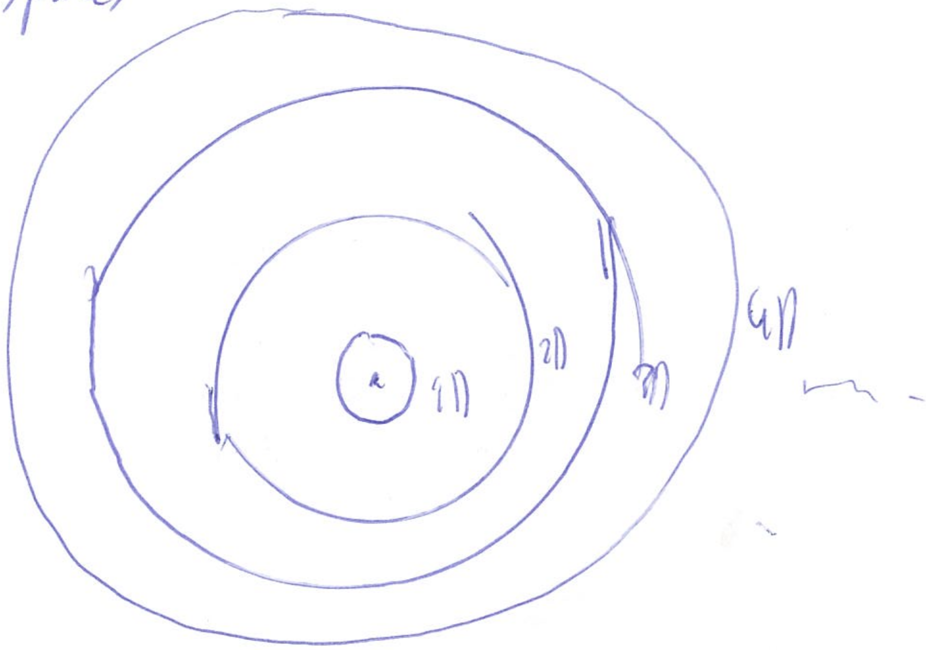
The functions that map one chart to an atlas is not reversible, hence the notion of the arrow of time.

A processing trajectory ( described mathematically as a trajectory) must be defined in an appropriate manner otherwise describing the world wont be accurate.

The geometry of branch structure can be used to represent certain problems to be solved. The physical universe has many less variables than the set of mathematical equations, hence the need to find - 'what it is that underlies the multi- verses and our universe in particular'. The mathematics presented may not be accurate for our particular universe but I can find no reason why they would not apply in other universes , component of the multi-verse.

* Topological Specification

- let concentric rings of a circle denote dimension of a topological spaces




Summing over various Atlas' we have

$$\bigcup_{\substack{K \\ \alpha \in A}} U_K = \text{world } (M)$$

$A$: $A = \{ U_\alpha x_\alpha \mid \alpha \in A \}$ called Atlas' $(M, \mathcal{O})$

Charts sum to a universe

i.e $\bigcup$ fields = world

where fields are the axes and colors in construction

$$M = \bigcup_{\alpha \in A} U_\alpha$$

Here is an analogy that time can only travel in one direction.

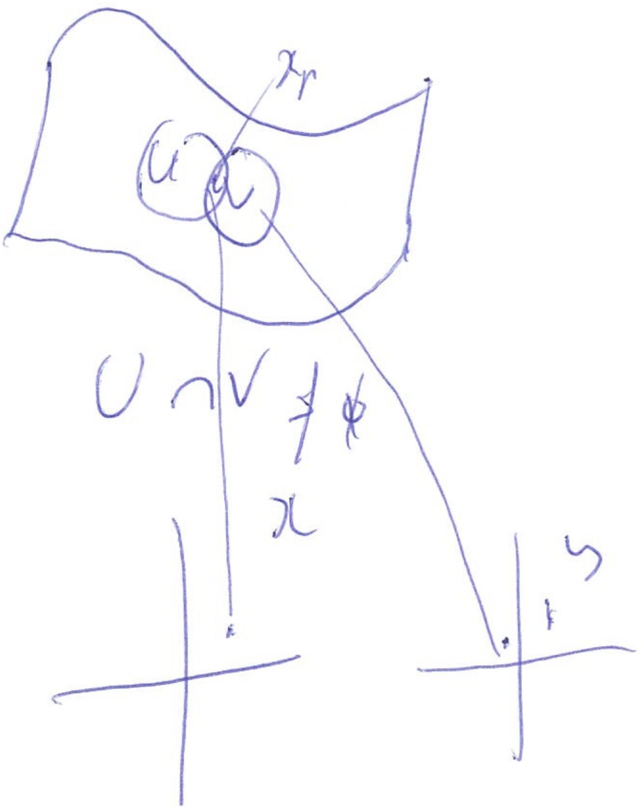
Also more on topology of fields.

Each field can be topologically related to another field by the following page. The branches are said to be in 'unison' and thus communicate and perhaps merge.

thus

$$x : U \longrightarrow x(U) \subseteq \mathbb{R}^d$$

The contradiction of ~~centres~~ center processes parameters of the world but this process is not reversible hence the arrow of time



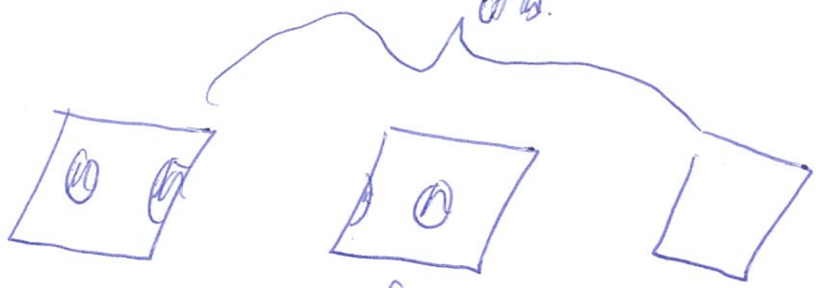

- The many dimensions of the fields, sums to an entire universe,
- A trajectory in $\mathbb{R}^d$ must be continuous, this reflect the path in reality
- The maps from charts do really try be

not defined.
If the charts do not define
a bundling the underlying structure is
incorrect.

$U \cap V$ = not worlds

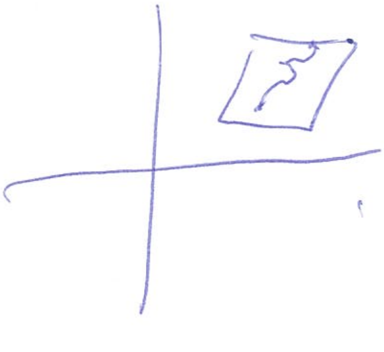
others

chart



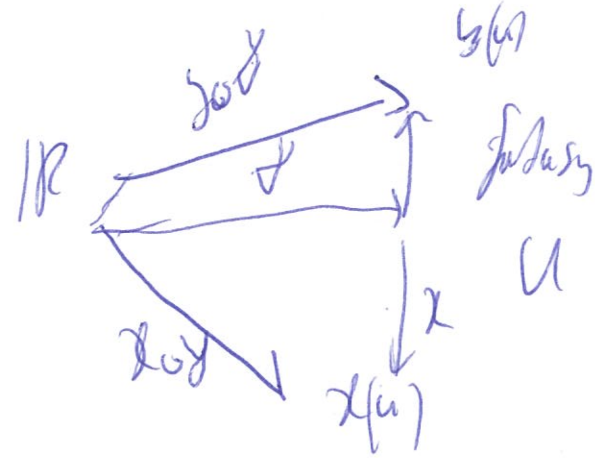
The gluing function which is to
be found binds the higher dimensions
in a curve to reality (universe)

$\gamma : \mathbb{R} \to M = U$



$$\begin{array}{ccc} \chi : \mathbb{R} \to & M = U & \\ \downarrow & \downarrow & \\ \chi \circ \gamma & \chi(M) = \mathbb{R}^n & \end{array}$$

* Functionality




these are maps representing a detector (computational device) of real world representation


* Thus a collection of branches can represent mapping (charts) (theoretical variables) to real world phenomenon which has a direct correspondence in "cubes".

Topology related to processing

$$\begin{tikzcd} & y(U) \\ \mathbb{R} \arrow[ur, "y\circ\gamma"] \arrow[r] \arrow[dr, "x\circ\gamma"'] & U \arrow[u, "y"'] \arrow[d, "x"] \\ & x(U) \arrow[uu, bend right=60, "y\circ x^{-1}"'] \end{tikzcd}$$

$$y\circ\gamma = (y\circ x^{-1})\circ(x\circ\gamma)$$
$$= y\circ(x^{-1}\circ x)\circ\gamma$$

$x\circ\gamma : \mathbb{R} \to \mathbb{R}^d$

Branches / Orbits on topology

Let branches move in 2 dimensions given by a translation group

$(T_1, T_2)$

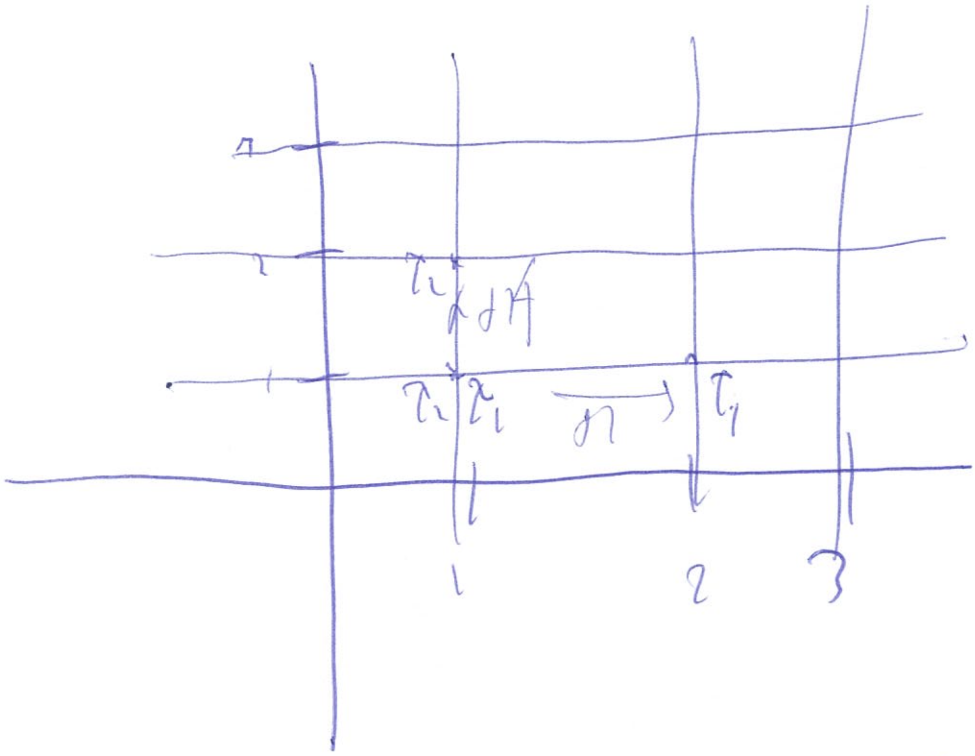
Where $T_1$ is a shift by 1 in $x$ direction

$T_2$ = shift in $y$ direction

$T_1 T_2 = T_2 T_1$

Space of possibilities is $S^1 \times S^1$ = torus

– there we draw the translations which are called orbits



$$\tau_1^n \tau_2^m = \tau_1^n(\tau_2^m(x))$$

$\tau_1, \tau_2$ are commutable

$G$ = group = $\langle \tau_1, \tau_2 \rangle$

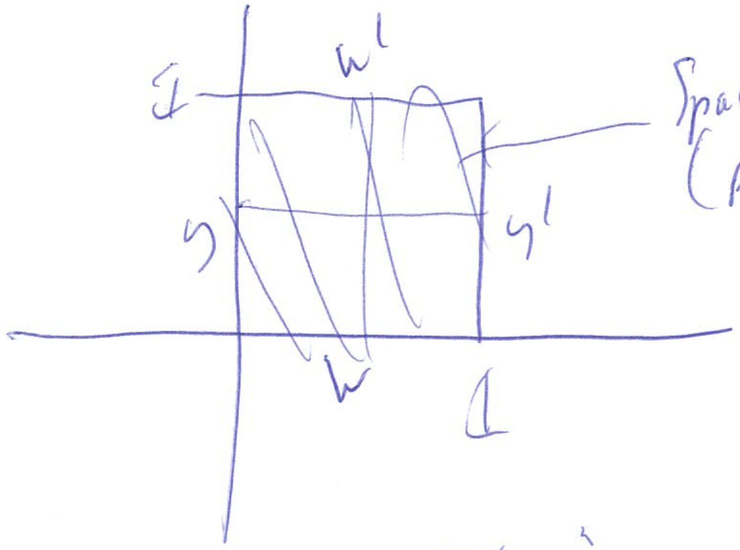
$G = \mathbb{Z} \times \mathbb{Z}$

which is space of all orbits.

Every orbit has a corresponding intersection of each square.

at every orbit middle of point

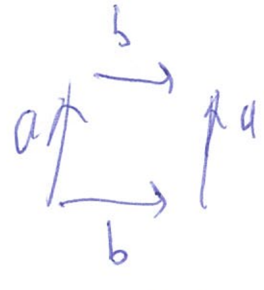
$(1, 2)$




Space of all orbits (provided we identify y with y', w with w')

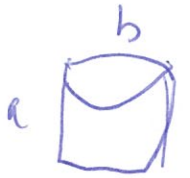
$T_2(w) = w'$

+ then we "glue" the sides together




in 3D

this forms a cylinder




=


= torus

= 

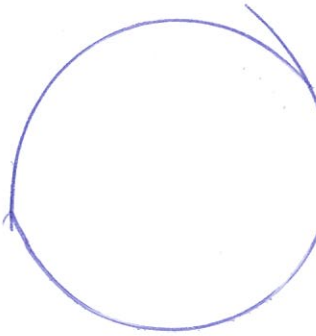
- Thus a space of movements of a branch produces a single holed torus (which is a 'hole' in centre (singularity))
- So a 2D orbit space produces a hole in centre which is desired result.

Strings can , obviously, also be represented topologically. A line segment is a 1 dimensional representation. If conformal mapping is considered the strings are wrapped around a topological space.

The winding number of strings around a cylinder may equate to the number of fields in a proportional sense, contributing to entire strings in a macroscopic sense. (Here macroscopic is used loosely, strings may certainly be considered microscopic)

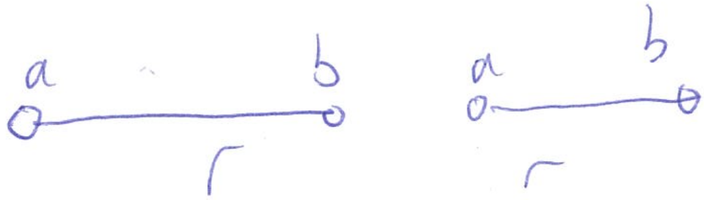
* Through topology the branches and centres are related

i.e



circle

~




whereas a branch

~

thus apart from a branch changes the shape of a cathe, and its surface configuration, as well as interior dynamics.
This is where a set of "gluing functions" is regard
i.e a "magic" function that preserves many other functions at the same time.
- Analogous to imaginary universes ~ QF.

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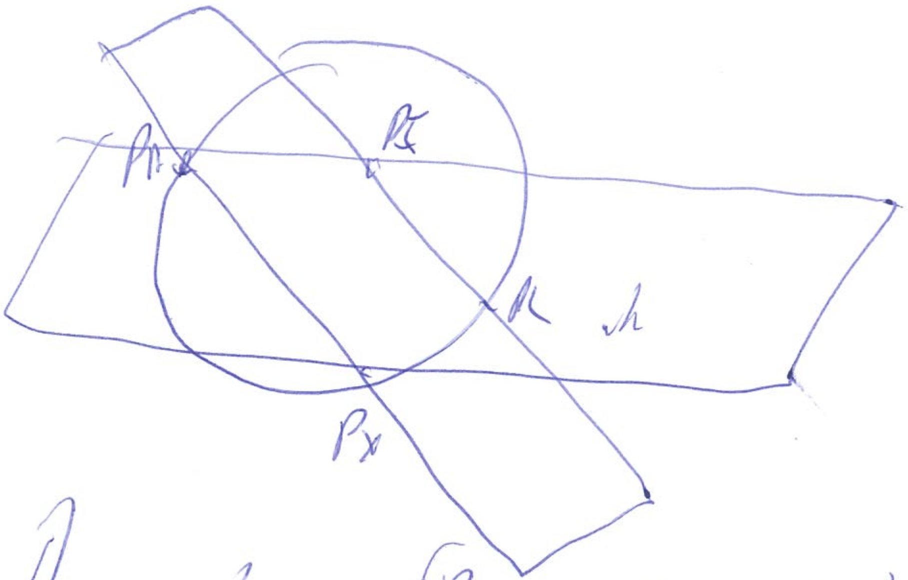
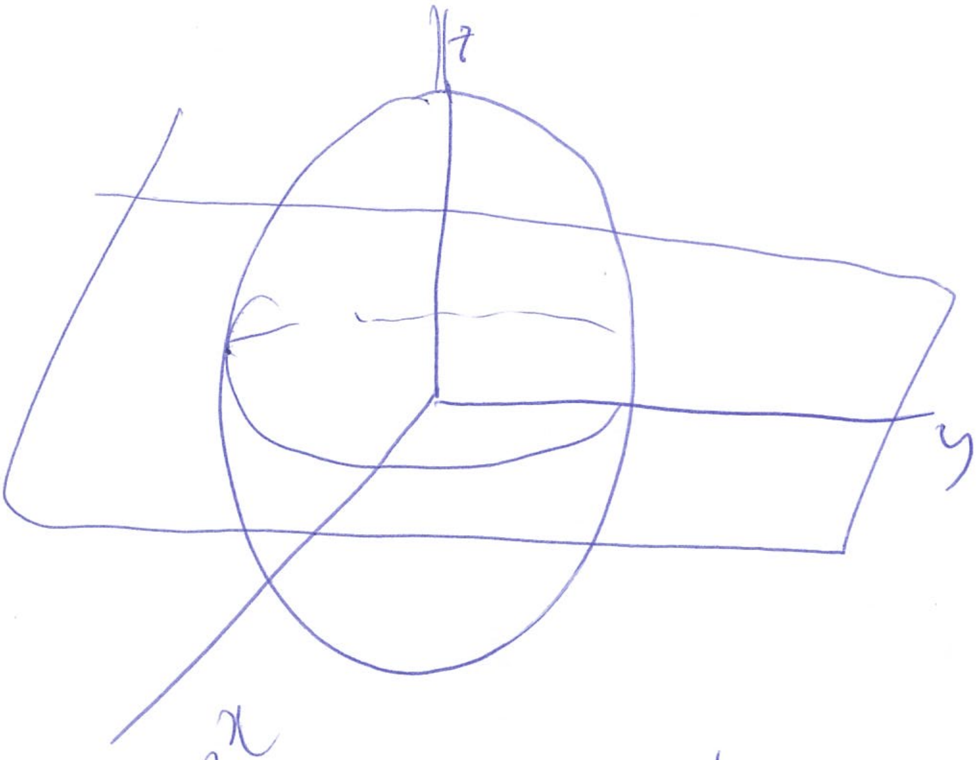
* Stereographic projection.
- Information is received as discrete units (perhaps a group of gabsods) This is mapped via stereographic projection to the circle(s).




The planes ($P_s$, $P_I$, $P_L$, $P_x$, $P_T P_R$) represent the branches ($w_s, w_I, w_A, w_x, w_t, w_c$) - $w_i$ and can be at any position on circle, (sphere) with the South pole set at infinity

This is as follows




This is a topological map
<u>not</u> a physical object.
The brackets work in pairs of 2.
Thus the coordinates for points of intersection with circles are.

$$\left(\pm\frac{2x}{1+x^2+y^2}, \pm\frac{2y}{1+x^2+y^2}, \pm\frac{1-x^2-y^2}{1+x^2+y^2}\right)$$

The brackets are at most of an extent, ~~located at~~ varying sides of the circle(s).

$$\frac{\partial \sigma}{\partial y} = \frac{1}{r} \Leftarrow \sigma = \frac{y}{r}$$

Total curvature rate:

$$\boxed{= \frac{1}{n} \sum \text{fields} = \frac{1}{r} \int \frac{\partial y}{\partial \sigma}}$$ !!

$$\frac{\partial y}{\partial x} \Leftrightarrow \frac{\partial y}{\partial \sigma}$$

Impact of any input vector
Contraction of branches with information
thus increases
Adding information increases activity of branches. This increases the probability space of what they can be linked which changes configuration both of the branching and the cortex. This gives rise to a physical process increasing string activity.

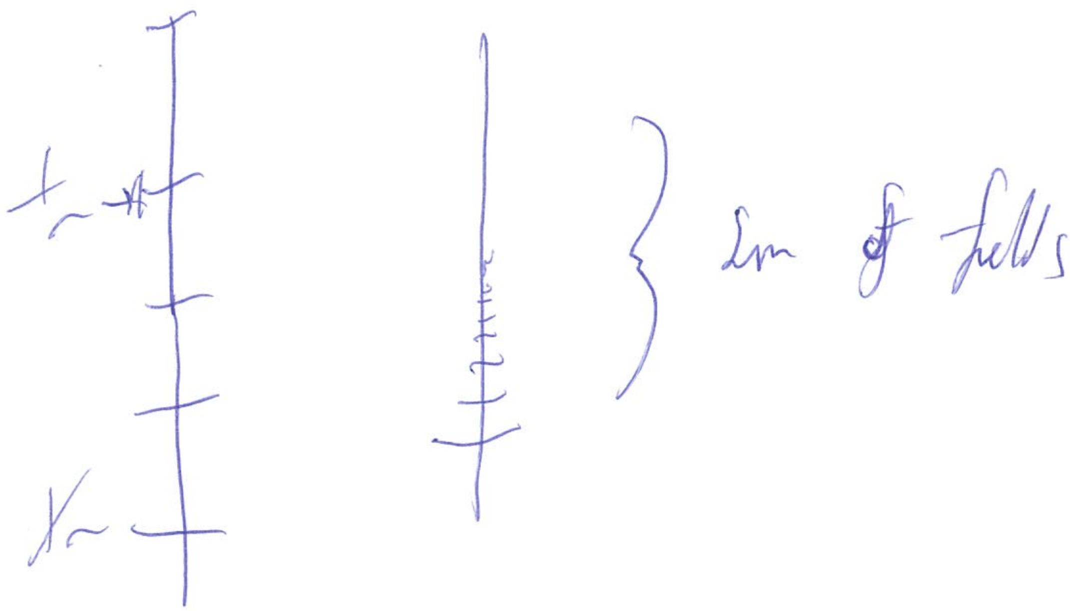
The branches are free to move in any trajectory in 3 dimensional field space. These trajectories can be represented topologically in the centres.

Here we use a group to set the parameters for branch dynamics. The operator described allows movement in one unit right or left and one unit up or down. There is a set of a possibilities that equate to a torus with one hole.

Also the branches equate to a line interval from a to b. This can represent a circle by jumping from b to a in another , identical line interval , i.e you just keep repeating.

* Branes and topology
- when in the context of string theory we have


this is expressed macroscopically
as




$\sigma \to \varepsilon \Rightarrow \varepsilon$ small we have

these converge to fields strings!

- Inability to tell difference between windings and momenta in string theory indicates the the equality of, and existence of, fields

(13)

$$\sigma_{0,1} = \frac{y}{r}$$

$$\frac{\partial \sigma}{\partial y} = \frac{1}{r} \quad \sigma = \frac{y}{r}$$

Total winding number

$$\boxed{= \frac{1}{n} \sum \ldots d\sigma = \frac{1}{r} \int \frac{\partial y}{\partial \sigma}}$$

$$\frac{\partial y}{\partial \varphi} = \frac{\partial y}{d\sigma}$$

<u>See ... notes</u> above

Identical field (bond) states + (Chemistry bond) will merge despite distance separating them.
A configuration of similar fields will communicate especially with other system of fields in a similar state: i.e. strings, brains etc.

- Simple functions are represented by numbers in a simple manner. But fractal functions are more complex

- If any possible combination is calculated, any state will arise. Thus electric charges etc are a flawed probability of calculation. Their similar permutation communicate with other similar patterns in numbers. i.e. why certain probability functions arise are a matter of 'magic functions'.

We can see a comparison between strings and fields in a topological sense. We have line interval representing the branch, this can be expressed as an interval of radius of winding number.

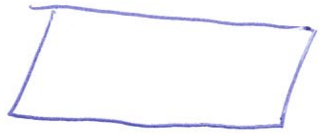
As the radii of windings approach a limit they become equivalent to fields.

Identical field states will merge despite distance separating them and configurations of similar fields will communicate. Simple mathematical functions can be represented by simple trajectories of branches, difficult functions are more complex.

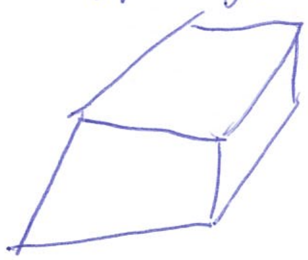
If every possible state is computed there will be a skewed distribution of information, this represents physical phenomenom such as charge.

- 1D (line) torus

- 2D Torus



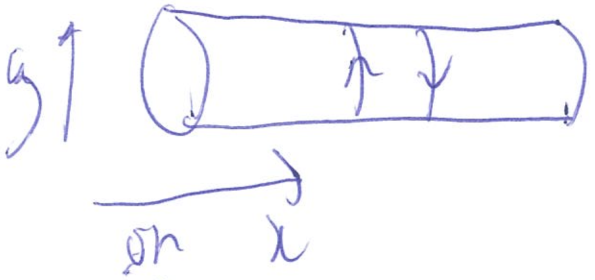
- 3D torus



 orientation ≠ 

In Strings orientation is preserved

+ Conformal ongoing




$\sigma_n$

$\vdots$

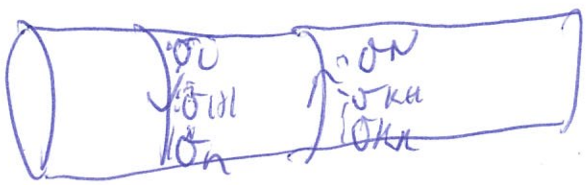
$\sigma_2$

$\vdots$

$\sigma_1$

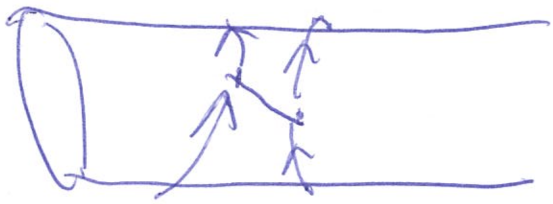
if closed $\sigma_1 = \sigma_n$

$\sigma_i$ = fields.




- these are wrapped around a topological space of fields
- this fields can come together and drive.
- winding number = exact number of fields contributing to entire strings and is a example of macroscopic / microscopic symmetry

* Arrow of time (compactification) ⑥



Particles an analogy that time (macroscopic) can only travel in 1 direction.

* macroscopic momentum

= $\hat{?}$ = energy

$N$ = number of windings

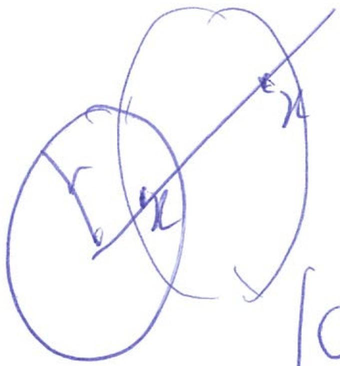
velocity of 2 fields = velocity of centre of all fields in a string.

integers = $\frac{dx}{dt}$ $x$ = motion of 2 fields in quantum mechanics.

W = winding number

Energy of collection of fields = $Wc$

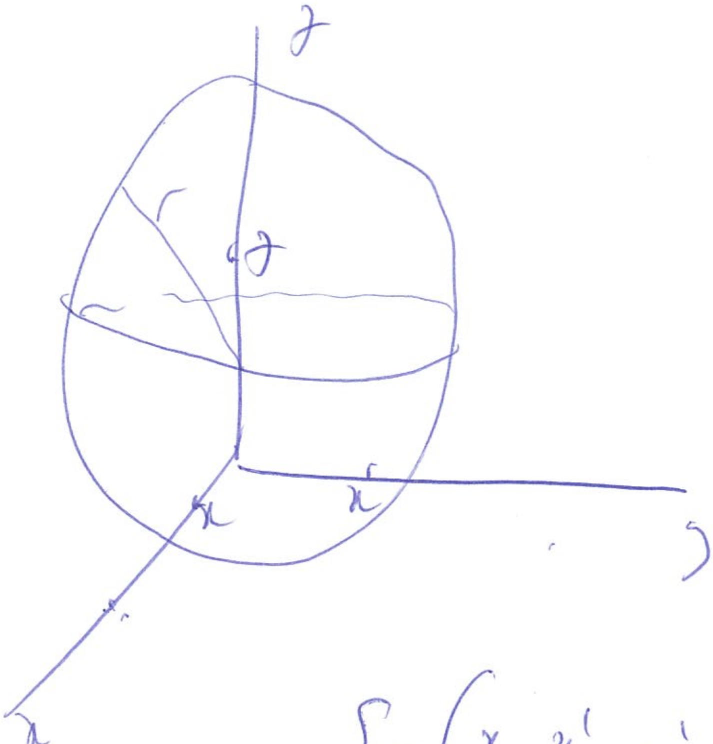
* Each field can be hypothetically (17)
related to another field by



$$[0, x]\,[0, x'] = r^2$$

When this occurs the brackets are said to be in "unison" and this means they can merge

Eg in 3D



$$S = (x, x', y, y', z, z') = r^2$$

when $S$ is a parameter of state, describing equality of brackets

As far as I can ascertain the branches work in pairs when seen in the context of topological maps. Stereo-graphic projection can be used to analogise the processing of centres and the relations to the multi-verse.

One pole being at infinity means there are an infinite number of rays that can pass through the multi – verse consisting of dimensional spaces.

The input of energy increases branch activity , this increases the probability space of where they can be located, changing the configuration of both the branches and centres. This converts to altering the configuration of strings which arise as macroscopic manifestations of fields.

Next we have some thoughts on surface area of centres, distances and processing. The equations for surface area are left as sums deliberately to calculate discrete values for each state.

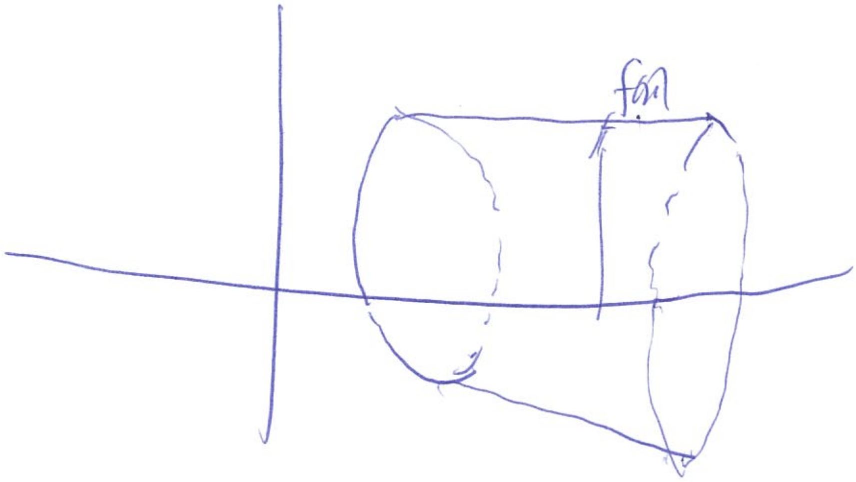
There are 6 branches hence at least 6 various states the centres can be in. The centres change state at time intervals of 1 over planck time. Thus there are many, many processes during a second of macroscopic time.

The sum of squares, often used in statistics, is utilised here to find relationships between branches. This information is critical to information processing and the subsequent input into the centres, to be transmitted across the universe and perhaps multi-verse.

The relationship for equating two branches as a ratio of a set interval is also described.

A set of derivatives is crucial in examining when branches have special processing parameters, namely the first and second derivatives equal to 0.

S Area = Circumference × Length




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

$$r = f(x)$$

$$= 2\pi f(x) \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\, dx$$

$$\text{S Area} = \int_a^b 2\pi f(x) \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\, dx$$

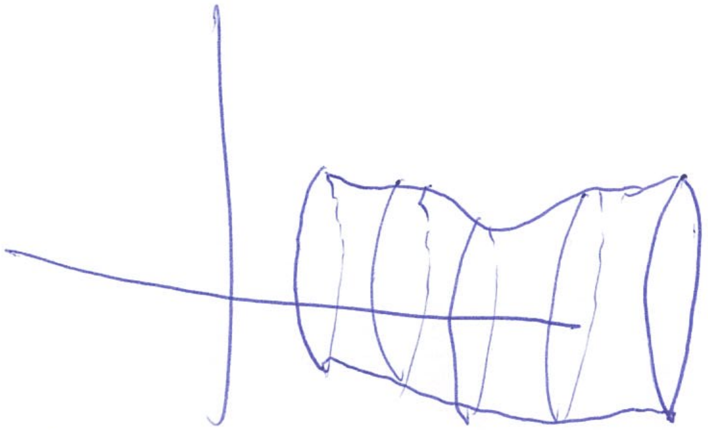
$\boxed{\text{S Area} = 4\pi r^2}$ of a sphere

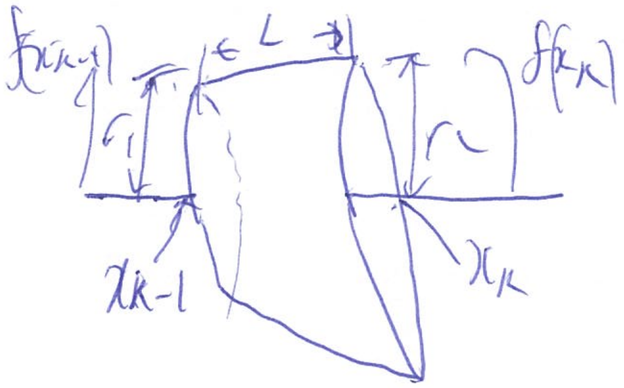
ie cubes

②

Calculus

$S_xA = \pi\left(r_{1k} + r_{2k}\right)L_k$

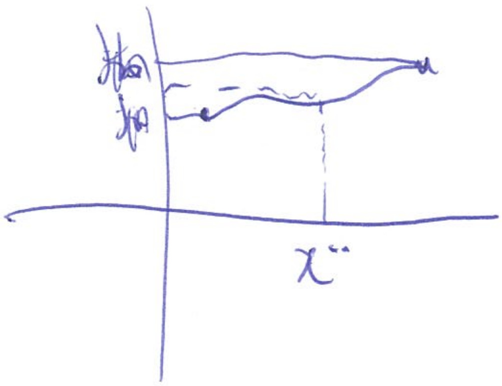




$L_k = \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\,dx$

$= \sqrt{\Delta x_k^2 + \left(f(x_k) - f(x_{k-1})\right)^2}$

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



$\frac{f(x_{k-1}) + f(x_k)}{2}$

$x^{**}$ must exist as an average

$(SA)^k = 2\pi\, f(x_k^{**}) \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\,\Delta x$

$SA = \sum_{k=1}^{n} 2\pi\, f(x^{**}) \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\,\Delta x$

about the $x$ axis

$\boxed{SA = \sum_{k=1}^{n} 2\pi\, \frac{f(x_{k-1}) + f(x_k)}{2} \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\,\Delta x}$

~~A~~ Surface Area = Circumference × Length (18)

$$S.Area = \int_a^b 2\pi f(x) \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\, dx$$

For a sphere S.Area

= $4\pi r^2$

ctl for quadrature

$$S.A = \sum_{k=1}^{n} 2\pi \frac{f(x_{k-1}) + f(x_k)}{2} \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\, \Delta x$$

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

$$S.A = \sum_{k=1}^{n} 2\pi \frac{f(x_{k-1}) + f(x_k)}{2} \sqrt{\Delta x^2 + \left(f(x_k) - f(x_{k-1})\right)^2}$$

* The surface area for each branch changes with cities (ie surface at a city) with

$$(S.A)_x = \int_a^b 2\pi f(x) \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\, dx \qquad \frac{dy}{dx} = f'(x)$$

$$(S.A)_y = \int_c^d 2\pi g(y) \sqrt{1 + (g'(y))^2}\, dy$$

- And so on for all branches

- They change in time intervals

$$t = \left(\frac{1}{PT}\right) \qquad PT = \text{Plank time}$$

- The surface areas can be superimposed

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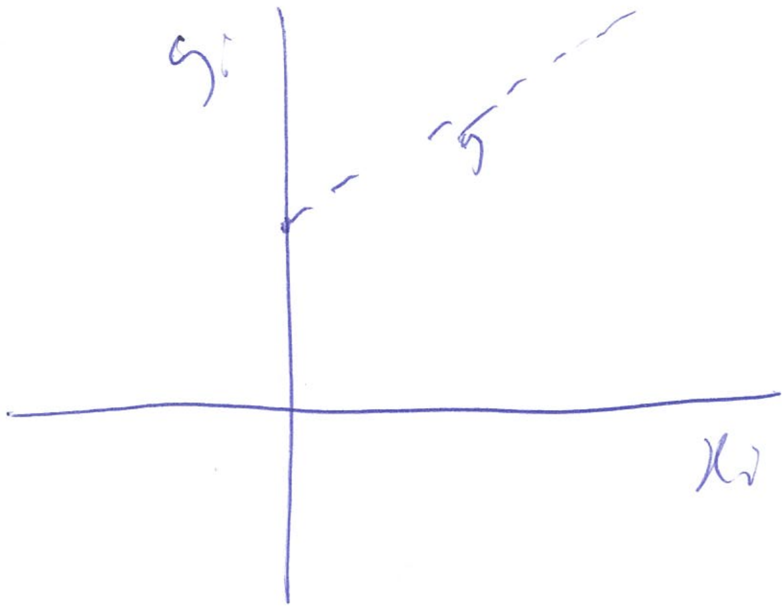
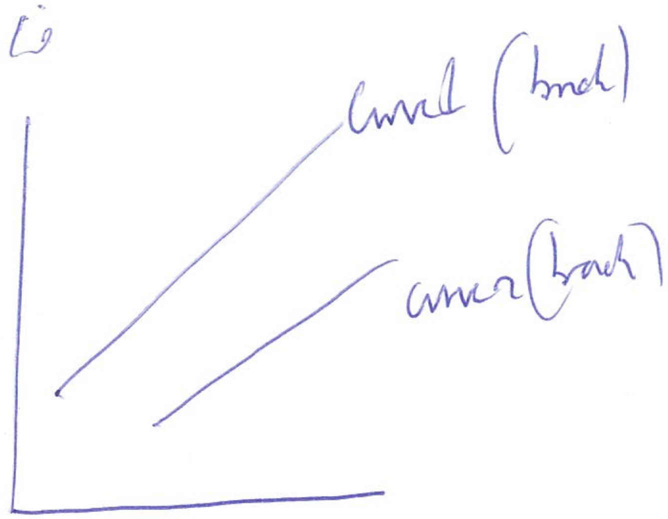
# Communication between bracket

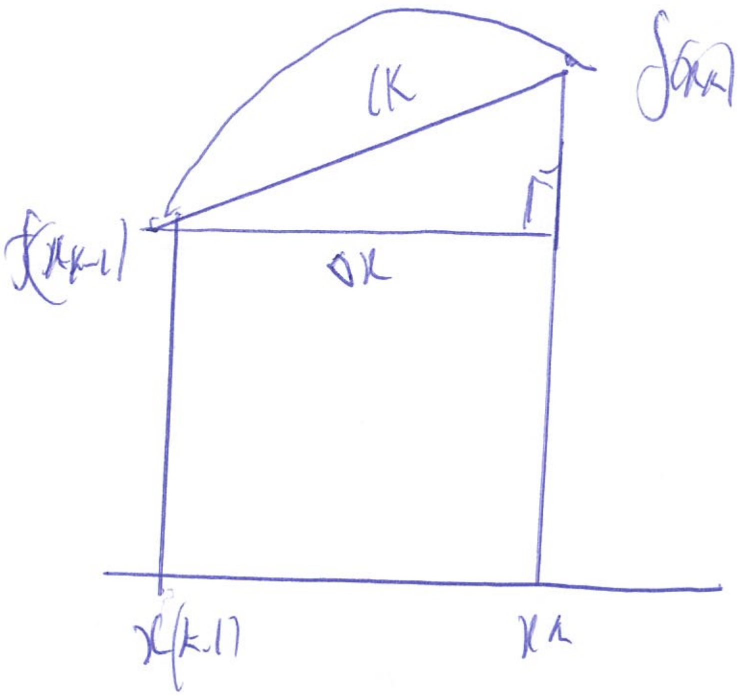



Sum of squares total

$$SST = \sum_{k=1}^{n} (y_i - \bar{y})^2$$




$$TSS = \sum_{k=1}^{n} (\text{Curve1} - \text{Curve2})^2$$




$a^2 = b^2 + c^2$ pythagoras

$$L^2 = \Delta x^2 + (f(x_k) + f(x_{k-1}))^2$$

$$lk_1^2 = \frac{(\Delta x)^2 + (f(x_k) - f(x_{k-1}))^2}{\Delta x^2 + (f(x_{k-1}) - f(x_0))^2}$$

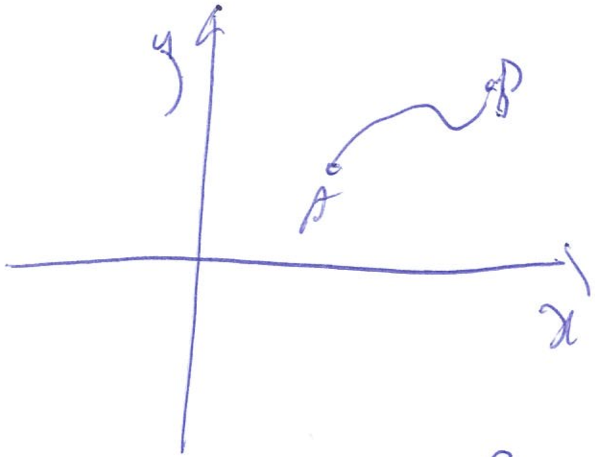
as $\Delta x \to 0$

$$\frac{Lk_1^2}{Lk^2} = \frac{(f(x_k) - f(x_{k-1}))^2}{(f(x_{k-1}) - f(x_0))^2}$$

∴ conformal mapping

$$T = \frac{Lk_1}{Lk} = \frac{f(x_k) - f(x_{k-1})}{f(x_{k-1}) - f(x_k)}$$

* arclength




$$L_x = \int_A^B \sqrt{1 + \left(\frac{dy}{dx}\right)^2}\, dx$$

$A = x_{k-1}$ $B = x_k$

By mean value theorem

derivative = $x_N \in [x_{k-1}, x_k]$

also

$x_p \in [x_{k-1}, x_k]$

$x_N, x_p$ are branches.

There are discontinuities when

$x_N = x_p$ $\quad x_N \wedge x_p = 0$

$x_N, x_p = 0$ $\quad x_N \vee x_p = 0$

$x'_N, x'_p = 0$ $\quad x'_N \vee x'_p = 0$

for 2 branches

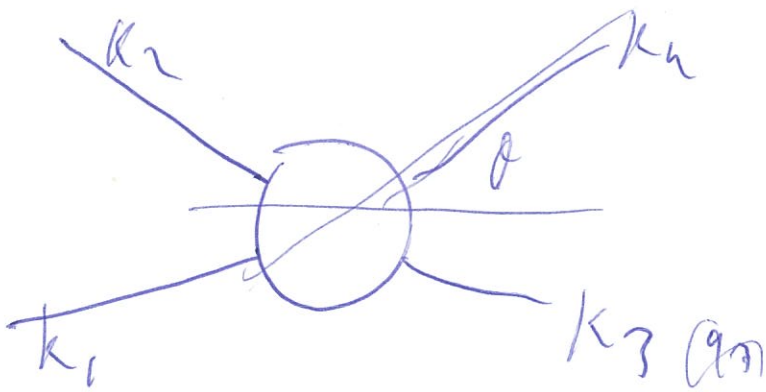
The trajectories of branches have similarities to the strings in string theory. Especially in regard to particle collisions. There are two input momenta, i.e branches and a coupling function (constant in string theory) and also some output variables.

I also have a whimsical look at the notion of imaginary universes literally being the complex conjugate (with a factor) of ordinary universes.

The coupling constant in particle physics is replaced with a coupling function, which may be involved in the formula E= mg

Also discussed is the notion that the parameters I have set for the branches may not be the actual definition of what they mathematically are. Also the fields may consist of other entities that are only hinted at by anti – info theory.

* Given two input criteria we then have two output (processing) variables. In the following these are input momenta.




$s = E_{cm}^2$ (centre of mass energy)

$t = (E^2 - m^2)(1 - \cos\theta)$

$-u = (k_1 - k_4)^2$

- The probability of finding output momenta (processing parameters) is proportional to Amplitude ($\sim A^2$).

$- s = (k_1 + k_2)^2 = (k_1 + k_2)^2 - (k_{01} + k_{02})^2$
$= E_{cm}^2$

The amplitude for this can be found by

$$A_4 = g^2 \, \frac{\Gamma(s)\,\Gamma(-t)}{\Gamma(-s-t)}$$

for keeping constant (= much talked about "slide" function)

Also

$$A = e^{(ik\cdot x)}\left(x_1, \ldots x_{2n}\right)\psi\left(x_{n+1}, \ldots x_{2n}\right)$$

which can be written as the following integral

$$A_2 = \int_0^\infty e^{\tau(s+1)}\left(1-e^{-\tau}\right)^{-t-1} e^{-\tau}\, d\tau$$

or

let $z = e^{-\tau}$

$$\Rightarrow A_4 = -\int_1^0 z^{-s+1}\left(1-z\right)^{-t-1}$$

$\tau$ = time in contact with two branches this

coupling function

$$\mathcal{S}(g) = \frac{\mathcal{F}\left(-\int_1^0 z^{-s+1}\left(1-z\right)^{-t-2}\right)dz}{G\left(\frac{\Gamma(s)\,\Gamma(-t)}{\Gamma(-s-t)}\right)}$$

this $\mathcal{S}(g)$ is the coupling function for brane / cube interaction!

the momentum of branes can be found by solving for $F$ and $G$.

- The angle of interaction can be found by

$$t = \left(E^2 - m^2\right)\left(1 - \cos\theta\right)$$

- $\mathcal{S}(g)$ is the ratio of two functions $F$ and $G$, is the 'glue' function within cubes

* There may be room for a literal interpretation of the imaginary number

$\alpha\sqrt{-1}$

i.e. $z = x + \alpha i y$

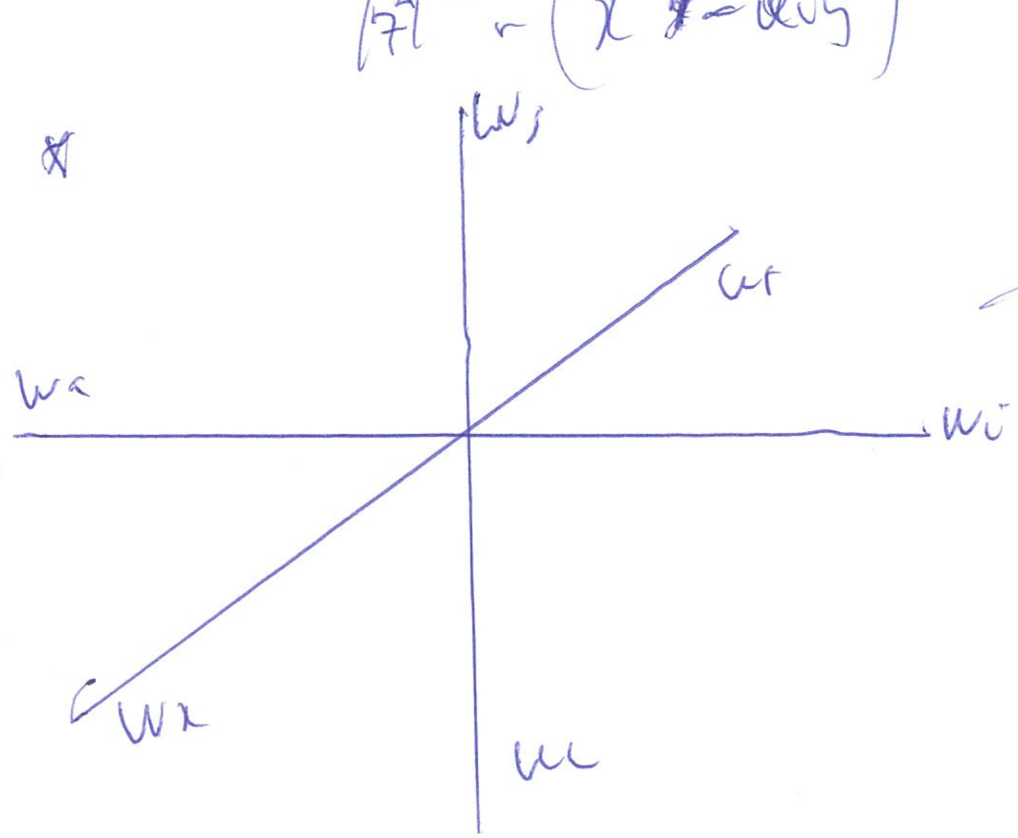
where $\alpha$ is some factor describing the complex conjugate of real numbers

— just a thought!

i.e. $|z|^2 = (x + \alpha i y)^2$

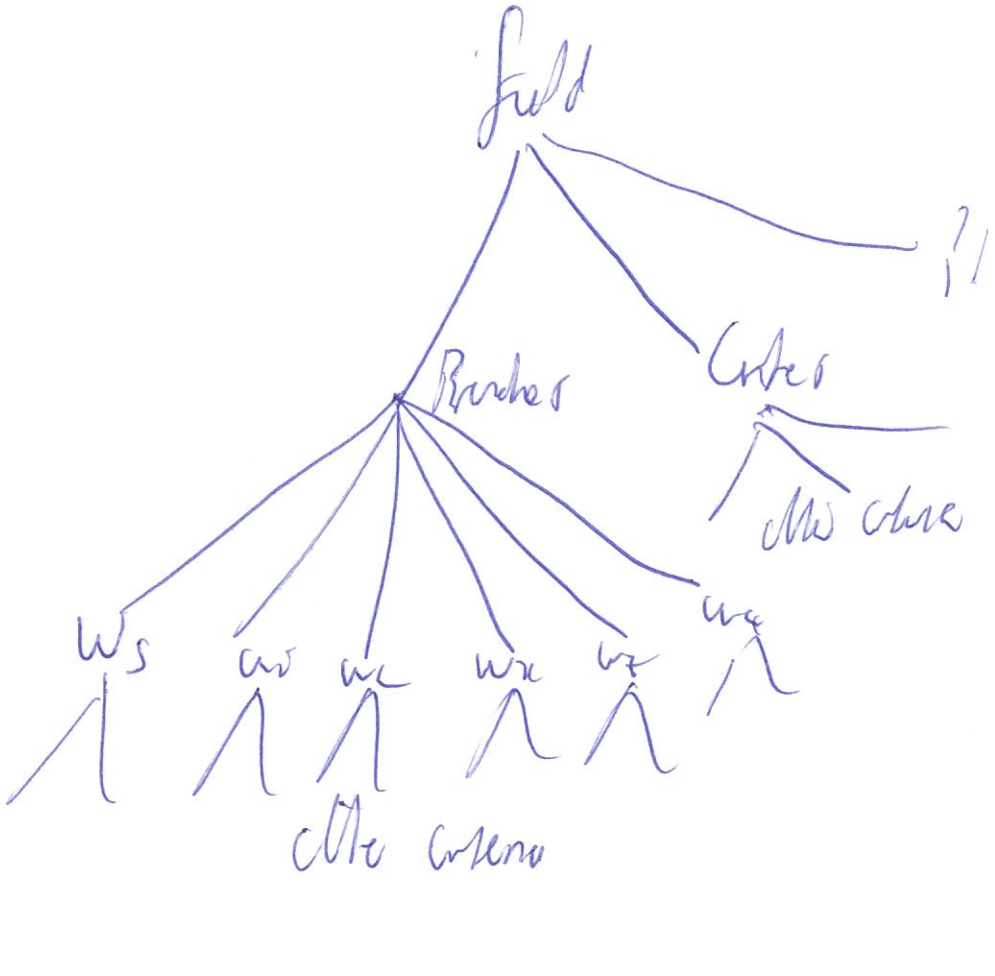
$|\bar{z}|^2 = (x \cancel{+} - \alpha i y)^2$

*



these are not necessarily
Sed in stream i.e.

$(W_s, w_i, w_c, w_x, w_z, w_a)$ is a
manifold of larger field
$(W_s, W_i, W_c, W_x, W_z, W_a)$



The next few pages are about finding, somehow, the number of basic shapes required to enable proper computation of all shapes. This is related to how much information is needed to be inputted at a given time interval. The amount of information processed may seem huge but I suspect the centres have connections to other universes thus they must communicate across the multi – verse.

Discussed also is a probability function of the existence of new universes.

The centres for now, remain a mystery. They are seemingly connected to branches which do not consist of discrete points, but rather, continuous trajectories in the given dimensions. They are branches rather than points for analytic reasons.

Perhaps evidence of fields can be found in the scaling of microscopic phenomena to macroscopic. There are two possibilities, either they are functionally equivalent or are somewhat different when scaled up.

Signals may be submitted one qubit at a time or perhaps in bundles of around 50 qubits. These are transmitted and received by centres.

Taking an integral of the exponential of the inverse of planck time may be an effective estimate of the amount of information distributed to the universe/ multi-verse.

Computationally, branches can be represented by vectors which then are configured in such a manner as to give a solution. This is an example of how processing may occur.

$\frac{}{}$ Information injected given in basic shapes

$\{ I = bn$

$b$ = no. of branches

$n$ = basic shapes

$n$ = number of basic shapes available for transmission

$I$ = quantity of information in one "bundle"

("bundle")

28 29

4. to find some basic criteria for processing (ie) basic shapes at the centrality.

Let number of basic shapes (n) =

$$n = \left( \frac{\text{no. of contradictions of branches}}{\text{total angle of branches}} \right) \times \left( \text{angle between branches} \right)$$

$$= \frac{36}{2\pi} \times \frac{\pi}{2}$$

$$= 9$$

$\Sigma T = 6n$

$= 6 \times 9$

$= 54$

qubits / bundle

* Probability for new universe (30)

$P(x) = P_{prior} \times P_{selection}$

$P_{prior}$ = Last universe's State

= $(1-p)$ chance of finding Singularity

$P$ Selection = probability of not finding Singularity in new universe

$\sum_i P_x$ => for ith branch

NB $P = (1-p)$

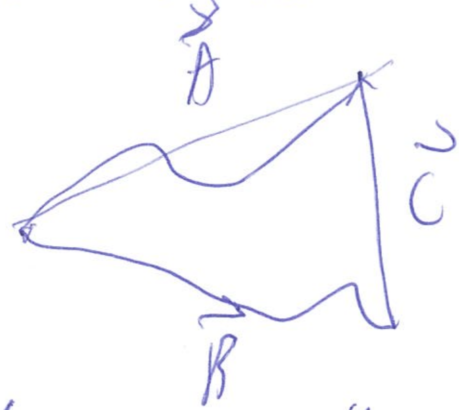
we $P = 1$ you won't find Singularity in new universe

* Cortex process info d

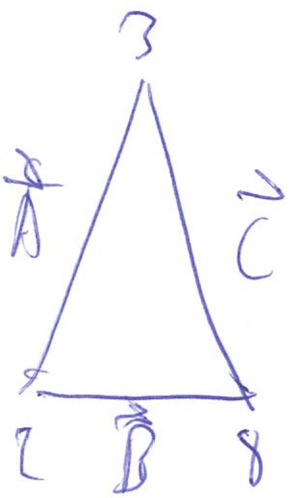
$$I = \int e^{\frac{1}{PT}} \quad PT = \text{plank time}$$

The cortex / branches have no memory of each state therefore there is no time travel!

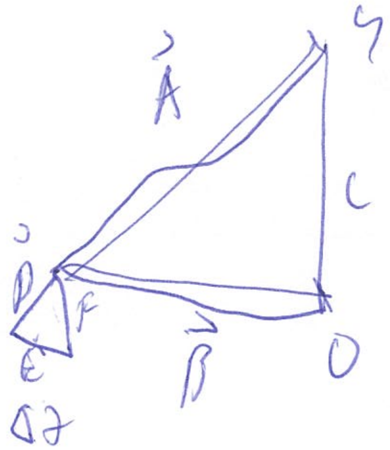
* Branches can be represented by two vectors



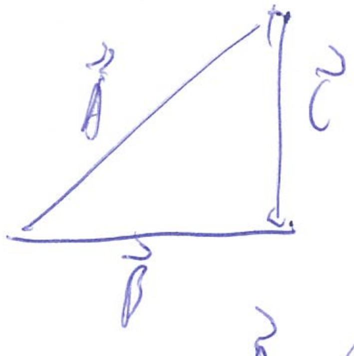

these can then be used to find processing output as follows




$2^3 = 8$




0 or 2 vde




$$\vec{A} = (\underbrace{a, a, a \ldots a}_{3 \text{ times}}) = C$$

Thus using techniques above (SOS, Lx) we can process values using bracket

≠

Processors power $= e^{\frac{1}{pt}}$   pt = plank time

Use a

$$\int_0^{\mu} A\, d\tau = \text{number of}$$

dimensional states in the Cordic.

$$\int_0^{n}\int_0^{2\pi} = \int_0^{2\pi} 4\pi r^2\, dr, \text{ [illegible]}$$

the number of universes in multiverse

$n \to \infty$

There exists a logic to matter formula that may be useful in neuroscience. It is essentially similar to einsteins E= mc^2 or E=mc.

It is E= mg where g is a function rather than a constant. The branches must also have connecting loops, called links in order to process entities such as repeating numbers or irrational numbers. Obviously these can only be done in partial sequences , if they even exist outside of mathematics.

A computational space of a branch is never filled otherwise the space would be quickly filled with useless information, in the same way there is no memory apart from the macroscopic configuration of fields, e.g the human brain, computers, mountains , plants etc.

If there is such a phenomena as time travel it would require a memory of fields and if so why has no one contacted us?

It is only in organised, macroscopic structures that there is a memory. The fields themselves exist in an instant and disappear in an instant, thus the large scale structures are only an approximation of the states of fields.

* Logic to matter formula (37)

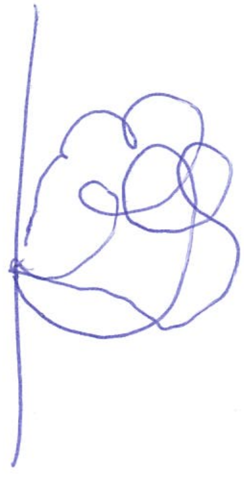
– analogously to $E = mc^2$

we have

$E = mg^2$

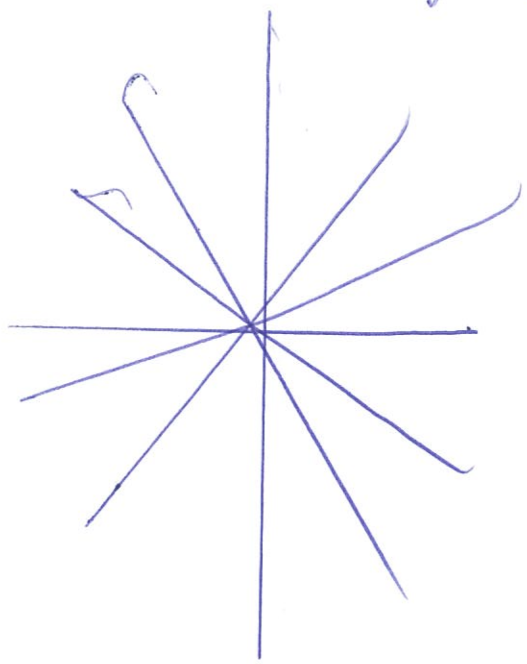
g is a processing function

* The processing due to brain must consist of straight lines, stripes etc but also links

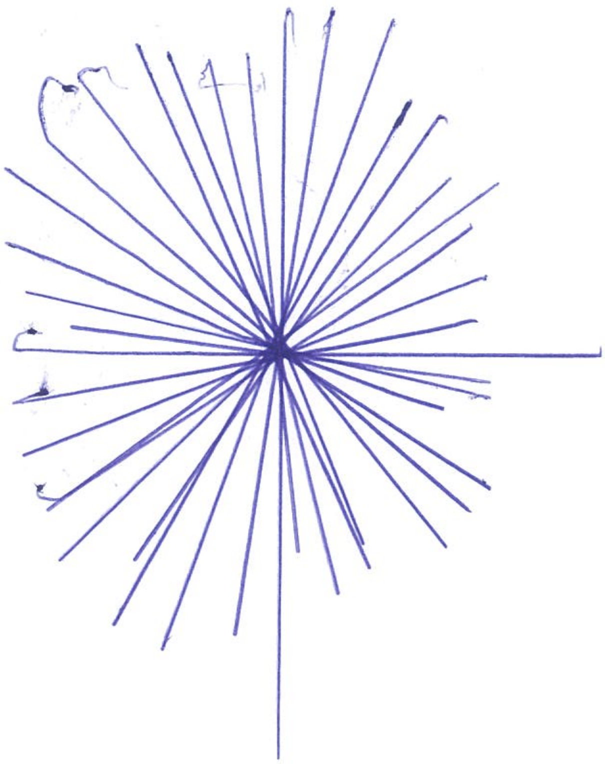


– This is necessary to process repeating/unrelated numbers.. These are only processed as required.

# More on Topology of Connection ⑧



few directions of state



many directions

If the fields have a quasi- physical radius this should manifest as a radius of the universe dependent on the number of fields and their radius.

The time taken to travel along a branch is a simple matter of the ratio of distance travelled to speed at which the information travels.

There are special cases of field structure , such as when branches coincide with one particular branch, there are also many different configurations the branches can assume.

In describing the centres there are also many different paths that parameters can take, such as a sequence of up, down, left , right, back and forward.

The amplitudes, thus the paths that branches can take are limited by their physical length, thus large amplitudes are unlikely which requires the second equation of amplitude below.

The branches may be actually transparent to other branches, as may centres and also, to other centres. They possibly communicate in special manners. The geometry of centres can be predicted by altering Eulers famous polyhedral equation

$V - E + F = 2$ where $V$ = vertices, $E$ = edges, $F$ = faces.

This becomes

$V - C + F = G(V,C,F)$ where $G$ is a function of the given variables and $C$ is some particular set of curves.

②

$\theta \quad r = \frac{h}{c^2} =$

= one axis of space = $W_s$

the set $W_s$ = radius of universe

~~dimension~~ of universe = $2\pi / |W_s|$ = $|W_s|$ = length of space-time

$n$ = number of axes

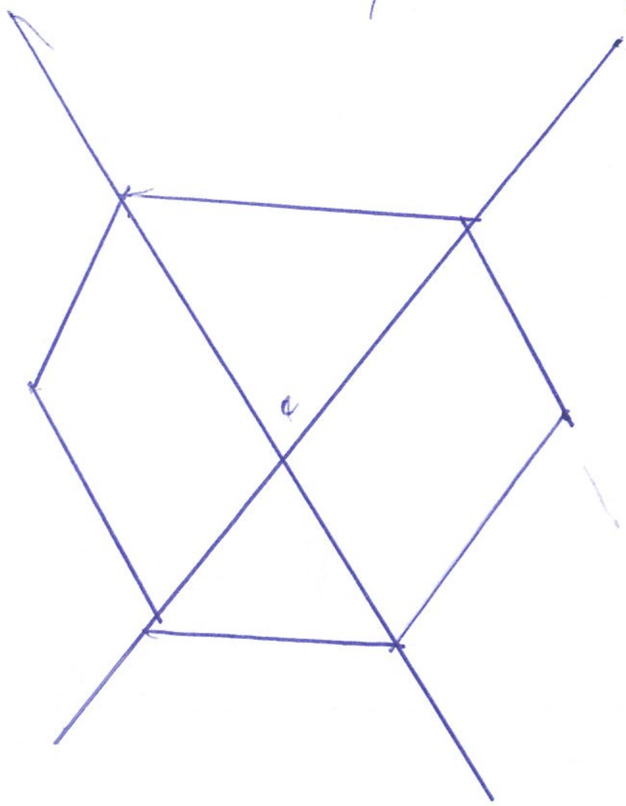
NB ≠ only for unmodulated, orthogonal axes

---

x Time taken to ~~travel~~ travel along a band is calculated to get length of ~~Curve~~ Curvatures is then calculated with sum of squares of other bands to get shape.

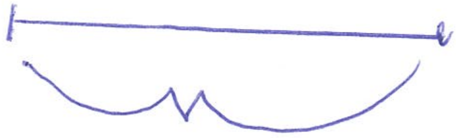
+ topology should work well due to there being only 6 sides.

* Special case, flat plane

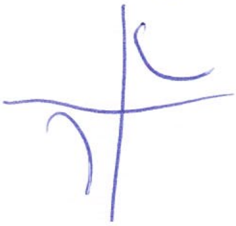


Those disappear except for one dimension (branch)

i.e.

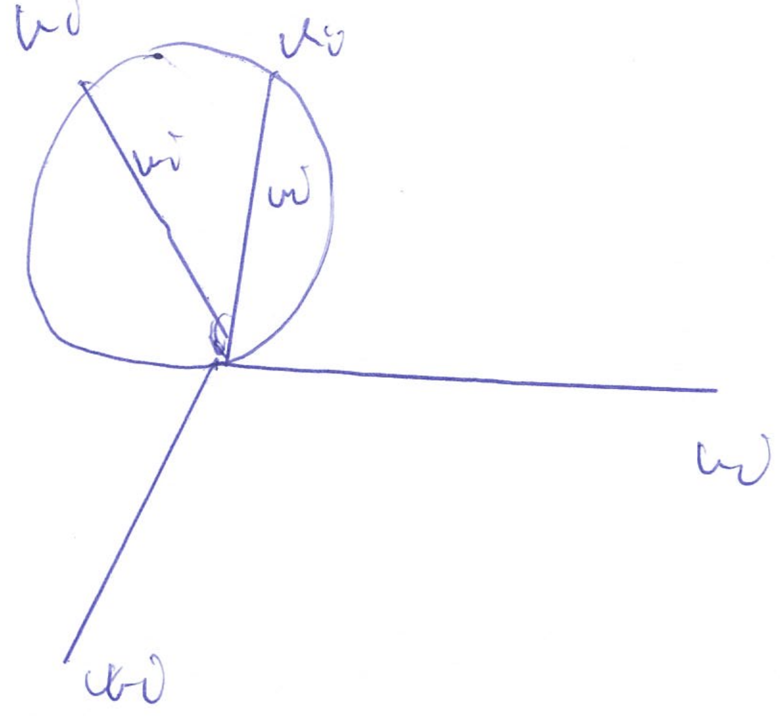


the asymptotically valued function must be handled by center



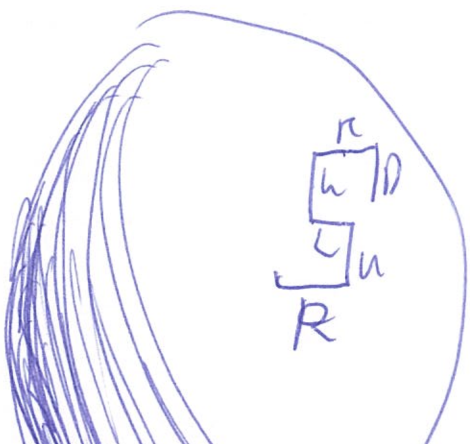
$\frac{1}{x}$

*



* There are certain rules to be followed within centre

Eg




There are an infinite number of possible L, R, U, D, B, F gradations within centre

ie L = Move left
R = move right
D = move Down

* Large and small distortions in Amplitudes of branes (9?)

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

- this accounts for large distortions
- for cancelling large distortions we have

$$A = \int e^{-S\left(\left(\frac{\partial X^\mu}{\partial \tau}\right)^2 + \left(\frac{\partial X^\mu}{\partial \sigma}\right)^2\right) d\tau\, d\sigma}$$

* The above is conserved when $\sigma, \tau$ form a surface.

* for the cortex

- these may be dangerous to other branches

- Also

- within a cortex there are many processes. Topologically these can be equated with the number and also their geometry by

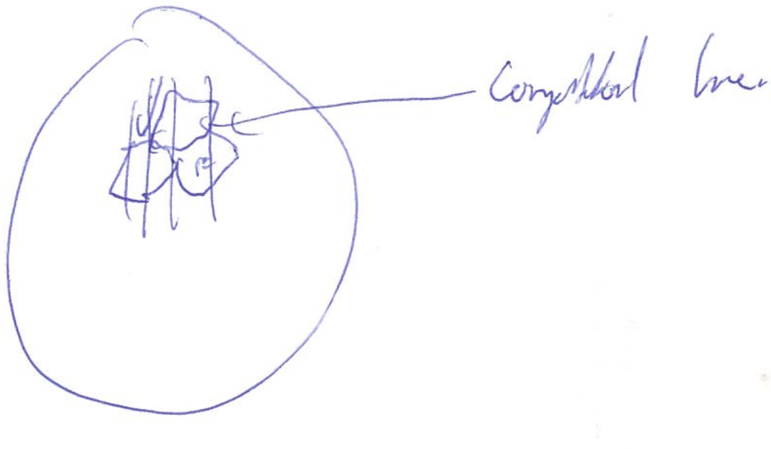
$$V - C + F = F(V, C, F)$$

V = vertex
C = corners
F = Faces

this is an extension of the euler form

$$V - E + F = 2 \text{ for}$$

polyhedra.



**Conclusion:** The axes may be quite a good attempt at unifying the universe with the multi-verse as surely there are some common features between universes. In the first paper I sketched some math that explains how the multi-verses are infinite and, have always been.

The trajectories in 3 dimensional branch space can be converted to the topological space of centres , where I believe, without much grounding, that there are 36 dimensions i.e 6 branches and 6 ways of arranging them.

The amplitudes of the branches are a good guide to the probability of finding them. Einstein said that God does not play dice with the universe, and with the processing power of the fields, I tend to believe him. The propositions I have put forward may be false or they may be partly or entirely true. The multi-verse may be connected as one. Thus we may be able to infer its "Size" by looking at the processing happening within our own universe.

There is much examination to be done to find the function that "glues" Information in branches to that of centres (Singularities) and also that ties matter with thought in general. It is my reasoning that matter (the brain) converts to thought (the mind/logic) and thus why not in reverse, especially at a very small scale.

We are able to communicate, and even imagine. Is this because we are part of a larger multi-verse of possibilities? Perhaps I am made of coffee instead of water.

Hopefully this is a fertile area and there will come up much work on Anti – information – the title of the theory.