The logical universe and ghost fields.

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Abstract:

Here I posit the existence of a logical universe, within and behind the physical universe, the existence of fields that can calculate problems and how these relate to strings.

Introduction:

In order to explain consciousness and other phenomena I put forward the idea of a logical universe analogous to our physical one. I am sure this is not a new idea but has some interesting consequences especially regarding relativity.

The logical universe is topologically equivalent to the physical one. It is manifested in 'ghost fields' that convert data into logical sequences. These fields are created by the existence of matter (information). These fields create a network of data, out of this comes things such as gravity, prime numbers, pi , e, strings etc.

Mathematical symbols are not unique and quite arbitrary. They actually describe objects which here we will call curves (wave functions)They can be expressed in a finite number of ways, depending on the size of the system. It is the same scenario with words, the events represented however are real.

The logical universe is complicit in processing information sent to it by the physical universe.

Because the logical universe has space as simply a variable it is possible to transmit information anywhere up to infinite speed. Events however are separated by time this means

Speed = distance/ time thus distance = speed X time therefore the logical universe can be infinite in size, thus it is the basis for the multiverse.

It is infinite in dimension, all possible events can occur, however it is time that slows the events, giving them seperation. Also, as discussed later, there are certain rules that control the flow of information from the logical to the physical.

This points to no beginning of the logical universe. 1)

Our universe, however, is finite and not everything can happen, thus the possibility space is still open therefore we have a higher potential.

Symbols are a collection of curves that are equated with other curves (curves being objects). Equated is the key word here this means that whatever happens to one curve happens to the other curve. Curves can of course be represented as wave functions. Thus if y= x there are curves that are solutions to the problem. Curves can be symbols, this is the magic between algebra and geometry. Curves are self evident. In fact anything that can be depicted on the Cartesian plane is self evident.

This is where a concept called anti – info comes into play, symbols that do not have a physical reality are said to contain anti – info.

Anti info is essentially information that doesn't fit in the solution set. It is the material that cant be quantified from the logical to physical.

It was said above that a possibility space is full if all possible states have occurred. What if no states have appeared? This is where there are no curves, and time without events has no meaning. No curves implies nothing so Sum of information = 0

This is the definition of space, no curves. Thus if a local point has no curves there is empty space, or a parameterisation of empty space in the logical universe.

This means the notion of curvature in relativity is in error. There are no curves in empty space, even if space itself is curved because the curves imply something is there. The redeeming feature is that you

need objects to curve space –time . This is the clue that logic somehow plays a role in the functioning of the universe.

Thus curves (objects, waves) are one to one from the physical to the logical. Symbols however are dependent on configuration which can be completely arbitrary. There is however a structure following mathematics on this planet.

Basically if we set logic in motion we have thought. Here the curves themselves are solutions. The brain produces selections that are solutions to unique problems.

Any symbolisation in the brain is dependent on curves. Curves dominate the mind, symbols are a subset of curves, when set to time produce thought.

For example a sound wave is a pulse of air that produces a geometry of air particles. It is then a succession of electric currents each in a circuit with a radius. The only way to represent this in physical form is to give it some sort of structure, structure implies shape. A symbol always has to be rooted to a curve.

Here we must discuss rules. Rules take away the absolute nature of curves in that they are separate entitities. If there is a rule that says that everything is nothing and this rule is true we have the fact that everything is nothing

1) Rule says that whatever exists is nothing
2) The rule is true'
3) Therefore everything is nothing
   (is this fallacious?)
   Here even the rule is nothing.
   1) Infinity is zero
   2) The rule is true
   3) Therefore infinity is zero

This second statement supplies the answer to the nothing paradox because nothing is nothing therefore everything cant be nothing. This means that rules take precedence over curves. i.e nothing is not a curve.

Curve = rule = Curve = rule

Think a little about this equation.

The curves of the letters on the page equal a rule and this equals the curves. The exception here is nothing

Perhaps the logical universe has its own dimension, perhaps for every dimension in reality there is a dimension in the logical sphere, perhaps all dimensions in the physical universe can be reduced to one dimension of information.

The physical universe supplies existential motivation for the logical universe. There are many things that can exist in the logical universe that don't exist in the physical one , this however is time dependent hence the equivalence principle

- Whatever can be achieved in the logical universe can be achieved in the physical one and vice versa..

An example of this may be the strings in string theory. They are a mathematically fascinating avenue of physics. If a string can be thought of as a curve and a string is information then they may well exist in both spheres.

It is a limit of the quantum field view of the universe that at any point there is empty space, overlain by matter. What strings are in essence , may be, products of space itself.

String metric(string1 – string2) = feature of space/time.

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.

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.

Also the equivalence principle states that :

Every action that can be performed in the physical universe can be performed in the logical one and vice versa.

The nexii between the logical and physical are time and motion.

Space is simply another variable in the logical universe

(x,y,z,t) -------$\rightarrow$ F(l)

High potential ---$\rightarrow$ low potential

Once every possible combination of a system is enacted the system is full. The motivation of the physical universe is the tendency to fulfil every possible state. Here life supplies a paradox in that it enables new states but denies others (natural selection).

Motion is simply a reconfiguration of a systems information states.

(x,y,z,t) -$\rightarrow$ (x',y',z',t') $\rightarrow$ F'(l)

Massless particles still have an energy. Time is an effect caused by the motion of particles 2). Here time is a function of momentum within the unverse. Without events there is no meaning to time.

This implies that without events there is no such entity as time.

Important here is the notion of the equivalence between information and matter at very small (Planck length) scales.

A hypothesised mechanism for the ability of the mind to control the body is that there are tiny, mechanisms for the mind / soul to manipulate. These occur at planck length and are a way of the mind, in an infinitesimal manner to control matter. They are essentially miniscule 'levers' that the mind can manipulate and then amplify. Thus the mind may exert a force on the universes albeit very weak and this can trigger small changes in the planck length scale of the universes.

(credit to Alex lang).

The following is some hand rendered mathematics due to the onerous nature of typesetting.

The 'ghost fields' are separate to quantum fields in that they 'calculate' the states (information) into a single function of information, which can be processed through the divide between physical and logical. Thus the four dimensions can be thought of as a single function of information.

Through the logical universes, the physical universe can communicate with other states, points of events ie separation by distances and times. It may be that the entire universe communicates through the logical universe and the rules are somewhat 'self aware'.

The physical universe is essentially an evolution of certain rules and curves (wave functions) which cant be changed, at least for now, except by rules that allow this. The ghost fields calculate by interactions (motion) between the logical and the physical. It is motion that gives the vitae to communication.

Interactions can proceed in both directions but are only allowed from the logical to the physical by certain rules. These rules are the fundamental evolutionary – informational rules of the universe. Thus only certain amounts and types of information can be transmitted from the logical to physical. Rules are separate to wave functions. These are all that exist, rules and wave functions.

For example the rule governing the evolution of life is a manifold of the rules governing the universe, they are nearly the same set.

Rules of life < rules of universe = K (rules of life)

K is simply a frequency

This implies that given the evolution of life it will eventually fill the universe as much as entropy allows.

Life = W – S

W = is all the states possible in the universe

S = entropy

Life can be described as a localised decrease in entropy = -S plus a decrease in energy

-S = W - S – E

And also an increase in information

-S + I = W -S – E

Therefore W = I +E which can describe every event, given energy is a rule.

- Time is infinite

W = I

E = I/t' energy is a function of information over time.

I = I + I/t'

I = I (1 + 1/t")

1/t' = 0 which implies t' = time is infinite

- Ghost fields

As fundamental size of a field approaches zero the divide between logical and physical is diminished. The key here is lim x→ 0. This can be taken to mean the smallest possible unit of space, commonly held to be planck length.

If however w e go smaller than planck length we have a 'sweet spot' where information can be traded until we have the smallest structure of information. This is written as a wavelength

Speed = frequency x wavelength

S = f D

D = s/f

D^2 = c^2/ f^2 to give an area.

= c^2/ 1/T^2 = c^2/T^2

Let c=1

D^2 = 1 / (PT)^2

Possibly the smallest information structure is the inverse of planck time squared.

Finally we get to strings in string theory. Strings may be an inherent part of space. They may be the smallest, calculable units of wave functions. They may be pure motion, thus capable of communicating with the logical universe. If we go smaller we have information only, if we are at string size it is the level of rules being able to manifest. Strings may themselves be the messengers of rules in the universe. For this to happen it is likely they are planck length or smaller. As said above, the structure of information can be smaller than this but this is simply the 'doorway' to the logical universe. There needs be messengers that enable the information to be transmitted.

Strings appear to be the physical bridge between information and matter/energy. Adding strings together adds the information , possibly in a linear manner. They are likely candidates to have angular momentum , which is motion and as stated above, this is the key to communicating with the logical universe. Time seems to be a rule. This rule acts upon the smallest unit of curves (wave functions) and these are strings. Space without time is a constant in the language of universes, time is a rule thus it is born of this universe.

If you desire a more detailed view of the possible mechanism as to how the ghost fields communicate with the logical universe and what the ghost fields could look like topologically see .
http://vixra.org/abs/1607.0475

There is more to be said. Laws arise from the fundamental necessity of true and false. Not everything can be true and not everything can

be false, there needs to be a rule that distinguishes between the right and the wrong. Conscious beings have an innate ability to discern the basic rules governing the universe, they know simply what they need to know.

Then, if x= y and there is a third curve z then if z = y then z = x, There must exist something more than the coincidental event of there being solely two things in the universe.

Shape is possibly as absolute as absolute can become, any shape can be represented by a set of coordinate, these shapes must be seperated by something .

The event of movement is tantamount to information. Information and time appear to be separate but have the common feature of describing movement. Information can be defined from 0 to a certain value, in this universe that certain value is c.

Adding two motions gives a third motion

N motions → N+1 motions. Motion is defined in terms of other motion, conservation of information is conservation of angular momentum. This implies that information is distance i.e a bit is simply a seperation in space and time.

Time causes both convergence and divergence of information, time can be studied in terms of divergence and convergence of information, entropy is the constant between divergence and convergence. Convergent events reduce the space in which they occur. Divergent events increase the space in which they occur

The rate at which information can be transmitted follows the Lorentz transformations. This means larger and smaller velocities transmit more and less information

Patterns are the result of an imperfect communication of information. If all information was transmitted in an infinitesimally small amount of time there would be no structure.

Life attempts to store information, locally violating the increase of entropy. Most information occurs at locations of energy / mass. Acceleration is a resonance of information exchange , mass also resonates with an objects movement

Minds exist as perfect symmetry between and within the logical and physical universe, they are logic given time.

All events can be broken down into their constituent information but if examined the information will vanish.

Info found = 1 – probability of finding info.

Information is directly proportional to the number of configurations of a system, it is also proportional to the size of a system, the density of a system and the time taken to change state of configuration

Information moves from high to low potential. The number of configurations of a system disappear into a possibility vacuum . Entropy is a measure of information exchange, Information is the connection between laws and wave functions. I.e there exist only laws and curves (wave functions), info is similar in nature to time.

The central notion to the existence of ghost fields is that information itself has no size. Information is something that ddescribes the states of a system and can thus be considered a law. It is however a wave function or some sort of symbol which implies a curve. Thus information is the essence of existence – the bridge between what is real and what is not real.

The fact that information has no radius means that any structure composed of information can be shrunk to a infinitesimal size. In this universe I believe that to be 1 / planck length squared as outlined above. This means the 'Ghost Fields' can exist without physically interacting with the universe, they may well be the very structure of space/ time. Given below is a possible outline of how they appear. They essentially exist because information exists. The fact that

space/ time is curved motivates the existence of information as outlined above. Therefore even in empty space there is some sort of information , produced by the curvature of the metric.

Moreover we have the concept of anti info. Anti info is anything that is not in the solution set, it is anything that cant be expressed logically in the physical universe. It may be responsible for entropy but this needs further analysis.

The ghost fields have a further purpose. The branches have a certain angular momentum. This , and the separation between the branches gives a clue as to what sort of information is above the field. Thus they are a sort of calculator.

The ghost fields calculate the density of information etc and then transmit it to the logical universe.

Proof that information has a radius of 0!

$$r_1 - r_2 \leq r$$

assume two radii
equal another radius

then Speed = $\dfrac{\text{distance}}{\text{time}}$ $S = \dfrac{d}{t} \Rightarrow d = r = st$

$$S_1 t - S_2 t = S t$$

occur across some time interval
multiply by a common mass

$$S_1 - S_2 = S$$

~~mS_1~~

$$m S_1 - m S_2 = m S$$

& Assume   mass = $\dfrac{\text{Some information function}}{\text{given radius of that information}}$

$$m = \dfrac{4I}{r}$$

$$\dfrac{4I_1 S_1}{r_1} - \dfrac{4I_2 S_2}{r_2} = \dfrac{4I S}{r}$$

$$S = \dfrac{d}{r}   t = \dfrac{d}{S} \Rightarrow \left(\dfrac{d}{S}\right)^{-1} = \dfrac{1}{t} = \text{freq} = f$$

$$4I_1 f_1 - 4I_2 f_2 = 4I f$$

$$M = \frac{2I}{r} \qquad \boxed{\{I = mr\}}$$

$$\boxed{f = \frac{w}{2\pi}}$$

$$mr_1 f_1 - mr_2 f_2 = mrf$$

Cancel mass to remove $\emptyset$ as a variable

$$r_1 f_1 - r_2 f_2 = rf$$

__Assume__ let 1 bit of information be equivalent to a fixed distance

(Is this circular?) $\qquad dx = \{I$

$$dx_1 f_1 - dx_2 f_2 = rf$$

$$\{I_1 f_1 - \{I_2 f_2 = rf$$

Let $\{I_1 f_1 = \{I_2 f_2$

$$\therefore rf = 0$$

but $f = \frac{w}{2\emptyset}$

$$\therefore r \; must = 0$$

$$\therefore \text{ information has no radius!!}$$

Information comes in 2 distinct types of manifestation.

1)

Planck length
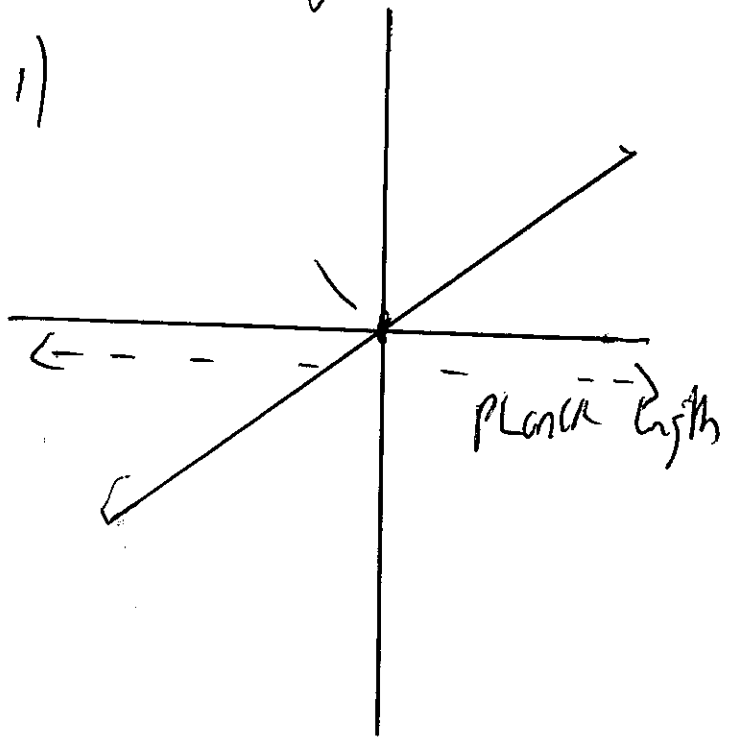
These are simply constructed of information which has no radius of itself

which can be disturbed by the presence of other information
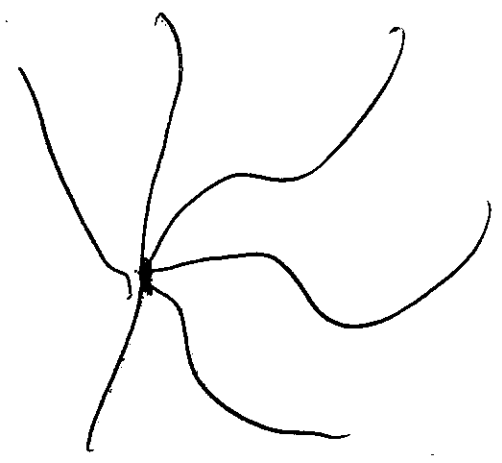
2) And
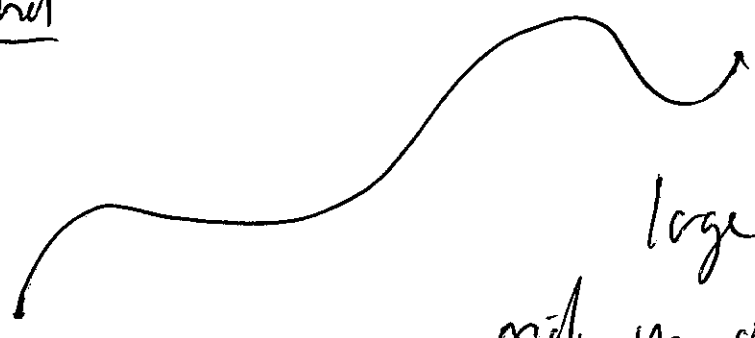
large things made up of few stuctures linked

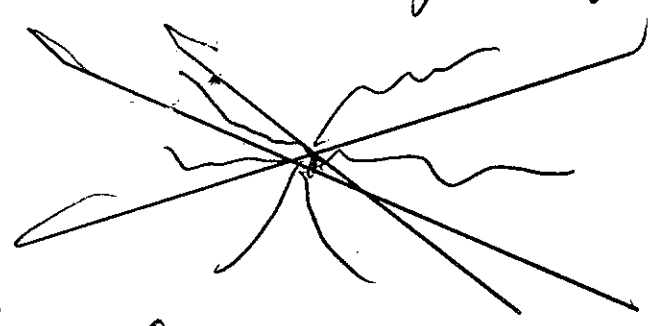✗ Some thoughts on info and anti info

$$\text{Info} \geqslant \text{anti info}$$

$$(\text{info} - \text{anti info}) \geqslant 0$$

$$P(\text{info} - \text{anti info}) = 1$$
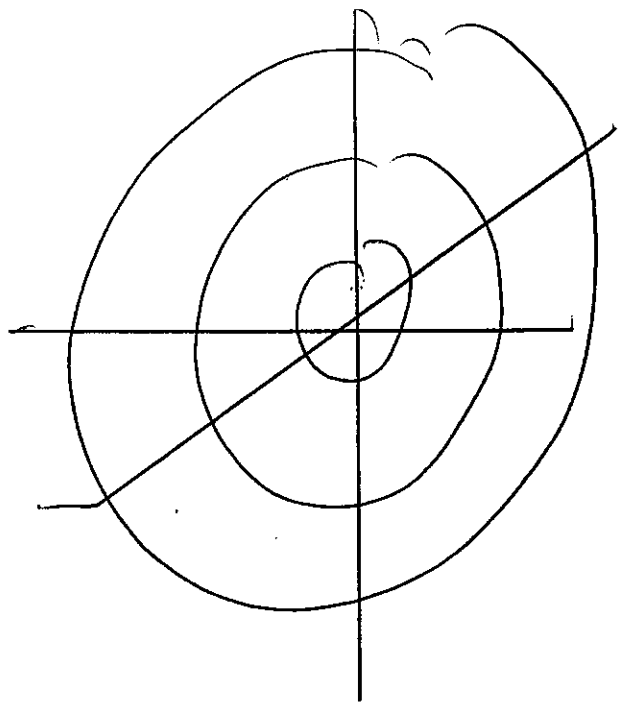
✶ Existence of ghost fields

The fields exist because information exists. The more information the more the 'branches' of the fields become distorted.

branch
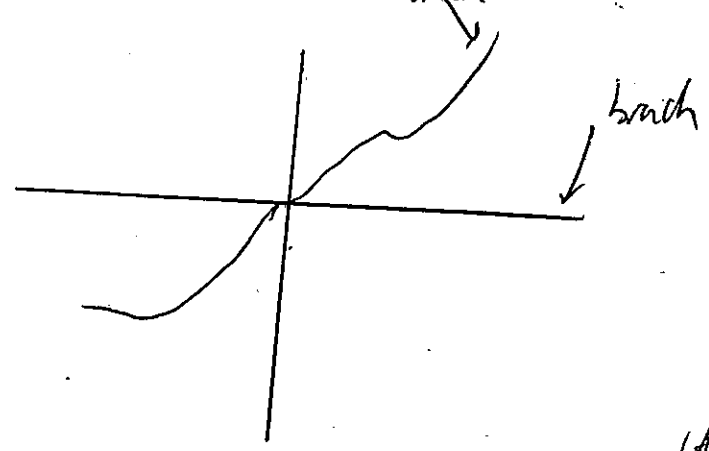
Thus the angle of distortion gives a measure of energy. The amount of angular momentum is also important.

$$\boxed{E = \int f(\theta)\, \theta}$$

※

The circles are equipotential values of some thing, (x, y, z, t) can be expressed as a single value of information $= f(t)$.

X

1

2

?

III) $A \cap B = A \cap C = B \cap X$

IV) $A = B = C$
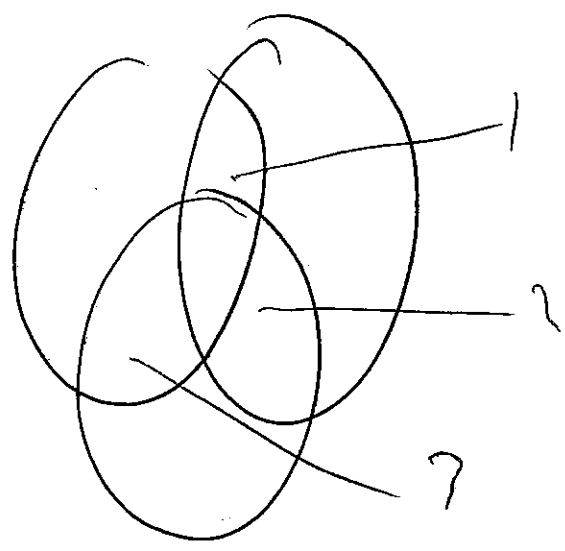
thus $X = A \cap B$ and $X = A \cap C$

Equating one part with information means that all parts have information.

→ Time is the rate of change
of information wrt angular momentum

$$f = \frac{d\mathcal{I}}{d\omega}$$

→ Some thoughts on tensor

$x^\mu \to 0$ $p_{\mu\nu}$, p^ν

'ghost fields'

$$\begin{cases}
dC^? = g_{\mu\nu}\, p^\mu dx^\nu \\[4pt]
g_{\mu\nu}\, a^\nu b^\nu = g_{\mu\nu}\, p^\nu dx^\nu \\[4pt]
g_{\mu\nu} = p^\nu \\[4pt]
\quad = a^\nu b^\nu - (F^\mu)^2 dx^\nu \\[4pt]
a^2 b = (F^\nu)^2 \nabla\nu
\end{cases}$$

⊠ ∆t very small orders info change
equals to angular momentum change.
— angular momentum change ⇒ change in time.

$$\mathcal{F}_n b(T) = \int \rho(x, t, \alpha)\, dv$$

$\rho = $ function of

$x = $ position

$t = $ time

$\alpha = $ info density

$v = $ volume of ... region

$$\int f \cdot d\sigma = \int_{volume} \nabla \cdot \vec{j}$$

$$\int \rho\, dv = \rho\, dv$$

where $\mathcal{J} = $ ...

... and makes ...

$$J = \int \rho(x, t, \alpha)\, dv$$

... ($f_1(...) \to f_2(...) \to f_3(...)$)

In essence an ... things that have
occurred

An example of why symbols are

cu broding

$$\bar{E} = mc^2$$

$$E = \Delta \qquad s \; s \; f \qquad m = \nabla \qquad (s \; x \; z = \omega)$$

$$\Delta \; f \; \nabla x^D \quad s \quad \bar{E} = mc^2$$

For a system of a given size there are
a finite number of ways of representing
the system.

& the assumption used here is that

$$mass = \frac{\text{Conformation function}}{\text{the radius of that information space}}$$

$$\frac{d}{f} \; s \; \frac{x^2 - x_1}{t_2 - t_1}$$

$$E = mc^2$$

$$E = \frac{4\pi}{\lambda} \left(\frac{x^2 - x_1}{t_2 - t_1} \right)^2 \; s) \; \left(s - \frac{t_2}{\lambda} \left(\frac{\Delta x}{\Delta t} \right)^2 \right)$$

$$f' = \frac{\Delta J}{f_2 - f_1} = \frac{\mu_2 - \mu_1}{f_2 - f_1}$$

$$\Rightarrow \text{equal increments with a change in space}$$

$$\therefore f' = d\mu$$

$$\left(\frac{d\mu}{df}\right)^2 = \left(\frac{d\mu}{d\mu}\right)^2 = 1$$

x

$$\int = \frac{d}{T} \Rightarrow \text{entropy}$$

$$\text{disorder} = \frac{C_D}{C_J} \qquad C_D = \text{disorder counts}$$
$$C_J = \text{information counts}$$
$$\text{order} = 1 - \frac{C_D}{C_J} \qquad C_O = \text{order counts}$$

* the expansion of the curve
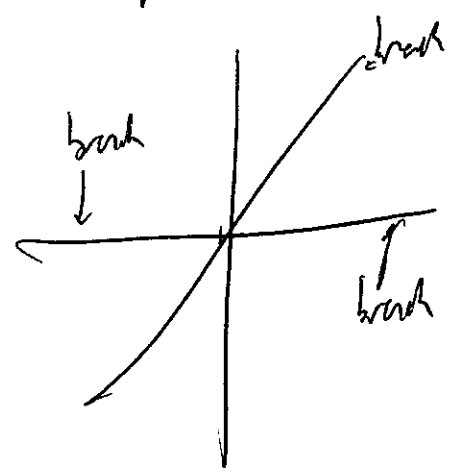
here we have 6 branches.

$\omega =$ angular momentum

$\mathcal{I} =$ infinitesimal duration

$$\frac{d\omega}{6 \, d\mathcal{I}} = \omega$$

$$\int \frac{d\omega}{\omega} = \int 6 \, d\mathcal{I}$$

$$\ln \omega = 6\mathcal{I}$$

$$e \ln \omega = e^{6\mathcal{I}}$$

$$\omega = e^{6\mathcal{I}}$$

(—

* Some matrix notation

matrix θ = $\begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix}$

$\dim = (1,1) \Rightarrow \dim \theta = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$

$\dim(-1,1) \Rightarrow \dim \theta = \begin{bmatrix} a_{11} \end{bmatrix}$

$\dim = (2,2) \Rightarrow \dim \theta = \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ a_{21} & a_{22} & a_{23} & a_{24} \\ a_{31} & a_{32} & a_{33} & a_{34} \\ a_{41} & a_{42} & a_{43} & a_{44} \end{bmatrix}$

to increase m rows by 1
mean m columns by 1

= $\dim = (1,1)$

thus θ $\dim$ = figures that the
figures give the information space

\# Some fundamentals

$$I \sim dx$$

a bit of information $\sim$ a distance

$$\frac{dx}{dt} \sim f(I)$$

Change in distance $\sim$ an information function

$$\frac{d^2 x}{dt^2} \sim \frac{\partial F(I)}{\partial I} \sim d f(I)$$

$\times 1 \, bit \sim (x_7 - x_1)$

$$\frac{\partial x}{\partial I} \sim d$$

$$\sim mass \sim \frac{information \; density}{radius \; needed \; for \; that \; information} \sim \frac{f(I)}{r}$$