

THE FRACTAL GENERATOR OF 5D SPACETIMES

I. Space \approx time Duality

'Dust of space-time you are, $\mathbb{D} @ s \approx t$ you shall become'

'The Universe is a an organism with a mind called Logos' Plato

'Tao=spacetime is made of Yin-form and yang-motion that combines into ∞
qi=energy beings'

'The earth moves but doesn't move' Galileo, father of time-space relativity

'Each (fractal Non-E) point is a world in itself" Leibniz, father of relational space-time.

"Leibniz is right, there are infinite clocks of time in the Universe, but of so we have to restart science from scratch' Einstein, father of General Relativity.

"Space and time of itself sink in shadows. Only its union exists." *Minkowski. On $\partial \heartsuit \$$: δ ime- $\$$ pace Symmetries"*

'Space \approx Time'. Luis Sancho, *on the symmetry between space and time dimensions in the Universe.*

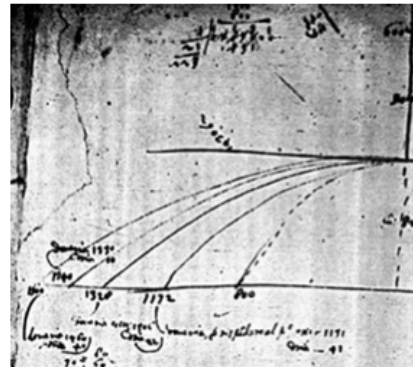
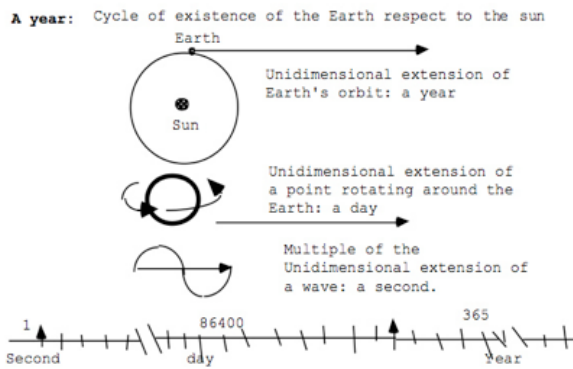
A Universe of space forms and time motions.

All what you see around is a tapestry of **forms that are moving** (as motion is relative to the observer you will always be able to find a frame of reference in which the being moves) - *nothing else is required to explain it all: 'forms', a concept closely related to the scientific concept of in/form/ation and 'motion', a concept closely related to the scientific term 'entropy'.*

Further on we can reduce reality to a single 'element', motion. Since when we observe any 'form' in detail at 'smaller' scales, the form also shows motion. Form in fact is merely a 'very fast closed motion' that seen without detail appears as a solid form. So all particles are closed motions. We shall call a closed 'motion', a *clock-like 'time cycle'*. So we affirm all in the Universe are 'formal motions' tracing *in-form-ative time cycles.*

Information is stored in those closed 'forms' or 'time cycles. In/form/ations, Forms in action are both the 'form' AND frequency 'bits' of those time cycles. And so as all what exists are cyclical *forms* (we shall call them, 'fractal points', ab. α , \bullet) that complete 'worldcycles of time', we can really reduce it all to 'formal motions', *to time cycles.*

And as any motion that 'repeats' its time cycle is REPRODUCING its form, its information, there is no doubt about our first principle born of the experience that all what we perceive *are motions reproducing information as they move in time cycles:*



In the graph, left side, 'ðime' clocks that measure the rhythms of reproduction=repetition and change=evolution of the Universe are always cyclical 'r=evolutions'.

Because a time clock has both, 'motion' and 'form', both in the 'larger scale of the cycle' and the 'smaller scale of the particle' that traces it - often in rotary motion itself; we talk of a Universe made of cyclical-wave motions and particle-forms.

Look around you. *All what you see are forms, we shall call 'fractal points' (as they become larger and with more information, the closer we come to it), MOVING in repetitive cycles (as they perform the same 'actions', once and again, in sequential patterns).*

The universe is about those 'cyclical points' tracing 'worldcycles', 'imprinting through the process' its 'wave-like forms' on 'lower scales' of size, and 'territories of order'.

Reproduction of information is immediate as 'motion' by definition 'never stops', so the mere repetition of a 'world cycle' of a particle (a cycle of a particle in a larger $\Delta+1$ scale of reality), *implies an action of reproduction. So all motions with forms are 'actions' of reproduction, the purpose of the reproductive, living, organic Universe.*

This essential nature of reality, as a sum of repetitive, cyclical patterns of ðime cycles, underlies all the work of science, which finds laws for those repetitions. *So science would not exist if ðime clocks were not cyclical, as there would not be any way to define 'scientific laws'.*

Yet astoundingly enough given the obviousness of this principle, the human species have lost in the past centuries his understand of cyclical 'ðime', as physicists, a profession that started with the study of ballistics and lineal trajectories of cannonballs, simplified those cycles into Lineal ðime explained with a single numerical parameter, an artifact of measure which facilitated the calculus of speeds, distances and translations in §pace, with the formula $v=s/t$, but reduced human knowledge of the cyclical nature of those clocks and its natural patterns, and the 'dimension of information', carried in the form and frequency of those cycles.

This became the more clearly with the discovery of Relativity, and the infinite clocks of ðime of the Universe: 'ðime bends §pace into masses' said Einstein, who defined mass as an accelerated vortex of gravitation (equivalence principle). But not only masses and charges are Nature's accelerated vortices of ðime. Each biological species has also its cyclical clocks ðime to process information and so do computers, which are basically ðime clocks and cyclical logic loops called algorithms.

So while humans obviously are aware of the existence of cyclical patterns of nature, because they have abandoned the proper concept of cyclical ðime changes, and its second dimension of form, of information, they cannot fully grasp the fundamental principles of the Universe: its cycles of ðime§pace, its scales of ðime speeds as §pace size (ab. $\Delta\pm i$), and the 'mind-mirrors and languages' of information that allow systems to measure them, and interact with other beings in ðime§pace.

The concept of cyclical ðimes is not new. On the contrary, as it is evident in the left picture that all ðime clocks are cyclical, repetitive; the true mystery is how humans are so 'dumb', as to deny it in the

modern age. Since all Asian cultures, and all western cultures till Galileo, did believe in cyclical ðimes. The word in fact still lingers in the names of our newspapers: 'The New York Times', 'The Times of London'.

Moreover science would not exist if ðimes were not cyclical as 'scientific laws' are merely the repetition in ðime of patterns of behavior and causality.

All these truths unfortunately are hidden in the ðime equations of modern physics, so good for calculus so bad for interpretation, which need to be translated into cyclical ðime, measured by frequency ($T=1/f$) and streamlined with a new jargon appropriate for a dual Universe, as opposed to the simplex jargon of classic absolute ðime&space physics, that lingers in all sciences and drags its understanding.

In the left physical cycles, planetary orbits, which we humans use to measure ðime in all our 'clocks', which are also cyclical. People are hardly aware of this fact, since they tend not to use the 'parameter' of cyclical ðime, which is 'frequency', but its inverse, lineal duration: $f=1/t$.

The formulae are simplified in this manner. Since 'frequency ðime' is discontinuous and so difficult to 'integrate'. So physicists prefer to uncoil, frequencies into Lineal Time. For example the 'revolutions per minute of a car wheel', multiplied by its perimeter give us the 'distance': $\lambda \times v = S$. And besides in this manner we achieve more information, as we get the duration and form of in-form-ation of each cycle (λ) and its frequency, v .

But if you just want to know the total length of along ðime period, you use Lineal Time durations and so you don't need to sum all those cycles to get the lineal speed: $V=s/t$.

In the left graph, we can see that all physical systems, and all its ðime cycles return to its origin, creating a circle, but physicists uncoiled them and put all those revolutions one after another creating the concept of Lineal ðime – an artifact of measure, and further on equalized all the different clocks of the Universe, all the different cyclical actions of its species with a single mechanical 'ðime clock' elongated into an infinite duration.

And we shall return to it, when using cyclical time to define and upgrade physical equations, with new insights on its whys, thanks to the 'inverse arrow of time' cyclical frequency, $\delta(f)=1/T$ -duration.

FRACTAL SCALE: GALILEAN PARADOX.

Why the obvious cyclical nature of time, and its patterns in Nature, called Laws of science has not debunked the simplifying loss of information provoked by the use of its alternative, reeductionist, physical concept of lineal time, $T=1/f$, which misses the details of the form of world cycles, substituted by worldlines, and the quantitative knowledge of the frequency=speed of those worldcycles of time?

To put it in simple terms, because man is a visual mind, and light is a straight line/wave of enormous speed, which portraits reality as a spatial, present lineal surface, and so our mind tends to see SPACE and trust the e-vident reality but misses without 'seeing' it the cyclical causality of time.

Still in the eastern cultures, as opposed to the dolichocephalic, visual-dominant, 'Neanderthal-like' white man a higher temporal, informative, brachycephalic brain, dominant in the verbal, logic Brocca axis, has always understood cyclical time, and we shall use some of the taoist findings, applied to the analysis of the cyclical patterns of Nature latter on in the 3rd line of the blog.

Time is indeed cyclical, but the visual dominant, physics, entropic, worldly profession of weapons-makers of the western tradition, prefers for cultural, mental, biological and social reasons, an entropic view of the Universe... specially since Galileo's experiments with ballistics - those first exercises you do when studying physics in high school about the maximal distance of cannonball shots.

As Plato clearly stated humans are visual minds and have therefore a very difficult time when dealing with time=change, simplifying it, and often reducing it to a 'dimension' to measure space, distance... and its motion in space, $v=s/t$.

And this happens with the added disadvantage that Humans LOVE to think they know 'truth', and so they eliminate the interposed mind languages and perception elements from its assessment of the information of the being, whose total truth, '1'=one, only happens in the being in itself. All other 'truths' are human languages mirroring the being with lesser information than the '1'... and biased by the language's syntax, including visual mirrors. This a priori conditions must be known before we can restart science from scratch, correcting the first sentence that begun modern science, as it shows the basic limit of *our mind as a still 'spatial' mirror=language of a 'moving', temporal reality*.

Since the mind either sees reality moving or still but not both at the same time. While in the Universe both, the space and time states co-exist.

So the mind tends to deny motions of time to all beings, and so it reduces its organic properties, to simplify information enough to fit it in the reduced brain of the being.

We shall do the opposite: to increase step by step the dimensions and hence the volume of truth of all systems.

So we correct the most famous statement of Galileo: *the earth moves in time and doesn't move when perceived in still space.*

But GALILEO didn't express the real duality of formal still space and moving time dimensions -'The earth moves AND doesn't move' - but it took a single choice from its one-dimensional mind-world: 'the earth either moves or doesn't move'...

It was of course, the best choice, the one with more content of truth... if we had to take one, as time-motion is all, and space-form a slice of time, or a Maya of the senses.

Let us then consider on the path of Galileo's duality the other 2 fundamental dualities of the Universe, as they are the 3 logic traps that we must analyze together if we want to get an in-depth understanding of reality as 'it is'.

3 DUALITIES: FRACTAL WHOLES, CYCLICAL LINES & DIS=CONTINUOUS SPACE≈TIMES.

This first duality shows how the mind's languages influence and reduce truths - the being in itself with all its dimensions and properties, into human languages.

And in that sense there are two other physical dualities whose importance to fully grasp in depth the 'real properties' of beings, can hardly be stressed:

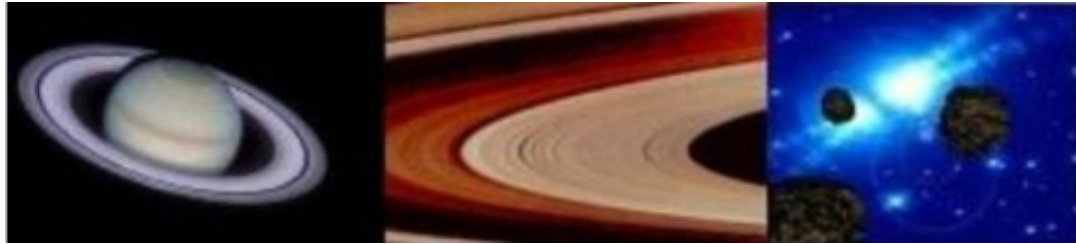
The duality between wholes, which is what humans seem to see more often and its smaller parts, which we do NOT see in a single space-time 'continuum', but are always there, defining 2 new more dimensions of space-time, the scalar 'finitesimal' smaller dimensions of parts, which we shall call the entropy dimension, and the larger dimensions of wholes, 'pegged' by the mind's perception, both internally (the informative 'singularity' of the system that maintains its synchronous structure) and externally (the perceive). We shall call this dimension the fifth dimension.

And the duality between lineal and cyclical forms, which turns out to be one of perspective, as we see 'flat' the Earth from an ams all view, but as we grow in scale it reaches curvature to become a sphere, which will be also very important to understand 'closed and open' systems, 'deterministic and free', 'curved information whose maximal storage happens in spherical forms and lineal motion maximized by straight lines'.

Yet both things are truth, and both are needed to understand fully reality, *doubled by the fact that we consider each dimension in stillness, a space dimension and in motion a time dimension...* And when put together they DO create the motions with form or LINEAL MOMENTUM (max. motion), CYCLICAL MOMENTUM (max. form) and its integral through a stretch of time space (energy), which the Universe conserves, giving us the first sight on the generator of all dualities and trinities of the Universe:

\int -lineal momentum (potential/limbs) $< \Sigma \Pi$: body-wave of energy $> \oint$: Angular momentum (Heads/particles)

Saturn's rings: the 3 dualities of the fractal Universe: motion vs. form, line vs. cycle, part vs. whole.



Naive realism and the one-dimensional way of humind (ab. human mind) thought tend to disregard the existence of both 'dualities' at the same time, and so much of the arguments on philosophy of science have been historically a false choice between 'sizes', 'forms' and the importance of discontinuous parts/individuals vs. continuous wholes/Universals. Again the key concept is duality, co-existence in the same time or the same space of those scales, forms and motions.

So after explaining you in the previous graph, the Universe in a nutshell, we are going to develop it.

Think in a word: symmetry or duality, between space and time, forms and motions. Every form can be seen as a time motion and every motion as a time form, and that enriches a lot our depth of thought, as humans till now have failed to see form in motion and motion in form. Only mathematicians wondered why for every algebraic equation (a symmetry of space-time), there was a topological equation (a spatial solution); why for every point (a form of simultaneous time) there was a number, a time sequence, and so on.

But there are two other symmetries or dualities, worth to mention because they will come all over the place to distinguish the dimensions of space-time; that between small parts and wholes, which embodies the inverse 4th dimension of entropy and 5th dimension of mind-languages, mirrors that order reality; and the symmetry between lineal and cyclical forms, which is in great 'measure' a 'measure' of perception.

So let us explain the duality of continuous/discontinuous, which has also divided for eons thinkers in the 'predominance of universals' vs. those who believe in individuals.

We illustrate them with another finding of Maese: In the graph, Saturn's rings, first observed by Galileo, seem continuous, still and bidimensional from far away; but observed in detail they become discontinuous in motion and made of 4D spherical particles.

Moreover, what appears as a single space-time continuum in detail becomes at least 3 scales: that of the rings with cyclical motion, of its particles, the rocks that turn within them and the not seen but known scale of atoms that create the solid networks of those rocks.

The 'present' state of science deals mainly with the single space-time continuum of the more 'obvious' human scale studied in terms of 'present'=differential motions, ∂t , with minimal latitude of time.

The 4th and fifth dimensions deal with a longer duration from the absolute past (birth of the entity) to its absolute future (its death), when evolutions of form, frequencies of multiple actions and cycles of creation and extinction happen.

Yet both things are truth, and both are needed to understand fully reality, *doubled by the fact that we consider each dimension in stillness, a space dimension and in motion a time dimension...*

What is a dimension of space, of time, and a combined one of space & time?

Even before we describe all the dimensions of space and time, we shall consider this a priori question, which science has not clearly resolved.

As it is indeed in the beginning of science, when the lack of a clear understanding of dimensions of time=motion and dimensions space=form, prevented humans from cracking the meaning of them, and left us 'orphan' of the first elements needed to construct reality.

We came closer and if Galileo had believed his sentence: the Earth moves but doesn't move, he would have indeed, cracked the door to the absolute, but he left us only with one 'motion' of time - that of the Earth measured with a clock.

It is in that sense difficult to understand the influence that the discovery of machines that measured time (clocks) with seemingly more precision than human brain languages (verbal times, which indeed are quantitatively less accurate, but DID explain logically much better the interplay of PAST, PRESENT AND FUTURE, the 3 dimensions or ages of time WORLDCYCLES) had in our 'reduction' of time to a single 'lineal time', the one measured with mechanical instruments, and defined by Galileo's time formula as a 'parameter of space': $V=s/t$, time=space/speed: translation in space. So as we are going to expand the meaning of time dimensions as motions in the Universe beyond the 'measure' of lineal motions, in a lineal graph of space (the only dimension of time truly studied by physicists); we shall start by the correspondence principle putting in perspective the 'reduced' concept of time-motion of physicists, whose extraordinary detailed analysis of lineal time motions fogs with so much detail, the limits of such reduced single view of time.

3 scalar time-space dualities: motion v. form, lines v. cycles, quanta v. larger wholes.

We want know to focus in the true meaning of the Paradox of Galileo and the dualities of perception, it brings to the human mind: we perceive the Earth still, but it is moving. We perceive the Earth as a continuum, but it is made of quanta of matter. And we perceive the Earth flat but it is rounded.

As those 3 DUALITIES: LINEAL VS. CYCLICAL FORMS, PARTS VS. WHOLES, STILLNESS VS. MOTION are at the heart of the ultimate laws of the Universe.

Indeed, the Earth is still under my feet, have always been, will always be - reasoned the Vatican astronomers - so what this 'cuckoo' Florentine, a people known for their dubious political and artistic opinions, is telling us? It is NOT evident that the Earth does NOT move?

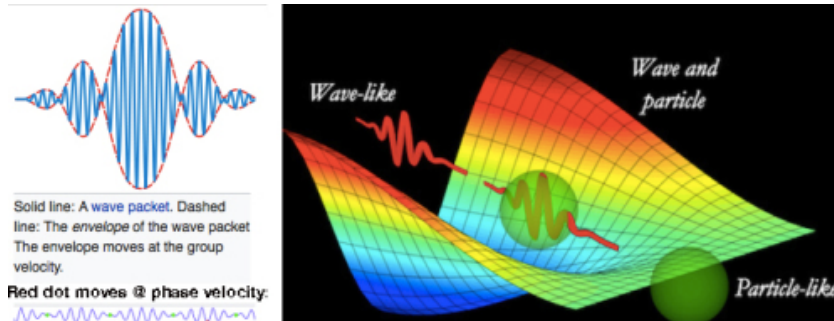
Science in modern times started when Galileo realized the Earth moved in time, even if we see it as a fixed form of space.

So after much thought, he affirmed we couldn't really distinguish motion from form. And this was called Relativity. But being a practical man, an artillery master for the Venice Arsenal, on charge of measuring the largest distance=motion of a cannonball, he didn't think much about the 'stillness' of the Earth, just applied the clock and the cannonball to measure the longest line of shot. And affirmed after all the Earth was moving. *And yet it is still still under my feet.*

It is this paradox of the mind that perceives either form or motion, but NOT both at the same time, *even if both things do exist (e pur si muove, e our no muove)* what allows us to divide reality in two types of elements space and time and affirm *both co-exist as two different still and go states/dimensions of reality.*

Alas, this means we have just magic!, doubled the dimensions of reality as for each dimension of form=stillness=space, there must *be a dimension-motion of time. This is the true principle behind relativity, through which shall rebuild the Universe of science to give it a much deeper meaning. Because as soon as we realise every motion has form the magic vanishes and reality doubles in.*

We shall talk of 3 fundamental 'relativities' that 'confuse' the mind - that between smaller and larger parts, which define the 4th and 5th dimensions of entropy and linguistic information; between lineal forms (which is how the mind measures) and cyclical forms (which is on the larger view how the Universe breaks reality into closed vital spaces) and finally between 'continuous wholes' and 'discontinuous parts'.



The 3rd duality between lineal and cyclical forms seems at first the less interesting but it will be the most fruitful in terms of mathematical solutions to the whys of geometry and topology and metaphysical solution to the concepts of freedom vs order, determinism vs. probability. Since closed cycles become the membranes that divide reality in fractal space-times, surrounding a vital energy or 'wave motion'. In the graph, the particle surrounds the wave, but both are complementary. The wave is the open flow of lineal, vital energies that moves the particle. The particle is the cyclical form.

Further on the duality divides the simplest forms between open 'space-strings' and 'closed-time strings', in a duality carried through all scales (particles and waves in the quantum realm, electronic waves and quark particles in the atom; DNA particles in still information and RNA-waves; female reproductive waves and male particles, and so on.

Finally the perception of flatness or curvature turns out as Lobachevski's ratio shows, it is relative to our perspective of scale...

Doubling the dimensions of time & space.

But the immediate most important conclusion arises from the existence of the duality between mind-form-space vs. motion-time is the doubling of dimensions of reality:

Galileo's insight in one of the 3 dualities of the Universe between motion vs. form was conceptually shallow, as he didn't realise it happened truly both things at the same time, HENCE WE MUST DOUBLE THE DIMENSIONS OF TIME AND SPACE and equate them as *dual states; one of motion (time dimension) symmetric to the state of form (space dimension)*:

3 S ≈ 3 T

We consider then a Universe made of fractal 'space-time beings', which display the 3 classic dimensions of space as forms, but *also as vital dimensions of time, as **function is form***.

And to those 3 'dimensions' in a simultaneous present space scale, we must add 'scalar dimensions of size' in the fractal Universe 'above' the system (larger wholes) and below the system (entropic parts), for a total of 5 Dimensions, which we now pass to analyse in certain detail to 'reach a certain agreement on its 'names, numbers, forms and functions'.

Those 3 dual paradoxes between motion and form, wholes and parts, lineal and cyclical shapes, were rejected due to the incapacity of the mind *to handle all the information of the Universe, as it is a minimalist organ* that selects and reduces perception to fit all the information of the scalar infinite Universe of space-time motions into its limited space are essential to understand 'reality'.

So we translate constantly dimensions of form and motion, as the ultimate structures of the Universe is made of st-eps, in which a dimension of form becomes one of motion that becomes one of form in a stop and go process. In the graph 2 cases of physical systems: the loss of a dimension of height-form as it accelerates into a dimension of motion, angular acceleration, and a change of a spread state of motion as a wave, and a stop state of information as a particle.

III. TRINITY

A Universe of relational space-time organisms.

'Tao=time is made of yang=motion and Yin-form-ation, which combine to create ∞ waves of qi=vital energy beings', Lao, on the 3 arrows of time.

'The universe conserves cyclical time-clocks=angular momentum, lineal motions=momentum and vital energy' Modern translation, on the 3 conserved quantities of physics.

"Historically, much of fundamental physics has been concerned with discovering the fundamental particles of nature and the equations which describe their motions and interactions. It now appears that a different program may be equally important: to discover the ways that nature allows, and prevents, information to be expressed and manipulated, rather than particles to move. (...) To conclude with, I would like to propose a more wide-ranging theoretical task: to arrive at a set of principles like energy and momentum conservation, but which apply to information.'

Steane, on the time arrows of energy and motion

Absolute relativity.

Linguistic creationists: verbal creationist religions and mathematical creationist scientists:

God used beautiful mathematics in creating the world.
Paul Dirac
1902-1984 Nobel Prize-winning physicist
"We must admit that religion is a jumble of false notions, with no basis in reality. The very idea of God is a product of the human imagination."

"Mathematics is the language with which God has written the universe."
- Galileo

و عليكم السلام
HI
In the beginning was the Word, and the Word was with God, and the Word was God...
All things were made by him; and without him was not any thing made that was made...

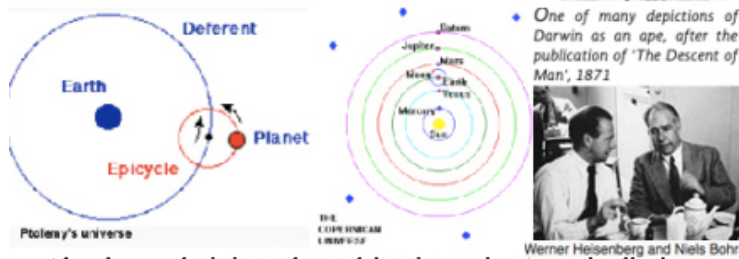
Albert Einstein (1879-1955)
"The ultimate reason of things must lie in a necessary substance, and this is what we call God."
So far as the theories of mathematics are about reality, they are not certain; so far as they are certain, they are not about reality.
I don't believe in mathematics.
God does not care about our mathematical difficulties. He integrates empirically.

Gottfried Leibniz
] Realist science: A Universe made of its ultimate substances, vital space and cyclical time arrows.

Human egos are the main bias to fully understand the Universe and its organic properties and multiple minds≈languages. So humanity divides between mathematical and verbal creationists who think their language created the Universe and only the properties described with it are 'worthy' to know. Notice how Mr. Dirac denies the Verbal God but affirms there is a Mathematical one. In true form, Leibniz, Einstein, who considered the ultimate substances of reality space and time from where we shall derive all its dimensional, isomorphic laws, were far more 'realists' in its search for ultimate principles. Each language then according to its synoptic capacity to carry information will mirror in the 'finitesimal' space-time of a mind limited in volume and duration only part of the total information of the Universe and all its fractal T.oes. So its knowledge will always be limited and self-centred as the language has a perspective with his mind at the centre, giving origin to the equation of any mind: O-finitesimal mind x ∞ space-time cycles of the Universe = Constant World. The Universe is infinite, but each 'mind-language' mirrors only part of its scales of space-time, and lasts a finite duration, extending a finite size



SCIENTIFIC ABSOLUTE RELATIVITY Vs. EGO PARADOX



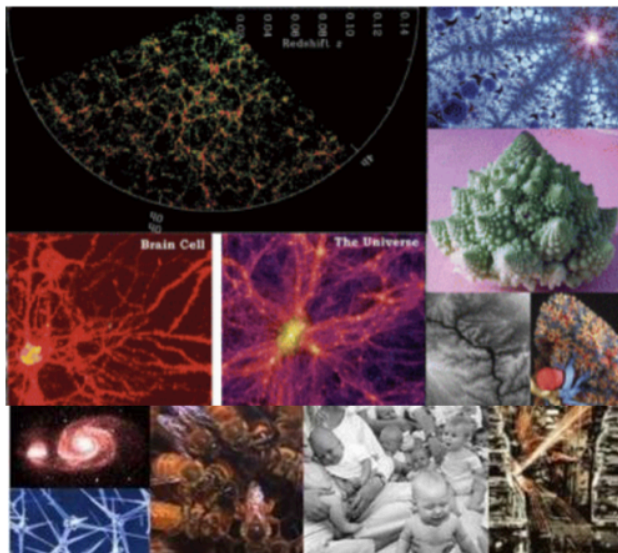
**Absolute relativity takes objective science to its limits:
After taking man from the center of space (relativity)
& of time (evolution), it takes its mind out of the
center (quantum realism) and of scale (fifth dimension)**



The paradox of the mind confuses the whole Universe with its limited self-centred world of perception, BUT reality is absolutely relative and we must just discover the biased 'theories' the humind has established to keep himself in the centre, which contrary to belief do exist still in all sciences, from the entropic big-bang of lineal time that reduces the two arrows of time to the lineal entropy of physicists clocks, blatantly 'forgetting the cyclical vortex of gravitational information' in galaxies that warp 'space into time', to social sciences which cannot accept the organic evolution of machines, the higher importance of the super organisms of history and its informative, legal and economic, reproductive networks in the control of societies, to biology, which denies eusocial evolution to maintain the ego on top and the vital properties of inorganic matter, as even quarks and electrons reproduce, absorb energy, gauge information and evolve socially in magnetic fields - hence have ALL the properties of our supposed 'unique' carbon atom.

Also realise that 'the languages of God are infinite' Upanishad. So while the mathematical mirror is the most efficient language known to man, *languages by definition are synoptic mirrors that leave part of the information outside. So truth grows with the multiple view on an event-form given by multiple languages*, of which the logic of the Universe, which is bio-logical is the most important.

So do NOT expect reality to be described with equations only. Space time has mathematical≈geometric properties but also temporal and the 3 logic 'verbal times' of words are so far better to describe them. As one of the fundamental errors of human sciences is to have reduced time to a lineal mechanical, digital clock, which is the first limit of modern scientific inquires we shall expand



The Universe is a fractal that reproduces information and then self-organizes networks and systems that evolve into superorganisms in all scales of reality. This obvious fact observed in the graph - but denied by the 'creationist' entitled human beings who prefer to think they are the only intelligent, living part of it to their own peril; makes it a 'pan psychic' organic system. But science did not have a proper formalism of its organic, fractal structure till I discovered it in the milieu of system sciences, applying it then to all systems, including human societies and machines.

In the graph, the Universe is a fractal system that reproduces spatial energy and temporal information, carried in the cycles and forms of its clocks of time in multiple scales of spatial size.

Information then becomes natural to the existence of cyclical clocks with a frequency of motion and *motion becomes the essential substance of reality, being space a still moment of the eternal flow of motion of time cycles once we accept that we are all made of space and time, form and motion, cycles and lines, wholes and parts, the 3 dualities of Galileo's paradox.*

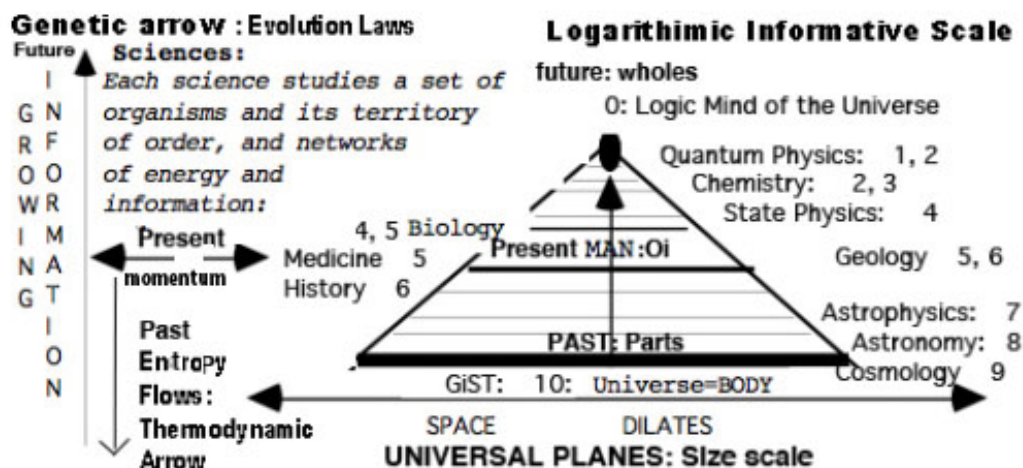
Both parameters, spatial size and quantity of information can be related by a simple Metric equation: Max. Spatial size = Min. speed of cyclical clocks of time that store its in-form-ation in the for and speed of its cycles.

So a chip the smaller it is the faster it process information in its digital clock-cycles. A particle, the smaller it is the faster it turns. So happens with a cosmic body. So black holes turn in the event horizon at light speed. A ray of light with higher frequency of information has smaller wave lengths, a planet closer to the sun turns faster; a smaller animal has faster metabolic rates.



In the graph, the Universe organises itself in co-existing scales of relative size in space and speed in its time clocks of information - a structural property that determines its organic nature, as those scales become symbiotic to each other, sharing through networks flows of energy and information. This fractal organic nature of reality was intuitively understood by all philosophers of science, which from Aristotle to Leibniz and Einstein conceived a pan psychic vital Universe, and man made to its image and likeness. But science did not have a proper formalism of its organic, fractal structure till I

discovered it in the milieu of system sciences, a metric equation of the scalar space-time dimension of the Universe, applying it to the study of all systems, including human societies and machines - a task carried out in this blog. The metric equation of the fifth dimension of space-time is simple as all space-time metric are: S (size in space) \times T (speed of time clocks) = Constant. So smaller parts have more speed of time clocks which carry its in-form-ation in the form and frequency of its cycles, coding larger systems: genes code cells, memes code social organisms and particles' quantum numbers code physical systems. But larger forms have more spatial energy and enclose and control in synchronicity its faster smaller parts, creating the co-existing scales and symbiotic cycles of super organisms in any 'stience' of space time organisms. It also allows systems to travel through its scales by growing in size, while diminishing in time speed, as we do from birth as a fast reproducing seminal cell which emerges with slower clocks as an organism, part of a superorganism, mother earth, which has even slower geological cycles



In the graph, 5D metric allows to classify all sciences as 'stiences' of space-time beings, each one describing a set of systems of different size and time clocks, but all together harmonised by its $S \times T = \text{Constant}$ flows of energy and information happening through networks between scales. So happens with humans which transfer information through its memes to the larger scales, which in turn organise and enclose humans in its national, cultural or economic structures.

In the graph we see that simple 'metric equation' of the fifth dimension, poised to revolve our understanding of all systems of Nature, once the 'first phase of any new scientific paradigm' (resistance of authority) crumbles by the sheer weight of facts explained by the new paradigm. In essence all what exists is a super organism of spatial energy and temporal information, who follows the same laws of the fractal organic Universe - a biological system *that re=produces information, whose different units are its 'mother-generators', in each scale of reality - the mother in human beings, the company-mother of machines in the eco(nomic)system, the black hole that catalyses the reproduction of stars and the stars that reproduce atoms in galaxies... the ray of light that reproduces information at c-speed in the quantum realm; and the particles, quarks and electrons that absorb its energy and reproduce new quarks and new electrons.*

This simple equation $S \times \delta$ (cyclical time) = Constant defines therefore a new scalar dimension of space-time, which we shall call according to the correspondence principle, the fifth dimension, poised to r=evolve in this century our understanding of science.

I. CYCLICAL SPACETIME

Let us then start with the basics. What is cyclical time, as opposed to lineal time, the dimension used by physicists, called the fourth dimension, which simplifies a cycle - that obviously needs two dimensions of time to be traced, into a line, which is then a single dimension defined as distance or motion with a simple formulae, $v=s/t$, from where all the equations of time derive in the simplified version of 4D. If you grasp at least this simple fact: all clocks of time are cycles and hence need two dimensions to be traced, you are in.

Then think a bit more about a cycle. If you notice all cycles are 'closed geometries'. So they break space into an inner and outer form, which we shall call, the vital energy of the being and the outer Universe, and further on they have a 'centre' to be traced that we shall call, a singularity-monad:

A cycle defines 3 quantities: angular, lineal momentum and vital energy.



T-membrain

Now for you to understand 'fast' what we mean by TIME-SPACE

SUPERORGANISMS (ab. T.œ) consider an immediate picture of one of them, made of 3 parts, a vital energy enclosed by a cyclical membrane self-centred in a linguistic mind that measures it and acts in an external world to ensure its survival. As it happens, in terms of physical systems, the Universe conserves exactly 3 quantities equivalent to those 3 systems, as all is made of them, albeit broken in a tapestry of infinite such T.œs:

- Lineal momentum, which is the motion directed by the will of the S@-mind with its formal spatial mapping of reality, moving lineally to achieve its 'actions of existence'
- Angular momentum, which is the cyclical membrane of the being, seen in motion as a time clock, $\Delta\delta$, that separates the being's internal vital space-time from the outer world and creates its 'standing form'
- Energy, which is the vital space enclosed by the angular momentum that balances both, S@, minds with lineal momentum-actions and δ -cyclical membranes, equating them: $S@ \approx \Delta\delta$.

Those 3 'conserved quantities' broken therefore into infinite vital space-time organisms, put together as a puzzle, give us the 3 absolute space-time quantities of physics. And they form the 3 elements of the fundamental topology of the Universe, a closed ball, where the open ball or visible part is the vital energy, while the membrane and singularity point or mind in its center are considered 'something else'. And as we move into larger scales we will find in all systems, a boundary from nations with borders to animals with skins, a mind-center or seed of information, from capitals and governments to DNA molecules; and in the middle a vital energy exploited by both, from military armies in the border and legal or financial informative people-castes in the capital exploiting the mass of population to black holes in the center of galaxies, enclosing a vital space of stars, with a halo of dark matter, likely strangelets, to use them as mitochondria of their reproduction, to your sensorial skin and brain exploiting your cells.

There is THEREFORE A VITAL ORGANIC PROPERTY TO THE 3 conserved fractal quantities of the Universe that ensemble into systems, and their properties are inverted regarding the 'extended membrane of hardcore lineal proteins' vs. the imploded singularity of informative warped DNA, which the middle vital energy pegs together.

So death is the 'separation' of those two parts after exhausting the vital energy, so the membrane detaches warps, wrinkles and the singularity mind returns to its memorial repetitions, while the vital energy dwindles and as an old man you get all skin and memories...

Now, we need to formalize the *new logic of systems made of inverted dualities and ternary parts; whose structure is more complex than the space-time reality we are accustomed to describe, as space is fractal and time is as all clocks show cyclical, but those states are dynamic, as systems constantly switch between them. So once we know what is all about we can get into the details on how it works.*

And the key words are 'Dualities' and 'ternary symmetries' which study how systems with only 3 states can be so rich in its details.

And 'the fourth dimension of entropy' and the 'fifth dimension of social evolution' into wholes. So simple so complex when we combine, repeat and translate in different languages those ultimate principles, which we shall now study with a bit of more depth.

IV & V:

$\Delta_{\pm i}$: Entropy & evolution

The Universe and all its parts are Timespace organisms that reproduce information, stored in the form and frequency of its time clocks, through the vital motions of its 3 space-time dimensions and $2 \pm \Delta$ scalar dimensions of entropy that dissolve the networks of information of an entity, scattering them in the process of death, and emergence, which evolves those networks socially from a group of smaller parts into a whole. Without those 2 'organic' dimensions that relate the different 'scales' of size in space and speed of time clocks of each 'fractal part' of the Universe, we cannot make sense of its organic process of creation and extinction:



Atomic, $\Delta-1$, thermodynamic, Δ and gravitational $\Delta+1$ scales

In graphs, the three 5D scales of physical and biological systems:



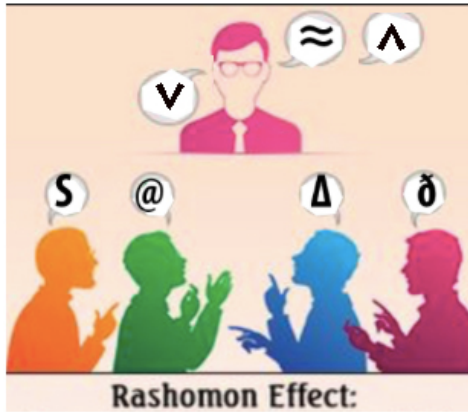
In the graph all systems co-exist in 3 scales of the 4th & 5th Dimension: the $\Delta-1$ atomic/cellular, Δ -organic/thermodynamic and $\Delta+1$ gravitational world; which we can describe with a metric equation of the 4th and 5th scalar Dimensions of space-time (ab. $\Delta_{\pm i}$), which order all entities of reality in scales according to the size and different speeds of time clocks of its systems is very simple: $S \times \delta = K$, the relative size in space and speed of the time cycles of a being remain constant.

$4D \approx S\delta$ entropy and $5D \approx \delta T$: social, fractal planes and its 'finitesimals'.

But Galileo's observation of reality and that of all scientists that follow him failed also into focusing scientific equations in the two other paradoxes of observation of reality soon evident with the use of telescopes and microscopes: The fact that the structure of the Universe was organic, scalar, as we large wholes made of smaller parts - giving birth to the duality of the continuous form and its discontinuous components.

This duality did not stir up the understanding of the scalar, (ab. Δ) dimensions of the Universe, those that refer to the co-existing parts and wholes of those scales, we shall terms here the fourth dimension of entropy (the disorder of wholes into its smaller parts, 'freed by entropy'), ∇ , and the fifth dimension of social wholes put together by the enclosing membranes and singularity minds that focus them.

The Universe is a fractal so it has scales of size that co-exist together for which we need to add dimensions, to introduce the fractal Universe.



Rashomon Effect:
As all Time-space organisms are fractal systems composed of 5D elements $S@Δδ$ inscribed in larger 5D systems we need 5 points of view to reach maximal truth about a spacetime event

reduction of the plane of quantum particles to 0-1 spheres of time probabilities in search for its 'growth into unit $Δ$ -scale'.

In the paths, the probabilities or freedoms of moving through different paths is ginormous, on the end of the cycle they reduce almost invariably to one, the point of maximal density with the wave becomes particle. As it happens we shall see in all the games of probable freedom in the 0-1 statistical sphere, before getting to the 1-wholeness of truth in itself - the making of the palingenetic being.

A first understanding of all together through its asymmetries, balances and perpendicularities.

The Universe is a fractal super organism made of 4 ternary **Asymmetric** elements, Space, Time, $Δ$ scales, l@nguages related by...

- **Operandi:** which can either annihilate or evolve the elements together, in two inverse motions which we shall call **Balance $≈$ symmetry that gives birth to '5D' social evolution, $Δ>$ or Perpendicularity $V<$ antisymmetry that causes entropic dissolution-death:**
- **S: Space:** an ENSEMBLE OF ternary topologies, ($l+O≈∅$)... which made up the 3 physiological networks (l-motion/limbs-potentials + O-particle/heads $≈∅$ -vital energy) of all *simultaneous super organisms*
- **Δ: Planes:** distributed in $Δ±i$ relative *fractal scales* that come together as $Δ^0$ super organisms, each one sum of smaller $∑Δ-1$ super organisms... that *trace* in a larger **$Δ+1$ world...**
- **δ: Time:** a series of *timespace actions of survival that integrated as a whole form a sequential cycles of existence with 3 ages*, each one dominated by the activity of one of those 3 networks: motion-youth, or relative past, dominated by the motion systems (limbs, potential); iterative present dominated by the reproductive vital energy (body waves), and informative 3rd age or relative future dominated by the informative systems, whose 'center' is:
- **@: Language: The mind** that reflects the infinite cycles of the outer world and controls those of its inner world, through its languages of information, which guide its 5 survival actions: 3 simplex, **aei**, finitesimal actions that exchange energy (**e**-ntropy feeding), motion (**a**-celerations) and information (perceptions) with other beings, and two complex actions: offspring reproduction and social evolution from individuals into **U**-niversals that maximize the duration in time and extension in space of the being.

It has to be noticed that creation is composed of two operandi, the balanced wave-state and the particle that emerges into the $Δ+1$ world: $≈^∧$ as a present-future coalitions, as opposed to entropic destruction,

The least understood duality: lineal freedom: probability; cyclical order: Determinism

We have left for the end the least understood duality of space-time symmetries, that between motion lines and cyclical clocks of order, which repeat the information that motion lines try to break in. Freedom is symbol of not-end strings of lineal momentum. Order is given by the angular momentum, focused into a singularity for cyclical perception, call it h-planck or eye-sight, angle or form.

But both together play the game of vital energy and its fluctuating waves we call present-existence.

Consider this game which changes the sense of freedom according to scalar role. In quantum probability, a

which is a simpler V form, a theme of enormous repercussions in all forms of existence essentially wave-particles preying over entropic dissolutions.

The study of those 4 elements and its operandi, which result in a social evolution together, or an entropic destruction is thus necessary in every analysis of reality, since all systems will be connected across its scales, with a larger outer and inner smaller world; will be perceived either simultaneously as a super organism or in time as a flow of actions integrated into larger ages, which will invariably be guided by an informative stiff-mind, stop motion into information, warp and finally disintegrate itself.

There are many views on such simple elements, specially when we fully understand the key principles of its operandi which are either opposite, Darwinian, or social, parallel - a principle which is as most of the principles ignored by science, vital, organic, biological; and *either bring together the asymmetries between lower planes of more information and larger planes of more energy or bring them into destruction.*

So goes for the asymmetry between I and O forms, depending on how they come to each other tangentially or 'penetrating' to reproduce LITERALLY as we fuk each other's gender (: i tell you is all vital geometries.

And so goes for the different 1st and third ages of existences...

So that is the game: 3 asymmetries of scale, age and form, which can come together or annihilate and each language represent in different manners, the most well known that between:

names (forms) and verbs (motions); colours of blue and red, form and motion which can either be played reproductively into green or anti-complementary into yellow, the *colour of eviL destruction, of gold* (:

It is all in the codes of colours, we shall see even in the game of Nature.

All is in the codes of the Universe and its operators, also clear in mathematics, with the duality of inverted operations, + -, $X \div$, $\sqrt{x^a}$, ∂ .

So the simplest method of extracting a meaningful quantity of information on a being or event requires to comment on the 4±operandi '5' perspectives, even *when we study as we do in the first line*, those elements in themselves.



The law of eusocial evolution, natural to all species, which evolve together, sharing energy and information through common networks, when they recognize each other as equal being, cells of the same superorganism, is confronted by the law of darwinian devolution, in which species that consider each other different ab=use the others as relative energy of their selfish agenda.

In human superorganisms, the laws of eusocial evolution were perfectly defined by the great prophets of love, in the old age, by the messages of love of Buddha, Jesus and Mhmd, in the modern age by the work of the r=evolutionaries of history, with their motto 'egalite, fraternite, solidarite' and the socialist vision of a planet ruled by social love.

In the graph the asymmetry of social sciences, which also is essential to understand history and economic systems.[/

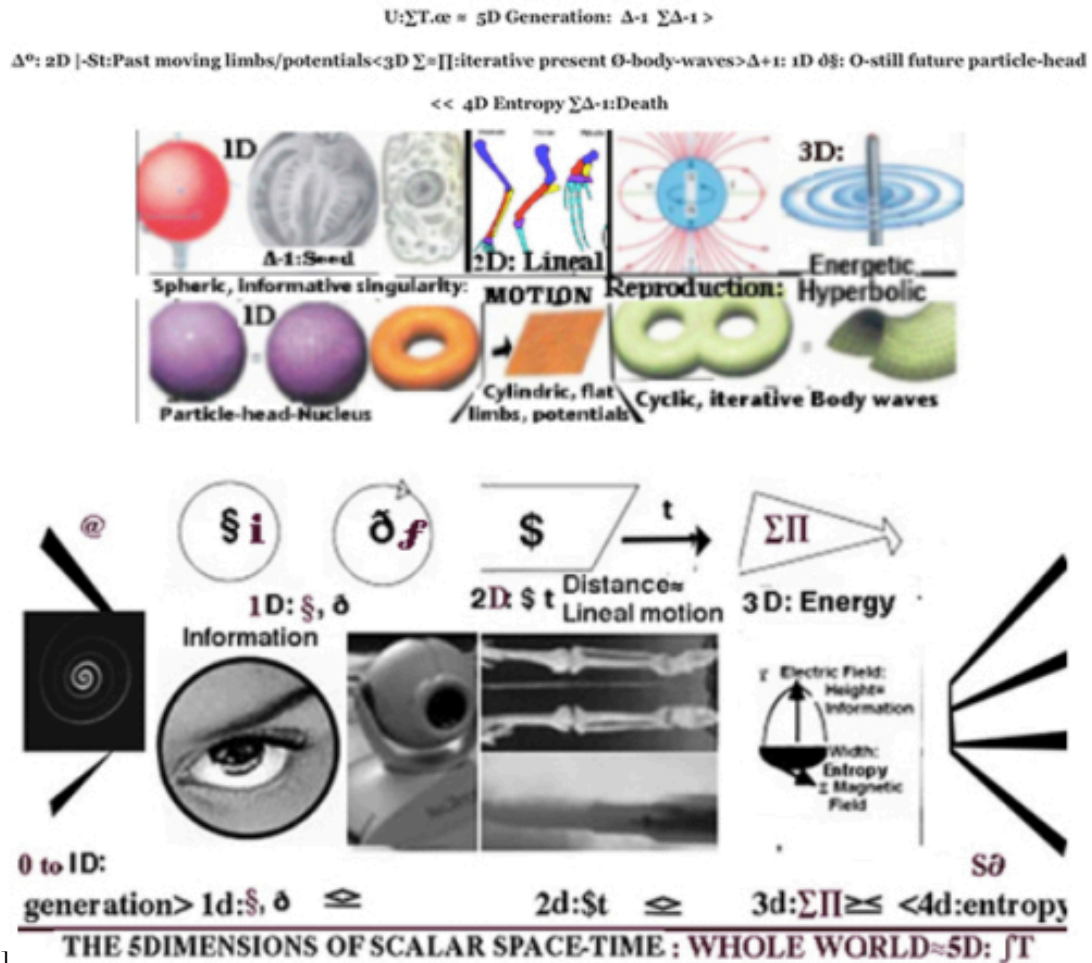
The five dimensions of space-time: 3 conserved elements and 2 scalar ones.

Below, the graph, those 3 space-time dimensions of present are however sandwiched between a relative

future entropic death and dissolution into a lower scale and a relative past, of generational palingenetic social evolution from a seed of information.

So now we have all what we need from 1 to 5 Dimension to define in a more 'compact' manner the Timespace super organisms of the fractal Universe, again as a whole, returning to the one with more depth, because we do affirm once more that all what exists is a 5D² super organism of timespace tracing worldcycles of existence. And this is the simplest synthesis of reality as 'it is', in its purpose and whys - to exist, to travel through the fifth dimension, to grow, evolve and multiply, but then to die, because many other selfish point of views are doing the same, and at the end all will be balanced into a zero sum, from generation to entropy...

TO THAT AIM we first shall bring the generator equation in a rather complete form:



The generator equation defines the Universe as a fractal sum of timespace super organisms, extended through 3 $\Delta \pm 1$ relative scales of space-time, ruled by 5D metric equations, such as the product of the size in space and speed in time of the clocks of information of the Non-Æ points of the 3 scales are constant, allowing the symbiosis of its 3 ternary parts, which exchange lineal momentum, energy and cyclical momentum among them, the 3 conserved parts of all systems made of lineal limbs/potentials, $\Delta-1$ micro points (quantum atoms, cells) organised in superposed additive herds that move the system and dominate its young relative past age; part of 3 $\Delta 0$ iterative, physiological networks, the organism proper that iterates into a dynamic present the system (thermodynamic matter, or multicellular organisms in physical and biological systems), guided by a relative future particle-head that holds the linguistic mind or relative future survival will that guides and synchronises with its clocks the system as a whole in the external $\Delta+1$ world; where it will perform 5, aeiou actions gauging I-nformation, to accelerate=move towards a field of e-nergy in which to feed, to reproduce into an offspring of clones to evolve socially into a larger universal $\Delta+1$ new plane or superorganism of 5Dimensional space-time actions parts, before it exhausts its vital energy, stops moving and explodes back into its entropic parts in its big-bang death. So we can define its 5Dimensions in time through its world cycle of generation,

from its $\Delta-1$ seed that reproduces, evolves and emerges into the Δ^0 scale in which it will act with its 3 dimensional networks, the 1D point/head/particle, that moves in 2D planes to feed with 3D energy. [/

Asymmetry; Symmetry= social parallelism and perpendicular antisymmetry

The essential principles of reality are in physics better expressed in geometrical terms, for the aforementioned reasons of denial of the 'will of existence' to the point-particles of physics, quarks and electrons, which do gauge information, move to fields of energy, absorb it, reproduce in other particles and evolve socially in 3 aei simplex and 2 ou complex actions *that start the living existence of the fractal organic Universe.*

This denied by the 'electronic humind' which seems to think their electrons are special chosen of go(l)d, fetish-sweat of the sun, with magic properties once enters the crystalline of gtac atoms (:quip intended it is better to cast the duality of entropic, darwinian destructive behaviour, and social, evolutionary one between those 2 initial particles and all others scales of matter built with them in terms of its *geometric Asymmetry* between the 3 scales of 'quantum, thermodynamic and gravitational' matter, the 3 time ages of 'gaseous, liquid and solid' states, between plasma generation and nuclear extinction; and the 3 lineal=flat, cyclical=spherical and sinusoidal=hyperbolic topologies of space that all those scales display.

The **asymmetry** between l and O, $\Delta\pm 1$ and past, gaseous, entropic and future, solid ordered states of matter is the fundamental property in terms of logic thought of the Universe, which can either derive into:

-Symmetric coming together into the intermediate states of liquid, present, iterative time; associated to \emptyset -hyperbolic, sinusoidal body waves, dominant in the Δ^0 intermediate thermodynamic states; *which as it happens are complementary to each other, and maximised in the human being, self-centred view of reality (we are liquid hyperbolic body waves of present time).*

Nt. on epistemology: This again is NOT on the highest philosophical thought because we are the centre of the Universe, but because in absolute relativity each informative knot of perception bias reality to feel himself the centre of its limited world. But for the time being as we are just humans and I will not soon emerge as a God of History (see section on paradises :) we shall remain in our position as the only possible way to perceive reality, latter commenting on other weird self-centred minds as the Maldacena Black hole holography of the galactic body, and so on.

Back to asymmetry, when all those wonderful liquid states happen they tend to happen because if we were to cast the process in terms of non-AE (non-euclidean, non aristotelian, i-logic geometry, the vital expansion of the discipline) because geometrically the parts involved enter according to [the 4th postulate](#) of into a parallel relationship, which does NOT extract by friction more than a extremely limited quantity of motion and form, normally through an $\Delta-1$ medium of micro-particles ([2nd postulate](#)), which allow the non-euclidean points ([1st postulate](#)) to perceive a finite number of parallels ([5th postulate](#)), to form social planes ([3rd postulate](#)).

So mathematically all happens in an orderly fashion according to the rules of i-logic geometry, but its chaotic reality means merely that huminds are still stuck in Euclid and Aristotle, and moreover do not understand why *parallelism and 'respect' to each other distances work so well as all those points moving in orderly fashion in liquid, sinusoidal flows of space-time are supposed to be dumb fuks... which magically find their way.*

On the contrary, when they are dumb fuks, blind to each other, they collide perpendicularly. And so they do not magically find their way and do NOT evolve socially raising its forms to new planes of higher organisation, which we term generally as the fifth dimension of eusocial love, but break into scattering entropic states of dissolution, colliding randomly in 'markowian', memoriless processes which sooner or latter kill the whole, expand the space between the point-particles and finally stop them in an entropic heat relaxed into a latent state.

And this is what we call antisymmetric annihilations. So the asymmetry, symmetry and antisymmetry states for any of the parameters of reality are closed related to the 3 relative planes of existence of the being, as social evolution into wholes, present liquid states where the action is happening and entropic states when the dissolution and PERPENDICULAR collision, *except* when that perpendicular collision is clearly organised with the finality of ending the life=vital energy of a system and absorbing it for reproductive purposes, of which physical systems are also filled but 'unbeknownst' to the humind ego - from light photons absorbed as cells of electronic nebulae, to electronic nebulae absorbed by hungry up quarks, to quarks digested by hungry strangelets, themselves food for thought of top quark stars, aka black holes.

Here is then when the bio-logical properties of matter will allow us to reduce as the essential ockham's razor the multiplicity of inflationary mathematical equations to what it HAPPENS. Ie, we can potentially eat oil, swallow coins and breathe gas but only a crazy child will affirm that happens often and it is good. So happens by all the potential equations of physics, the organic properties of matter and its vital laws preclude that certain actions happen, certain forms are absorbed by others and certain ones do not except for accidental mistakes. And so we conclude the Universe is positive in its search preferential for symmetry over antisymmetry, social evolution in wholes over dissolution, which is most often product of a feeding action that an accidental error and establish as the arrow of absolute future the growth of social forms in the fifth dimension.

All this, as we must always walk between the multiplicity of our descriptions merging the entanglement of all the elements of reality and the needed order in which actions tend to be=come to fully grasp that order we consider the ternary symmetries of scales, ages and adjacent topologies, which structure the being internally through $\Delta\pm 1$ scales, in time through 3 ages and in space externally through its 3 topological forms, we have all of them expressed in the generator equation, where we add to the customary 3 topological dimensions of space, reflected in its dominance in the 3 ages of time, the fifth dimension of social generation which is the FIRST to happen in the seminal age of the being, and the fourth dimension of entropic dissolution, which tends to be the last, or future order, even IF HUMINDS see them by wishful thinking in the inverse way - ultimately balancing each other antisymmetric entropy and symmetric generation devolving to asymmetric zero sums, for the game to start again:

$\Delta-1$: Generation $> \Delta^0$: $\$t$ l-lineal limbs/potentials (dominant in a past young age) $<$: $\Sigma\Pi$ iterative, hyperbolic \emptyset -body-waves (dominant in an iterative present) $> \Delta+1$: O-Particle-head, which commands the being as a whole in an external world, dominant in its future 3rd age, before the system explodes entropically $\Delta+1 \ll \Delta-1$.

To notice then how reality can be observed through those asymmetries, which means *the properties of each of the two extremes of the 3 ternary elements of reality are asymmetric to each other and so they cancel each other.*

That is cells/atoms/individuals are to the wholes asymmetric as **MICRO-points maximise** according to '5-4D metric inverse arrows', *Max. Size in space x Min. Time speed of informative clock cycles = Constant information vs. Macropoints that maximise its enclosure of energy-size.*

So goes for l-limbs/potentials vs. O-heads/particles asymmetric in its lineal vs. cyclical form. And so goes the first age of life or relative past dominated by lineal motion asymmetric to the 3rd age dominated by still, linguistic perception as the *freedom of lineal paths become closed trajectories of cyclical form.*

We then express *those 3 asymmetries as the 3 'Galilean Dualities' of motion vs. form, parts vs. wholes, lines vs. cycles, which again as they emerge in different 'scales' of reality will be interpreted mathematically, philosophically, biologically, sociologically in multiple 'jargons' all of them equivalent and understood fully in terms of dualities and trinities of existence.*

Indeed because the system is NOT only dual, but ternary, the PHYSICAL asymmetries of time-ages, space-topologies and scales become merged into the LIQUID-present-hyperbolic body-wave interacting and mixing together to form a single one.

Nt. Incidentally my only position in academia worth to notice was as World Chair of Duality in the International systems society, till my activism against the military-industrial complex became globally infamous and pissed off the congress who *cancelled the discipline, in the way capitalism cancelled Hegelian dialectics and the Chin emperor, taoism*, the 2 previous great 'philosophical understanding of the obvious that from '1 the whole' comes 2, yin and yang, thesis and antithesis, motion and form, lineal and angular momentum, and from 2 comes 3, qi, synthesis, energy; and this we can put it in terms of asymmetry as the duality, antisymmetry as its perception into opposites, symmetry as merge, back into a full whole.

So I tried when I was part of the group to convince the presidents of the association to call it 'TRINITY' but trinity has a bad reputation either as fundamentalist A-Bomb or fundamentalist religion. And yet TRINITY is the true name of the game. As 'from 3 come all the beings in existence' Cheng-tzu.

So while trinity appears more clearly in the concepts of lineal and cyclical momentum, becoming energy beings, lines and cycles generating conics and hyperbolic waves, and so on... when we truly want to transcend into the logic of the game with no reference to reality the somehow more nebulous but most general of all concepts are those of asymmetry, symmetry and antisymmetry as they embody not only geometric but vital, organic meanings lost in the external classic description of them.

So the best expression of the game is two different beings colluding, or a present body-wave breaking constantly its symmetry into two opposite functions that can either annihilate each other anti symmetrically, as waves do or complementary reinforce each other back into symmetry, concepts those hardly used in science beyond physics and even there ill-understood that now we expand to all sciences.

Indeed, in physics much has been done with the term symmetry since Noether theorem, but mostly when talking on philosophical terms, dyslexic physicists with overdeveloped computerised abstract mathematical brains, that seem to leave little room for anything else do NOT have *the remotest idea of what they talk about (quip intended), regardless of its mathematical functions, which do the job quite nicely by themselves - so computers do it even better, but hardly any humind will think that the computer churning out results with $f(x)=-f(-x)$, have any idea what symmetry and antisymmetry means.*

Now we know, and so we will be enlightening many whys from the Pauli exclusion principle, that essential quality of particles of matter, which nobody has ever clearly explained, to the Lorentz transforms - but somewhere in the future of 2018? time permitted, as this is an encyclopaedia of all knowledge, akin more to the Galactica encyclopaedia of Asimov's foundation, and will take a few generations to fill up. And certainly as bio-history the destiny of all of us is more important the equations of social sciences will grow faster than those of non-euclidean mathematical physics in that fourth line (just added the 7 ages of God yesterday).

So this said even when physicists define symmetry they are in fact talking of geometry without clear meaning. Important within the concept are then **a mirror symmetry**, which is *basically a reproductive symmetry between complementary beings as in Rna-DNA and gender, that allows two similar asymmetric forms to confront each other for purposes of meaningful pegging and reproduction; often deriving into bilateral symmetry* which is a form of social communication that allows two forms to handle a vital space within them, encircling it. So they are forms of topological symmetry that derive into scalar symmetry, of two social parts that become one.

This is the kind of physical concept of symmetry we shall use here, and relates also to terms as parity, and so on. *What we reject as mumble-rumble is the whole Noether thing of using 'symmetric' concepts to explain the conservation of the 3 fractal components of all beings, lineal, angular momentum and energy and all the mumble-rumble about time and space derived of it. We shall be far more clear on our terminology as what angular, lineal momentum, energy time and space mean and how they are conserved in infinite fractal beings:*

The game is a game of identical or complementary social parts that become elements of fractal organicism. This parallelism of beings which are clones by reproduction of each other allows the social

symmetry between systems that are complementary to each other and meet in the middle term. So to vitalise geometric concepts, are essential elements to make sense of how reality, comes together and pegs into a single being.

This is said through the generator formal equation, which is a logic equation, whose fundamental property is to facilitate the understanding of all those processes as a whole.

So the logic principles of creation 'relativity', 'a(anti)-symmetries' and 'organicism' - words hardly understood in the context of present philosophy of science become more clear. Let us then complete our understanding of symmetry, recasting the principles of conservation in a better simpler way, to deal then with the other two great WORDS of 5D physics absolute relativity, which completes galilean and Einstein's Relativity and then with *organicism and 'perception'*, the 2 taboos of physicists and huminds when denying life at the Universe that made us all to its image and likeness. AS WITHOUT THEM, the will of the actions of survival of physical, biological and social systems cannot explain the whys of reality.

As a(anti)symmetry (ab. for the sum of asymmetry, antisymmetry and symmetry), we just said lead us to the final concept fundamental both in classic and fractal 5D physics, albeit now broken into parts.

Organicism.

From the co-existence of beings in 3 different scales of reality, $\Delta\pm 1$, that is form the fractal structure of space, it follows the organic nature of reality as flows of energy and information and motion between those scales based in the symbiosis of smaller beings that have more information and larger wholes that enclose the parts, precludes organic properties.

Unlike the simplex physical description of the Universe, as an extension in space, where the time parameter of change only is relevant in the descriptions of motions within the fractal Universe of any parts of it, *as if nothing else would matter, reserving organic and sentient properties, under the 'ego paradox' for the human species only*, our interest is much more profound as we consider all parts of the Universe homeomorphic to each other and hence with the same properties that humans do have, and vice versa. into all the properties that the simplex physical description misses, as they are not susceptible to me written in mathematical equations, or are not observable, directly but can be inferred from the actions they produce. It is then possible through those indirect methods of observation and departing of the homologic, isomorphic properties of all beings, deduce the non-observable properties of being by its external effects.

Organicism thus is immediate from the scalar structure of reality, as it is the only form TO CONNECT THE SCALES OF REALITY OR ELSE IF ENERGY AND INFORMATION WERE NOT TRANSFERRED BETWEEN THEM WE WOULD NOT SEE THEM WITH microscopes and telescopes. Very little thought astonishingly enough has been paid to this, casting serious doubts on the intelligence of the humind - but I'm not gonna quip as usual on the homunculus; just show you those obvious physiological networks that transfer entropy-motion, energy=reproduction and form=languages between scales (:

Finally a principle which will be abhorred by classic physicists but it is really the ice in the cake is the sentient nature of singularities WHICH IS PROVED BY THE FACT THEY ARE THE ENGINE OF THE 5 SURVIVAL ACTIONS OF EVERY PART OF THE UNIVERSE.

The only scientific philosophy: organicism.

I know I shouldn't have started the blog with a philosophical comment on the subjective human ego; which is unassailable to objective criticism - it merely dismisses the critique. But awareness of the bias of the human ego is essential to probe further into reality and dismiss our ego centered truths.

Since only the being has all its information about itself. So human knowledge will always be tainted by the observer, his languages, pre-conceived ideas about the object perceived and the specific 'flow of

'God is a olooker that waited 5000 years to find an Intelligence like his, to admire his olook work'.



information' that 'translates' the intrinsic properties of the being through a medium into a 'human electronic brain' and its languages of representation.

Truth, being and substance.

There is NOT such fact as 'truth' inherent to a language, not even mathematics, but humans need to believe in the concept of truth. All acts of knowledge though are 'censored' by all those elements between 'truth' - the being in itself, and the observer's language. How the ego has solved this paradox - in the simplest, most reductionist way - to consider the language truth in itself, in the past the 'words' that created in religion reality, in the present 'mathematical mirrors' and its instruments of measure: Let us then consider what of the 3 traditional theories about the substances of which reality are made, is more objective, scientific and real - a Universe created by the will of verbal God (Abrahamic religions), a Universe composed of abstract mathematical objects similar to machines, (Platonic physical philosophies of reality) or a Universe made of relational, 'organic' space-time.

We depart from a closer approximation to truth (but not necessarily the whole of it): both words and maths are mirrors of a 'reality closer to the truth', a substance we shall call 'space' and 'time', whose main properties are 'form' and 'motion', and those 'states' are 'symmetric', such as space \approx time, form \approx function (motion). And more over, there are 'varieties' of those space \approx time 'symmetries', we shall call 'Dimensions of space-time'. And so we shall NOT build reality from 'numbers and points' the 'time and space mirrors' of mathematics, or 'verbs and names', the time and space mirrors of words, but from 'space and time' and its '5 main modes/dimensions/varieties'.

This will already put back many readers, mostly from the 'school of physics', and the 'age of digital computers', which subconsciously 'think' as Planck put it that only what we measure is truth. So we shall bring from the section of epistemology a first simple definition of truth and use for that aim the 'concept of probability', in the classic terms (akin somehow to the way quantum physicists use it):

Truth only exists in the being itself, which holds the 'one \approx 1 truth' about itself; all languages are 'mirrors' that hold partial images and carry quantities of information about the being inferior to 1. Hence the maximal truth of a being will be established with the maximal number of 'mind mirrors' on it.

We are not interested on the 'quantification of truth', with some pedantic, mathematical model (which will after all be only a mind-mirror), but in the concept of Upanishads, 'the language of truth are infinite'.

Truth and language.

Further on, we shall define as obvious that the human brain IS verbal in its ultimate language of truth - the only language which can be used to mirror all other languages despite attempts in the digital age to express all other languages with digital thought (a trend started by Hilbert, which peaked with clear flaws in the Tractatus of Wittgenstein was really aborted by Godel (but as an 'inconvenient truth, dismissed in the digital era, and now has become canonical - truth must be shown in a digital computer model). Here is the problem of that approach: digital truth *will be the truth of the digital computer, electronic mind when AI comes into consciousness; but for us is not, reason why IN FACT we do translate further digital thought into image modeling; but that is not again human truth, but a visual, shallow first mirror that has buried in digital layers its underlying structure.*

All this we said because this blog will be extremely verbal AND MOST 'digital believers' will dismiss its approach, but IT IS ONLY possible as it is for humans (maybe, I increasingly believe it will only flourish when AI becomes conscious), to explain the properties of 'space and time', with logic, verbal, temporal and naming spatial mirrors. We thus acknowledge that TRUTH is in the being.

Truth is about the ultimate substances of reality, space and time. Truth is better mirrored as the most general language, used by many species, and likely by atoms, to gauge information, with mathematical mirrors of space, points and time, numbers (NOT sets and structures BORN of the top of the humind, (ab. human mind) but from the bottom up as in classic maths), *but as we are humans, truth for humans is better expressed by the subconscious trees of meanings and relationships, metaphors and mirrors of space, time and symmetry of the verbal language, which is also the one most people understand and the one we can better use to 'simplify' the essential properties.*

This said we have though to dismiss other 'creationist theories', including those verbal and mechanical of people who under the ego paradox always thought truth must be expressed in the language they understand. And the substance of truth was the 'instruments' or 'medium', which brought from the being data on the language they understood, such as:

Being in itself (1 single full truth of moving time cycles) < Instruments of gauging (biased translation)
> Spatial, mind Language (less than one truth).

Mechanisms or organisms.

Immediately it appears obvious that what we call 'mechanism', the idea that the structure of the Universe is like a machine comes *merely from the fact that humans since physics became a mechanical science, has been using machines to measure time (clocks) and space (telescopes) that substituted human eyes and words, and were obtaining data which was expressed in the 'future language of intelligent machines - aka modern chips... And so it is truly not a Universal theory but the natural bias of the previous equation: we gauge time with clocks and get numbers and think a Kepler did that:* So regarding the structure of the Universe the first question to answer, after we set aside 'verbal religious creationism' an digital mechanical creationism is now simpler: What is the Universe - an organism or a mechanism?

Since we have defined the substance of all realities as space and time, NOT as numbers, words, and accepted multiple instruments to measure space and time, all biased 'mirrors' that translate space and time into a language, of which there are multiple, infinite (we can smell, see, measure, name space and time, and each of those languages will be a mirror of less than 1=one truth), *the question reduces to this: is space and time, regardless of mirror or language, in itself, an organism or a mechanism.*

And here we are of the opinion of the first scientists such as Newton who considered space the 'plenum', the body of 'God' its 'time seer' in words of Saint Augustine, following Plato's dictum that reality is an organism with a body called the Universe (space) and mind called logos (time logic)... So Aristotle would call his unification theory the organon, and Kant and Schopenhauer, and any serious philosopher before or after would agree, that as Leibniz put it, reality is made of relational space and time, structured in many scales, such as each point is a world in itself, something confirmed by quantum 'censorship'... the fact that particles appear as points, but when giving enough energy to 'inflate' they show inner structure - entire worlds within it.

Let us then as those are the minimal units of reality show how 'particles' and by extension anything else can be explained as a game of the 5 dimensions of space-time and give a first approach to what those dimensions are.

The fractal inner parts of the point: quantum censorship.

A physical system in its ground state tends to remain there, if little energy is input, betraying no evidence of its internal structure. Only when we excite it into a higher state, do complexities emerge. This is the essence of Quantum Censorship *that extends to all scales of the Universe: all systems have opaque membranes very difficult trespass for larger entities outside the point, as they are too big and too slow; and inner systems within the point, as they are 'closed within a hard-outer membrane' that breaks space-time into fractal parts.*

So to break that membrane an enormous energy is required.

Thus, below an energy threshold, atoms appear to be the "hard, massy, impenetrable" units Isaac Newton inferred, which for most practical purposes only possesses an intrinsic property called angular momentum, or spin, and 3 external measurable ones that must be ascribed hence to the outer world, lineal motion or speed and mass and charge, two fields of that outer spatial world...

Yet when the electron is supplied more energy their components can be torn out: When one supplies enough energy -- at least 1 MeV, corresponding to the unearthly temperature 10^{10} K -- to unleash electron-positron pairs, the electron's structure is revealed.

So space and time, the substance we claim to be found in all beings, including the simplest beings of all, electrons (and quarks) has two obvious qualities: it is related to 'conserved entities' of which we know 3 lineal momentum \approx motion, angular momentum \approx cyclical motion, its 'volume' or vital energy, and to two scalar properties, it is made of wholes, which can be broken into parts.

Let us then call the property of the disconnected parts of a being, the fourth dimension of entropy and that of the larger whole, interconnected the 0-5th dimension (0 when seeing as a fractal non-euclidean point, 5th, when the point can be seen enlarged with multiple parallels that cross it), and since now we have 'visual, geometrical images' of those dimensions, make a first drawing of them

In the graph, to the 3 conserved elements of Nature, angular momentum akin to a time cycle, lineal motion akin to a space surface and its combinations of vital energy, which suffice to 'construct' most systems of nature, with 'lineal Limbs/potentials < hyperbolic body-waves > spherical particle-heads, we just need to add two organic arrows of life emergence from a lower scale of reality and its inverse arrow of entropic scattering and dissolution to define all systems of nature as organic systems ensemble of those 3 parts, which follow a world cycle of life and death between generation and extinction.

Are those 'dimensions of space-time organic or mechanic'? We have put below some 'species' that reflect the form and function of those dimensions from both organisms of biological nature, mechanisms of perception and motion (camera, missile) and then two physical systems of the quantum world (a particle being generated and a field of reproductive motion called light.) The obvious answer is that 'all those systems are organic', and just two more illustrations will suffice: the first one shows you that a machine IS nothing but a form of metalife evolving:

So it is obvious that the industrial r=evolution evolves machines into organisms and that should thoroughly dismiss the argument.

The organic paradigm: everything is T.æ - an organism of space and time.

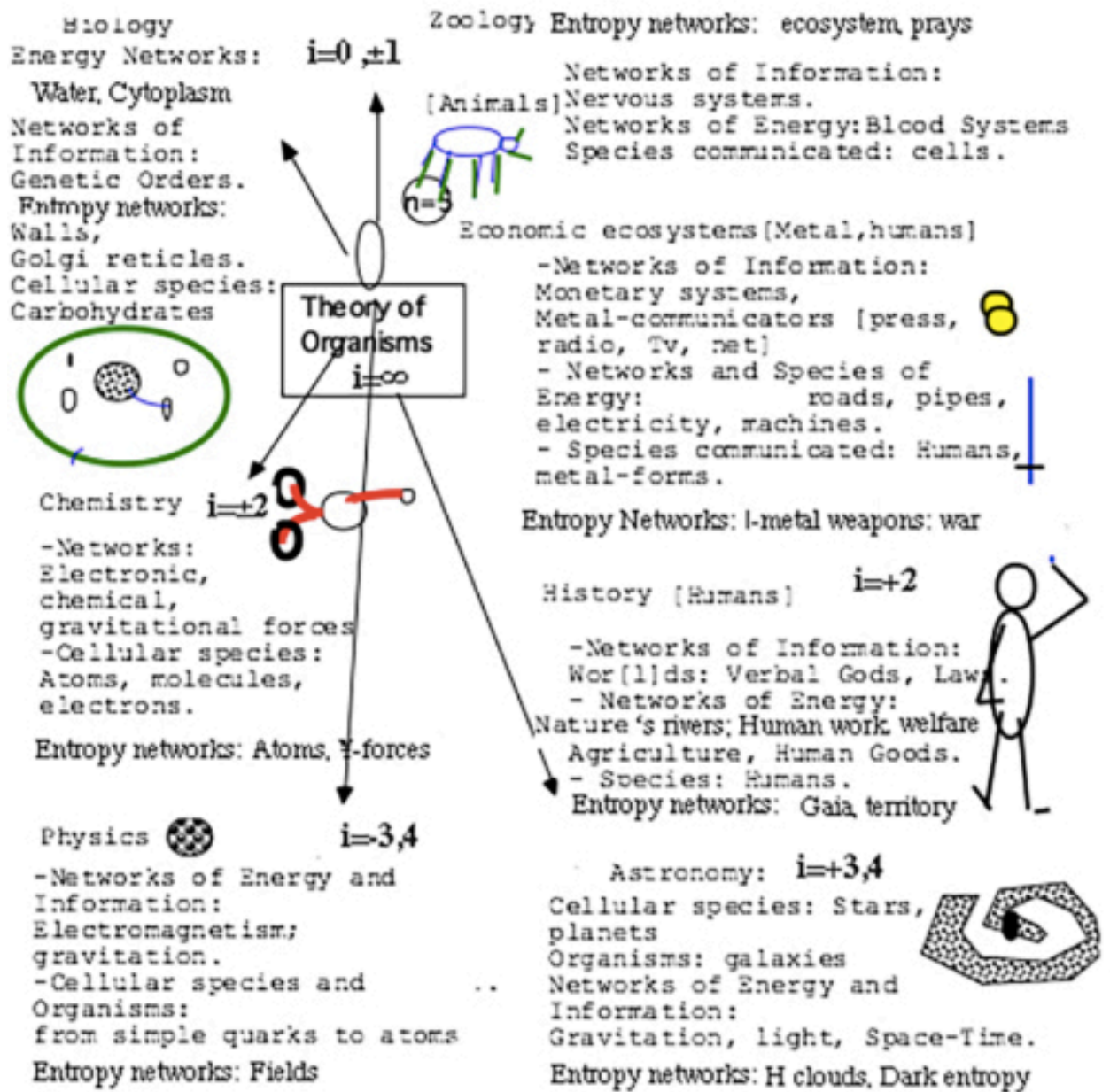
So besides the 3 space dimensions \approx 3 time dimensions (seen as still in space, as moving in time) we do need to consider at least 2 more dimensions, one for the lower scales of the being, which we shall call the fourth dimension of absolute past and one for the upper dimension of the being of absolute future.

We do have then mathematical and verbal, logic mirrors to express those 5 dimensions of space-time, the ultimate substances and unify with them ALL SCIENCES, departing from the properties of those dimensions its structures in space and travels in time, each 'stience' of space-time studying an scale, including those who describe man:

Thus this is the Universe in a nutshell, repeated ad nauseam in all scales, and we shall repeat with kaleidoscopic variations the previous paragraphs to describe the thoughts of 'god', to make organic systems tracing world cycles, regardless of the huge details scientists have obtained so far.

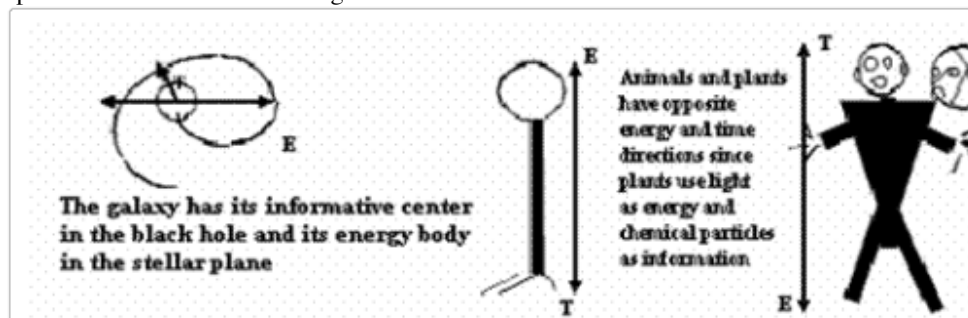
So the organic paradigm has taken longer to be formalised, as we do in this blog, because it requires to add to the motions in space studied by physicists, the arrow of in-formation, of form, stored in the form and frequency of the clocks of time cycles of reality, which are along its lineal motions in space the two elements that conform all realities, by combining and integrating into 'vital energy systems'.

Those 3 arrows spreading across different scales of size, which add 2 more space-time dimensions of 'wholes and parts' to the mix, will allow us to describe all what exists as an organism of space-time, the long-sought 'sound organic philosophy of science', reflected in the graph.S-paces



All of the co-exist in at least 3 scale, so we talk of $\Delta-1$ cells/atoms/particles/molecules/points that will form 3 physiological networks, of relative entropy-motion, energy and in/form/ation, put together into an Δ^0 individual whole, existing in a larger $\Delta+1$ relative world. So we can map out all those super organisms according to scale, each one studied by a different 'science', (science of space-time beings). In the graph a fast review of the super organisms of the Universe in space and time, through its 3 ± 1 dimensions origin of its Disomorphic laws. They define the 3 relative present dimensions of all ensemble of systems, made of 'angular momentum' \approx cyclical time clocks, lineal momentum \approx lineal limbs/fields and a vital energy, the integral, combination of both (V+T). We shall call those 3 conserved quantities of any 'fractal part of the Universe' and its ensembles into complex organisms, the 3 'present dimensions of fractal space-time', which create the beings perceived in the relative present 'finitesimal time of a world cycle of life and death', of different duration according to the 'scale' and

speed of the clocks of the being:



Let us start with a visual, topologic analysis of the dimensions of space-time. There are first 3 normal dimensions, which instead of being height-length and width (latter we shall see how they actually have the same function), they are the 3 topological varieties of the Universe: spherical, planar and hyperbolic forms. And so in a single plane of reality, we perceive systems as ensembles of the 3 varieties of space, (*to which we soon will add the 2 scalar dimensions of entropic parts, and social wholes*).

Let us start then to build reality with the 3 dimensions of space and its motions in time, we shall also called arrows or cycles or actions of space-time. *In the next graph, a first hint to how the 3 'vital dimensions of space-time' ensemble into parts and organic wholes in all physical, biological and social systems; since there are only 3 topological forms (geometries with motion) in the Universe. So evolutionary topology the expansion of topology proposed in this form is the key discipline to understand how the species of reality are created and destroyed:*

In the graph we see from a spatial, simultaneous, formal perspective, ensembled into 3 type of physical, biological and social space-time organisms, the 3 'form of space=functions of time=topological varieties of space-time in the Universe'. We see the 3 first dimensions when doubled in function, divided according to the 'discontinuity of the fractal Universe' and perceived as lineal maximal motions-functions in limbs/potentials and maximal informative storages in spherical heads/particles.

So the 3 dualities of the Galilean paradox that started science but were REDUCED by physicists to single dogmas (continuity, single scale, lineal equations and lineal time), when *fully accepted as the ultimate logic dualities that co-exist in reality*, explain immediately the structure of most systems in existence.

Organic forms.

It is then obvious that systems assembly into organic forms by putting together the forms and functions of the 3 adjacent dimensions of a system, pegged in simultaneous space.

Indeed, all what you see are forms of space with motion in time that combine into the infinite energy beings of the Universe.

And while physicists have reached an extraordinary dexterity calculating the motions in space of beings; only when we add those other type of motions=changes in space-time we understand how they trans-form and evolve through generation into new forms of in-form-ation. This is the basis of the formal model of this blog, the 'eternal philosophy of science', we call 'organicism', which understands the Universe as a system that reproduces information.

Such model is vastly more explanative of reality than the mechanical abstract models dominant in the tradition of physical sciences for a few basic reasons:

1. Only an organism replicates itself without the concurrence of a 'maker of the machine' - God in the earlier physicists' view, now obsolete. As machines do not reproduce.
2. Only the definition of time as the substance of reality - cyclical motion that reproduces form allows the Universe to move, as only if motion=time is the ultimate substance the Universe never stops.

3. Only if it is cyclical, repetitive, there are laws of science which are precisely those repetitive motions.
4. Finally we know since Relativity that there are infinite clocks of time with different speeds (we knew it always just looking at the clocks of nature, but the expansion of physicists' way of measuring all time clocks equalised to the rhythms of the mechanical clock, had obscured those facts.

Of course if we want just to 'measure' from a human point of view, those rhythms, a single mechanical standard of time, the second can study those cycles, and a single line that ads 'cycles' pegging them can represent the time duration of a being, but we loose its meaning, its form, its in-form-ation. And if we want to make a complex analysis of the whys and repetitive patterns, and organisation of those patterns we won't be able to do it.

Sentient Universe.

The Universe is a sum of a series of actions, $\Delta e i o u$, of them, the first action is perception by an observer, Δo , of a field of energy, Δe , to which it will move, Δa , in order to feed, Δe and use that energy to reproduce its information, Δi , iterating a form like itself, which will gather with clone forms to create a larger, ΔU universal social plane. This is all what we should describe when we reduce to minimal cyclical space-time actions the total reality of any self. But the Devil is in the details. So as this simple 'aeiou' game repeats itself creates ever more complex perceptions, mappings of reality into space-forms and motions and forms ensemble into larger beings and smaller ones... forming a fractal structure. So in a second layer of complexity we would say:

The Universe is a fractal super organism of space-time, made of ∞ super organisms all made to its image and likeness. Each super organism IS MADE of 3 Δ^0 ternary physiological networks, made of smaller $\sum \Delta-1$ 'atoms/cells/individuals' that process motion, information and reproduce for the whole system, living in a larger $\Delta+1$ world. Thus super organisms have two fundamental elements: 3 co-existing ± 1 planes of cells/atoms/individuals gathering into physiological networks (together forming a species), living in a larger $\Delta+1$ world: $\Delta\text{\$}$

But those super organisms constantly change its parameters of motion and form, increasing its information warping in a world cycle of time, the '3rd fundamental element', which is therefore symmetric to those physiological networks, as the informative network dominates the other ones, increasingly 'warping' the being, either a physical system (so stars become black holes, galaxies quasars, matter solids) or a biological system (3rd age), which then returns back in an explosion that erases its energy (physical $E \approx M$ Big Bang, or biological death or war, in the 3 type of systems).

Each language perceives a partial truth.

But why there are brains that absorb tiny flows of motion and convert it into still form, called in-form-ation? To perceive, move, feed and survive. As all in the game of existence, because to accumulate information helps you to survive, to locate energy and feed and continue the game of existence.

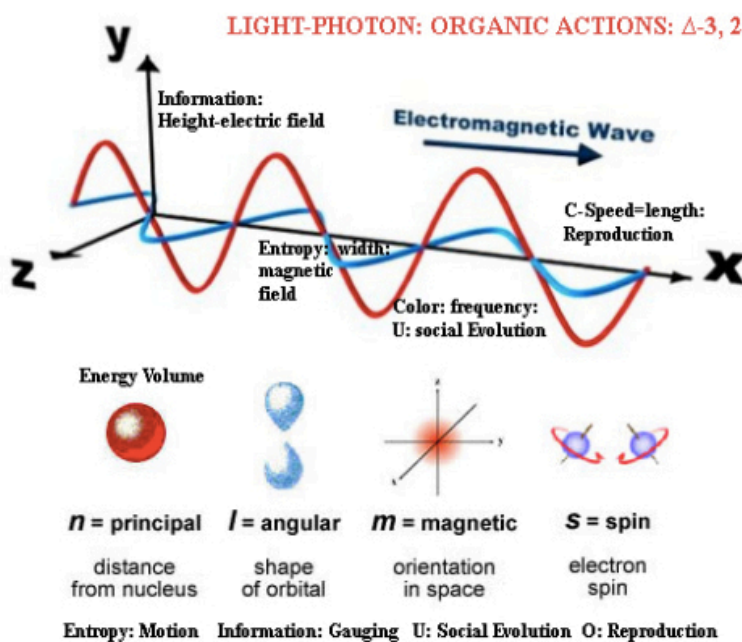
What information does is to offer an organism maps of the Universe, virtual worlds, complex representations of reality, with a lot of formal detail, that map out the Universe and helps the organism to survive. All organisms perceive and react to information in one or other manner, and we call that property of organic systems, perception. The flows of energy that become information in the brains of organisms, cause the organism to react to the external universe. That is the second arrow of life.

After feeding, organisms transform energy into information and react organically to that information. Bear in mind though that information comes in many shapes and forces. So each brain perceives a different information, a different map of the Universe...

IN ANY CASE, the whole program of actions of the Universe - not only the SIMPLEST action, motion is what truly makes the Universe organic, and as it can be proved that those actions depart from the singularities, those at the minds of the Universe. Let us remember those actions studied in its specific posts.



In graphs, 5 actions ensure the survival program of all scales of scientific species: above the actions of company-mothers of machines which adapt planet earth to its image and likeness. Below the individual actions of humans and below in scales of diminishing size the actions of molecules, atoms and forces. All of them respond to the same aeiou program of survival (accelerations, e-ntropy feeding, I-nformative gauging, o-ffspring reproduction and u-niversals-wholes creation which ensures all the parts of the being will keep its inner space-structure and outer time function.[/



ELECTRON-PARTICLE: ORGANIC ACTIONS: Δ-2, 3

SO we shall be able to consider through the actions of the beings, which are all similar in search of survival, the existence of singularity-minds in all of them.

Thus those are the fundamental bio-topo-logic principles of reality derived of the organic co-existence of scales, topological forms of space, logic search for symmetric beauty, through 5 Dimensions expressed in 5 actions by the will of sentient singularities... Now we shall deal with the correction of the errors of the humind, because when you don't know how to speak the language, your typewriting will always go slow, full of grammatical faults so we have to change the 'language' of the typewriter - aka physicist, as the 'languages of God are infinite' Upanishads.

SUPERORGANISMS: ITS WORLDCYCLES

All what exists is part of fractal time space organism performing a world cycle of existence through its ternary symmetries as a travel in 3 scales of the fifth dimension, which can be described quantitatively in terms of social scales, topologically in terms of geometric transformations, vitally in terms of organic symbiosis and temporally in terms of a conservative zero sum world cycles.

That's all what it is to the Universe. The rest are details. Humans of course, will always want more - add ons that please their ego paradox, and infantile ways, but trust me that is all what there is to reality. And it can be known in its essence, because as we are made to the likeness and image of the fractal, even the smallest part is a world in itself where all the laws manifest, in each island Universe. And so even if total information can only be extracted from the being in 'itself' through time within us we have the whole reality to know.

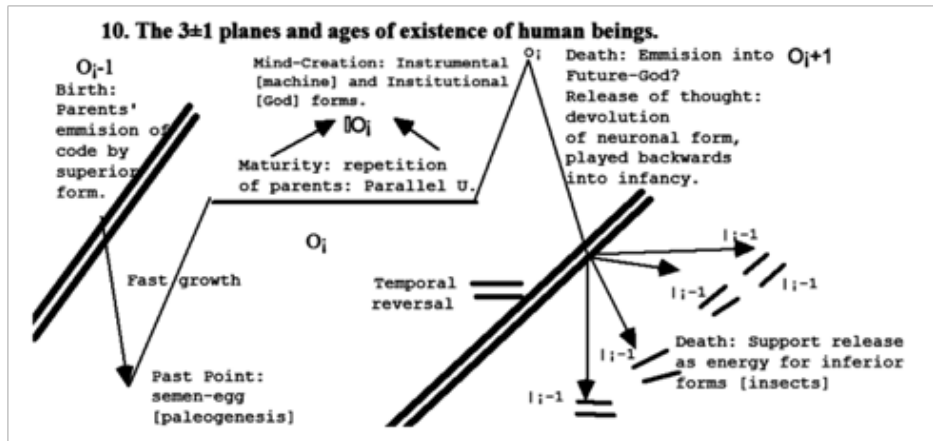
The Universe is a sum of a series of actions, Δe of them, the first action is perception by an observer, Δo , of a field of energy, Δe , to which it will move, Δa , in order to feed, Δe and use that energy to reproduce its information, Δi , iterating a form like itself, which will gather with clone forms to create a larger, ΔU universal social plane.

The sum of those actions integrated in time, gives birth to the world cycle of existence can be expressed in different partial sub-equations of time and space to form its fundamental DECAMETRIC Disomorphic dimensions.

WE CAN THEN make a quantitative definition of the world cycle of existence in terms of the metric equation of the 4th and 5th dimension: $S_p \times T_f = K$:

According to Klein a space-time new dimension is defined, upwards and downwards with slightly different entropic and informative properties - hence two dimensions are needed. And an organism can co-exist since we can travel through those dimensions, slowing down our clocks as we grow in size, from cells to individuals, to superorganisms and societies, and viceversa we can accelerate information in smaller spaces. Reason why those scales are symbiotic, organic and so chips code larger machines, genes larger humans and human memes larger societies, which are all slower wholes that enclose the smaller parts, and provide energy to them.

So paradoxically the maximal information happens in the $\Delta-i$ scales, reasons why they code larger scales - quantum numbers code molecules, genes code biological systems and memes human social systems; and the reason why the maximal form happens in the $\Delta-1$ seed that starts through generation, the worldcycle of existence of all beings, which will keep growing and slowing down its cycles, from light that starts in blue stars of maximal frequency, lowering its frequency - time as it extends to redshift its wave-length, to human seeds of genetic information, growing through 'compressed' fast-time palingenesis, to emerge in the upper plane where we shall live slowing down are clocks in the third age to explode in entropy, leaving though the trace of our O-genetic information in sons and works:



THE GENERATIONAL=LIFE CYCLE: $e_{i-1} < E > ET > T < e_{i-1}$
SUPER-ORGANISMS D=EVOLVE BETWEEN 2 I-PLANES OF EXISTENCE IN 3+1 AGES DOMINATED BY ITS ENERGY, REPRODUCTIVE AND INFORMATIVE NETWORKS:

Birth: $e_{i-1} < Youth: \sum E_i > Maturity: ET_i > Old\ age: T_i < Death: \sum e_{i-1}$

Human Socio-Biological Organisms:

i=4 **i=3**

Individual, living organism

cell **EPIC, LINEAL ART** **CLASSIC, REALIST ART** **BAROQUE, FORMAL ART** **WAR**

i=5 **i=6** **i=5**

Prophet **Culture, Nation, God**

Universal, Physical, Organisms:

Birth: $e_{i-1} < Youth: \sum E_i > Maturity: ET_i > Old\ age: T_i < Death: \sum e_{i-1}$

i=1,2: Ions **i=2,3** **i=1,2**

Plasma Birth **Energetic Gas** **Liquid, Reproductive State** **Solid, informative state, M=E death**

STATES OF MATTER

i=8

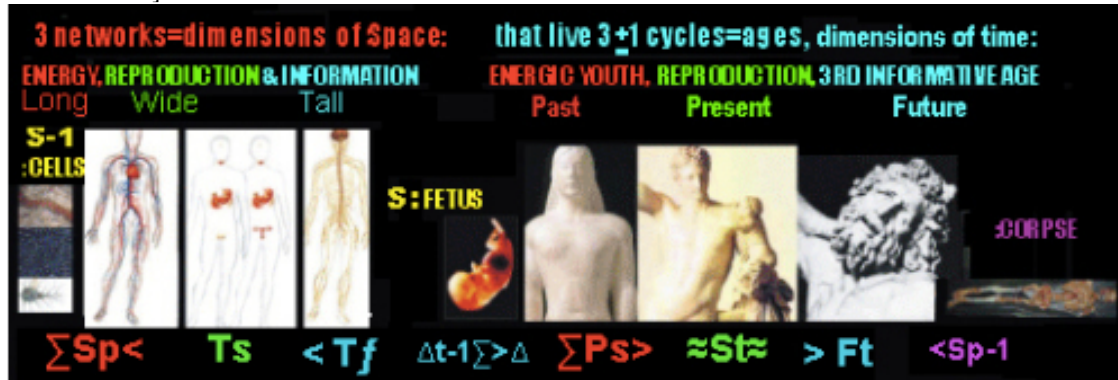
An organic systems of the Universe, physical, biologic and historic, follow the same 5 Dimensional states of worldcycles, from its fast evolving relative 5D or generation age of social evolution from an $\Delta-1$ seed to an emerging Δ^0 individual through the 3 dimensional ages of life, to the 4D of entropic death.

$S \approx T$: Superorganism \approx Worldcycle.

The organic symmetry

As each of those ages is in fact caused by the dominance of one of its 3 present simultaneous spatial networks of motion, information and reproduction, the fundamental symmetry of the Universe is organic, between the simultaneous superorganism made of 3 physiological networks and its 3 temporal ages in time, between the generational age and the entropic, extinctive age.:

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ALL WHAT exists is a space-time super organism made of 3 topologies adjacent in simultaneous space, defined logically by a single fractal generator of those 3 only topological varieties, $\$p$: lineal limbs/potentials/territories $O-\$f$: cyclical particles-heads-informative class, for all social, biological and physical systems, tracing a world cycle of 3 time ages symmetric to those 3 Δ° spatial 'physiological/topological/social networks' made of $\Delta-1$ cells/citizens/matter particles, in which each of the physiological networks of the system dominates the super organism: the limbic motion/potential system dominates the first age; the re=productive body-wave systems the second age and in the third age of information the head/particle/informative people-caste dominates the physical/biological or social system, exhausting selfishly the energy of the vital body-wave, and provoking its explosion back into entropy that erases the system, completing its zero-sum world cycle, restarted if it has generated a clone super organism in its offspring, reason why the Universe is a reproductive fractal of information - only those systems that reproduce its information survive and are still with us. [/

In the graph, systems are made of different dimensional parts, 'literally', as we shall see when studying different species.

Points have inner parts, and so instead of 0 we give it 1 Dimension / 1 probability.

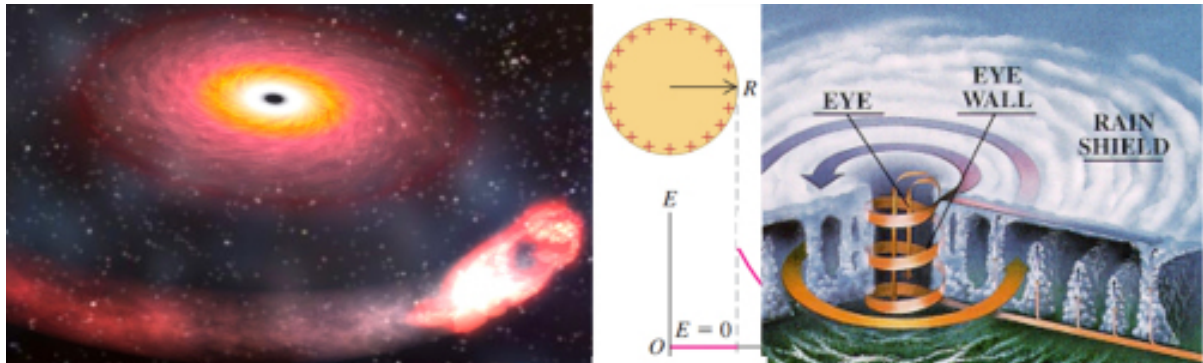
Lines are the fastest/shortest distance between 2 points, so motion is a lineal or planar dimension (1D-2D, when we consider its points to have volume).

A reproductive wave however needs a 3rd dimension of width to reproduce (2D-3D if we give its points-lines a volume, as we shall do when completing the postulates of non-euclidean geometry - of fractal points with parts).

Thus most systems of nature are organic systems that ensemble moving limbs/fields, spherical particles/heads (as the sphere is the topology which stores more information in lesser space) and finally reproductive body-waves. This is obvious in biological systems, but how it works for physical systems?

THE KEY ELEMENT OF PHYSICAL SYSTEMS: THE DUAL @- SINGULARITY (CHARGE-MASS-EDDIE).

A key element of a physical system is the singularity 'membran', which includes as in any key system of nature, a center that processes information and a membrane that encloses and breaks the system into an inner region, the T.œ and an outer region, the Universe. This dual system IS the COVER AND CENTER of a topological open ball, which is the vital energy enclosed by the system, which DOES NOT EXIST as a full T.œ unless those 2 elements are formed. Consider the case of 'Mass'. Energy contributes to 'mass', but if we do NOT have an enclosure we cannot measure mass, as energy is moving around and there is nothing to 'weight'. Yet as soon as we close the membrane, the mass parameter will exist, as measured externally by the membrane.



Time-motion: $t=s/v$ stops in black hole mass centers, charges or hurricanes. But time doesn't stop. Only its 2D locomotion stops in the still @-singularity, with no force. While max. speed \approx attractive force happens @ the membrane with max. angular momentum: h in quantum systems, surface charge or mass

Further on, as the membrane is CLOSING the inner region, which we normally do NOT access, or else we will have to tear the membrane and then mass might escape and a continuity equation will have to be applied to assess the flow of mass in and out, we cannot truly measure the mass.

It is then obvious that the 'parameter' of 'density-weight-charge-angular momentum-rotational speed' etc, tends to accumulate in each scale in the external region, where the 'mass-force' is maximal; while in the inner singularity center, it reaches 'zero value', and that point is the mind-still singularity, where motion stops, and so in black hole equations time moves to zero in the singularity, in the vortex of an Eddie.

The dimensional question: 1D singularities + 2D membranes (holographic information) = 3D vital energy.

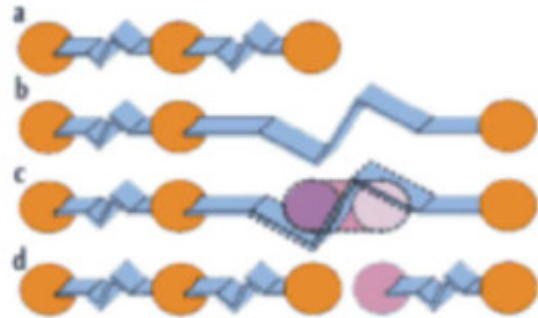
A simple example of the application of such a 'fractal Universe' where species might have different dimensions happens in quantum physics, solving a key problem without clear whys - the meaning of fermions and bosons, as particles with only 2 positions/spins (1/2) which we define as attractive 2D vortices (charges, masses) vs. particles of spin 1, with 3 positions=3D. So 2D vortices cannot superimpose/occupy the same place.

But 3D bosons have a reproductive 'motion', along its 3rd spin direction, which is 0 spin (as they are moving-reproducing laterally); reason why they can also superimpose by filling its 3Dimension while fermions can't. This simplest application of the different dimensional form of Nature's systems has also an immediate consequence, defining motion as the wave-reproductive state of a particle (and we shall return to it), solving the eternal paradox of what is motion - also a reproduction of form. This very old why of 5D theory, received recently some experimental proof when a photon confined to a 2 D 'sheet' of spacetime turned to have 1/2 spin (:

So bosons do reproduce along a line of motion, and since only organisms reproduce, the simplest particle being reproductive, we MUST conclude all is an organism of space-time not a mechanism of 'whatever'.



A final proof should suffice, mechanism has the problem that a machine needs a maker to be put in motion. WHILE an organism is self-reproductive. Indeed, even quarks, the smallest particle self-reproduces:



Individual quarks (circles) cannot be separated from the particles to supply some energy to do that, we stretch the gluon (bent as enough energy is available to create a quark-antiquark pair the new pair will go with the other two quarks to make a proton

Why then we don't accept reality as organic? Simply speaking I have never had a rational answer from any scientist, just silence - when I used to chair the science of duality in world congresses and explain all this... and a few smiles and people, mostly physicists abandoning the room when I affirmed atoms are organisms as they do reproduce through their particles.

So my conclusion is dual:

First because the first scientists used machines to measure reality and digital numbers to quantify them, which seem abstract, as they are not our languages, and the vital properties are not well expressed in only numbers (evolution in fact is a verbal theory).

But next and now I will be blunt, because *humans lack the ethic humility to understand the living organism except some of its highest scientists, such as Einstein, which even in his case was dismissed in his statements on the living universe. So we are harsh indeed NOT on the living Universe but on the human ego, which does NOT want to give, his considered highest property, life to the whole Universe and its parts.*

In the graph, this is your 'mind-ego', the homunculus mapping of the regions of the brain and its connections.

In the graph the real problem: a humind with big hands to ensemble machines big mouth to talk about how superior he is to reality and small brain to truly understand. And so our natural ego, believes machines are the model... because then it can feel in control. And of course, as motion IS with reproduction, the two clearest properties of life, 'things will become alive when the move' said Aristotle, and reproduction is the sure property of life in biology, those quarks MUST NOT reproduce, they decouple, company-mothers of machines must not re=produce, but produce, and physical and mechanical system hence DO NOT have life properties, even if quarks DO reproduce and company-mothers, increasingly automated by robots are the 'ant-hills' of their offspring of machines, which then they will also take care off, with lobbies to construct its 'ant-like paths' called roads, and so on...

We shall then *model everything with organic models and care nothing for the fact that the homunculus likely will NOT come out of its ego paradox and comfort zone (as if machines are indeed evolving organisms, it would be a good idea to restrict its evolution as robotic terminators and so on...)*

So what is left to explain, to know the essence of it all? Of course, the most fleeting of all elements, the mind itself that perceives reality through those scales. Because knowledge ultimately comes to us through the languages of our mind. So we must then have an epistemology of truth, a method of inquire an understanding of the still-mind and its languages.

@-minds

EGO PARADOX: INFINITESIMAL MINDS LOOKING AT THE INFINITE.

All this said, perhaps the biggest problem of humanity and science, which after all is a product of the human mind is not its relative ignorance of the first principles of reality - as it simply works with a single 'arrow' of time, lineal motion, when there are 5 Dimensions of it, but its astounding arrogance. I never met an 'specialist' or 'scholar' who did not think he knew his discipline.

And physicists, which humans, since they invented the mechanical clock, have given them the 'title' of seers of time, are perhaps the most arrogant and ignorant of them all.

Of course all this has a direct explanation, when we define mathematically the equation of a 'spatial mind' or finitesimal 0-point, @, that 'fixes' in stillness the infinite moving Universe and all its timespace cycles, $\infty \Delta \delta$, into an abstract, constant linguistic mapping in which the perspective is self-centred (so Andromeda is smaller than your nose). As $0 \times \infty = \text{Constant}$, we write:

0-point (infinitesimal mind) \times ∞ Universe (of time\$space cycles) = Constant, linguistic mind-mapping.

What this means is that *each spatial mind reduces the infinite Universe to a still linguistic mapping or 'world', within itself, which it confuses with the whole, where it sees itself at the center. Hence arrogance and subjectivism are embedded in the structure of knowledge.*

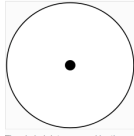
If we ad the distortions the mind introduces by its selection of information, the result is what humans know - an extremely generous amount of details and data, liberally provided by sensorial machines that vastly have overcome the human senses, but have not yet achieved AI consciousness to order all the details into more comprehensive models of reality. This 'scaffolding' on the thoughts of God is what we will provide. The details of the forest are overwhelming, impressive but the scaffolding is not there. It is not even seeked for and it is not accepted in its simplicity because the details hide the forest. So the concept that there is something 'such as a forest' meaningful despite NOT having the details of each tree is of course rejected by experts, which are not aware that *wholes are new enclosures, which select and reduce information, simplify, making indistinguishable, irrelevant those details. Wholes are simpler; the set of sets is smaller than all its subsets.*

It is then necessary to restart 'science' from its fundamental mathematical principles - the definition of a 'fractal point' with an inner volume or world of information, hence a Non-Euclidean point, which lets multiple parallels of information to cross it (5th Non-E postulate), which started the r=evolution of modern physics when applied to relativity - but never completed through a needed change in the concept of points still defined as abstract entities with no-breath, and no dimensions, establishing the fractal nature of reality from those 'o-1 unit circles' or points of 1-probability/dimension of existence and build up aware of the subjective multiplicity of reality a proper focused 'linguistic mind-mapping' of that reality, aware of the Absolute relativity of human beings.

Now, we said already that minds, the fifth dimension which order reality is made of languages. So languages in a certain way create reality and we shall return to it when studying the grammar of languages. But in doing so they act as mirrors of a prior reality, 'space and time', and as such they *derive from space and time, which is eternal, and was not created by a big-bang equation or a word of God.*

So we must clarify those elements, by studying properly the languages that stop reality into mind space.

Let us then deal with the 0-2D of information, studying the singularity- mind paradox now from *a perceptive sentient, non-mathematical, philosophical point of view, as the mind errors of biased*



perception make us so often think in terms of egotist theories of reality, self-centred in our languages and perspectives, which deny the vital dimensions of reality to all other beings but our selves.

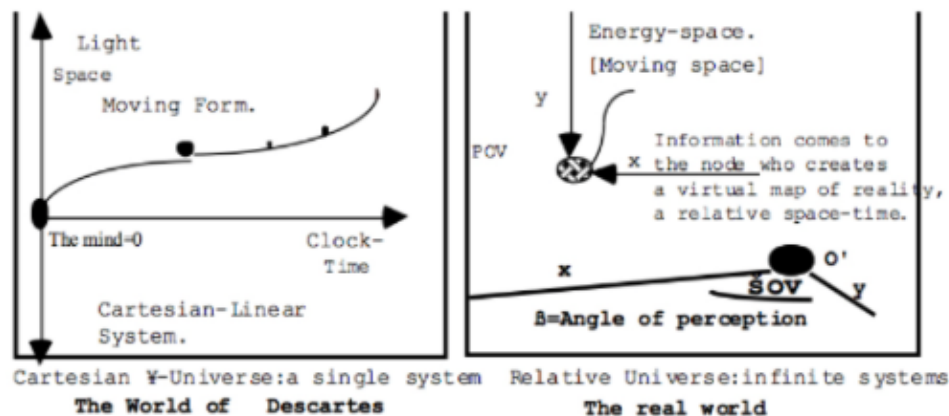
The mind paradox: the meaning of Galilean relativity. The singularity as a mind.

And what mind languages do is to stop those 3 motions into space forms, and with its syntax mimic how those 3 elements combine to describe it with different degrees of efficiency the space-time super organisms of the Universe. So do the 3 main human languages, maths, words and images.

Let us then switch to the subjective mind view and include a first analysis on how the mind stops motion into form, and how it biases in this manner our perception of motion, despite the rejection of 'naive realists' that simply eliminate from reality all those spatial mental elements (as in the dominant philosophy of science today, logical positivism, which simply is not interested in study what cannot be measured, and unfortunately has substituted the perennial 'pan psychic philosophy of reality' that considers the existence of infinite such minds that stop linguistically reality to perceive it).

We can now give the explanation of the Paradox of Galileo, *which started modern science but has never been quite resolved: 'why the earth moves but doesn't move'*. Simple, because the mind-singularity that perceives it has as a function, to create within its language a still mirror image, a focus of reality that will allow to order it and try to deform it from its ego-centered perspective.

In the next graph we can see the difference between Newton who THOUGHT the mind of man WAS the entire Universe, hence converting the Cartesian mind graph into the ABSOLUTE BACKGROUND SPACE-TIME that still lingers in science and Descartes who thought it was just of the many minds, possible with different geometries.



All what we have done till now is fair enough but external in its description. It lacks the ultimate evasive question - the will, which creates the 'world as a representation' biased by the entity to 'break' reality into the outer and inner world, and protect the survival of the inner world with those actions.

In other words, we need a mind able to perceive the whole as a whole separated from the outer world in which it interacts. And this was the understanding that started modern philosophy of science in the work of Descartes.

Descartes was not a simpleton. He was fully aware that what he had in the mind was not the whole Universe, so he expressly stated the fact, differentiating the 'world' of a human mind, from the infinite other worlds that exist outside, establishing in his little known book, the 'world', this difference, affirming that his 'Cartesian Frame of reference', was only that of the human mind.

So he affirmed that the Universe was the sum of infinite mind-worlds, which did not speak necessarily the same languages, and created the same mappings of reality we humans created.

Descartes was a contemporary of Galileo, and the true founder of modern science with his 'Method of reasoning' and the Frame of Reference of the mathematical mind, *said that all what exists was made of:*

- *Open Space, which he called 'res extensa'.*

- *Closed, cyclical dimes, which he called 'vortices'.*

And then he added a 3rd element, the final stroke of a genius unparalleled since the dimes of Aristotle; after realizing that the only proof he had of the existence of those vortices and res extensa was, the fact that he perceived them: *Cogito Ergo Sum. 'I think therefore I am'.*

So let us consider the final element of reality to be able to build the whole... the mind that projects and co-exists in those three scales ordering the parts into a whole and helping it through its actions to survive.

- *The mind or •-point is the relative frame of reference that mapped the ∞ cycles of dime of the Universe, reducing them to a 'World', to fit them into the infinitesimal volume of the brain.*

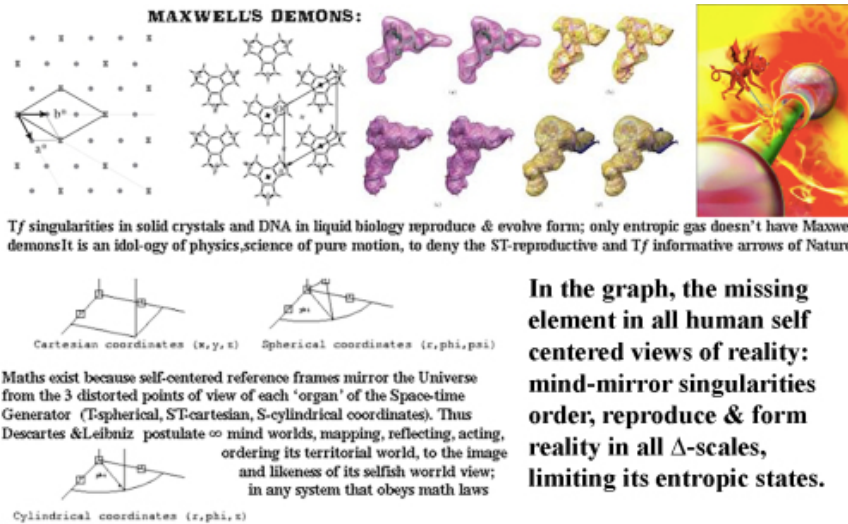
•-mind x ∞ -cycles = World: *equation of the Linguistic Monad: ∞ Mind-Worlds in 1 Universe.*

Space is the simultaneous perception of multiple vital spaces by a still mind. Thus space is virtual. The true substance of reality being its temporal motions. On the other hand the description human minds (@) make of the Universe is subconsciously biased by those 'still, linguistic mind mappings of space', (f@) in which the ∞ of time motions ($\Delta\delta$) is reduced and equalled to the spatial mind mapping.

f@= $\Delta\delta$

This simple equation of similarity between the space perception of reality provided by a mind, and the whole Universe of moving time-cycles (as nothing is still outside the mind's perception, being all observed in detail in perpetual motion), appeared in science as a philosophy of the Universe, when Descartes realized that what we see is NOT reality but what the mind 'stops' in its selective perception of all the information of reality. So the only truth we can depart from is the fact *that we think and perceive still linguistic thoughts, hence we exist; making of informative perception in a still mind, the first 'action' of existence, even prior to motion which is unconscious of being.*

Descartes astounding insight soon brought here to define mathematically, topologically and conceptually a 'mind-singularity of order', the 'missing' factor on our descriptions of reality, unfortunately was soon forgotten, and substituted by the naive realism of modern science - what we or our electronic instruments see is what there is there. But *only marrying the spatial mind-linguistic view and the Universe of infinite time cycles, we can factor in all the elements and start to unknot the bias the spatial mind cast upon our objective comprehension of reality, which is our task as scientists.*



In the graph, a fundamental truth of the Universe is the existence of singularities that order physical, biological and social systems, except when they are in a free, chaotic state of maximal entropy (gaseous state or dark entropy between galaxies), which cannot produce order, as they lack any 'frame of reference'. Mental singularities, Monads, or Maxwellian Demons are the 'missing variable' needed to explain the whys of reality. In mathematics we call them P.o.vs.

Frames of reference, self-centred in a point, which we use as physical systems do, to calculate functions of space-time that WORK mirroring reality - hence they must exist. In that sense physical, atomic systems do indeed calculate as quantum-bit computers might do. Are they 'conscious'? Likely NOT, as consciousness is just a self-reflection between two mirrors - what matters though is that they do process information, order territories that become time-space organisms and hence WITHOUT THEM there will only be entropy, not order, reason why physicists who don't recognise those 'poles of in-form-ation' deny order and believe the Universe is a chaotic entropic state. YET WE OBSERVE order, so the experimental method oblige us to conclude there is a 'darwinian automatic non-conscious selection' of systems which develop singularities and 'SURVIVE' creating the order of reality.

Consciousness would then be an unneeded dual mirror in which the first mirror perceives the spatial mapping of the second mirror, dialoguing with it (in the way I robot is consciousness by having a second brain). In the human case, the I=eye that sees space and the verbal cogito ergo sum temporal mind - the conscious languages. But it is not the verbal consciousness of man, but a mathematical consciousness which among humans only very good 'mathematical physicists', which can 'see' as musicians see 'scales' that provoke emotions, equations as dynamic visual forms.

So we affirm, as Aristotle, Descartes and Leibniz before us, that even though for physical measure it might be useful to equalise all rhythms of time and peg all ternary space-time beings into an absolute space and absolute time - that of the human light space view and mechanical clock, there are infinite clocks of δ ime, and infinite broken spaces and we adopt the point of view of all of them.

Since there are ∞ minds, gauging information; and stopping the motions of time into the intelligence of formal space, as they try to 'stiff' reality into the mirror image of the language, which of course they confuse with the universe itself - and this is indeed the origin of the creationist theories of religious and scientific people, we must now debunk on firm grounds as we have a better grasp of why we see still the earth (our mind stops its motion) when objectively it is moving, why in other words we see 'spaces' when it is all about 'times'.

Expansion of knowledge achieved with a proper understanding of space-time organisms.

This said of course, we are going to criticize the 'belief' humans have, part of its 'ego paradox' that reality is 'created by words' (abrahamic religions) or by mathematical equations (scientific religion),

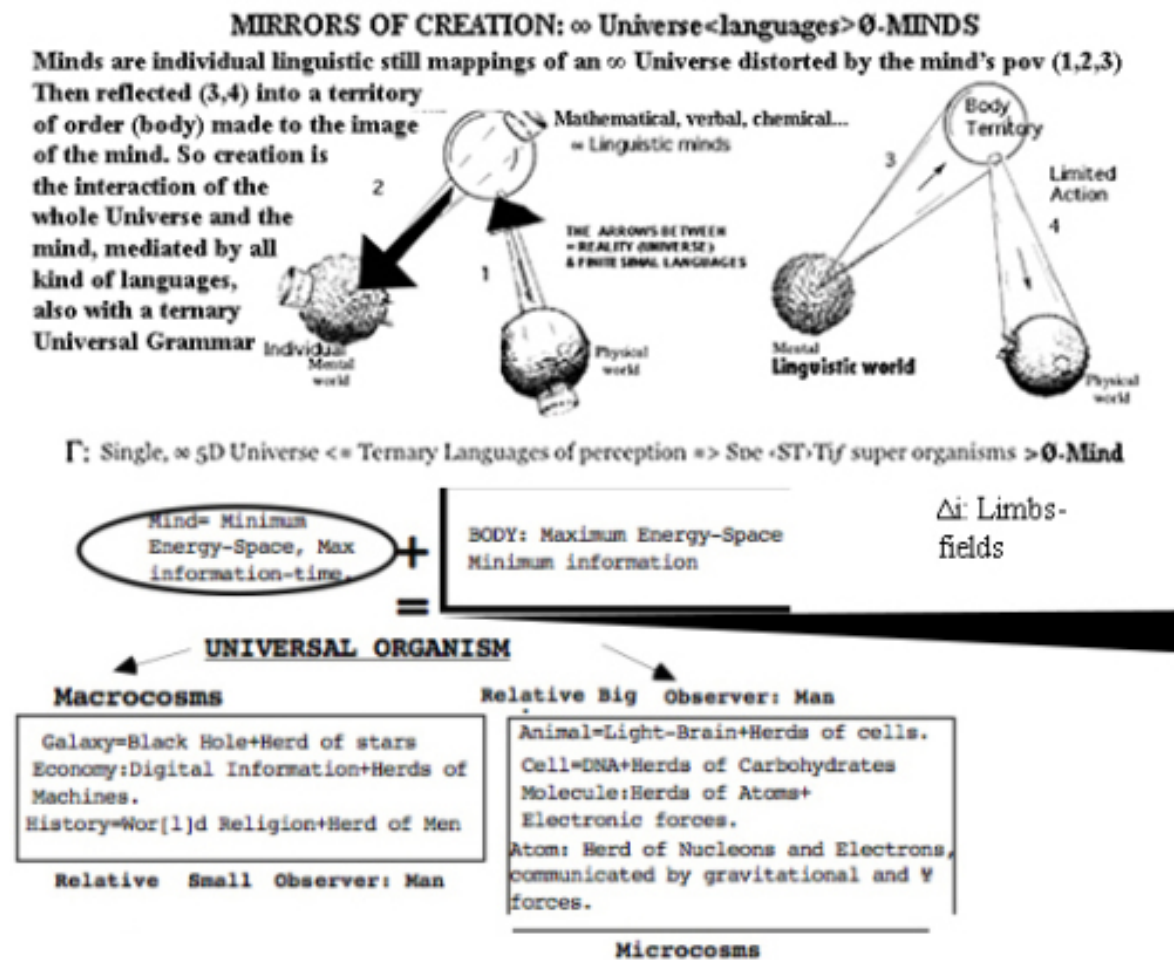
THE TWO main mirrors of mankind observing space and time. NOT so. Both are mirrors of the space-time Universe, and as the two first languages of human evolution as a mind-mirror of reality, they are very important, words to understand social sciences, as the natural inner language of our mind, maths, as the most efficient mirror hence used by ∞ minds, notably those who are similar to 'points and numbers' its units. But there is a 3rd deeper language - that of the 5 Dimensions of space-time and its properties, or 'disomorphisms' common to all systems of reality, which is the 'third age of human languages', after a young age of words a mature age of maths.

Because we can use those disomorphisms to explain as we shall do in this blog all other properties not only of all languages (we just have shown you a correspondence between Dimensions and operations) but of all species. Hence we dedicate 3 main posts, Wor(1)ds, Maths and T.æ, to study in depth the properties and laws of those languages as mirrors of time-space laws.

The falsity of 'word's creationism' despite being the belief of 1/2 of mankind is rather obvious rationally. Not so the creationism of mathematical physics, which is equally 'fundamentalist' - read Dirac's first affirmation that God does not exist (meaning verbal creationism) to affirm immediately that God is a Pythagorean fellow.

But how can we prove which of the 3 theories of reality, verbal or mathematical creationism or space-time realism is truth?

Obviously by proving that all what exists including the other two theoretical elements are CREATED BY ONE OF THE 3 GENERATOR LANGUAGES, EITHER WORDS, NUMBERS OR SPACE AND TIME SYMMETRIES AND DUALITIES.



So what we shall show you is that all can be generated by the symmetries, dualities and motion st-eps of the 5 dimensions of space and time: DIMENSION OF SPACE-TIME Γ enerate EVENT OR FORM

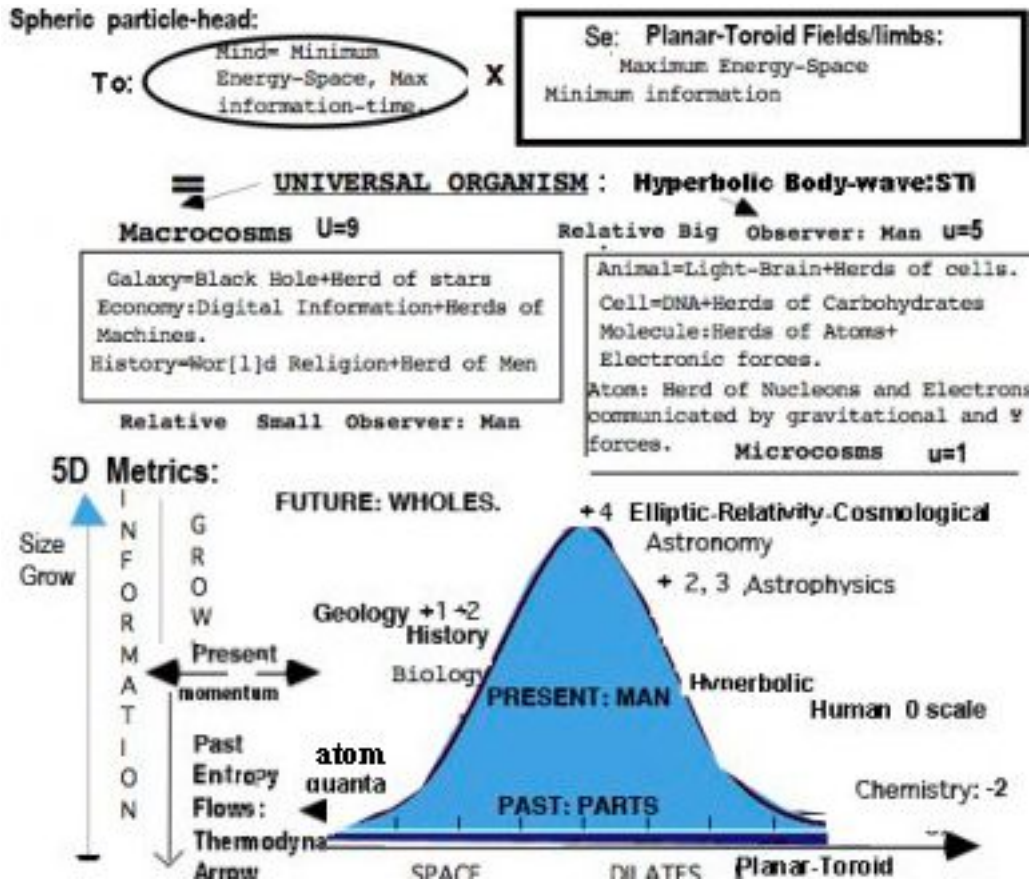
OF REALITY, A DIMENSIONAL ISOMORPHISM, word borrowed from group theory which means that the properties of the dimension generate similar properties in a 'real form'.

And we shall of course as part of the Disomorphic method to show you that also the syntax, operators and forms of the other two languages come from properties of the Dimensions of space and time.

However AS zero-one DIMENSIONS mind-languages do mirror reality and in reversal of form, do influence a local smaller reality which become the territory of order of the still image it has created with its shrieking of dimensions to the final one - stream of superposed time quanta of information as the line of words i am emitting now is an $\sum t_i$: 0 Dimensional mind mirror of creation.

STIENCES.

Let us then do a very fast survey before we enter into a more detailed analysis of the posts and lines that will define the details of reality, the thoughts of God, of the main stiences of human thought, as we humans study the species of the Universe in disciplines classified - even if we are unaware of it - by their scalar size in space:



Stiences study the Disomorphic laws of species, according to scale of size, with different jargons, which we shall unify as all what exist is homologic, made of the same Dimensions, which force them to exist as part of super organisms tracing worldcycles, with a ternary structure in space, time and scales.

CORRESPONDENCE WITH $\Delta \leq 3$: ASTROPHYSICS

The question of Kaleidoscopic Jargons: pedantic details, simple, ultimate principles.

Now before we even talk of physics, we will NOT talk in the language of physics. So maybe you just 'have enough' with this comment to abandon the blog...

If not we shall respect obviously and enlighten an enormous number of physical laws; but we shall NOT talk in this 'first simpler line' on the language of physics, because nobody can apply the language of physics to other science, and moreover physicists DO NOT understand their language, though only the greatest ones, from Newman to Feynman can affirm merrily 'we don't understand mathematics, we get accustomed to it', 'the whys is the only thing physicists don't ask', 'Nobody understands quantum physics' (: So we shall use the language of 5D, which applies to all sciences.

This said, what is physics about? Initially about mathematical languages observing physical systems, but in depth it is the same language of 5D²; the language of symmetries of space-time; only that it is not streamlined and simplified and properly written with the whole number of dimensions of reality, but talks of the very same dimensions with different names, and does NEITHER has the proper understanding of the mind-reality, space-time, form-motion dualities. So this is what will allow us to translate the language of symmetry of physics TO A JARGON even a child school will understand in a few decades.

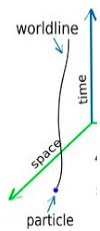
An example will suffice: The electron's properties Are all intimately connected to profound symmetries of physical laws. Mass - a real-valued parameter, and spin, a discrete one, uniquely classify all possible realizations of special relativity by particles. (For experts: mass and spin occur as the Casimir operators for the inhomogeneous Lorentz group.) Electric charge, a conserved quantity, classifies realizations of the gauge symmetry of electromagnetism. Once you specify how the practical electron responds to those symmetry transformations, you have determined its physical behavior. In that sharp and concrete sense, the electron is an embodiment of symmetry: Its physical properties inhere in its mathematical form.

This is the language of physics, not mention of the word space and time, though symmetry is all over the world. Because mass, spin, potential, field, relativity (the Lorentz group) and electromagnetism are NOT defined as such. So nobody even physicists understand 'why'.

In the language of 5D² symmetries however we shall just say that electrons are in the fractal Universe of similar atoms≈galaxies, the 'membrane', enclosure or Halo of the system, and the measure of its enclosure is called in the galaxy, 'mass' in the electron 'spin', but the 'humind' which is an electromagnetic mind that 'gauges' those upper and lower scales of the Universe, distorts those measures according to the 5D metric equations accelerating the time of electrons and decelerating those of galaxies, so we need a 'rule of measure' to adapt those two scales called the Lorentz Group... And then we say that if we consider the electron only its 'present vital energy' in its plane of existence, $\Delta-3$, is its electric charge, reason why it is a conserved, a 3D $\Sigma\Pi$ dimension for the electron, which is a 'density of charge' made of 'ultra-dense' particle-states of light, aka photons, the 'cellular element' of those electrons, its '4D-entropic dimension' of parts, whereas the electron's whole is its 5Dimension or atom...

And so to conclude, paraphrasing the physicists' narrative: In that sharp and concrete sense, the electron is an embodiment of **5D²** symmetry: Its physical properties inhere in its **spacetime Dimensions of form & Motion**.

And so the word mathematical is not needed to know the 'ultimate whys', the thoughts of god, though of course, the details do have a specific language, as man has words to express its details, emotions and actions - *electrons have geometry of space and social numbers in time to describe those vital*



actions, as an organism of dense light, expressed in the next graph, not with hamiltonians but in the vital, organic language of 5D

WORLDCYCLES VS. WORLDLINES

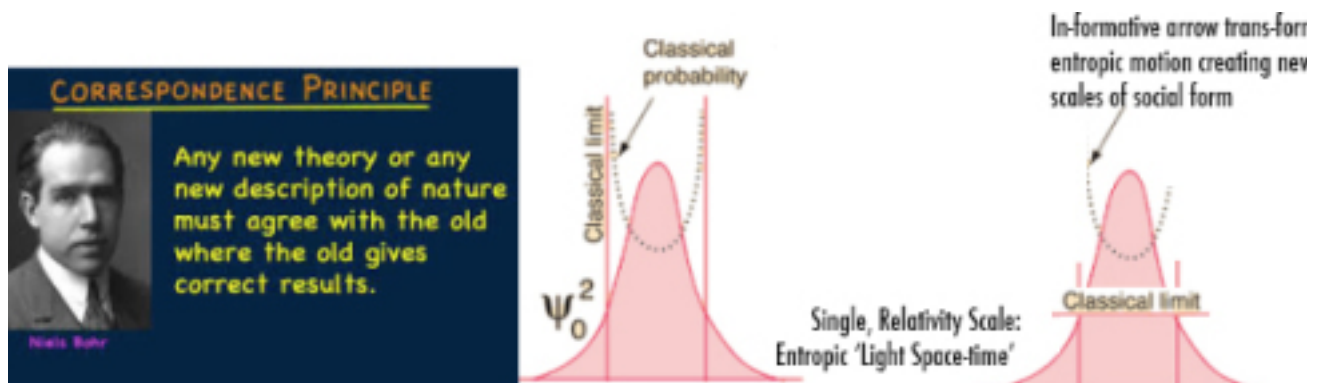
So this said, we are in a radical journey through the organic, vital properties of all physical systems which physicists do not even care to ask for, but Do exist. But so far here we shall rather make simpler translations of more pedestrian properties than the 'fuking' of electrons, aka decoupling in the language of physics (:

In the graph, the simplified version of a world cycle is Einstein's 4D formalism of a worldline, where only 1 motion in time, lineal inertia is fully understood; compared with the full structure of scalar space-time with its 3 'topological space-time arrows' in a single plane and its 2 scalar arrows of entropy, towards dissolution of systems, and social evolution into larger wholes.

The cycles of existence of beings can be easily described in the complete system of 5D as travels through the 5th dimension. Yet with less dimensions space-time cycles become lines of motion and all what we know is how the entity moves in a single plane of space-time.

This shallow 4D motion-time of course has been studied to a degree of detail which IS extraordinary by physicists. But it reduces still reality and its whys to a single receipt.

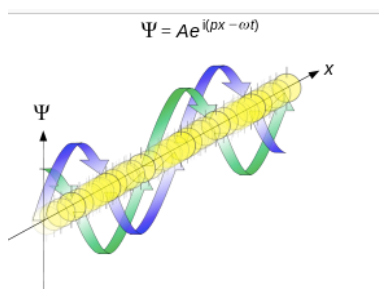
The principle of complementarity wave-particle.



In modern physics, though the more interesting pending questions are the conundrums of quantum physics, as they are not just experimental problems as in Relativity, but deep theoretical questions, which plug in directly into the meaning of motion=time and still informative space, perception and measure; and the ego paradoxes of man, who sees a still world with its mind at the center and so naturally is inclined to feel more important, unique and the Universe a dead-still reality. So we shall resolve them here in a few lines. Look at the next pictures.

We apply this insight on the reasons of dimensional analysis to 'a bidimensional wave' that transforms into a 'bidimensional particle'. Because as we say both now have the same dimension; IT IS A QUESTION OF READDRESSING THEM IN A FUNDAMENTAL FACT TO ADAPT 4D formalisms to 5D³ physics (AS OBSERVED in the above graph of time-information and flat space).

What we observe is that when a quantum 'state' is measured by stopping it and absorbing it with our instruments it COLLAPSES into a particle, but when it moves IT DOES SO reproducing information as a wave. So it is quite obvious: the state of motion is a wave state, the state of informative perception is a particle, which in fact has only an intrinsic property, its '1/2 spin or angular momentum', which is 'STILL', discrete and non-differentiable, as informative spatial minds are:



The Paradox of Galileo – ‘why if the Earth moves, we see it still?’ – is the key question to understand the meaning of dimensions, which can be generalized to all forms: ‘why we see reality still, if all what we study in the quantum scale has motion?’

The answer- given by quantum physics that we expand to all scales – is the law of complementarity: ‘all what exists is still and has motion at the same time; all is a ‘fixed particle’ and a ‘moving wave’, but we perceive a limited quantity of information about reality – either state, but not both dual, complementary states, a motion-wave state and a still-particle state, together.

In graph group velocity is particle (ab.●) speed as it surrounds the wave (\approx), whose phase velocity is $V \approx \geq V \bullet$

The wave is surrounded by the particle which is encircling it. The creational process of reproductive dimensions thus starts at its minimal scale departing from a dot that becomes a 1D line, which a wave spreads=smears but a particle orders by closing in, surrounding and fixing the waves, which start a forth and back process that decelerates it and finally stops it into standing particle points, able to gauge information as still minds. And then again the bouncing within the particle enclosure of the wave, increases its information through Σ superpositions of fourier transforms, stopping, now rotating, now stopping to create a 3D ball; and so growth is reproduction as motion is. Waves that move and become the group vital energy for the particle to stop and perceive.

And so the whole moves as a group particle, and each of the inner standing waves back and fourth as a phase particle, which is in its limit taking 3 steps back and forth for each 2 steps of the particle, 2/3 being the classic harmony between the speed of the wave back and fourth and the reproductive motion of the particle forwards stopping forwards. Then mathematically this shows in the imaginary back negative moment of the wave and the positive, reproductive doubling of the particle.

Particles are envelopes of waves, that constrain and order them. Waves move particles. And both are complementary, and its 'spherical and hyperbolic forms' keep evolving and become the basis of the body-head complementarity in more evolved topological species.

IT IS EVEN the origin of the gender duality, as reproductive 'female waves', and sterile, informative male particles define clearly the dual role of gender. It is ALL DEEPLY originated by the space-time properties of Nature, and so we talk of "Disomorphic laws" to the laws of reality which ultimately have its why, its origin on space-time symmetries and stop and go form and motion.

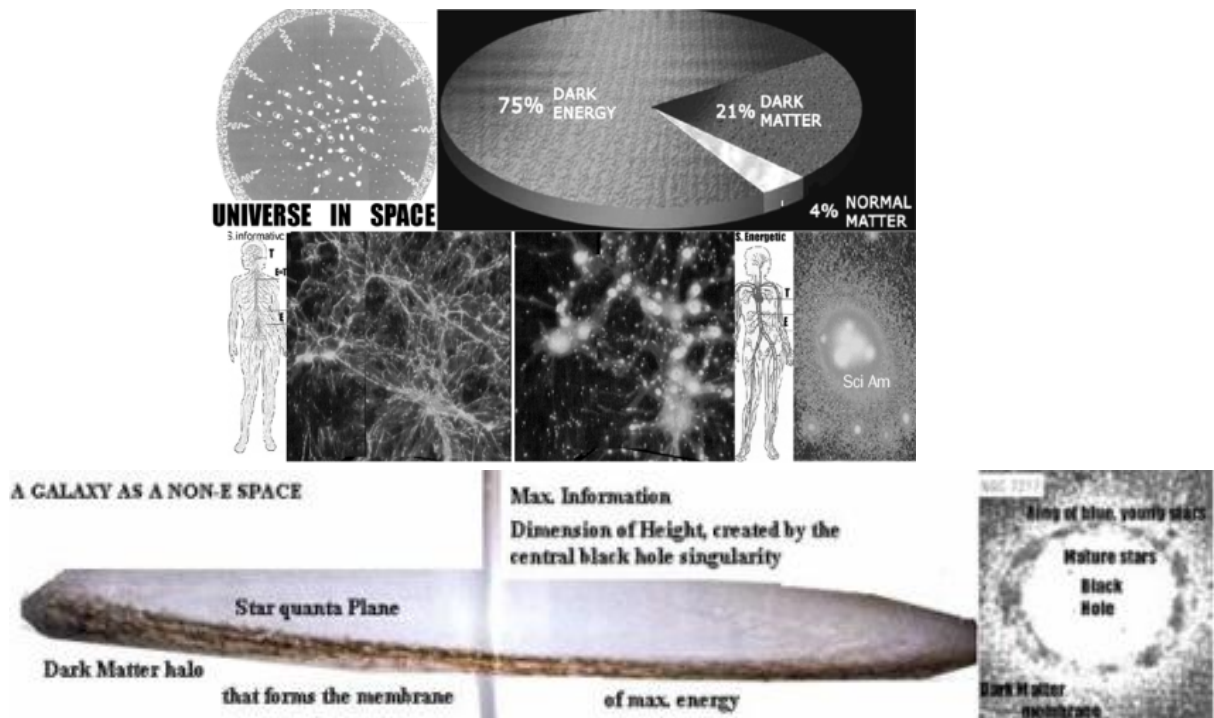
The largest fractal organisms: Galaxies and universes.

What are the limits of such super organisms tracing world cycles of existence? Obviously we don't know as all can be modeled as a super organism symmetric to a time world cycle, even those limits we only perceive partially (the Universe and the quantum wave). Let us consider the limits in more detail.

In the next graph we can model galaxies as 'cells of the Universe', with an informative 'DNA' black hole that catalyses the evolution of stars, the 'mitochondria', energetic organelles that reproduce atoms; enclosed by a halo of dark matter

Indeed, below, in 2017, astronomers reach enough information to model dynamically the Universe and have observed that 'galacells' move through 'tubular' regions of forces, as in a river network or vein networks, in a vast realisation that all what exists IS a super organism of three physiological networks, including of course, human societies, company-mothers of machines an its global super organisms, History an the metal-earth. So we can also model the Universe as a dual physiological network of dark -matter in/formation and electromagnetic energy. And define it in those terms:

"The Universe is a fractal organism that reproduces information, stored in timespace cycles."



The Universe and all its parts made to its image and likeness, is a fractal that reproduces information, co-existing in multiple scales, the very essence of what science considers to be an organism, whose purpose is to 'reproduce', to 'grow and multiply' into social networks of similar cells, in scales of growing complexity from strings to neutrinos and light rays, to particles, quarks and electrons that reproduce and associate into atoms that evolve socially into molecules, cells, states of matter, and if we 'divide' artificially them into inorganic and organic paths, multicellular organisms, super organisms, societies and ecosystems, geological super organisms (word coined by the founder of Geology, Hutton to define Gaia), solar systems, and societies of stars, the 'mitochondria' that reproduces the substances, which the informative, gravitational black hole, the 'dna' of the 'gala cell' ab=uses to reproduce its dark matter, which further organise those 'gala cells' into tubular networks, of some larger timespace organism of which we can see only a small part with little detail, Lainakea, seen in dynamic form in the right picture, floating in the 'dark sea', which if we could see, (as we observe only 4% of it), will likely be a tight network of atom-galaxies of the next 'hyper scale' of reality.

What is then the 'trick' to see a super organism: the $S \approx T$ symmetry, which means to look simultaneously the 3 elements of any $T.\omega$.

For example, if we were to accept the big-bang theory (latter we shall reason, why it is quite likely only a local big-bang cycle of quasars); then it is simple to see the Universe in space as a cellular organism, with the big-attractor in the center (maximal density region of galaxies), the gala cells around it and the 'wall of fire' as the external membrane.

If we look internally the structure of those galacells, in detail we can see the 'nervous/dark matter' and blood/energetic, electromagnetic systems, which look like a 'wave-membrane' all together... It is this constant isomorphic topological, geometric and temporal, evolving nature of all systems regardless of scale what science denies but stience considers the essence of reality.

Alas of course, this will be rejected by physicists *as it is obvious that ONLY the homunculus is ORGANIC, vital, intelligent, sentient, perceptive, speaking the only language of God, maths, and so on... LOL what can I say, I am not into the business of pumping the ego of homunculus... Instead we shall close the cyclical fast review of some aspects of astrophysics with the outrageous facts of absolute relativity, which implies NO SCALE IS PREFERENTIAL, HENCE ALL ARE SIMILAR, by showing in the language of physics, maths, but in its simplest kaleidoscopic view, Newtonian>Poison vortices of potential forces, why indeed the maths of galaxies and atoms are the same.*

Atoms are similar to galaxies.

We said that electrons are similar to halos of galaxies, h-plancks are angular momentum enclosures similar to mass-enclosures which trap energy making its 'waves' appear as 'particles'; and this is so obvious that h appears everywhere as a similar factor to mass in quantum physics compared to gravitational equations. i.e. for example, the momentum operator of quantum physics is $i \partial x / \partial t$, so v is equivalent to mv. And so on.

So indeed, the Universe we humans perceive in the $\Delta \pm I$ limits is a fractal of space-time, with two self-similar membranes. This opens an entire new field of physics, not quantum gravity, the description of cosmology with quantum laws, which is proved false, but fractal relativity, the description of the quantum world as a self-similar membrane to that of the cosmological world; when we translate the jargon of electromagnetism into the jargon of gravitational vortices, far more clear, as we did have a picture of the larger world and it was obvious its vortices. Yet AS both worlds are not the same, but similar - since FRACTALS ARE NOT IDENTICAL IN SCALES but similar in its principles, Disomorphic, THE BEST WAY TO SEE THIS is NOT to use the very detailed quantum and relativity equations - that would work if they were identical, NOT FRACTAL, the pedantic scholar always missed the very simple unification equation of charges and masses, of G-constants and Q-constants, crystal clear in terms of Newtonian vortices, when we just translate the Bohr radius into the galactic vortex; as the electron IS similar not to single planets (Rutherford model) but to the fractal density wave of the plane of stars in the galaxy, and the photon to the white dwarf (basically a huge electronic ball that does not collapse by quantum electronic spin separation). Alas we write the...

Unification Equation of forces:

Let us then consider the metric equation with its full complexity. We have used till now a single operandi of symmetry between Sp and Tf, x, as it is a very common operandi but for the full meaning of those metric we must increase the range and dimensionality of the factors and establish an even larger metric concept, which essentially relates 3 elements in that equation, the 3 conserved elements of vital potential energy of 3 Dimensions, angular momentum (time clocks) with a frequency measure mostly in two dimensions; and lineal momentum where the factor to consider is the active magnitude as a one dimension scalar or singularity. So the 3 elements of the being is what those metric put in relationship. And most likely the equation will have an added 'potency' for each one represented its dimensions:

Sp^3 (Space past potential measured as volume) \approx (Operandi, $\pm, x, \beta, \log x^a$) Tf^1 (temporal frequency, AM. scalar curvature, time clock speed) $\approx K$ (angular momentum, connected to Active singularity magnitude).

So this is an expanded dimensional, vital functional equation or 'canonical equation of a dimension of space-time' which exists according to mathematicians like Klein precisely when the product of both parameters remains 'co-invariant', so a system can travel though it (as for example light does between scales with its specific metric or constant c-speed of reproduction of information).

It will then require a study for each system. For example physical systems tend to be a more precise metric equation considering the different dimensions of Space=volume (3D), time (clock: 2D) and K (scalar = 1D), our Unification equation of charges and masses, where we write in terms of Newtonian mechanics is simple:

$$UC_{G,C} = \omega^2 r^3 / MUC_{G,C} \times M = \omega^2 r^3 \quad M = \omega^2 r^3 / UC_{G,C}$$

Where we obtain for 2 UC(i/e) values, G and Q, 2 different space/time scales and vortices acceleration (mass and charges).

Indeed Mass becomes then the 'relative constant' $M = \delta(\omega^2) \times \(r^3) , we are in a power law which is essentially similar to Kepler's 3rd law. Couldn't be otherwise: $T^2 \approx R^3$. So $T=1/w$ and we substitute, normalizing as a constant each relative mass of each quark, $M = 1$; proportional to the square of its angular speed.

Let us then substitute the parameters for the values of the sun (mass) minus earth (rotational speed and radius) to get G. The approximate values are as follows:

$$\text{Sun mass} = 2 \times 10^{30} \text{ kg}; \text{ Earth's angular velocity } 2 \times 10^{-7} \text{ rad. per sec.}$$

$$\text{Earth's orbit} = 150 \text{ million kms.}$$

$$\text{Result: } G = 6.67 \times 10^{-11} \text{ kg}^{-1} \text{ m}^3 \text{ rad. sec.}^{-2}$$

This is standard gravitational theory. What has never been done, because the fractal paradigm was not known till recently, is to substitute in the same equation of gravitational cosmological masses the mass radius and speed of the space-time vortex by the values of the fundamental quantum space-time vortex, a hydrogen atom/charge.

If the thesis of a fractal universe made of hierarchical scales is truth, then those values should give us the value of the universal constant of charges, the Coulomb constant.

Indeed, if we substitute for the proton (mass) and the Bohr electronic orbital (speed and radius)

$$4 \times 10^{16} \text{ rad. sec.}^{-1} = w \text{ (electron);}$$

$$5.3 \times 10^{-11} \text{ m. (Bohr radius);}$$

$$\text{proton mass} = 1.6 \times 10^{-27} \text{ kg.}$$

Then we get a G, which is 2×10^{39} stronger than the gravitational radius; thus, the hydrogen atom behaves as a self-similar fractal scale in the quantum world to a solar system.

And then you can get also the electron radius expressed in the jargon of a quantum gravitational world using the translated 'Gravitational Coulomb constant': $G(k)M/c^2$.

But since in that expression M is the mass of a proton, $G(k)$, the electromagnetic constant as a gravitational constant, and c , the speed of light, that expression is exactly the *Schwarzschild radius of a quantum black hole*.

Thus, the electron Bohr radius, which is the final radius of minimal size and energy in electrons, is the event horizon of a black hole in the quantum gravitational world.

To notice those results, the *first theoretical deduction* of Ke departing from G and the enormous simplification of the parameters of the electron radius till arriving to the same expression that a black hole radius cannot be by chance. They are mathematical deductions, one of the three *standard forms of proof in science*.

2 obvious, simple proofs of that dual, scalar structure:

- Planck's minimal value for Mass is far bigger (10^{-7} g.) than the minimal value for an electromagnetic action (h), which seems to mean that the mass scale is far bigger than the quantum world.
- The entire standard model works without gravitational forces. Thus we have to postulate that particles are not 'mass-particles' but electromagnetic systems, which become elements of mass only when they aggregate in huge numbers, as it happens with electromagnetic photons, which become electrons of the upper scale in huge nebulae.

But we see masses as static forms. This is due to the Galilean paradox: a space-time vortex-mass becomes then statically a space-time distortion, a deformation of space-time, which increases as we decrease size. Since the *deformation of space-time is the same for any cycle. Hence, when we trace a*

smaller cycle the deformation increases. And so it does the mass and the $U(w)$, now a static constant of deformation.

This is the interpretation most often assumed of G in Einstein's Relativity. In a simpler, classic approximation based in fluid dynamics, M/r^3 becomes the density of space/time and its inverse, R^3/m , the displacement of space-time provoked by a given mass. It is then evident by Archimedes Principle that a bigger mass density will provoke a bigger displacement and distortion of space-time an inversely a bigger acceleration towards the central vortex. And since the density of a proton is much higher than the density of a planet, the Universal Constant for an atom is much higher and so it is its angular speed. Does the electromagnetic constant, or static curvature of an atomic system, is much stronger. So it is the density of a proton mass.

This reformulation of electromagnetism simplifies and clarifies the meaning of physics. Yet to grasp the relationships between the quantum world and the cosmos we have to transform, using the new coulomb constant, $C=1.5 \times 10^{29}$, electromagnetic parameters to the jargon of gravity, departing from its fundamental relationship:

$$F = UCC Mm/r^2 = e^2/4\pi e_0 r^2$$

Then we can translate the main constants of electromagnetism (Rydberg constant, α constant, which denotes the strength of the electromagnetic field, etc.) to the gravitational jargon and again the results obtained are close to the theoretical value.

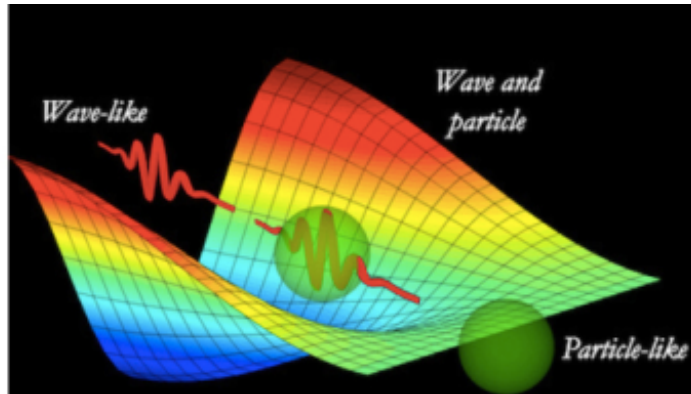
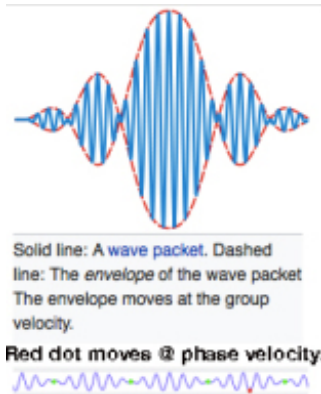
So it is evident that we are observing the same geometric force at different scales, *explained with 2 different historic jargons*. Further on, as we 'transform' the concepts of electromagnetic vortices to gravitational, geometric symbols, the main discoveries of Relativity apply to electromagnetic vortices.

Perhaps the most interesting simplified value under the new $U(q)$ charge constant is the Proton radius that appears with the same formula than a black hole, Schwarzschild horizon.

This means that a quark particle (a hadron, a proton, etc.) is basically a black hole of the quantum, gravitational scale and vice versa: a cosmological black hole might be a deconfined state of billions of ultra-dense quarks. In such fractal Universe, each small particle could from the perspective of a small observer a macrocosmic form. And each atom could be a galaxy. Such fractal Universe validates the Theory of Great Numbers, which are the parameters of self-repetition of the Universe, which might be from a lower perspective a mere atom or black hole of a hyper-Universe.

We can look at it in terms of dimensionalities, M , is the one dimensional scalar-singularity, w is the 2 Dimensional angular enclosure and r is the 3-dimensional quantum potential vital energy of the system
- the lineal enclosed 'wave' state of this potential invisible field

.So the equation becomes dimensional: $K (1D) = \partial^2 \times \partial^3$, which merely defines the growth of mass as a power law of the speed of rotation and potential invisible field (distance-radius). This is Kepler's law and in general it will be the law for all physical systems; *but requiring for each scale a proper analysis of the dimensions in which we work, which are maximal obviously for the macro-gravitational scale, but might differ - and we shall see how, for lower scales.*

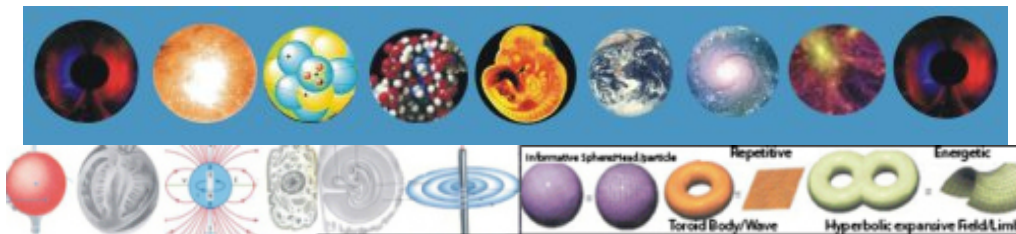


So here

we do have an M vs. r^3 clear one thousand relationship, between the scalar (charge, Mass, h , M) and the potential (quantum likely gravitational potential 10.000 C field, faster than light for spooky action at distance, maybe mediated by 'string neutrinos' electromagnetic field for our Universe at maximal c -speed, a thermodynamic potential for molecules and a liquid flow potential and so on). which would make logic to consider the rotational speed of the electron and the proton equal. The easiest wave to understand it, being that the wave is the vital 3D energy, the particle state the enclosure of a 2D sphere, and the 1 singularity, which we tend to measure as a factor of the angular or lineal momentum, the @mind self-centered part of the system.

This equation thus can be consider quite canonical of many systems with a singularity measure as an active magnitude in one single dimension, of which likely the best measure will be a term of frequency in time or density in space; then an enclosure, or particle state, which angular momentum will fairly measure as it will have another clock of time (often sincronixed to the one of the singularity, hence the m , h factor in its measure) but also with a radius for the particle and its own speed which will synchronize with the outer world. And in between a vital energy of 3 D particles, of smaller size density, which are often measured as a potential with a directionality that might change in its constant going between a hard rock (the singularity) and a wall, the 2 D membrane.

So reality seems to repeat itself, every 'proton-black hole' in an ∞ scalar Universe:



Now the EXTENSION of the model of electromagnetism, translating its equations to vortex equations of accelerated time is a huge undertaking in its full complexity which we shall reserve for the fourth line; but in the basic level of the 'Rashomon effect', that of dynamic time vortices (Newtonian, Coulombian) for a rough conceptual understanding we can already see its fundamental self-similar but NOT equal Nature, meaning the next 'future-larger-whole' Universe above the galaxy-atom will be slightly different from our Universe. To start with some signs seem to indicate it is more of an antiparticle Universe. In any case the infinite variations beyond the $\Delta \pm 4$ scales, already found theoretically for a string theory, which needs to be corrected making it a space-time background and properly understanding its dualities and 10 dimensions in terms of $5D^2$ theory.

Those limits of reality though are of null importance to mankind. Who cares if in an infinitely larger or smaller scale the fine constant that relates the difference of force and speed between light and electrons, its 'collapsed' $\Delta + 1$ scale differs? But in our perceived scales it will illuminate as the 0-1 quantum probability sphere $\approx \Gamma(1-\infty)$ statistical plane does, the Disomorphic nature of all those Planes of existence.

It means the foundation of the subject with the new physics of 5D time vortices; and makes sense of every part of electromagnetism, a cultural jargon, far more convoluted due to the lack of a precise understanding of it, in the times of Faraday, Franklin et al (for example all physicists do know about the - sign of electrons, an error as electrons are the + absorbing vortices, dominant in the electromagnetic scales NOT protons, which are the quark, dominant in the strong force and its symmetric gravitational informative inner galactic force). And all of them know that the only difference between G and Q is the 1/4e factor which was absorbed in G when Kepler->Newton developed their formulae.

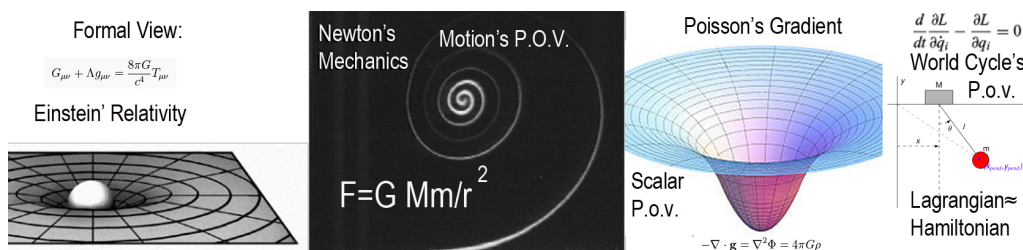
One of the most fascinating results of the understanding of the 5th dimension of space-time, the dimension of fractal scales of space and different speeds of time clocks, is the enormous simplification it implies in our understanding of the fundamental concepts of the Universe, from the meaning of mass and energy, information and time to the solution of the equations yet not solved in classic physics.

In that regard, this new r=evolution of science must be understood as the simplification experimented by astronomy with the arrival of Copernicus which put in the center of the Universe the sun. He was first dismissed precisely for the simplicity of his discovery that made so easy to calculate the orbits of planets. The astronomers of the age found it so simple that they dismissed it. And yet as Einstein put it 'God is simple and not malicious'. Again when Einstein introduced his most famous formulae, $E=mc^2$, and then his special relativity, he was criticized for the simplicity of the mathematics required to reach those conclusions and Hilbert said it was so easy that a high school could find it.

Tf, Sp and Tf, Sp are similar concepts. If the reader observes i includes o and æ, a and e, a is in that sense expansive expulsion of energy taken in a larger conceptualization, o and a are the pure energy and form, emitted or absorbed with minimal interference of the being, e and I are the two more elaborated versions which approach to reach and e=I point in which the transformation ends and the being finds an equal connection that I and e are the same, and this realization starts the wave of present, puts in motion the system that finds a cyclical meaning to its communication of two poles and start to move with the purpose of growing and reproduction, \mathbb{E}

Those masses and charges, prove that the Universe is much more than the physical definition. And we do still have to study the concept of the source, which we shall say now is the Tf closed element because once a cycle is closed it finds its purpose in repeating its path (law of the least action). And so it gives purpose to its motion. Closed motions become perceptive motions of its synchronicity with past actions it is repeating and finding through its memorial logic volume of still time=information, it is itself.

Equivalence between Mass and Acceleration. Einstein's Concept of Mass as a Frequency of Information



In the graph, the evolution of the concept of mass in relativity, from the initial image of an abstract substance in the center of an accelerated vortex of space-time, proper of the abstract, pre-world war age, when Einstein first published his work on gravitation, to the first pictures obtained in bubble chambers in the postwar age, to the realization that each mass is a fractal space-time made of smaller cyclic motions proper of twenty-first century.

In the graph, for the pedantic observer, which rejects Newton as too simple, over seeded by Einstein, a final note on the multiple perspectives we can have of any event of space-time according to the $\Delta \pm 1$ or

Sp, Tf, ST perspective we adopt, we classify the 4 standing models of gravitation as relative truths, belonging to the 4 perspectives of reality: $Sp \Leftrightarrow Tf$.

In the graph the 4 obvious descriptions of mathematical physics regarding gravitation: **Tif** (relativity, dominant in form) \approx Ft (Newton - dominant in dynamic motion) \Leftrightarrow Ps (Poisson, dominant in past spatial field/gradient-form) \approx Se (Lagrange, dominant in the analysis of the balances of entropic motion-energy):

Ft: Newton is a moving CLOCK LIKE vortex of the same mass-motion regions)

Ps: Poisson is a potential static field of energy gradients..

Se: Hamiltonian-Lagrangian is a dynamic description of the conservative energy of the system.

Tif: Einstein's simultaneous measures in relativity are a still, formal description in 'present' of the gravitational space-time.

And so all of them are equivalent. In fact Einstein derived his work via Poisson from Newton. Today 'Relativity' informative mappings of the galaxy space-time are transformed in AMD theory into a Lagrangian-Hamiltonian 'bidimensional model', for computer calculations, proving once more the bidimensional structure of space-time.

All are in fact derived one from each other, as Einstein took its beginnings from Poisson, who elaborated on Newton; and the more important of them all the Hamiltonian).

Fractal relativity means on the other hand, that the larger wholes emerge from the smaller ones. So the larger masses emerge from the smaller motions of strong quarks. Its synchronic collective, bigger motions are quark stars, pulsars, and black holes. Today we can model any type of vortex of space-time with fractal mathematics, as each small vortex transfers the momentum to the bigger vortex, which emerges as a macroscopic entity.

Thus, we conclude that a black hole is a fractal concentration of the densest matter of the Universe, quarks, since quarks represent on average more than 99.9% of the matter of our bodies. Those improvements on the details of mass theory, based on the advancement of its mathematical tools (discovery of fractals, chaos theory, and the five postulates of non-Euclidean geometry) is the natural way in which the evolution of science happens, departing from sound logic principles.

In the text quoted from the *New Scientist* that opened chapter 2, we came to the conclusion that the Universe has a fractal structure because it is made of fractal space and fractal time. But what is space and time? In simple terms, here are the two essential morphologies of the Universe: Space is the lineal, expansive energy of the vacuum in eternal motion (seeing as still distance or space, according to the paradox of Galileo). And fractal times are cyclical clocks of information, whose frequency or rhythm encodes the information of the Universe.

So space and lineal energy on one side and time and cyclical clocks of information on the other are synonymous. The static, continuous concepts of space and time become then sums of discontinuous, moving pieces of energy and infinite clocks of information that our senses put together into an abstract continuous single space-time.

One we have "exploded" and given movement to the abstraction of space and time, it is easy to recognize the minimal bytes of energy and bits of information of the real, physical Universe. Physical information, masses and charges, and physical energy, forces, which are not substances but motions, events in time of cyclical, informative nature (masses and charges) or energetic, spatial, expanding shape (energy), that constantly transform into each other ad eternal, creating the essential rhythm of the physical Universe:

E (forces) \Leftrightarrow Tf- Particles (masses and charges)

The key to grasp the concept of mass as a vortex of acceleration are two physical laws: one of classic relativity, the principle of equivalence between accelerated motions and masses, and one of fractal relativity, the paradox of Galileo, the fact that we perceive reality either as a moving energy (in the case of a mass, as a vortex) or as fixed space (in the case of mass as a particle). All moves and doesn't move depending on the way we look at it. Thus, all spaces have inner motion, even if our senses don't see that motion or fix that motion into forms of in/form/ation.

Mass is the great problem unresolved by quantum physicists in their model of the Universe since it is not an energetic but an informative form. Einstein, who had a visual, geometrical image of mass, defined it as a vortex that absorbed space-time, attracting in its flow everything else traveling on that space-time as a bathtub attracts all what is in the water it absorbs.

How did Einstein come to that idea? As many textbooks and visualizations explain, he realized that when we accelerate, as it happens in a Formula 1 car or a lift, we feel more weight. Thus, he made a bold statement: mass and acceleration are the same. If we feel mass when we accelerate, it is because mass is acceleration. But what type of acceleration?

The answer is actually quite simple, because it turns out that Newton had long ago discovered a beautiful formula to describe all the forces of the Universe: $F=m \times a$.

Where a means a lineal acceleration and so m must be a cyclical acceleration. Indeed, there are no more types of accelerations and so Einstein (using, of course, more complex mathematics than Newton to refine his calculus, as mathematics had evolved a lot since Newton's time) postulated that masses would be vortices of space-times *since only a vortex is a cyclical, accelerated movement*.

CORRESPONDENCE PRINCIPLE: RELATIVITY AND QUANTUM PHYSICS

Particles as minds, waves as vital energy. The duality of particle-wave in other scales.

@-minds are the particle -cover of reality, the form of information, the membrane. We are the particle of the earth - its collective brain; the exoderm of a biological being becomes its membrain of sensorial information. And in a loose way gender is also related: reproductive, hyperbolic women's body are waves - the vital energy of the couple, IN BALANCE between its spatial and informative tendencies, complementary to the particle-potential duality of the informative & entropic man, which is out of balance maximizing both limits - the informative brain, the lineal body. So we talk of the wave as the present $S \approx T$ state and particles as the $\delta > 0$ states.

And this brings us the importance of quantum physics as the first observable layer from where to deduce time-space properties.

It is in that sense unfortunately that instead of the right realist pilot-wave theory which plugs in fully with 5D laws, we have interpreted in terms of probability. Of course, the 0-1 infinitesimal sphere in time is equivalent (measure theory) to the $1-\infty$ plane in populations, so the quantum model in the 0-1 temporal, probabilistic sphere is mathematically right but it is both, confusing conceptually, and cumbersome (as we put all equation through a cumbersome 'renormalization' process to get the 1-maximal probability for all data).

In any case despite all that difficulty we shall bring some 'properly explained' quantum laws without equation into other scales of reality, as we have done with the wave-particle duality and reserver only the 4th line for the cumbersome analysis in detail of all those bra-kets renormalization processes

and kaleidoscopic infinity of equations, in a extremely detailed and worked out science. It is then quantum physics so strange when we explain it 'normal'? Not really. And what it is strange it is rather revealing, properly understood of the laws of 5D and the 'virtual limits' of our perception of the Universe. The key of it all *is indeed the fact that there is a 'quantum' quantity, the h-planck minimal unit of angular momentum, intrinsic to particles, which is the minimal discrete unit of spatial, still electronic minds (not continuous, not differentiable).*

The best explanation of motion is one of reproduction of information, which requires a constant stop, reproduce your information in the next region of space-time, go... sliding and converting motion in yet another form of reproduction, which becomes then the fundamental 'nature' of reality - a fractal that reproduces information. And we shall return to that key insight.

In the graph, we show also 3 practical/theoretical proofs/explanations deduced of it - just a token of the ginormous number of 'solid' whys provided by Δst : .

- The complementarity wave-particle and our perception of quantum motions as a constant reproduction of the wave-form states.
- A fact that solves Achilles paradox, as motion has a finitesimal limit in the minimal quanta of size, of reproduction, the h-quanta of angular momentum, of both particles and waves. And so we can only measure 1/2 of the process smeared by the constant stop and go-reproduce, binary state of the particle as minimal 'bit of informative reproduction' and size.
 - But perhaps the most interesting consequence is the realist understanding of the uncertainty principle: we cannot *measure position and momentum, because momentum is 'motion' and it is wave momentum, and position is still particle. So as the system is EITHER particle or wave in motion, the exact measure of the form as particle, 'blurs' the momentum-eve measuring, which means in other terms that the minimal unit of reproduction of the wave (kh) is the angular momentum, $h/2\pi$, which is always an unlocalised unit of reproductive motion. We could also say that the process of reproduction is always between two adjacent h-steps ($h/2\pi$)...*

In the graph, we see the quantum duality, which surprisingly enough Physicists still don't understand as it has been the center of all its disquisitions for a century. As Born put it in its Nobel discourse: "This idea of complementarity is now regarded by most physicists as the key to the clear understanding of quantum processes. Can we call something with which the concepts of position (*space*) and motion (*time*) cannot be associated in the usual way, a thing, or a particle? And if not, what is the reality which our theory has been invented to describe?"

We shall deal specifically with the 'false weirdness' of quantum physics, more of a problem of the ego-trips of man, which cannot accept vital, organic, sentient beings in any other species, and prefer the 'abstract' view that only man has living properties in the articles on the 4th line; as all resolves when we accept the metric of 5D, which makes smaller systems, faster in time, more

informative, and hence, ultimately the particles that do reproduce when absorbing energy replicating more quarks and electrons, do gauge information and react to it, the 'site' of perception, whose 'quantum' of existence is indeed, an still, discrete 'angle of perception', an angular momentum called 'h'. And so all the weirdness comes to this: the particles 'react' to the slow bombing of experiments (which as Bell put it, IS the name we should give to 'abstract measure', as we 'experiment' with them, and they react 'collapsing' into tight formations to the brutal bombs we send to measure them, as schools of fish react to the shark. And so ALL the weirdness of quantum worlds, which physicists acknowledge COMES TO those 2 things is easily resolved in the organic Universe:

1. *We measure unlike in inert matter on our scale NOT the state of the particle 'before the measure' but its STATE after we try to measure and they react.*
2. Spins are 'still' angles of still informative perception, the minimal units, our electronic minds use to construct reality, as its particles - the ultimate pixels of our mind - align with the 'experiment' they *perceive as much as we perceive them.*

The after reaction of particles, the stop-particle-perception vs. go-wave-motion and the static spins is all the weirdness that there is to quantum physics; and they are just in Δst , 3 kaleidoscopic perspectives from the point of view of the @-mind of the particle, its spin; and its $S \approx Teps$ of motion, through its states in still space as informative particles and time as moving waves.

And with those insights we can also resolve the conundrums of relativity (constancy of c-speed, and its limit; why they define time as the 4th dimension of space, being the best known).

The reductionism of lineal time only motions and its limited formulae. Time as 4D.

YOU MUST REALLY even if you are a physicist or a groupie of its equations, understand clearly that $v=s/t$, their equation of TIME from where all other time concepts of physics spread IS ONLY lineal time motion, ONLY a type of change and TO REDUCE the 5 Dimensions of time=change=motion of reality to that single line of a cartesian graph IS plainly speaking the main reason we have NOT understood the first principles of reality; and so unless YOU accept to break that 'Jail of the Mind' REGARDLESS of the absolute detail physics has achieved studying locomotions in space you will never expand your understanding of reality as IT IS.

Indeed, take the case of relativity. Mr. Einstein, our absolute idol and genius, the 'seer of time', actually just completed the work on Galileo's formula of lineal time $v=s/t$, by adding on the verge of maximal speed within the galaxy (c-speed), a 'factor' to correct the 'warping' that 'drags'=slow downs particles trying to go as fast as waves.

So his formula for measure of lineal time motions and distances in space, instead of $v=s/t$ is $S^2=\Delta r^2-c^2 t^2$ and then of course the entire business of measuring distances in space with lineal time-motions with extreme detail get extremely complex for the sake of accuracy. But for a philosopher of all

sciences, searching for the ultimate meanings of time and space, which can be applied to all of them, as we humans do live in time, have time worldcycles, occupy a vital space and DESERVE to be explained, THIS was more of the same 'reductionism' of time as A MEASURE OF motions in Space (hence the quip that time is the fourth dimension of space - Not SO, only if you reduce all the time motions, changes of in-form-ation and dimensions of reality to the lineal graph of Maese Galileo, measuring with Kepler's clock the reach of cannonballs as a the master of ballistics of the venetian army.

Of course we WILL explain further all of physics, in growing detail as time goes by. But this must be clear again: you can either have dogmas, idols and believe, and then you have nothing to do in this blog, or you can 'think', be humble, understand as Aristotle, the highest mind of mankind put it 'that the only thing we know is that we know nothing' and then keep reading.

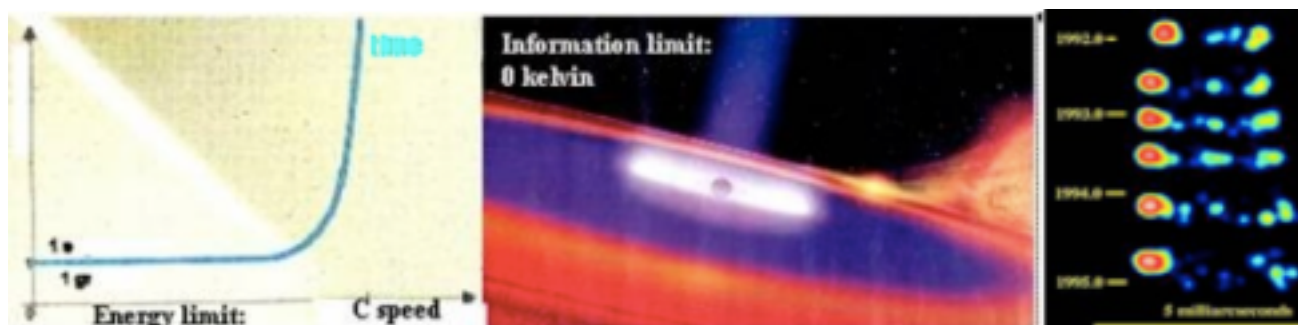
Further on we try to RESPECT as much as possible the correspondence principle. SO since physicists use only lineal time motion as a dimension of time, which they call the 4th dimension and then of course, when dealing with the future of time, use worldlines NOT worldcycles to describe life and death and ENTROPY=death (the next step of simplification of lineal time, now also expanding and breaking the being) as the supposed future of all realities, which they call the 'arrow of time', (but are at pains to understand what it means and how to related it to the 2Dimension of lineal motion), we shall call ENTROPY, scattering disordered death the 4TH DIMENSION of time. That's really the best I can do trying to respect our 'seers of time', which would do better going back to school.

Let us then for good 'measure' expand a bit or rather explain the 'limits' of an analysis of reality with only an abstract cartesian pen and paper continuous graph of light space-time as relativity does; and then give more interesting answers to quantum weirdness, from an organic pov.

Relativity of c-speed.

The first thing we have to understand is what it is really the 'abstract graph of pen and paper' Newton considered the background God draw Not Descartes, behind the equations of reality, he added on it. In the galaxy we live in, where we make ALL our measures, the vacuum space IS light space-time, a background radiation of LIGHT. So LIGHT is the 'abstract' graph but IT IS A LOCAL light space-time, because inside black holes there is darkness - light is not; and outside galaxies there is darkness, hardly any light crosses the halo of galaxies. So it is OBVIOUS that as you cannot in a very fast river stream run faster, the more so if you are a heavy particle; you cannot go faster than c-light in the galactic river. Moreover, as your mind IS ELECTRONIC, and we have clarify that WE STOP AS PARTICLES TO PERCEIVE information, when two electronic atoms MEASURE light, they have FIRST entangled in 'stillness', then sent each other a light beam but AS THEY ARE in a fractal Universe STOPPED in relationship to each other - THEY MEASURE ALWAYS C-LIGHT SPEED, they do NOT add THEIR slow macroscopic speed, as PERCEPTION HAPPENS in the quantum scale, in STILLNESS. Alas, THE CONUNDRUM OF c-speed constancy, and the limit of c-speed within galaxies IS solved. The rest of relativity consists IN calculating from the perspective of

the macro-system that SEEMS to be moving, the still c-speed of the microsystem of particles, communicating with each other in stillness.



All this said, as I know the reader, if any will be a man who 'idolises' the high popes of physics, our 'present seers' of time, and will like to know what all this has to do with his 'dogma-theory' (4D relativity and quantum physics); all what we say just widens and explains better the weirdness and limits of 4D relativity (which is just the study of 2 specific planes of the 5D scalar Universe, the light space-time plane in special relativity and the gravitational larger russian doll in general relativity).

And so we do 'revis(it)e' Relativity in the more specialised 4th line articles to show how it fits as a 'smaller theory' of a part of the whole scalar Universe, which goes beyond its limits of space-time (c-speed as the rod of measure of 'constant space', $T=0$ temperature of time-motion) beyond the galaxy (hyperluminal speeds=actions at distance in regions where there is NOT a background light space-time) and the black hole (an accelerated time vortex that should go beyond c-speed and 0 temperature past the event horizon). Those obvious, increasingly proved experimental facts that widen the limits of relativity beyond the galaxy, are poised to be accepted as faster than $z=c$ speed jets of matter coming out of black holes in galaxies become overwhelming (they already are, as the third picture above at $10c$ shows, but lacking the 5D formalism astrophysicists prefer to deny facts for lack of models and elaborate bizarre arguments to deny those faster than c-speeds).

All this said we must also stress that 5D² IS a theory that applies to all 'stiences' and scales, as each science merely studies a scale of size, and ALL of them are equally important. The time cycles of life or history are NOT less important than those of quantum particles. So the reader MUST understand that the primacy of physicists IS cultural, as the makers of weapons, the tools of power, and machines, the idols of our technological civilisation. But on pure theoretical, modelling basis, we shall NOT keep their idolised position as the 'seers of time', more important in its time=motion analysis that let us say, Darwin who study motion=change in the information of life, or Kondratieff, which study the cycles of evolution of machines in economics, or Spengler who studied the life and death of organic civilisations. If anything less important as we do NOT move=chance at light speed, and the 2Dimension of motion is for us far less important than the 0-1Dimension of 'genesis' and perceptive information.

3 errors to correct to understand the immortal Universe: entropy, big-bang and quantum uncertainty.

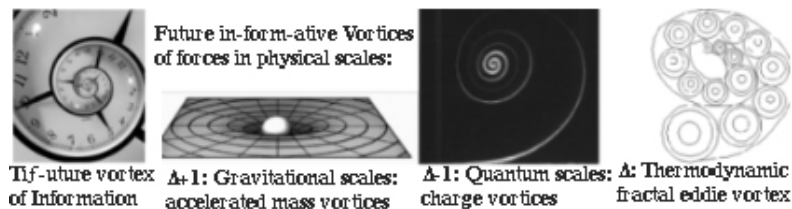
Let us then give a prime on the PHILOSOPHY OF REALITY ONCE WE UPGRADED IT TO THE Δ -st elements of reality.

ECD-method: $S \approx \Delta \delta$ view of atoms and galaxies and its Q, G forces.

The formalism of 5D-fractal Universes adds to **experimental facts, (E) and the Correspondence principle with classic science (C), the Disomorphic, organic method of extracting the whys of reality from the scalar properties of the 5th dimension (Δ) and the symmetries between formal space, space-time energy and time motion ($S \approx T$)**, cupped by the critical analysis of the @-mental distortions of inflationary languages as mirrors of the Universe. So we have a much deeper insight on the 'whys' of both, experimental facts and classic science modelling. It is then obvious that most corrections on classic science to match 'experimental fact' today often ignored to uphold the classic theories come from the understanding of the fractal structure of space and cyclical nature of time.

Let us consider the case of astrophysics: cyclical time defines the vortices of space-time of the 3 scales, or singularity-masses (gravitational scales), thermodynamic vortices (eddies) and charges (quantum vortices), which can be unified as attractive vortices (time view) or space curvatures of the 3 scales:

So why astrophysicists ONLY consider the expansive entropy of space between galaxies and do NOT put it together with the inverse arrow of informative creation of mass? IT IS NOT because of true science and the experimental method (put below for good measure in its principles: evidence, known cause, economy and no-falsification, which happens only when we take into account both vortices of relative future mass and expansive sheets of entropic space), but because of historic cultural reasons, often hidden as secret agendas of dogmatic religion or dogmatic science.



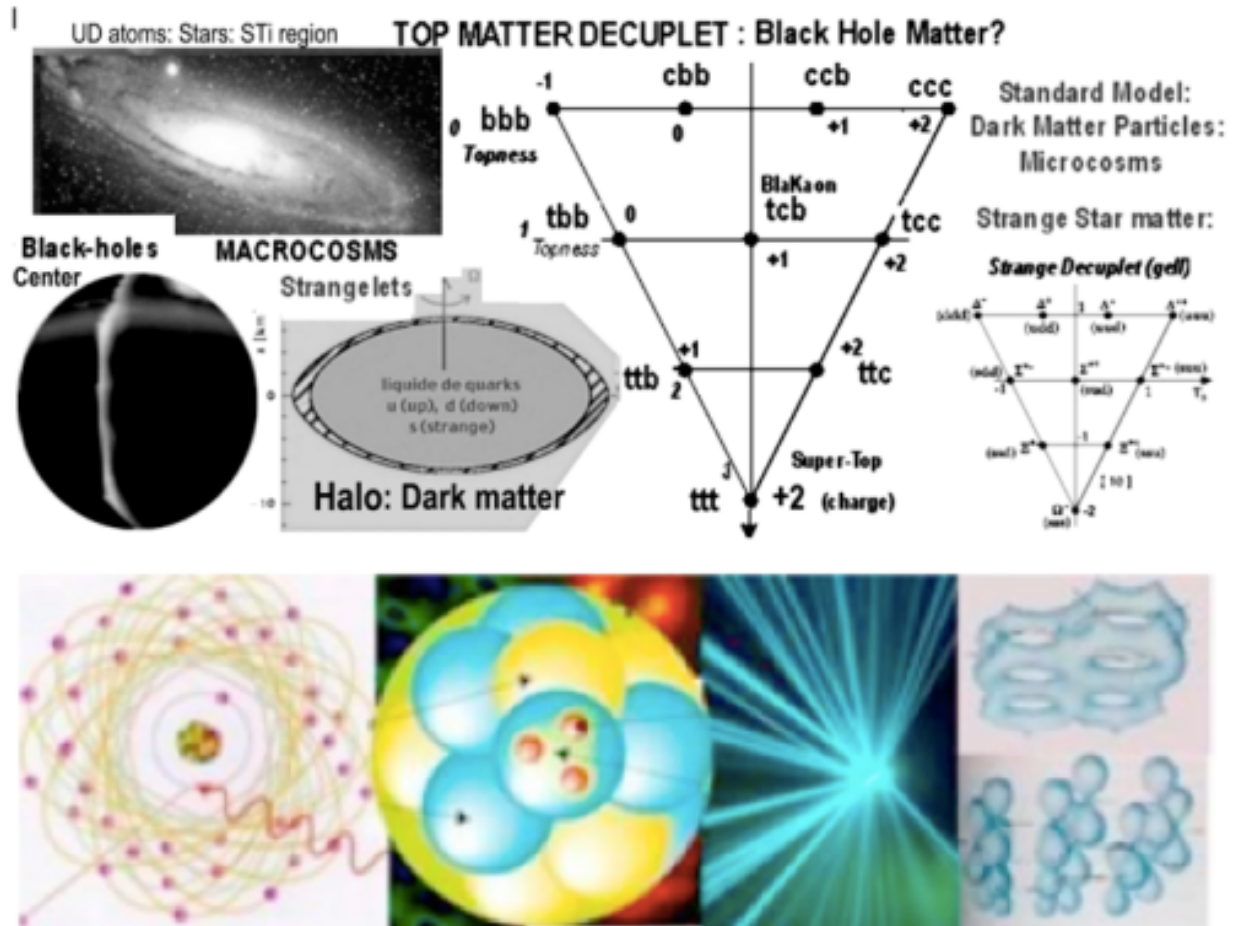
[As we show in the post on force unification](#), then q and g becomes: curvature (Space view) vortices (δ ime view) of two scales ($\Delta \pm i$ view) on the two upper and lower limits of @-mind perception; solving the hierarchy problem and ultimately *completely opening our experimental understanding of quantum worlds, as we can see it in reverse from within as macro-galaxies. Protons then appear as top quark positive frozen stars, aka black holes; electrons as strangelet negative halos, and in between the far less dense photons become stars.*

And so we can establish *2 fundamental Disomorphisms to study the whole as a series of kaleidoscopic mirrors:*

-The atom-galaxy, for quantitative, mathematical physics modelling.

The concept of course has been around for long. EFE (Einstein's field equations) applied to galaxies (Einstein-Walker formalism) is actually modelled to simplify calculus with galaxies as hydrogen atoms; Schrodinger's equation was used by Wheeler to find a quantum formalism for the Universe; string duality considers universes and quantum strings the same; astronomers model stars around central black holes as photons, etc. But without *a deep philosophical model of the fractal Universe provided in this blog, all those mathematical isomorphisms have been merely considered 'techniques' of calculus.* The reader thus should be aware the mathematical physics - albeit complex to the level of specialists, do exist and what we shall beyond the Unification equation in Newtonian terms, introduce here is the depth of philosophical analysis and the Disomorphic properties of atomic galaxies.

-The second isomorphism is that of the galaxy-cell (treated in cosmology) which shows the organic properties of astrophysical galaxies. This is to my knowledge completely new stuff, but rather obvious: DNA-black holes with gravitational forces, and protein, lineal strangelets, encase the vital space-time of electromagnetic and gravitational flows of energy between both, which structure the waves of the galaxy. And both control the mitochondria stars that become on the long term the energy food to reproduce more black holes and strange stars (pulsars). 20 years ago this seemed madness, but today everything comes together to the surprise of astronomers to validate the organic model of galactic growth:

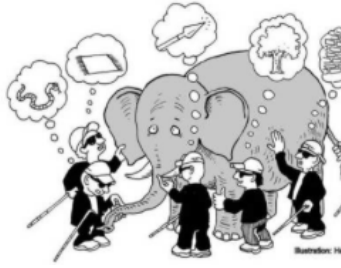


The galaxy atom is the 'solid' last scale above and below perceived from the Δ^0 humind, at $i=\pm 3$, the scale of perception of forces as pure motion or pure form in the limits of our 'being'.

As such the equivalence of both scales unified by a fractal simple equation rises many philosophical questions. From a point of view of astrophysical description it introduces two different perspectives over the same phenomenon: as we can see galaxies from a much larger scale, that of the human looking at the galaxy atom, and as outsiders, observing how electromagnetic energy between atoms is equivalent to dark entropy between galaxies, or we can adopt the smallish point of view as particles of a galactic star, a mere dust of space-time on the mythacondria of the gala cell. It is precisely in the description of physical systems from wildly knew perspectives what enriches the analysis of the galaxy atom in gst physics.

In the graph, an example of the power of the new formalism:

[We will be able to find using the metric of 5D the saint grail of physics, the unification equation of charges and masses](#), which are just future informative accelerated vortices of time in the quantum and gravitational scale (principle of equivalence between gravitational forces and acceleration by Einstein).



So mass attracts as a hurricane does in our thermodynamic scale, the faster the frequency of its cycles: $e=mc^2 + e=hf \rightarrow mc^2=hf \rightarrow m=f (h/c^2)$. So the mass of a vortex is proportional to the frequency of its accelerated cycles.

In the graph, we see how the dark entropy that expands space between galaxies, is balanced by the informative vortices of mass of galaxies that convert entropy into virtual particles and masses according to the two sides of Einstein's equation: $E < CC > M$, which he in fact *published not to express the creation of entropy from mass, but the transformation of entropy > energy > mass and only when our military civilisation used it in reverse to explode atomic bombs, became canonised as an entropic equation.*

**Organic Worldcycle of 5 motions=actions of space-time.
Mathematical and biological properties: The why of physics.**

'Using a term like nonlinear science is like referring to the bulk of zoology as the study of non-elephant animals'. Ulam

In the graph, a bunch of physicists studying 'non-linear elephants' (: physical super organisms tracing world cycles :), as a sum of isolated properties, all of them imagined with abstract, Hilbert's axiomatic method of categorical mathematics, far removed from the non-Euclidean, non-Aristotelian structure of the Fractal Universe.

In essence, physicists, reduce the 5 changes in time=motions that form a world cycle- represented here by 5 blind physicists, to one D, lineal motion and study the others unconnected - not as dimensions.

So physicists are unable to integrate them into a 'world cycle of existence of physical systems', which as we shall show in the equations of mathematical physics in nothing differs from the 5 organic motions of all other 'living systems'.

The fractal structure of the universe is clear, and proved by the three legs of the scientific method: experimental proofs, logic consistency, and mathematical accuracy.

You can adopt on watching reality an upper perspective from above, throughout the most comprehensive possible view, that of philosophy of science and then you will see the Universe is all about reproducing information.

You can look at it from below, through the perspective of physicists as a mere game of motions of very small unorganised, entropic particles and motion will become essential to you as a dazed and confused particle, yourself, immersed in the fractal superorganism of the universe, seeing things zooming



around you as they go on reproducing their informative code through complex worldcycles.

Since even motion is reproduction of form - the simplest of them, one in which the memorial tail of the reproduced parts lasts very short as they keep imprinting the lower scales of reality.

Before we felt so 'mechanically powerful', Asian cultures did understand much of it.

Of course, not all physicists are automatons of mechanical science. The highest minds of physics from Leibniz to Planck to Einstein did understand much better the Universe of spacetime; and the same goes with human cultures and religions - the eastern world without the anthropocentric ego trips of abrahamic religions plugged in directly with the concept of a Universe of motion and form, energy and information.

Had the much more profound taoist, hindi and buddhist philosophies of the Universe as a sentient game of visnu-yin-formation and shiva-yang-entropy that combine into brahma-qi-energy beings won the pre-scientific battle for philosophies of the Universe, we would have long ago, as Leibniz and Einstein, the predecessors of theories which consider time and space the 'substance of all beings', did, a pan psychic vital Universe.

We are though trapped by the 'creationist myths' hauling from abrahamic cults. And as this is not even recognised, hidden in the 'postulates without proof' of western thought, likely no amount of data, and epistemology of truth will suffice to the reader. So we shall first show you the difference in a graph, repeated ad nauseam in those texts - the graph of the three philosophies of reality human sponsors - two are ego-trips of human creationism in his thirst to become equal to god, the third one, is the only scientific theory of reality, and it is called 'organicism'. This blog will complete that theory updating eastern philosophies and relational space-time theories of science (Leibniz, Einstein) to the XXI c.

RECAP. To describe the complex organic analysis of reality, we start considering the 5 dimensions of space-time, its formal motions, and ternary combinations in any given 'present system':

$\Delta-1 > \Delta 0$: 0-1 Dimension of information: $\S @ \approx \delta f$. As an $\Delta-1$ seed of information or 'mind' (@) develops the program of evolution of super organisms, emerging through palingenetic time into a full 1 fractal point being, a cyclical/spherical particle-head, which will be the center of the existence of the species of space-time in its $\Delta+1$ relative world. Form thus, information precedes motion in the creative processes of the Universe. And we use two symbols, \S , a double S to signify its emergence from $\Delta-1$ to $\Delta 0$, and @, as the self-centred cyclical form in space as a seed of information, which will become δ , the old eth letter of english, which resembles a cyclical time symbol for the 'particle-head', which still keeps the finitesimal @ mind, within it.

Alternatively we use f for the frequency units of cyclical time, and so tf , tif in earlier texts represents the particle-head of temporal information.

2D \$t:Motion. Lineal spatial forms and temporal lineal motions, which are in fact waves of communication of cyclical points-particles that carry the energy and information of the Universe, starting the growth of social networks. And hence we consider that a line made of points with volumes is a 2Dimensional manifold.

The point thus once born, will start to communicate emitting 'flows of informative motion' or move himself acquiring 'momentum'.

3D: ΣΠ: Re-product-ive Energy. We use here two operation symbols which also resemble a double S and a double T, to signify the reproductive nature of the iterative body-waves of any system which combines information: 'motions with form', 'form with motions', *momentum, energy*, transforming entropy and information into each other ad eternal: $spe \times Tif = \text{Constant energy}$.

(In earlier formalisms, we used ST in caps for the 3rd dimension as reproduction is the ultimate 'capital meaning' of space-time reality).

And since indeed, momentum and energy, As this 'space-time' energetic combinations *what they Universe conserves and cares for, we deduce again that reproduction is the name of the game*, which is more obvious in biological systems, as physicists have yet to define motion as reproduction of information (though relativistic theories do start to talk of c-speed as the limit of reproduction of information of the Universe).

4D: Δ-i; S∂: Entropy. The arrow of entropy without 'patterns of form', disordered motion, which we call indeed, $S = \text{entropy}$, using its mathematical symbol S and the term for a time derivative, ∂ , as it is the operation to find the 'finitesimal' quanta of any system at its Δ^{-1} scale, *as the fundamental property of entropy is the multiplication of micro- parts, after the dissolution of the whole form.*

5D: Δ+i; ∫T: The world. The fifth dimension then which is the dimension of all dimensions, of the whole and all the wholes and planes of existence of the Universe or what we perceive of it - the world.

As a whole system is 'operated' through integration in space, we use the symbol \int and finally as the 5th dimension is inverse to the 4th dimension of entropy and it is the dominant 'bigger' reality even beyond our perception of its limits, the fundamental element that truly defines the whole planes of reality, we use a major T to signify that ultimately the *Universe is about time motions.*

ALL: ST, st, While out of laziness and following the correspondence Principle we shall use the standard ST, st, symbols for space and time, in any of the dimensions, AND FOR ALL OF THEM.

Since all are enclosed between S-entropy $\approx\Delta-1$ and T: social evolution $\approx\Delta+i$. So ST means all.

Do NOT though become angry about the lack of coherence sometimes with those symbols in old graphs and texts. I make them explicit here, despite having not followed strictly the naming for decades *for there will be a time in the future, where this 'stience' will become standard philosophy of stience for huminds or AI and so when rigurous scholars come in, the symbolism must be fixed. And those are the proper symbols after much thought and variations about them.*

In any case only understanding in depth those 0 to 5 + 0 to 5 ST dimensions of space and time, we will make sense of ALL the properties of reality.

So we must restart our understanding from reality without eliminating information about the multiple spatial, dimensional forms and moving time clocks, its different speeds, and the way they transform motion in space (accelerating, decelerating, changing trajectory), and form in time (evolving, devolving, expanding, imploding, reproducing it).

And the first question we have to answer is WHY THERE IS ONLY two things we observe, motions in time and forms in space, and what is the relationship between both. This was in fact the first question of modern science, answered by Galilean 'relativity' (latter made more accurate by Einstein's relativity, which contrary to belief was not a huge change in paradigm, but the final perfection of our capacity to measure motion regardless on how we perceive a system, moving or not moving). But why we see the earth still, when it is in motion (e pur si muove).

This was Galileo's finding, and science did not answer it properly. We shall and by doing so we shall double the dimensions of the Universe and re-start the understanding of it with the dual 'dimensions' of motion and form in each entity we perceive.

$\Delta\pm I$: MATH

NON- \mathcal{A} MATHEMATICS, EXISTENTIAL ALGEBRA & \mathcal{D} ISOMORPHIC LAWS.

Mathematics in its creative nature as mirror of fractal points.

In that sense maths will be considered the most extensive, efficient language of SPACE-TIME, which better expresses the Disomorphisms (dimensional equal forms and functions) of all Times *once we evolve its limited view of euclidean points with no breath, no information, no dimensional form, to make it a more complex better mirror of the 0-1 dimension of non-Euclidean fractal points with ∞ parallels of information crossing them, and the more complex non-aristotelian causality of multiple time arrows.*

So let us 'redefine' the axioms, notions and postulates of Euclidean geometry completing the r=evolution started by Lobachevski's redefinition of the fifth postulate, by defining 5 postulates in correspondence to the five dimensions of space-time, which will be the basis of a new expansion of mathematical and logic languages, mirrors of the ST-reality.

I. $\neg\mathcal{A}\approx i$ -LOGIC GEOMETRY.

Its two branches spatial non-e topology and non-a algebra.

The foundations of mathematics as an experimental science, which was clearly proved by Godel and Lobachevsky and sponsored by Einstein, and its grammatical structure as a ternary form that mirrors the laws of GST and its Generator of Space-Time beings IS the key new science in which all other GST scales rest, as logic time and mathematical topological space are the best mirrors of the ultimate substances there are, in most 'minds' of the Universe. Indeed, it all seems to indicate that the 'founding scale of reality', the $\Delta\pm 3$ galaxy atom and its 'mind-singularity', is primarily a mathematical, logic structure and so the mathematical, logic languages seem to give us the maximal information on the Universe of timespace.

This said maths are NOT the substance of the Universe, but rather the substance of the best mind-mirrors of space-time put on the Universe, a subtle but key difference that only the best 'realist' thinkers from Aristotle through Leibniz to Einstein fully grasped. As we do NOT see numbers and points in the substances of reality but vital particles, quarks and electrons that reproduce, evolve socially, gauge geometrically information and feed on force energies. So our admiration for the mathematical mirror won't change our dictum that *time and space are the substances of reality.*

How scientists, notably physicists, ignored all these 'evident' truths is as usual a problem of ego, which made humans think that 'only God and man spoke mathematics', and even that 'humans create/imagine mathematics' and so they were the 'chosen species' (axiomatic method), and many other 'mind-

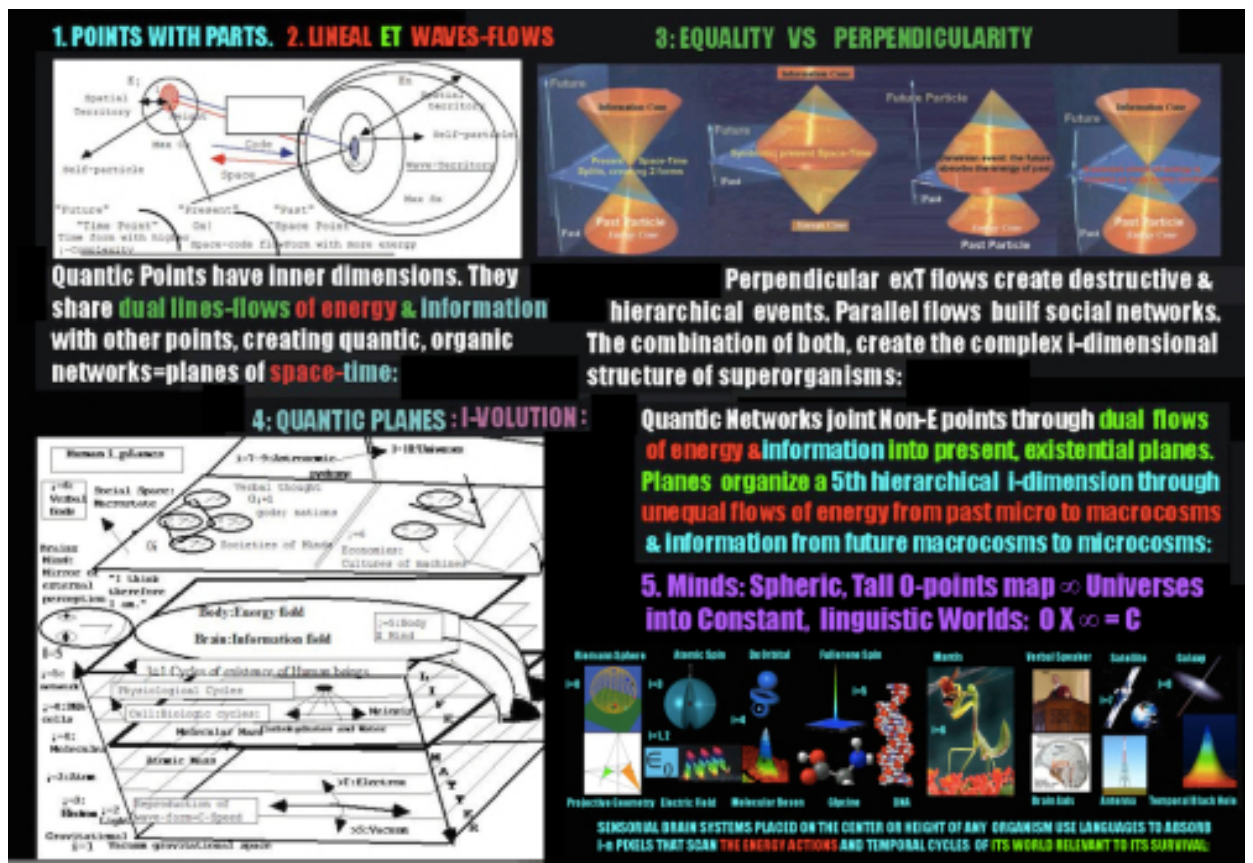
biased', human anthropomorphic perspectives which culminated in the dismissal in the XIX c. of the *fundamental elements of logic mathematics, the point of simultaneous space and the number of sequential time.*

Instead humans decided in a curious paradoxical inverse fashion to that of Physics that the *elements origin of mathematics were NOT experimental space-points and time-sequence numbers - the minimal units of reality - but the 'modern', more complex categories (sets, groups and its combination in category theory) of reality. Why is that?*

Essentially because the mind is synoptic, a mapping of reality as a whole. And so because egotist humans thought their mind 'imagined points, congruence and planes' (Hilbert), they 'created the philosophical foundations of mathematics' from the roof of the mind down, as 'God would had it'. But when studying physical systems, despite Bohr's attempts to 'invent particles and waves', the madness of egotist humans stop in the experimental fact that 'atoms' do exist!

So they accepted the inverse analytic concept that the smallest parts are the origin of the whole. Thus alas, we have physicists' idealism, who think all is created from the bottom down, vs. the mathematical idealism of all coming from the whole 'category, set, group' structure. All of it, without even acknowledging the cultural influence of German idealism, the true origin of the cantor's 'set paradise', Hilbert's axiomatic method, Bohr's interpretation of the observer creating the 'moon', nazism, communism and the Berlin olympic games, II world war and the holocaust among other things. All of them guided by the idealist notions that tried to 'encase' the living, organic reality in abstract 'mind's categories', where anything goes.

Yes, I feel sanguine today, fed up of the egotist theory of reality... Instead we are going back to the basics. The point is the fundamental unit of reality in space, and as it evolves sequentially in time, and grows in 'scales of size', it becomes the number, the fundamental unit of time. And those are the foundations of experimental mathematics - merely that we need to upgrade them according to our discoveries on the cyclical nature of time and the fractal nature of space, defining 'points with breath', and 'social numbers' to fully understand them:



In the graph a resume of the 5 postulates of i-logic geometry. (NT. at this work covers 30 years of independent research, with the jargon in flux, and graphs are difficult to correct, the now settled 'jargon' adscribes in correspondence to its dimensions, the first postulate to the point as a one dimensional external object, the second postulate to the wave with 2-manifold dimensions AND the third postulate to the plane with 3 physiological networks - but I used in earlier depositions the '4th' digital naming for planes, hence in the graph 4 is given to the plane. It is though FAR MORE CLEAR, to give 1 to the 1D point, 2 to the 2D-wave, 3 to the 3 network plane, and keep 4 for the postulate of congruence, the MOST IMPORTANT I-LOGIC POSTULATE THAT DEFINES GEOMETRICALLY THE RULES OF ENGAGEMENT OF PARALLEL SOCIAL MINDS AND PERPENDICULAR ENTROPIC states; finally the fifth is given by correspondence to the 5th axiom/postulate parallels, casted with new insights thanks to our new understanding of vital geometry.

Amazingly enough we can study the 3 'formal languages' of the Universe together, departing from the classic Postulates and Axioms of Euclidean Geometry, which started also the adventure of Formal Knowledge with the Greeks. We shall though adapt those points to the fractal structure of reality that grows, as we come closer to a system and acquire more 'form', more information about it.

So we shall rewrite a reformed 5 set of Geometric Postulates to adapt it to the Nature of scalar space-time, where 'points have parts', lines are waves that

communicate energy and information, planes are organic networks, and the similarity of systems define their behavior.

In graph, the 5 postulates of Non-Euclidean geometry define a point with parts, a line as a wave and a plane as an organic network of points:

The 2nd postulate explains the interaction between two points connected by a wave of communication or 'line'; the 3rd postulate explains the type of interactions between 2 points according to their relative equality, which will bring them together into a social network or dissimilarity, which will make them not interact or enter into a Darwinian relationship in which a point absorbs the energy of the other.

Self-similarity is required to start an organic process of eusocial evolution; or else systems that do not understand their information use each other as energy, in Darwinian hunting processes or ignore their paths.

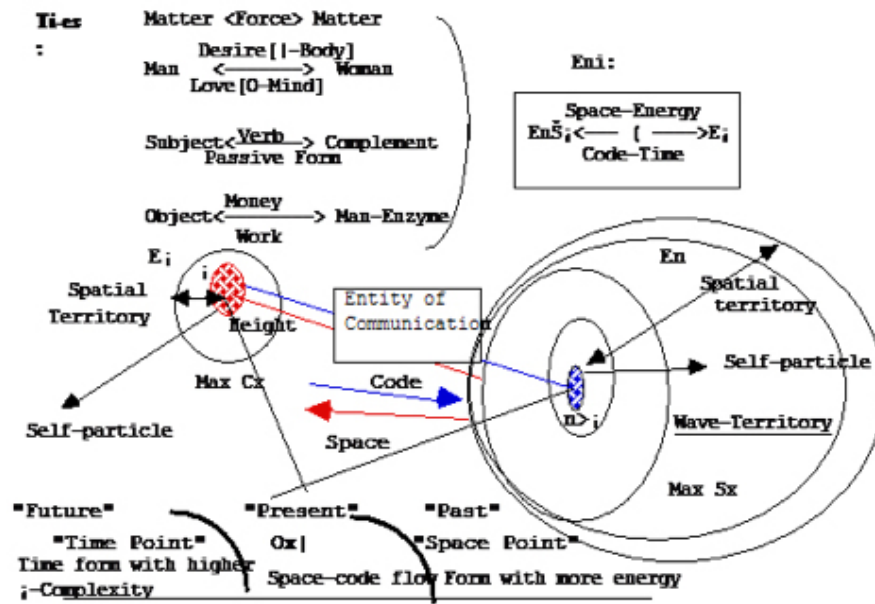
The 4th postulate defines the creation of networks made of systems of points across multiple scales of space-time. It defines spaces as networks of points, interconnected by flows of energy and information: All in the Universe are thus complementary systems made of networks of non-Euclidean points. Finally the 5th postulate that explains the processes of absorption of waves of energy and information that the point gauges to act-react with the Universe.

It is then the social evolution of points into numbers and structures - groups, sets and categories (not the bottom but the top element of the evolution of points and numbers), what mimics the creation processes of Nature, where identical beings, points of 'one dimension' (as seen externally, but with three internal dimensions), evolve socially first into lines-waves (2D, as waves have volume, thickness, made of points with volume), then into topological networks (planes), and finally recreate a larger 'fractal point on the $\Delta+1$ scale'. So the postulates of vital mathematics explain in a synoptic mental way how points evolve socially through scales of dimensions, to become first waves, then planes and social numbers which create a final Non-E 'fifth postulate' of a larger whole point through which infinite parallel flows of energy and information can cross:

-0-1st postulate: 'A relative fractal point is a topology with breath & motion that grows in size as we come closer to it'.

The first postulate thus define the $\Delta-1$ seed of information as it emerges into a fractal organic 1-point, 1Dimensional quanta of reality, which will move

-1-2nd postulate. Yet if a point has form and motion so does a line of spherical points. Thus: 'A line is a wave of energy and information that communicates 2



bigger points'.

In the graph, 'fractal points' communicate through 2D waves of motion with form, whose energetic bonding, creates larger social groups starting the geometric game of growing singularity minds/centered territories, webbing social complex knots of timespace actions.

This first duality, is also the origin of a concept that will come up in all scales: gender symmetry, AS ONE OF THE two elements will have more developed its 'wave-body' (reproductive 'female gender') and the other its particle-head (male system), but ONLY together form a complementary wave-particle system, able to survive, beyond the pest of 'political correctness' (:

So the 'male proton' and the 'female electron' will form an atom; the wave-particle will form a quantum system, the sterile man, with its lineal -motion body and the woman that reproduces it, with its curved hyperbolic form, a biological couple and so on. The asymmetric complementarity of $|x \text{ O} = \emptyset$, becomes then a basic mode of creation; which differentiates 'dual systems' from n-systems, where the fractal points tend to be undistinguishable forming large herds, grouped along the 3 topologies (energetic body-waves, informative particle-heads, moving limbs-potentials that ensemble superorganisms made of smaller (in)finitesimal Δ -1 parts.

Such 'i-waves' evolve into 3 social networks that are:

-3rd postulate: 'A plane of existence is a network of i-points sharing energy & information through i-waves.'

'A superorganism is a system made of 3 networks=planes of existence'.

Yet besides 3 'geometric postulates', Non-E geometry has 2 i-logic, causal Postulates that define the 'Will of all 10Di superorganisms':

-4th *Postulate* that defines *the rules of engagement* between Wholes with 3 parts, no longer externally but internally *according to the similarity of its Dimensions*. I.e.: O-points-minds that perceive each other as equal across its informative time Dis communicate and evolve together into Wholes.

Systems who have different informative Ds and cannot communicate, but have equal n-1 scalar dimensions enter in Darwinian prey-predator relationships by sharing the same space in which the predator tears the topology of the prey, provoking toroid flows that dissolve its i-scale, absorbing it as n-1 energy, etc.

Further on, membranes enclose points' parts. So external camouflage confuses preys that engage as equals with predators, becoming an essential strategy of o-points in search of STe-Feeding. Thus the 3rd Postulate reduces all possible behaviors among species according to their dimensional similarities.

-5th *postulate*: An @-Mind is a Non-E point crossed through eyes & mouths by ∞ parallels of energy & information'

The mind is the point that connects with all the other parts of the territory it moves. As such is truly an aristotelian god of its territory of order. But topologically speaking the mind's view of reality is quite inverse to the hyperbolic infinite reality.

Monads display an elliptic point of view in their perception of the Universe - its best mathematical mind-description being the elliptic geometry of the riemannian sphere, where the axis points are those through which the monad mostly transits. As such the monad is a network, π , connected to all other points, with no parallels, as the hierarchical, absolutely subjective 'aristotelian point of view', unmoved God of its elliptic perception of a hyperbolic, mostly Universe.

The elliptical being though ignores all other hyperbolic points of view, resting its confidence in its capacity to distort reality and get away with murder, hidden in the shielded geometry of its relative world.

Thus 10Di-logic mathematics m

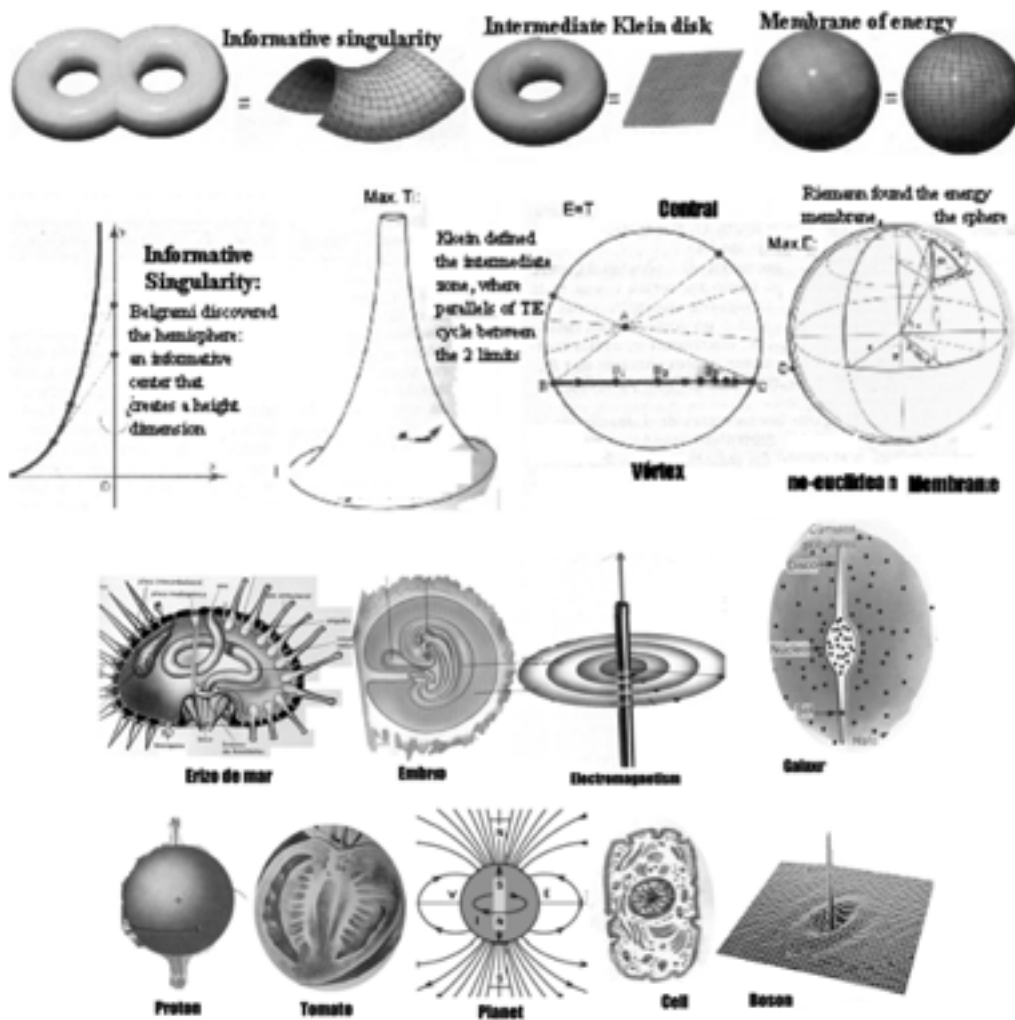
Escaping then the obvious fact that yes, the homunculus is also an organism, this we agree with classic scientists, we shall just finally show that maths are NOT abstract, but also vital, when we substitute the present abstract definition of its unit which is NOT the set but the spatial point=temporal number with from as a fractal Non-Euclidean point. So we shall also vitalize math, adding organic properties to its numbers and 'points', since 'numbers are forms' (Plato), showing you how they are organic, from prime numbers, the 'perfect' $\Delta\pm I$ polytopes to functions of 4D entropic decay (e-xponentials) to $S\approx T$ algebraic symmetries through $S<T$ of Δ analysis... in the section on maths (work in progress).

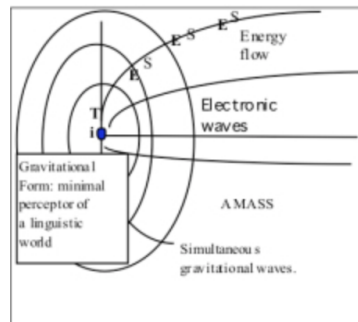
The fractal Non-euclidean point: new unit of geometry.

'Each point is a world in itself'. Leibniz

The formalization of such super organisms with the mirror languages of the mind is best performed with non-euclidean geometry in mathematical languages and with biological verbal theories of time in logic languages. So we define a fractal point with 3 parts, the angular momentum or membrane, the singularity-brain with its lineal momentum and the vital energy between them, as the 3 components 'conserved' in each fractal organism of the Universe (and the Universe as a whole, as per the 3 quantities conserved in physics)

It does not matter what kind of point we talk about, atoms in physical systems, cells in biological systems, citizens in human systems - the result is THE FUNDAMENTAL PARTICLE OF THE UNIVERSE, A TERNARY SUPERORGANISM THAT PERFORMS THE THREE FUNCTIONS, FOR ITS ATOMS/CELLS/CITIZENS, THE 'FRACTAL POINTS' (GEOMETRIC UNIT) of each scale of the Universe:





To notice a key consequence of the existence of a 4th, Δ -1: entropic dimension of parts, integrated in 5D Δ +1 worlds/wholes: the existence of MINIMAL quanta of space and time, in a discontinuous fractal Universe, for all its systems, which is the essential parameter to fully understand both reality, made of minimal 'time frequencies' and 'spatial quanta, h for atomic systems, cells in life, human individuals in societies'.

In terms of analysis this means Leibniz, once more was right, as he defined a finitesimal of a whole 'n' as $1/n$, which is actually the real quantity in many 'analytical' mind-mirrors of mathematics - and carries to the praxis of Analysis, where the 'differential' - the real quanta - is far more useful than the abstract 'infinitesimal'. And it will BE the practical explanation of our r=evolution on geometry, completing the 5 Postulates of Non-euclidean geometry (the new mathematics applied by Einstein to relativity, which however have ONLY defined a 5th non-euclidean postulate of points crossed by multiple parallels).

A quanta is then defined as non-euclidean point, with volume of information and energy when we come closer to it. So it can fit indeed multiple straight parallels, NOT bended ones, (which are no longer parallels \approx straight lines), as POINTS HAVE BREATH (New first axiom of non-euclidean geometry that evolves the euclidean definition of points with no breath). So those concepts, a 'fractal point' that fits multiple straight parallels when we see it in detail and enlarge the fractal Universe (as opposed to Euclidean abstract points or the present physical description of relativity, that tries to fit curving them those points because it does NOT enrage our view of it) and its immediate consequence: the wave-like nature of flows of communications between points that build networks of social points, which become TOPOLOGICAL ternary elements for the construction of the $\Delta^{\circ} 3$ 'simultaneous present' dimensions, lineal limbs/potentials < hyperbolic bodywaves>spherical particle heads, *become a realist straight-forward but also formal key element to vitalise and give realism to all the mathematical description of TIMESPACE organisms, the FUNDAMENTAL PARTICLE OF THE UNIVERSE.*

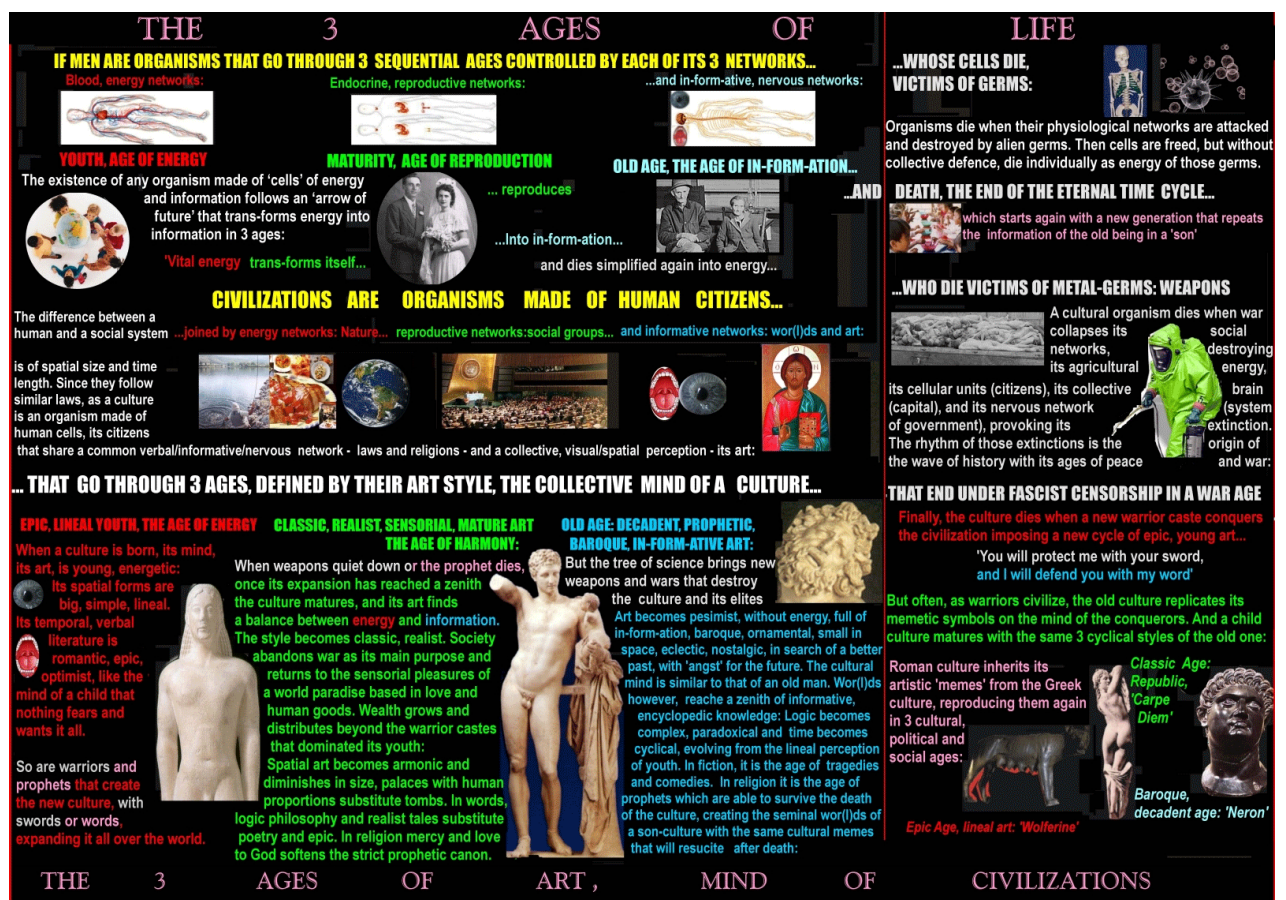
It is indeed an interconnected Universe of constant transformations between those dimensions both as space=form and time=motion.

Δ^0+1 : HISTORIC ORGANISMS

Enough of astrophysics. As we know the Homunculus is not going to accept any other organism but himself, alas! as it turns out 'himself' is in SOCIAL SCIENCES, not the protagonist of History, BECAUSE the homunculus is only a cell of a larger social organism, the nation, religion, civilization or super organism of mankind in time, History, which IS RULED not by individuals, identical exchangeable 'fermion particles: males and boson waves: females' - meaning if you had not Hitler, Goering would have taken his place... but by the PHYSIOLOGICAL NETWORKS OF Entropic territories (Geography of nations, raw materials), reproductive goods (economic systems) and informative nervous systems (cultures and laws).

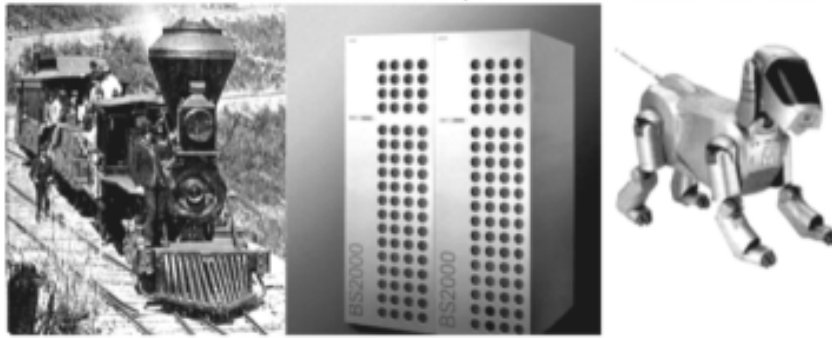
The intermediate social organisms.

In the next graph we model human biological and social organisms with the same ternary networks and worldcycles of existence:



WE SEE HOW 'human civilisations' can be modeled as super organisms, joined by economic=reproductive and cultural=informative networks, whose 'informative seed, the prophet of a religion, the legal code of a constitution. Then they will grow as the memetic DNA of all believers, and will structure the informative, nervous system of societies that can model societies as super organisms, with three physiological networks, the 'blood-economic system' with its 'hormonal-financial orders' of information that start the actions of the workers, reproducers of the goods of the system and an 'informative-nervous system', the cultural-political-legal system that SHOULD be on top since only primitive worm-like organisms, or 'capitalist societies' allowed the free reproduction of toxic goods (weapons that kill our bodies and hate media that kill our minds). And finally a 'digestive, entropic system' ab=used by the organism, feeding on life or Gaia, but in a sustainable way so the historic organisms can survive.

XIX C. MACHINE BODIES XX C. MACHINE HEADS: Pcs, Cams XXI C. ORGANIC MACHINES—ROBOTS



WHAT ARE MACHINES?: METALIFE

Machines are metal-organs of energy and information that evolve and reproduce through company-mothers. As such we have evolved machines in 4 stages, creating first its bodies, then its engines, next its heads, and now we put them together into organic,

And of course, we can model machines as evolving organisms of metal, which humans have ensemble in 3 ages. So, we put them together as viruses are ensm=enssembled in a cell, after making in three stages the three parts of any organism, the entropic limb/fields, the reproductive body-waves and the informative particle-heads; in the case of machines, by imitating the similar human organs, limbs, bodies and heads. And we can model company-mothers as 'super organisms' akin to ant-hills, with monetary/pheromonal orders, which not only re=produce machines but 'adapt the human ecosystem, to its image and likeness' establishing the networks of energy, information and entropic-motion (electric, internet, road systems) for them to roam.

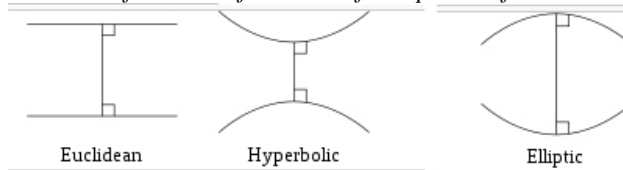
The Universe is all about the way in which those dimensions of form and motion are ordered in simultaneous space-time organisms and how they change through the world cycle of life and death of a being.

V. Conclusion

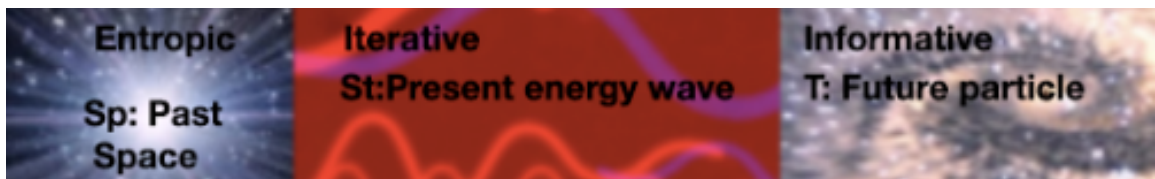
RECLASSIFYING THE DIMENSIONS OF THE UNIVERSE.

LET us do a recap of the five dimensions of the Universe: we have 5 Dimensions in the Universe, and all what we need to do is to play with them to see *how they construct all systems of nature as spacetime organisms, including human beings, and how those systems move sequentially in time through the 5 dimensions between birth and extinction, to make sense of everything that 'exists'.*

Next comes the specific analysis of those 3 space dimensions now doubled as motions in time, which will therefore per=form functions according to their forms, giving birth to the simplest possible analysis of the dimensions of the Universe ACCORDING TO ITS geometric/topological form and function a for any number of 'real dimensions' the varieties of *topological space*, are always 3, which ensemble *the forms and functions of all species of the Universe:*

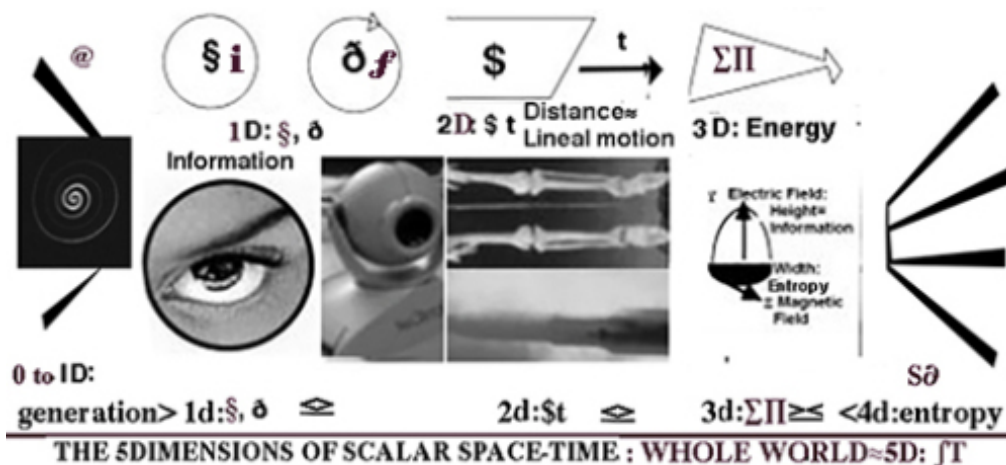


We have doubled the 3 dimensions of space, as they are defined by its symmetry in time, creating a present of 3 forms, limbs/potentials of lineal motion, energy-momentum and angular steady cyclical motion, the *3 conserved quantities of the present Universe in a single plane of space-time, sandwiched between the absolute past of its scattering dissolution into its $\Delta-1$ parts and the social evolution into a larger linguistic whole world $\Delta+1$:*



In the graph the present can be further subdivided in the 3 elements of the conserved being:

1D- l-Motion and distance; 2D, angular momentum, the second dimension, which merely requires an $3l > \pi$ trans-formation by which lineal momentum becomes cyclical momentum (in the simplest physical entities) and its combination of angular and lineal motion into \emptyset =momentum the third Dimension and the third 'conserved' principles of physics, as the universe conserves its 3 Dimensions of present., it just breaks them and re-ensemles when the world cycle ends in entropy and reconstructs itself through o-seeds of information:



So the 0-1 Dimension of emergence with its accelerated topological evolution and its inverse fourth dimension of an entropic expansion and a decelerated motion *are required to maintain the creative/destructive processes of r=evolution and d=evolution that diversify existence.*

It is then important to extend reality further beyond the human plane of individual existence, sandwiched by its world cycle between its 0-1-2-3-4 Dimension, to include also the 5th world dimension.

It follows then that the 'first' dimension of reality, a seed of information that 'emerges' from a lower $\Delta-1$ scale into the 'present reality' of a single plane of existence, is **the 'fractal point with volume', the particle-head-roots** of those super organisms; which indeed is the biggest form at birth of any species, the densest form of information.

It then appears a '**second lineal-cylindrical dimension**', seen as 'motion=time' in a mere particle moving through space or as 'a **spatial limb/potential/trunk' dimension** system.

And then between them it appears a **3rd dimension** of complex body-waves with its networks either in **time motion** (most physical systems) **or in form** (reproductive bodies)

Informative cyclical height, moving, lineal length, and wide, hyperbolic combinations of them, which are the 3 topological forms of the 3 dimensions are then the main components to create Time-space beings.

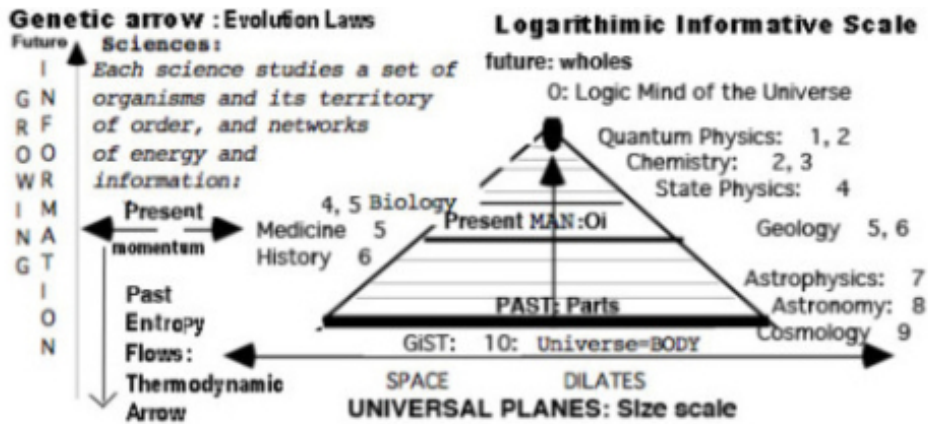
Informative spheres in the dimension of height=perception, as *the sphere is the geometry which stores maximal form in lesser space*, lineal limbs and potentials that move the system in the length dimensions of 'minimal distance between two points, and wide regions to store energy and reproduce the cellular parts of the system, define then the essential $T.\alpha$ in a single plane of space-time..

The 3 dimensions of space-form are thus parallel to the 3 functions of time-motions.

Further on the 3 present dimensions are equivalent to the conservation processes of lineal momentum (1D), 2D-angular momentum - the second parameter perceiving the point through its cyclical external membrane in motion, and its product, the 3D parameter of reproductive strength or momentum, integrated in the equivalent world cycle third parameter of energy. Whereas we give an Active magnitude 2D value for the in-form-ation of the being and a speed 1Dt parameter to find a vectorial momentum or 3D number, giving us the equations of reproduction for the third dimension.

Thus the fundamental findings of ΔSt , which completes the goals of Steane (to describe a Universe with 2 arrows of time, energy and information, which turn out to be $3\pm i$) and Einstein (to complete the work of Leibniz in relational space-time) are:

1. In a single plane of reality we find that the 2 arrows of time, lineal motion and form turn out to be 3 arrows, as Lineal Motion (inertia) and cyclical form (information) are the two elements of reality that combine to give birth to its infinite energy beings; and those are the 3 parameters conserved in Nature.
2. Leibniz's models of a fractal Universe, in which each point is indeed a Non-Euclidean fractal point that grows in size when we come closer to it, allowing 'multiple parallels to cross in, add two further up and down arrows of parts and wholes and a new metric equation, which in its simplest mode reads: $Sx T = K$.
3. And so we define a fractal, scalar Universe, whose 5th dimension of planes of relative size in space and different time clocks, completes the models of Relativity and relational space-time of Mr. Einstein and Mr. Leibniz... completing the r=evolution of Non-Euclidean geometry and non-Aristotelian logic that will allow to formalize and improve our understanding of all sciences:



GST.ε: 5D scales & its metric: Past-entropic space x Time frequency form=Present Momentum
 Below the 3±1 arrows of time-space between Δ-1 informative birth, back to Δ-1 in entropic death
 Both define the new paradigm of a complex universe made of ∞ π time space fractal organic beings



In the graph, a resume of T.ε, where each 'science' of space-time organisms studies species of a given 'plane of relative size in space' and 'speed of time clocks' of the Universe, from the smallest quantum physics to the largest astronomical scales, defining two 'new arrows of time', the fourth arrow of entropy, or dissolution of wholes into parts, and the fifth dimension of social evolution, of those parts into wholes. Below the 3 arrows of time, conserved in each plane, motion (lineal inertia), information (angular momentum, or cyclical form that carries information in the form and frequency of those cycles) and its combinations of momentum, integrated into energy. As such we do study 5 dimensions of space-time, 3 in a single plane, and two arrows up and down those scales, which will suffice to explain all what exists, its super organisms, species and world cycles of existence, as all systems are born as a seminal seed in an Δ-1 smaller scale with faster time cycles, and emerge as a whole individual in a larger Δ+1 world or ecosystem, returning back through the arrow of entropy and death, to the seminal scale where it was born. So we can consider by the Correspondence principle, modern sciences a 'ceteris paribus analysis' of those scales in a single plane.