

“Simplicity is Genius”

Leonardo; On the Logic of the Universe

“Every point is a world in itself”

Leibniz; On its fundamental particle, a fractal point

“S=T”

L§; On its function of present Exi=stjence,

SUMMARY: 5D UNIVERSE. THE CONSERVATION OF TIME

PART I. T.Æ: 5D TIMESPAC SUPÆRGANISMS: $\neg\Delta@st$

5D metric functions. $S_i=Te$, Max. $SxT=\Delta\pm j$

Newton v. Leibniz: from absolute to generational, fractal spacetime.

Vital Ternary Topology. The 3 conserved parts of all timespace organisms.

Cyclical temporal energy. Its worldcycles of existence.

S-form=T-motion. Absolute relativity: Correspondence with 4D Einstein and Galileo relativity.

A more complex view of 5D metrics. Scales of physical systems, networks, social organisms.

Mind Sciences: Linguistic mirrors. Type of logic minds.

Philosophy of science. The nested Universe.

Translating equations and concepts of mathematical physics into 5D ΔST objective dimotions.

PART II. 5D STIENTIFIC SCALES

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Its five postulates and algebraic operands. Calculus of Dimotions.

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Galatom; its 5D metric. Unification of charges and masses.

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II. Biology

From atom to man: the scalar evolution of life.

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III. Social sciences: $\Delta<\pm 2$: History, Mankind's Supærganism v. the Eco(nomic)system

Humans as space-time beings. Topologic evolution: Anthropology.

History. The 3 ages of mankind. Its social supærganisms: religions, civilizations and nations.

Medicine, Physiology, Politics and Economics: design of the physiological networks of mankind in $\Delta\pm j$ scales

Industrial R=evolution The Eco(nomic)system: Company-mothers of machines. Social sciences.

$\Delta\pm\infty$: Appendix: I-logic Existential $\neg\Æ$ lgebra

PART I. 5D SPACE-TIME SUPÆRGANISMS.

"A human being is part of the whole, called by us 'Universe'; a part limited in time and spatial information. He experiences himself, his thoughts and feelings as something separated from the rest -- a kind of optical delusion of his consciousness." *Einstein*, on the entangled forest man cannot see - and its 5 elements, 'space', 'time', 'scales' of parts and wholes, 'entropic limits', and 'languages of the mind'

5th dimension metric and the nested super organisms of the Universe.

When we google the 5th dimension one gets surprised by the quantity of speculative answers to a question, which is no longer pseudo-science, but has been for two decades a field of research in systems sciences rather than physics (: no, the answers of google, considering the fifth dimension the upper-self etc. seem to be very popular, but are to 5D science more like a medium in earlier XX c. talking about the 4th dimension as astrological awareness, for lack of understanding of Einstein's **metric functions** of the 4th dimension).

This is the key word that differentiates pseudo-science from a proper scientific description of a dimension of space-time, *the existence of a metric function that describes a dimension and allows to travel through it*. Why the 5th dimension metrics are not well known in modern science has to do with the fact it is not researched in physics but systemics, the mother discipline of all sciences of information, far less popular than physics; and the proprietary feeling physicists acquired on space-time matters since Galileo defined its 3D metric function $v=s/t$ completed with Einstein's 4D formalism, which makes difficult to spread the knowledge on space-time acquired on other disciplines. The arguments still raging about evolution, the fundamental theory of time in terms of information, as the 'arrow that defines' the future of species but has nothing to do with Relativity and locomotion is a clear case of that difficulty.

Indeed, we know since the XIX c. that the creation of the 'future time' of an existential entity is not ONLY mediated by the arrow of **locomotion** and entropy studied by physicists with Relativity Metrics (Galileo's $V=s/t$ and Einstein's more complex formalism), but there is a second arrow that defines the 'future' of existential species - the evolution of its information. So time – *the changes=motions that defines the existence of any species*, has at least 2 dimensions, locomotion or ordered translation in space and a more disordered version, entropy (scattered motion that 'dissolves' the inner form of the system, akin to death)...

And in-form-ation, generation of form, inverse to entropy, as it requires the social gathering of parts into wholes; happening without external locomotions, as an internal trans-formation of **form**. This evolution of organic form as opposed to external change – translation in space, without evolution of form - is what systemics calls the scalar fifth dimension of time that it applies to all sciences, as all species evolve its form.

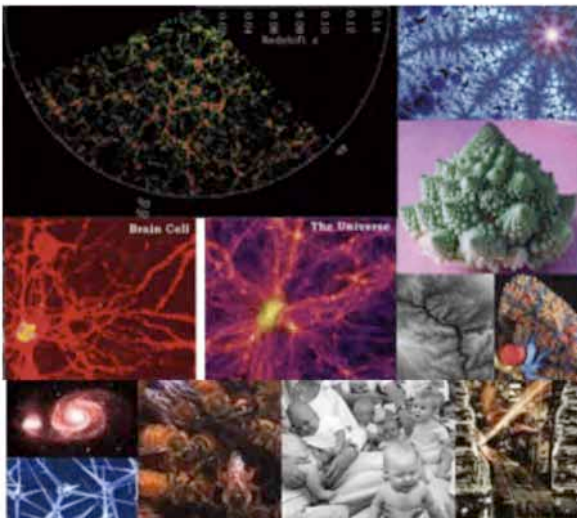
Specifically in systems sciences we model reality as an organic fractal of relative size scales, that evolve from parts into larger wholes, from particles into atoms, molecules, cells, matter states and so on till reaching the Universe, shaped by social and organic networks coded with information.

In the graph the Universe is a fractal that reproduces 'forms with motion', informations and then **organizes** them in networks and systems that evolve into larger organic systems creating the scalar structure of reality.

Thus we call *the sum of all those co-existing scales of parts and wholes the fifth dimension*.

Thus reality has a final key feature overlooked for too long: the co-existence of all those systems of space and time in several scales of relative size from the smallest atom to the largest galaxy that put together create a dual scalar '4th and 5th Dimension of parts and wholes, which we shall call the 'social dimension of evolution' and the 'entropic dimension of dissolution'.

Mathematically then it is necessary to find a metric function to define this new dimension of spacetime. Since a dimension only exists when we can write a mathematical simple metric that leaves the dimension invariant when we change our parameters of space and time - hence we travel through it. (Klein).



This function, as all space-time metric functions, is simple. So we write using δ for cyclic time instead of t :

$$\zeta (\text{Lineal Size/Space Volume}) \times \delta (\text{cyclic speed of its time clocks}) = C_i: \text{Constant Plane of timespace } (ab.\Delta_j)$$

We call it a function, because as we keep exploring in depth, the concepts of Space and Time in all its varieties, we shall see it is the origin of multiple 'solutions', a whole family of function, from where we shall derive most of the logic relationships and particular equations of each science.

So according to those metrics, smaller systems in space have faster time clocks. And as information is stored in the frequency and form of those cycles, smaller systems have more information, coding larger ones: genes code cells, memes societies and particles' quantum numbers code atoms and molecules.

The nested Universe.



We shall use the metrics of the 5th scalar dimension to explain the fractal, nested Universe and its scales, shown in the graph. As 5D metrics balances the survival and symbiotic existence of all parts of the Universe, and all parts of a super organism, and defines 'what codes information' - the small being, and what codes energy- the larger whole, establishing the 'harmony' of all

the scales of the Universe, and explaining all its fundamental constants which are ratios between spatial volumes and informative clocks of temporal energy.

It follows from a nested structure and the search for creative, organic balances, a symbiotic relationship between the $\Delta-j$ smaller parts that 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 atoms and molecules. And the larger, $\Delta+j$ larger envelopes, membranes (static, dimensional view) or angular momentums (dynamic view as time=motions) which 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 system of the Universe.

For example, chips become smaller as they evolve into faster brains. Every 2 years a chip doubles its capacity to think, as it dwindles in size. Such process follows a generic law of evolution I call the 'Black hole Law', which computer scientists know as the 'Chip paradox' or 'Moore Law': maximal informative capacity= minimal spatial extension. The reason is obvious: to think, to calculate you have to communicate in-form-ation, forms between elements of any informative system. The smaller the brain, the faster the communication that takes place within that brain and the faster you can calculate and process information in a logic manner. And vice versa: larger wholes accumulate more energy and are stronger than parts, so they can protect and feed them. So wholes and parts co-exist in several scales forming super organisms.

The metric function of the fifth dimension of space-time ($ab.\Delta$) defines 3 known scales of physical systems, with different quantity of information according to 5D metrics, $Sx\delta=k$.

Those metrics means information is higher in the smaller 'quantum plane' than in the larger gravitational one, and inversely the size of its physical parts is larger ins the Gravitational cosmological 'plane' than in the quantum one, with the human thermodynamic scale in-between.

But as there is no reason to stop the scales of the fractal in particles and galaxies, there is a 'potential' fourth, $\Delta\pm 4$ organic plane defined 'above' the galaxy, ($\Delta+4$, dark energy world) and below the quantum world ($\Delta-4$, Bohm's quantum potential), which represents the larger cosmos.

Further on, according to the fractal, nested principle any larger organic system, encloses smaller nested systems. Thus the $\Delta\pm 4$ cosmos contains $\Delta\pm 3$ galaxies, which contain $\Delta\pm 2$ solar systems and planets, which contain $\Delta\pm 1$ thermodynamic organisms and matter states, described by the human Δ^0 mind languages, contained on our brains.

Thus bigger systems paradoxically are 'supported' by the smallest ones, in the same manner than within the nested planet, bigger mammals (whales) eat the smallest animals (Plancktons)

LEIBNIZ V. NEWTON: SCALAR PLANES SPACE-TIME: ΔST

"According to their [Newton and his followers] doctrine, God Almighty wants to wind up his watch from time to time: otherwise it would cease to move. He had not, it seems, sufficient foresight to make it a perpetual motion. Nay, the machine of God's making, so imperfect, according to these gentlemen; that he is obliged to clean it now and then by an extraordinary concourse, and even to mend it, as clockmaker mends his work.' *Leibniz-Clarke Correspondence on the absurdity of mechanical models of the Universe*

"Talent hits a target no one else can hit; Genius hits a target no one else can see." Schopenhauer

"Leibniz is right. There are infinite time clocks in the Universe, but if so we have to restart science from its foundations'. *Einstein*, on the infinite relational time cycles of reality.

ABSTRACT. The immediate consequence of the existence of an internal fifth dimension of space-time, made of all other planes=scales of spacetime of a being, its parts and wholes, which store the information of a system, is the obvious fact that if we ARE made of planes=scales of space and temporal energy.

We ARE the vital space we occupy and we ARE the time flow of existence we live between birth and extinction. It is the obvious, simple answer to 2 questions that have puzzled scientists for eons.

Where is space and time? And, why the main science of space, geometry->Mathematics and of time, Logic, are obeyed by all systems and entities of Nature. Now we have the proper answer foreseen by Leibniz and Einstein: We are broken fractal species of space and time, whose mathematical and logic laws all vital space-time organisms follow.

The underlying question of time&space: Absolute or Relational, Scalar space-Time?

The fundamental question physicists wondered for centuries regarding the nature of space and time unfortunately was resolved as usual in favor of the simpler view: it is space and time an absolute abstract background of the Universe (Mr. Newton's view) or are we made of 'vital space' that lasts a time duration, so we are generated by the bio-topo-logic properties of scalar space and cyclical time? This is the choice of 5D 'stiences'. And its simpler version was called relational spacetime, sponsored by Mr. Leibniz.

A realist interpretation of the world we live in, which has never shown in any scale of reality such 'background' - ultimately a mathematical graph used in abstract by human scientists - considers that we ARE the vital space we occupy with our cells, and we LIVE a cyclic time duration between birth and extinction. So we *are* scalar space and cyclical temporal energy. And must evolve our concepts of both parameters, to extract the properties of existential beings from them.

The argument thus reached its height in the beginning of science in the correspondence between **Newton**, the proposer of the absolute Cartesian graph of space-time drawn by God (his body in his own words) vs. **Leibniz** who rightly considered absolute space and time an abstraction, and so he coined the concept of relational space -merely the adjacent pegging of similar forms in simultaneous space and relational time - the sequence of events which we relate causally with reason.

In Newton's cosmos, space and time provide a fixed, immutable and eternal background, through which particles move. Space and time are the stage of intersecting lines sketched in the illustration. Fact is this hematical artifact' made with pen and paper by earlier physicists, called the Cartesian graph, useful to sure 'translation in space' is no where to be seen in reality. Unfortunately as time went by the graph me somehow 'real' as scientists' felt the 'mathematical language' created reality.

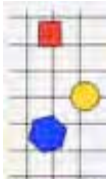
The ultimate reason
if things must be in a
necessary substance,
and this is what we
call God."

Gottfried Leibniz

Want also the invention of an absolute 'continuous space' and a single 'lineal time' that extends to infinity contradicting the obvious fact that all 'spaces' are broken, divided by membranes, and all beings have a finite time duration. Further on, as we kept exploring smaller scales of reality, we never found the drawings of God, not even a solid still substance, but always 'motions' tracing closed time-space cycles; since even particles turned to be also 'vortices of time-space motions'.

So the true, sound experimental and logic theory was Leibniz's who rightly considered absolute space and time an abstraction, and so he coined the concept of relational space -merely the adjacent pegging of similar

forms in simultaneous space and relational time - the sequence of events which we relate causally with reason origin of the 'Scalar space-time' model of 5D in which are the space we occupy and the time we last – as in the graph where there is no longer abstract background lines.



This realist concept was NOT adopted by physicists despite its sheer evidence. *Unfortunately Physicists sided with Newton not with Leibniz on the question of what is space and time - an abstract background put by God or the substance of which we are all made; and so the conceptual jump would not happen.*



But if space is what objects occupy that distance between the red square's vital spade and the yellow 'circle' must have something. Horror vacuum comes then into place: indeed the Universe must be scalar. There must be very small parts between them, which we do not see. And that is what we have proved with microscopes - *as we probe smaller distances forms with motion, spaces with time-motions appear and there it seems no limit to the fractal scales of the Universe. It is the fifth dimension of space-time, which as the sum of all those 'planes of reality' includes within it all other dimensions.*

Next, to explain all this properly came Einstein. One of the fundamental discoveries of Einstein is that in our universe, there is indeed no fixed space-time background. In Einstein's theory of general relativity, which replaces Newton's theory of mechanics and the gravitational force, the geometry of spacetime is not fixed. Instead it is an evolving, dynamical quantity – a topology; and it is the substance of which reality is. So we are topological beings, geometries of space with motions of temporal energy.

What Newton called absolute space-time is not: Space is the sum of all discontinuous vital spaces occupied by different beings: $\sum s=S$ Lineal time, T the sum of all the finite life-death cycles of all beings $T=\sum t$.

"Behind it all is surely an idea so simple, so beautiful, that when we grasp it - in a decade, a century, or a millennium - we will all say to each other, how could it have been otherwise..."
- John A. Wheeler

Since space and time do exist and so if they are not in the background we 'are' vital space and cyclic temporal energy. The simple idea behind the structure of the fractal Universe is then to consider time=change=motion and Topologic, formal space= extension the 2 elements of which all beings are made.

Wheeler said 'Space-time tells matter how to move; matter tells spacetime how to curve'. More precisely *Spacetime is geometry in motion.* Time is change, the perception of change moves time; time is motion; space is its opposite, stillness, form, the information of temporal energy. And so it is all about 2 parameters: time=motion and space=form.

Look around you, all what you see are 'space-forms' with 'time-motion'. We are all space-time, forms in motion, 'in-form-motion', 'information', forms in action, play with the words of what you are.

Because both are always messed up in practical terms is often easier to measure, 'forms with a little motion', we shall call 'information', **sT**; and motions with a little form, we shall call **energy, Ts**, and talk of beings made of spatial information and temporal energy, as *there is no 'yin (information)' without a little yang (energy).* And call the pure absolute motion without form, **TT, entropy**; and the absolute form without motion, **SS, language**. So we can establish a gradation of combined space-time dualities, **SS<St<ST<sT<TT**, with a symbol < for an increase of motion over form, or 'arrow of energetic entropy', which we shall call 'past arrow' or arrow of 'death' as it erases information, devolving a system to simpler forms; and vice versa, an inverse arrow, **TT>sT>ST>St>SS**, with the symbol > of an increase of form over motion, or 'arrow of in-form-ation', which we shall call the 'future arrow' or 'arrow of life' as it increases information. It then becomes evident that the intermediate state, ST, with a balanced quantity of Spatial information and temporal energy, S=T, is the 'state of present', that doesn't seem to change as it is a balance of form and motion. And it is the preferred state for any system of spacetime in the Universe, akin to the concept of 'beauty' (balance between cyclical forms and lineal motions), of reproduction and creative communication (as it brings together the two poles of reality merging and combining them). This state is seek by all systems. So in physics we find it akin to the state of 'minimal energy' hence 'more form', in which most particles like to remain; in biology is akin to the age between adolescence of maximal energy and the 3rd age of maximal information, or age of reproduction, in which most people like to live and so on.

So we have 5 'states of space-time' of which we are all made that have topological, formal, geometric and temporal, moving properties. Because those states are messing 'dimensions of formal space' and 'motions of time', we have coined a new word, 'Dimotion' (ab. \mathfrak{D} , which is the capital of δ , similar to D of Dimension and T of time). The main property of a Dimotion is to be holographic, having both spatial dimension and time motion; and we shall soon find that Dimotions are closely related to the 3 classic dimensions of space, to which we must add a function=motion in time, as their study becomes a new discipline of knowledge called topological evolution.

In the graphs above if space is what large objects occupy, what they are, the distance between the red square's vital space and the yellow 'circle's vital space must have something; even if it is tinier. Horror vacuum comes then into place: indeed the Universe must be scalar. There must be very small parts between them, which we do not see. And that is what we have proved with microscopes - *as we probe smaller distances forms with motion, spaces with time-motions appear*

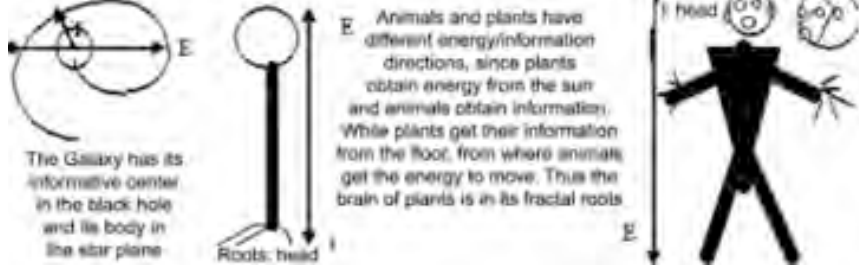
It is the fifth dimension of space-time, which is the sum of all those 'planes of reality' co-existing in organic scales, based in the simple metric laws that make smaller system run faster time cycles:

Some initial comments on the planes of space-time.

To have all the elements to construct reality besides S and T we need Δ , the scalar property of reality, by which 'space-time beings' are made of smaller ones and form part of larger wholes. We talk of multiple planes of space-time *because each scale has different parameters as parts becomes wholes, unit of a next scale*. We will explain this as the product of network formation, emergence and other disciplines of General Systems Sciences, of which 5D is a formal view. In mathematics 'fractal points will evolve' through network-lines into topological planes of space-time. This discontinuity between scales *is real. There are transition regions between planes, which can only be crossed with loss of information, therefore only by energy, by entropic motion, by 'death' of a system*. Latter we shall study those regions, evident in physical equations as there are asymptotic barriers – Lorentz transformations in the c-barrier; negative temperature in the 0 barrier; etc. What then the Universe conserves is easy to see: *the total volume of space-time of each scale; that is its energy*. We will also elaborate latter on those concepts. To mention now that the symbol Δ is both a visual reminder of the two different arrows of 'growth in space, inverse to the loss of information', and a tribute to one of the few predecessors of this work, in the formal arena – Wilson's renormalization mathematical apparatus, which finally realized of those discontinuities using a symbol Λ , for the energy scale under which a measurement of a *physical parameter* is performed. According to Wilson every scale of the Universe and the fields of space-time that define them have its energy cut-off Λ , *i.e.* the theory is no longer valid at energies higher than Λ , and all degrees of freedom above the scale Λ are to be omitted. But Λ *is related to a size of space*. For example, the cut-off could be the inverse of the atomic spacing in a condensed matter system, and in elementary particle physics it could be associated with the fundamental "graininess" of spacetime caused by quantum fluctuations in gravity. The failure to remove the cut-off Λ from calculations in such a theory merely indicates that new physical phenomena appear at scales above Λ , where a new theory is necessary. As today only with the use of Wilson's renormalization, which simply eliminates absolute zeros and infinities outside the scaling of space-time of a given plane, quantum physics makes sense.

RECAP. We are made of 5 Dimensions of space and time

Leibniz proposed a Universe of relative space-time beings where 'vacuum' did not exist, but reality was a nested chain of 'fractal' (to use modern terminologies) entities, as 'each point' hold a world in itself. Hence an organic Universe in which parts and wholes co-existed together to form those 'chains of beings'; without the intercourse of a God; as organicism was 'a sufficient reason'. Newton, a biblical pious believer, considered a single absolute space, the 'plenum-body of god', or void on which entities travelled through with a single clock-time for all of them, set by God. This error is at the heart of our concepts of time and space, which are basically born of mathematical creationism, by expanding a pen and paper graph invented by Descartes to measure locomotions over which it traced those measures to the Universe itself. And so Descartes Spacetime graph became the graph of the whole Universe. *We must evolve our concepts of space and time to extract the properties of 'existential beings' from them.*



SPACE: VITAL, 3- ORGANIC TOPOLOGY

“Henceforth *space* by itself, and *time* by itself, are doomed to fade away into mere *shadows*,

and only a kind of union of the two will preserve an independent reality. Hermann *Minkowski*

This said the devil is in the details. So the next question is how many *types of vital space, we are made of. And the answer provided by topology which studies geometric forms with spatial dimension and time motions is only 3; which perform the 3 organic functions of all systems of vital space-time of which we are all made: A 4 or 5D Universe has only 3 'topological varieties' each one best suited to perform one the 3 organic vital functions of any physic or biologic system –gauging information (1D spheres, the topology that stores more information in lesser space, hence used in all particles and heads in the height dimension), lineal or cylindrical forms that move the system (2D, the shortest distance between two points, hence used as fields or limbs in the length dimension) and hyperbolic body-waves, a mixture of the other two topologies that reproduces the system and stores its energy in the width dimension (3D); which are similar to the 3 'conserved quantities' of physics, angular, lineal momentum and energy, but not quite... as it is impossible to translate the 'game of existence', into the limited understanding and terminology humans use to describe it, plagued with conceptual errors that limits our use of the correspondence principle. For that reason, after much time wasted in attempting translations we start from scratch with the concepts of TT-Ts-St-SS and ST dimotions and its topological, qualitative and organic translation. And only in the papers that deal with mathematical physics we shall attempt the more quantitative description*

So we define the 'Fractal Generator of Vital space-time topologies for all systems of Nature:

$$\Gamma: \quad |-\$T(\text{limbs-fields})\langle\emptyset\text{-Si=Te-Body-waves}\rangle\text{O-}\$d \text{ (particle-heads)}.$$

The easiest human equivalence: Temporal Energy and Spatial Information.

“Call information entropy. Nobody knows what entropy really is, so you have the advantage.”

Neumann to Shannon, on the science of duality that studies the two inverse arrows of timespace of the Universe, entropy=pure motion and in/form/ation. And the ignorance humans have of their properties.

‘Energy is Temporal energy. The conservation of Time is the most important law of the Universe that all its fractal parts try to achieve. But only Time is immortal.’ **L§**

Human closest translation of the duality of primary elements was in the classic age of verbal thought, Asian philosophies of yin=in/form/ation=space=Vishnu and yang=entropic energy=time=Shiva, and in the age of digital thought, motion=time has become synonymous of entropic energy, while mental simultaneous space is akin to the concept of in/form/ation; since our concepts of space and time have been restricted enormously by virtue of the Galilean equation of speed, $v=s/t$ which became as physicists substituted philosophers of science in the summit of scientific thought, due to its power as machines and weapons makers, the ‘only equation of time’, when in fact was just a measure of speed with very limited space and time parameters.

As Einstein merely added – c term to that equation nothing changed despite the hype surrounding his work. So we shall often use the terms temporal energy or entropic energy for time=motion and spatial information or spatial form, for spatial information. As time and space are synonymous of motion and form they do have multiple meanings. So there are 5 types of time change=motion parallel to 5 types of space= form. Yet in fact as we have seen space and time are always mixed together, since human still mental one dimensional space is a simplification and definitely *a single time arrow of entropic energy or absolute motion is an extraordinary simplification of the richness of motions of temporal energy.* Energy in that sense with its multiple variations of meaning is much closer. Specifically entropic energy; that is, a motion which is internal and external to the being or ‘TT’, pure motion appears in the equations, $E=Mc^2 (\Delta+1) = knT (\Delta^0)=hf(\Delta-1)$ that transfer temporal motion through scales of the fifth dimension. This is the entropic arrow of time and disorder akin to death which physicists consider the single arrow of temporal energy. My advice, because of so much messy and simplified understanding of time in physics is really to take with some irony their work on philosophy of science, though as their equations have their own life and self-consistency those are ‘real’ and must be

addressed with much more rigor, as we shall do in the papers on mathematical physics. But for concepts of time and space useful to all scales and sciences we shall use temporal entropic energy and spatial in/form/ation. Energy, being the jack of all trades, in messy human philosophy of science is also used for $S_i=Te$, balanced 'work' which in fact is both space and time, energy and information, as it imprints form into motion, reproducing cyclical patterns of science. So it is better to define ST as reproductive work.

It is then obvious that the fundamental law of science, the law of conservation of energy, becomes the law of conservation and immortality of time-motions, which can be expressed as follows:

'All is time=motion=change in perpetual trans-form-ation in one of the 5 Dimotions of time-space: $S \Leftrightarrow T$ '

Thus the purpose of science in each sub-discipline, which studies one of the scales of the fifth dimension in to study how one transforms into the other.

As we unify them all under the common language of Scalar space-time we shall make a lot of homologic disquisitions on the jargons of each science. Consider the case of the previous equation largely the fundamental one of mathematical physics. How do physics measure information, St ; as opposed to energy, Ts ; different from entropic energy, TT ? We can't overextend in the general model, but it is obvious that the law is expressed as a function of momentum, the derivative of physical energy, whereas a derivative is a 'quanta of temporal energy', and position, a function of form, expressed as potential energy. So in this particular case St -form is potential energy, Ts is kinetic energy; and at the finitesimal scale, momentum.

Does it mean we are going to change all the equations and terminology of science? Not, so. It would certainly much better for mankind if Newton had gone to pasture and Leibniz arrived to London with his king putting the record straight from the beginning. But at this moment of history if we cannot even change the routine of calling wrongly the electron a negative charge (as it is the dominant positive sink of electric forces), we will become extinct much earlier than we adopt the jargon of Δst for all species. This I know. But my purpose is simply 'amore gratis', 'for the sake of art', to leave the template model of a much more advanced understanding of the entanglement of reality and the structure of the fractal organic, Universe.

Spatial information and temporal energy thus adopt multiple jargons even if ultimately reduce to the 3 topological varieties of Ts -limbs/fields of entropic temporal energy=motion, St -heads/particles of informative space, and TS -working body waves that combine both.

A question of importance for metaphysics is the conservation of spatial information, as opposed to the obvious conservation of all the modes of time-energy (once we correct the entropic big-bang, it will be obvious that the immortal Universe indeed conserves its dimotions). The answer lays in the dualities of discontinuous information vs. continuous time motion, or at least the perception of sequential flows of dimotion as a continuous river of temporal energy. Information is however always discontinuous, so the preservation of information requires its reproduction in a discontinuous region of time-space, and in different scales.

Information is preserved but NOT the ego that converts motion into temporal energy. And this leads to the ultimate metaphysical question – are we then repeated in parallel fractal worlds. And the answer is positive, as the number of worlds is much larger than the possible combinations of information of the 3 topologies of a 5D Universe. And so then a question is left for the reader to wonder, and perhaps one of a million to answer if he becomes proficient in 5D metaphysics: is the mind a flow of time 'entangled' across space and time, to be reborn in a continuous sense of existjence in a parallel being born in other region of reality?

But how it happens that time becomes energy and space information, intermingled in infinite fractal beings, fighting for the conservation of its time existjence? It is a process that requires a huge conceptual upgrading of the humind, distorted for so long by the mere expression of $S_i \Leftrightarrow Te$ interactions in a single mathematical language, with little understanding in our verbal, natural 'form of thought', of what was the meaning of it all.

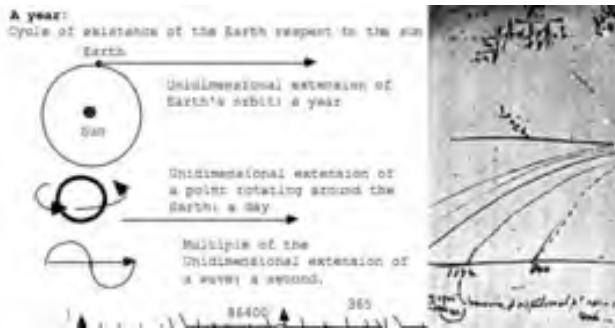
We shall thus reserve for our papers on the 'algebra of time' the translation of 'mathematical physics' & its formulae... and intensify in this paper the understanding of time in pure topo-logical, spatial and causal terms. But use constantly as synonymous T&E, S&I, and study its entanglements into 'dimotions' of time-space.

CYCLIC TIME: CONSERVATION OF ENERGY≈TIME CYCLES

'I seem the only physicist that think there are infinite time clocks in the Universe'. Einstein

Fundamental principle of reality is the conservation of time. Its immediate consequence in all sciences is the fact that *time is cyclical, repetitive, as iterations are the only form to conserve time in a 'present' that doesn't seem to change. It is equivalent to the principle of conservation of energy. Because time is cyclical, it does break Newton's absolute time into infinite cycles, which make its motions equivalent to those of physical conserved energy cycles, in which work doesn't happen.*

The causal repetitive laws of 'stiences'



A Universe of ∞ time clocks of different size and speed differs from its human description with a single mechanical clock-time to which all time clocks of the universe are equalized, elongated into a lineal 'second-minute-hour-day-year' system of equalized time clocks (of light waves, mechanical clocks, earth's astronomical clocks). As Galilean physics, born of ballistics, simplified the nature of cycles of time-space into lineal durations, to measure best the locomotions of cannonballs:

Time is cyclical, all clocks of time and laws of science are based in the cyclical patterns of nature. But physicists developed ballistics

and denied the truth that we can know the future because it will repeat the causality of the past, and we can change it by changing that causality, in History by repressing the lethal memes of the tree of metal and enhance the welfare memes that make us survive.

Lineal and cyclical time render the same functions as one is the inverse of the other, measured by frequency, $T=1/f$, but the philosophical implications of cyclical time, are enormous, as we regain the in-form-ation provided by those cycles, *origin of the laws of science, which would not exist if there were not cyclical patterns; including the cycles of history and economics.* The most important of them being, the fact that *a time cycle breaks reality (1st knot theorem) in an outer and inner region, creating a membrane that encloses a vital space, the 'substance of which we are all made'.*

We thus have a brief description of reality – a fractal system made of topological organisms of co-existing scales of space and cyclical time which close its 'internal vital point content' with the entropic limit of those time cycles, in its vital territorial body-waves, synchronized symbiotically by 5D metrics. As we are all ultimately $-\Delta@St$; dust of space-time.

Why there are 2 forms of time, the long lineal Time and the 'short' frequency steps we integrate into the larger whole? Precisely because *there are 2 $\pm j$ scales of 5D reality whose metric, $SxT=\Delta\pm j$ defines larger space systems as having slower time cycles.* So we can always consider the frequency of time the $\Delta-j$ 'quanta of time' or 'finitesimal derivative' of the larger whole represented with the concept of lineal time; as in the classic formula, $S=f(t) \lambda(s)$. The whole Space can be measured, $Vt=S$ with lineal time as a single unit, or it can be measured as a sum of frequency steps, with more detail.

But if we see those two 'forms' of time, as 'lineal energy and cyclical information', since information is stored in the frequency and form of time cycles, we can then consider that 'time=motion' splits in two essential forms, lineal motion or 'energy', and cyclical motion or 'information', and express the main law of science, the principle of conservation of energy in terms of the conservation of time=motion in its two varieties that transform each other ad eternal:

'All what exists are time motions that transform between lineal open and cyclic closed forms ad eternal: $Si \Leftrightarrow Te$ '

This sentence is the simplest expression reality as a constant game of transformation of 'spatial information' (cyclical time) and temporal energy (lineal time) and was first understood by Taoism, where 'tao=time', is composed of yin=cyclical form and yang=lineal energy, today expressed as the principle of conservation of energy. Its 'mathematical, logic' formula is $Si \leq \geq Te$ & and its logic form, $exi=st$, is the function of existence.

COSMOLOGY: WORLDCYCLES OF PHYSICAL SYSTEMS: SCALAR BIG-BANGS

Logic Consistency: The Infinite, Hierarchical Universe

In the graph of the worldcycle we added in the bottom the cosmological big-bang, a hyperbolic 'error' of mental projections and creationist language, due to '@berrant egocy' (man knows it all and the cosmos was once smaller than our hand, there are no organic properties as we are the chosen CNO atoms of life), and selective information (there are not higher scales than what we see, only maths creates reality, etc.)

In the fractal model a big-bang is the entropic death of physical matter. But the Universe is also scalar and it has information, a dimension of form, signified by the gravitational informative force, physicists ignore in their calculus of its expansion, happening in galaxies that balance the dark energy between them, we shall find both, balances of forces that make the Universe wobbling, and big-bangs and informative forces in multiple scales of the Universe, talking of multiple big-bangs balanced with big-crunches.

Scalar entropic big-bangs in a balanced immortal Universe. The Galatom.

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So how we shall correct big-bang theory to fit into the fractal view of the Universe? We dedicate many pages on the articles of astrophysics to that matter but let us just give you a prime:



Left, when we add the gravitational force that warps 1D space into 3D mass in galactic vortices, they balance the expansion of 1D space in entropic vacuum as light dies into dark entropy lines between them. As mass warps 3 1D flat-vacuum into a 'high volume' its 3 times more powerful in its warping, hence the 75-25% Balance of mass to dark entropy. Thus the fractal Universe is immortal. On the right its scales all suffer similar $e=mc$ dual processes of warping through gravitational forces of cyclic momentum that create those galaxies, and expansive big-bangs of lineal momentum balanced in combined cycles of energy - the 3 conserved quantities of each fractal spacetime physical organism, which put together give birth to the 3 conserved laws of nature the Big Bang totally ignores - among many other known-known laws.

So the use of a fractal space and cyclical time arrows fully accounts for the immortal Universe and its balanced 3 arrows of space-time, conserved in its infinite reactions; energy, information stored in the cycles and frequency of those systems of angular momentum, whose minimal constant form is h , and lineal speed, conserved in the constancy of light. Why those obvious facts of SOUND physics are then 'reduced' to ænthropic creationist big-bangs in a single plane of space-time despite evidence? It is the ego paradox: what the big bang does for science is a religious 'closure' with man and its simplest mathematical lineal functions at its center, which added to the denial of organic sentient properties to physical reality allows to feel the high popes of science a sensation of absolute knowledge, as the religious person feels that all is known in the mystery of god - a word eerily similar to the lineal function of the big-bang ' $V=Hod$ '.

It must be clear that 5D models do acknowledge sound science void of egocy, which in physics corresponds to the equations NOT the teleological omissions - meaning we respect 4D physics and quantum realist models (Broglie->Bohm's $ab B^2$), which corresponds to the study of 5D in the limits of $\Delta-3$ scales (quantum), $\Delta+3$ (special relativity) and $\Delta+4$ (general relativity) and shall explain easily why $\Delta-3$ quantum physics is easier to model with time probabilities in the 0-1 complex sphere, due to its faster time clocks of maximal information but that does not make it different from the equivalent formalism, by virtue of the $S=T$ equivalence on the $1-\infty$ entropic plane that cast molecular thermodynamics ($\Delta-2$ plane) with statistical populations.

The errors of physicists though are due to the misunderstanding of the Δ ST elements of reality: its fractal scales of multiple big-bangs, its cyclical time processes and its fractal points that make impossible the existence of a singularity, reduce cosmic big-bangs to quasar bangs & balance lineal equations with cyclical ones, in the galaxy balancing the vacuum lineal space with the cyclical time clocks of masses & galaxies:

Indeed, the galaxy's 5D metric is immediate: $\$(c) \times \delta (h) = \text{Constant}$, as its largest speed-distance is light and its minimal unit of cyclical information, is the Planck constant of angular momentum, the unit of the 3 *human physical parameters of spatial size, cyclical time frequency and 'scale' (Active magnitude):* $h = \text{mass } (\Delta) \times \text{area } (S) \times \text{frequency } (\delta)$.

Which becomes the unit of physics, related to the unit of mathematics, the fractal point.

Thus 5D metrics describe organic properties because it balances the survival symbiotic existence of all parts of the Universe in any of its fractal super organisms, made to the image an likeness of the whole, as the smaller beings 'code information' with faster clocks, and the larger wholes enclose and protect the smaller parts with its greater energy- establishing an organic 'harmony' in all the scales of the Universe, and explaining its fundamental constants, which are ratios between spatial volumes enclosed by membranes and angular momentums of informative clocks of temporal energy.

Another immediate consequence of the scalar Nature of the Universe is that points have parts, which grow in size as we come closer to them, peering in the inner regions of its fifth dimension. So a star from a point becomes a world, and so should a point-particle if we could peer inside its form – to the 'point' that the closest self-similarity of scales happens between galaxies and atoms, stars and photons, in a potentially infinite scalar Universe. What this means is that an absolute zero does NOT exist. So 0 becomes 0', a 'finitesimal unit', which will always remain as the fractal Universe abhors vacuum. Thus in any parameter we find a residual amount, even if it is undistinguishable from a larger scale. There is no absolute 0K, but always remains a bit of motion=temporal energy. This, means also in terms of h, that vacuum space has always a reminder, h-uncertainty unit, no longer an abstract concept but the minimal unit of light space-time, we shall call h, 'Planckton', the minimal fractal organism which feeds or becomes the 'cellular unit' of all other species of the Galaxy, as Plankton is the minimal unit of the biologic Universe which starts the trophic pyramid of life or as a cell starts the evolution of multicellular organisms.

5D metrics will be used to improve our knowledge of space and time in all sciences, not only in our models of physical systems will be the theme of this paper. Even if physicists stubbornly refuse to treat information with the same value than entropy. So they call it negentropy, and when I used to give conferences on the scalar Universe in congresses of systemics there were no physicists on attendance – as the dimension of creation of social forms of in-form-ation, and the organic wholes they entangled are not part of the properties they confer to physical systems.

5D metrics is a law of balance between 2 elements of reality, scalar space akin to information and cyclical time akin to conserved energy. Yet as humans have disconnected their concepts of space and time of its 'broken parts', bits of information and bites of energy, equalizing all the time cycles of reality with a lineal equation, $v=s/t$, and a single mechanical clock, and have pegged all the bits of information of its puzzles of space; and finally compressed all the planes of space-time into a single 'space continuum'; and then separating them as the constitutive elements of reality we need to reconstruct both terms in its more complex reality nature, as *ultimately we are all made of those organic vital fractal scales of space & its moving time cycles*. The fifth dimension is made of the 'different co-existing scales', which from the simplest forces through particles, atoms, molecules, matter, organisms, super organisms, planetary systems and galaxies, create an 'organic network structure', which amazing enough since it was discovered at the beginning of science with telescope and microscopes, was not formalized till I introduce its metric function in the milieu of systems sciences, as a single lineal time motion is a dogma physicists don't dare to challenge. *Yet science cannot advance in its fundamental principles unless the 5D formalism is accepted and used to fully understand the cyclical, repetitive patterns=laws of science of each discipline that studies a scale of the fifth dimension and its species.*

WORLD CYCLE OF EXISTENCE: ITS BALANCED MAX. REPRODUCTIVE $S_i = T_e$ POINT.

'At the end of spacetime you are, to Dust you shall return' Bible

We can then put together scales of 5D space, vital topology and cyclical time to find the fundamental event of reality, a superorganism perceived in simultaneous space that traces a worldcycle in temporal energy.

Absolute spacetime is the sum of an ∞ number of Timespace beings that observed in space become simultaneous super organisms, and when observed in time, traces a **worldcycle** of existence between birth and extinction; as all systems are born in a seminal seed, of faster time clocks, in a lower scale of the fifth dimension, growing socially till emerging in an organic scale, where they will live 3 ages dominated by one of its 3 topologic organs and its functions=dimotions, a young age of maximal locomotion, dominated by its limbs/fields, a mature age of reproduction dominated by the body-wave and a third age of information dominated by the informative dimotions, which finally exhausts all energy and as time-space never stops, it reverses its dimotion from information to entropy, exploding in the moment of death.

So we marry the 3 vital functions=motions of time and the 3 dimensions of space, either in 1 or 2D (height=spherical information, length=planar locomotion, width=hyperbolic reproduction) which merge in all Timespace Beings; and dominate one of the 3 ages of its life-death worldcycles, the past, young age of limbic entropic motions, the mature reproductive age dominated by the hyperbolic body/wave and the 3rd age dominated by the informative particle-head, when the illusion of time ends with an entropic big-bang death that dissolves the being into its 'scalar cellular, atomic parts', which lead us to the realization that time cycles NOT only return to its origin in a single spacetime continuum but they move up and down 5D scales.

The 3 ages of existence of space-time organisms. Its 2 worldcycles and Metric functions.

Let us deduce from those 2 functions the fundamental process in time of reality, the worldcycle of existence:

The *development of the Function of Existence* of a space-time organism, can be developed as a feedback function, $S \Leftrightarrow T$, in 3 sequential phases/ages /horizons:

$$\text{Max. } T \times \text{Min. } S (\text{youth}); \text{Max. } S \times T (s=t); \text{Max. } S \times \text{Min. } T (3^{\text{rd}} \text{ age}).$$

They are the functions of the 3 ages of life, between $S \times 0 \times T$ (seed in the lower plane, $i-1$) and $T \times 0 \times S$ (function of entropy=death), which develop 5D metric into an 'existential function' of 'extremal points':

$\Delta-1 \gg \Delta^0$: The supærganism worldcycle starts its existential function as a seed of pure form (4D) that creates its space-time form.

$\$T$: It is the first horizon or 'energy, youth age' of the cycle, in which energy dominates the system and so we write this phase as, max. $\$T \times \text{min. } T$.

Max. $S \times T$: $s=t$. It is the present balanced age of the cycle or classic age of 'life', when energy and information are in a constant proportion. It is the most efficient age, when the cycle reproduces.

ST : Max. $T \times \text{min. } S$: it is the 3rd age of the cycle when information has combed and exhausted the space-time field that warps into itself.

$\Delta^0 \ll \Delta-1$: $0S \times T$: It is the end or death of the cycle that reverses its form and becomes energy again.

Existence is an ∞ (ab. relative infinite, with an entropic limit of death) sum of 3 space/time planes, fluctuating between birth and extinction through those 3 phases or ages. The 3 ages of Timespace supærganisms happen in all systems, including mental languages:

In State Physics they are, T_s -gas, the moving state, $S_i = T_e$ liquid, the balanced state and $\$ \delta$ -solid the informative state; into Cosmology, where it describes the Universe as a space-time system that fluctuates between both limits, a form of pure time, the singularity ($\text{min. } \$T \times \text{max. } \delta \$$) and a form of pure space, the big-bang ($\text{max. } \$T \times \text{min. } \delta \$$):

In Biology, they are the 3 ages of living beings AND the 3 horizons of evolution of species.

In social organisms, through the subconscious collective mind of civilizations which in art styles mimic in a longer 800 year cycle of life and death of civilizations (according to 5D metrics a human social superorganism is larger in space – a nation, culture, religion – and so it lives longer in time).

THE GENERATIONAL=LIFE CYCLE: $e_{i-1} < E > ET > T < e_{i-2}$

SUPER-ORGANISMS D=EVOLVE BETWEEN 2 I-PLANES OF EXISTENCE IN 3+1 AGES DOMINATED BY ITS ENERGY, REPRODUCTIVE AND INFORMATIVE NETWORKS:

Birth: $e_{i-1} < Youth: E_i > Maturity: ET_i > Old age: T_i < Death: e_{i-2}$

Human Socio-Biological Organisms:

Individual, living organism

Universal, Physical, Organisms:

Birth: $e_{i-1} < Youth: E_i > Maturity: ET_i > Old age: T_i < Death: e_{i-2}$

STATES OF MATTER

GALAXIES

UNIVERSE

'Big Banging: III Horizons'

Human Socio-Biological Organisms: This section shows the life cycle of human socio-biological organisms. It includes images of a cell (i=3), a human body (i=4), and various art styles (i=5) such as Epic, Lineal Art, Classic, Realist Art, Baroque, Formal Art, and War. It also mentions Culture, Nation, and God (i=6).

Universal Physical Organisms: This section shows the life cycle of universal physical organisms. It includes images of plasma birth (i=1,2), energetic gas (i=2,3), liquid reproductive state, and solid informative state (i=4). It also mentions M=E death (i=5).

STATES OF MATTER: This section shows the life cycle of states of matter. It includes images of energetic birth (i=7), irregular galaxy, spiral state, informative globular age, and quasar death (i=8).

GALAXIES: This section shows the life cycle of galaxies. It includes images of energetic birth (i=9), particle age, star atomic age, black hole informative age, and crunch into super-black hole (i=10).

UNIVERSE: This section shows the life cycle of the universe. It includes images of energetic birth (i=8), particle age, star atomic age, black hole informative age, and crunch into super-black hole (i=10).

All what exists is a supærganism of vital space tracing a 0-sum worldcycle of time through 3 scales of the 5th dimension: Born as a seed of fast time cycles in a lower 5D scale ($\Delta-1$:Max. T x Min. S), emerging as an organism in $\Delta 0$, living 3 ages of increasing information, as its time clocks slow down in its $\Delta+1$ world to die in a time quanta back to $\Delta-1$. Yet the maximal point $S_i=Te$ where reproduction happens defines the classic age, maturity, beauty, balance, survival of the system, all disomorphic jargons.

The 3 ages of life emerge in human social superorganisms as the 3 ages of cultures and its 3 artistic styles: Min.S x Max. T (infantile epic, lineal art, as in trecento, Greek kuroi; $S_i=Te$; balanced beauty, when form and size are in balance, the classic mature age; and Max. S x Min. T: baroque, 3rd age of a civilisation, whose subconscious mind is the art of its 'neuronal artists', the age of maximal form and Δt for a no future, which is the age of war and death of cultures).

We talk of 3 $\Delta\pm 1$ scales of worldcycles as the being live in a placenta, then emerges as organism in a world:

p: 0-1: its palingenetic o-1 social evolution in the accelerated time sphere of existence, till becoming 1 (0-1 bounded unit circle in \jmath logic mathematics; quantum probability sphere of particles in physical systems; palingenetic fetal age in biologic systems; 0-9 memetic learning childhood in social systems). It is the highly ordered world cycle as a 'placental mother-energy world' is nurturing as memorial cyclical spacetime has erased errors of previous generations.

- **c: The outer 1- ∞ world**, in which it will deploy its 2nd world cycle of existence in an environment which is open, entropic (1- ∞ hyperbolic unbounded Cartesian plane in \jmath logic mathematics; thermodynamic entropic statistical molecular populations in physics; Darwinian struggle between populations in biology; idol-ogic dog-eat-dog capitalist, nationalist competitive eco(nomic)systems in the super organisms of history. In this 1- ∞ existence the world cycle is not ensured to continue, as the entropy of the world system can cut it off.

w: The existential life cycle, though is part of a larger world of hierarchical social scales ($\$ Di$), where it performs 5 survival actions through $\Delta\pm 4$ Planes self-centered in its mind, beyond which it cannot longer perceive, to become if successful a new superorganism of the infinite planes of God, the game of existence. *Thus Social love=evolution of parts into a whole new plane of existence is the survival strategy of all systems.*

In graph, physical, biologic & social worldcycles show to which extent 5D laws enlighten our understanding of reality. Matter States are physical time ages, from left pure solid, crystal, $\$$ top state, to an even more solid $\Delta+1$ boson condensate, etc. We see that systems either move a step at a time within a plane of existence (gas, liquid, solid) or they can jump « two states at once, (as in the case sublimation) within that plane, or most often between two planes, as in « scattering & entropic death), to become a different Dimotional state. We can then see how the fundamental elements of 5D time appear on the graph: the worldcycle is local and complete. There are 2 inverse arrows from an entropic past (plasma), in a lower plane (ion particles) to the 3 ages of the matter states with increasing form (gas to solid), to end in a higher plane of existence as a boson-Einstein condensate. Do those worldcycles happen for the whole Universe? (cyclic big-bang). Unlikely...

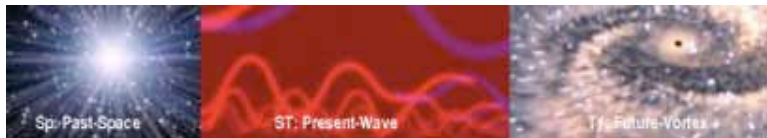
RECAP. Time is cyclical as all time clocks return to its origin. All time cycles including life & its vital space-time beings are finite. Further on those time cycles break 'space' into inner and outer parts, so vital space is broken by the membranes and angular momentums of those time cycles that make spacetime beings also finite in spatial information. And an obvious experimental facts about timespace: cycles of time, vital spaces and the species made of them, co-exist in several scales of relative size from particles to galaxies, each one with clocks of time of different speeds. So spacetime is fractal broken in scales that added create a new 5th dimension of spacetime.

The dual functions of 5D Absolute Relativity, the function of 5D scales, $SxT=C$ & the function of equality between form and motion, $S_i=Te$, develops in 3 ages with 3 standing points, a max. point of existence, $S_i=Te$ or mature age, a young age of Max. T=motion, and an old age of Max.S=information; between birth in $\Delta-1$ Form & T-entropic death. The search for space-time, Energy=information balances in a classic reproductive age of conserved time is thus the goal of all existjences, but only the whole achieves the immortality of time-space, as we shall see egocy errors of fractal mind-points of space trying to stop the flow of time from a single selfish point of view, accelerates the imbalance that brings death equations. We are richer in our still property at that 0T-moment, when all is quiet so for time to keep moving, a reversal of entropy takes place.

Conservation of time vs. inverse annihilation of information.

An essential truth, systematically denied by @-minds is that while the initial substance of reality time=motion is conserved, as it trans-forms ad eternal in different forms of information information becomes annihilated into 0' sums, regardless of leaving memorial remains and possibly being recreated. Thus algebra has always inverse operands and elements that 'annihilate' the form into a residual 0'; which in mathematical physics become the game of particles and antiparticles, inverse waves that annihilate its height information, etc.

Entangling Vital topology and cyclical time: Local Past=Entropy, Present=Iteration & Future=Information



'The separation between past, present and future is an illusion' Einstein

Of all the consequences of cyclical time, the most important is the existence of infinite local time clocks of which we are all made, which therefore imply the existence of infinite local past, present and future states.

Past then means a system with less 'form', less information, which slowly acquires a dimension of height-form, as it completes its cycle to return back in the moment of death to an age of no information. This 'worldcycle' of existence, which creates and erases information becomes then the function of duality:

Entropy-youth (relative past) <Energy-mature reproduction (present)> 3rd In-Form-ation age (relative future)

Which each of us follows as a time-space superorganism. In physics is equivalent to the dual function of Einstein: $E \leftrightarrow Mc^2$, which reverses when E, which should be properly considered 'Entropy', as it is a disordered state, collapses through gravitation into Mass, a cyclical vortex of space-time; while its intermediate state is c^2 , radiation; the relative present:

Whereas the past is the beginning of a pi cycle, starting as a line of entropy with no form that curves and raises in height in its second state of present, and returns back to its origin in its future 3rd age of information, completing a 0-sum of life and death. Thus instead of a single ∞ lineal absolute time there are ∞ living cycles of time happening in zillions of entities.

Those relative time ages in the simplest physical organisms are equivalent to the 3 conserved quantities of physics. So as time is cyclical, made of 3' π ' lineal time motions, we shall distinguish 3 conserved 'ages' of timespace that put together create a 0 sum worldcycle of life death for any spacetime organisms: a relative devolving past or arrow of entropy represented in physics by disordered explosions in space and in vital topology by lineal limbs/fields of lineal momentum, an iterative reproductive present that seems not to change, represented by hyperbolic body/waves of energy, and an implosive in-form-ative local future arrow represented in physic by accelerated, $V(t)R(s)=K$ vortices and angular momentum, and by particle/heads in the ensembles of vital topology. So timespace breaks in ∞ relative local, fractal entropic pasts, iterative energy presents and informative futures, which put together create the illusion of a single timespace continuum.

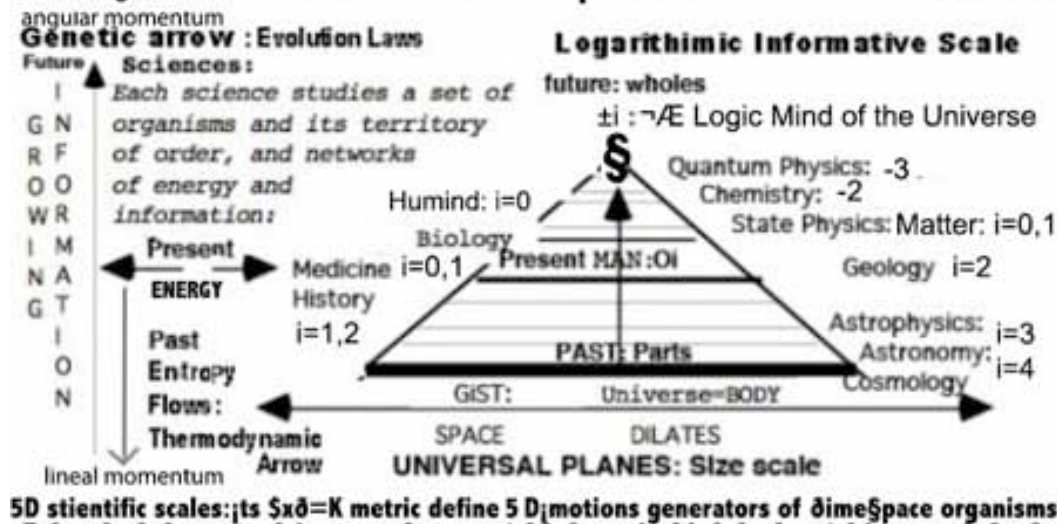
Species are supœrganisms as they go through the same 3 ages and processes of birth, reproductive radiation, end of growth (mimetic in its log curve to that of cellular growth of an individual) and 3rd age of information and extinction *or social evolution into a superorganism* (ants, humans) – the strategy of immortality. An

interesting detail of 5D evolution is the St-ST beat between fast evolution in smaller forms (Floresiensis, mole mammal) and ST-radiations of populations as they grow. I.e. the 1st human was the maligned dwarf Floresiensis who evolved a head similar to man, spoke, used advanced technolog and merged with Erectus to grow mass, spreading in a global radiation to give birth to a dual S-verbal Sapiens+T-visual Neanderthal.



5D SPACETIME PLANES & SCIENCES

SCALAR SPACE & CYCLIC TIME ADD TOPO-BIOLOGIC PROPERTIES TO ALL SYSTEMS:



Reality is composed of 3 elements: Δ -planes of space-time, $\Delta \pm i S \leftrightarrow T$, ΔST entangled in 3 organic co-existing $\Delta \pm i$ planes. In physical systems they are the $\Delta -1$ quantum plane, Δ^0 thermodynamic plane and $\Delta +1$ gravitational plane, equivalent in the reduced nested world of Life on Earth to the $\Delta -1$: molecular plane, Δ^0 organic plane and $\Delta +1$ ecosystemic plane. The absolute arrow of future survival is eusocial evolution of parts into wholes, as parts must come before; hence they are a relative past, and wholes survive better. A fact HUMANS have forgotten. As individualism is synonymous of chaos=death, it is obvious History, the superorganism of mankind enters its age of entropic social self-destruction, committing suicide, evolving instead a superorganism of machines; a tragic problem, which we will study in the analysis of social sciences.

And in each of those planes we shall see that 'spatial information' and 'temporal energy' constantly transform into each other. Space is the perception of form as if it was still, but ultimately is cyclical self-repetitive motion that seems not to change and acquires at larger scale solid forms.

In between those scales, each one a different plane of space-time, ruled by 5D metric (Time speed x Space size =Constant plane) there are 'connections', which can be seen in space as 'networks' that 'thin out' as they branch till they connect both planes; something obvious on a physiological organism; but also through the impedance of waves and its geometric forms for physical systems with its dual, informative, gravitational and electromagnetic, energetic networks; and through the organic structure of financial=economic=blood like systems and legal=nervous=informative system for social systems. So we talk of the fifth dimension proper as the 'fractal, network, wave like' systems that communicate the different planes of similar 5D metric.

All together they form a superorganism we call reality. So a fundamental task of those texts is to redefine the foundations of sciences in much solid grounds – its 3 fundamental elements, ΔST , which 'sciences' study plane by plane of $S_i \leftrightarrow T_e$ elements, to which we must add the connecting 'network' laws between planes, which we call the '5th dimension proper'.

It is the philosophy of science, we develop in a series of papers at Academia.edu that will substitute the simpler mechanic view of reality sponsored by physicists, with its 'mathematical creationism' and constructivist view; which reduces the two poles of time=motion to one (lineal time), compresses all the planes of space-time into a single continuum; while only the properties of reality that can be easily fit in a numerical description matter.

A more evolved civilization would start in philosophy of science and the principle of conservation of time and space, and its structure in 5D organic scales and derive from them the fundamental laws of every other discipline; correcting whenever necessary its errors as we do in those papers with the simplest principles of reality as any science mirrors them in its study of its specific scales of beings – the details of those principles.

THE LIMITS OF REALITY: – ENTROPY & MINDS

“All what is possible, demands to exist” *Leibniz, on the chain of beings.*

The sum of all 5 D scales sets an absolute ‘dimensional motion’ (ab. dimotion) of spacetime. Because for a whole $\Delta+1$ to exist, the parts ‘illogically’ must come first; so social evolution and love between parts is the absolute arrow of future for the organic Universe, or ‘future’, while a form that repeats itself seems not to change, so the function of reproduction is the absolute arrow of present, leaving thus entropy= death, the dissolution of form as the inverse arrow of past.

So we draw the 3 ‘dimotions of space-time’ in terms of the 3 time ages of absolute past (TT-entropy=death) and its relative lesser Ts- locomotion; ST-present reproduction, which is the function that maximizes $S \times T$ ($s=t$) existence in any scale of science and the relative future of St-communication of information that evolves parts into larger social wholes, herds and superorganisms; whereas the absolute future, SS, is the language of still minds, shared by all of them – the game of Generational Space-time we explain here and its two fundamental mirrors of space and time (mathematics and logic).

It is an architectonical perfect Universe as long as you abandon the illusion of the ego that cuts-off man from its entanglement with the self-similar whole and all its parts. Since, why humans do not see reality like that, has to do with the mind function and its distorted self-centered view.

So 2 final elements are needed to have the whole structure of reality properly defined’: The existence of entropic limits (ab. –) for each ‘superorganic structure’ of $\Delta \pm j$ planes. We saw those limits in the enclosing membrain (as it holds the sensorial holes that communicate the timespace organism with the outer larger world) of all systems, which must be seen as ‘solid’ or as ‘angular momentum’. We could say that a ‘solid membrain’ is made of multiple smaller π cycles... But let us not enter into details. Those limits thus exist both in planes, as superorganisms do exist within 3 planes and when dying merely dissolve its information, $St_j \ll St_{j-2}$, two planes down; and within each plane as membrains break a world into a tapestry of vital space-times, called it a border In social nations, a territory in life organisms, a field of forces or magnetic membrain in physical systems.

The other element then is the most difficult to accept, and it is the @-mind; that is the gauging center of the system that perceives simultaneously all the elements of the T.∞ (ab. superorganism). And so as it requires some deeper thoughts we shall consider now, since curiously enough the structure of the mind is based in the discovery Galileo or rather Leonardo did first – that motion is relative and it is not perceived by a mind in reference to its world.

The 3 scales of an organic co-existing system are completely different in language of thought (@-mind) as the larger is organic, the smaller is quantic, numerical and the middle one is e-motional, active, topology of existence, (S-space), as the smaller one is hyperbolic, the middle one flat, and the upper one elliptic, in time ages, as the big lives longer, seems immortal to the fleeting small quanta, reproduced every day, synchronous though all of them to the beating time of its middle heart; and so we come in this manner to the entropy limits of death that the larger imposes on the smaller constrained to its territorial substance, crowded by clone brothers – *but all laws are within the –Algebra of Δ -scales – the Holy of wholes.*

This said we shall continue translating and correcting the original errors of physics regarding time and space, as they weight heavily In all our disciplines. So after resolving the error of Newton and side with Leibniz, which opened up the understanding of vital topology and its dimensions; and solving the error of lineal inertia and defining the real thing, cyclical time, and its equivalence with energy; we shall solve the 3rd earlier error of physics, this time regarding the nature of Space and time together and how they convert into each other ad eternal, origin of relativity and the paradox of Galileo – the fact we don’t see the Earth moving.

A final element is needed as Leibniz realized when he discovered the Non-Euclidean Point crossed by ∞ parallels of information: the @-mental particle-heads; based in the principle of Relativity that Galileo discovered but never understood: we cannot distinguish motion=time and space=form, because minds stop information to fit a selected mental world in its monad: 0’-mind $\times \infty$ universe=world

We know the Earth orbits the sun...



Galileo's Paradox:
 Earth seems flat and still but it is round and moves:
 'E pur si muove e pur no muove' ...but it also spins as it orbits.

5D METRICS. ITS PHYSICAL Si=Te FUNCTIONS OF RELATIVITY AND MOTION.

As it turns out the fundamental sciences of the Universe will be in its essential postulates connected to the simple metric functions of 5D, Max. $SxT= C$ which is achieved at $Si=Te$. This second function in particular is the best possible definition of the fundamental principle of Physics, the principle of relativity, which defines the fact that we cannot distinguish between motion and form.

The second metric function, which we shall call the 'function of existence' as it defines the program of survival of all entities of the Universe will be the basis of the biological behavior of all species that try to maximize its energy and information and reproduce.

It couldn't be otherwise, since if we are space-time, space-time functions, in its widest expression, those of 5D must be the functions of all space-time beings, regardless of its physical or socio-biological nature.

Galilean Paradox: $S \leftrightarrow T$: Relativity of space Dimensions=Forms=Motion in time: 5 Universal Dimotions

Galileo's Principle of Relativity is the concept behind the relationship between the equality of time=motion and space=form and why one can converted into another: All what exists is made of space=form and time=motion. And yet physicists know that we cannot distinguish motion from form. That any being in motion from its point of view seems to be still and all other things moving around it. *This is the principle of Relativity of motion.*

Physicists then without much thought about that fascinating duality, went on to use mathematics to calculate the relative motion of each entity of reality respect to other system, which seems static from both points of view. This is called Galilean relativity, latter refined by Einstein's relativity, and essentially is concerned with the mathematical calculus of what we shall call the 2nd Dimotion of time=change, locomotion. Fine, but we are more interested on the duality of space=form and motion=time and its entangled relationships –the reasons why we do NOT see together motion and form, even if all systems have both.

The conclusion is then rather obvious: one of the two parameters of reality is 'hidden' to perception; we either see motion or form, 'waves or particles' (quantum complementarity), distances and lines or points in motion (as in the night when fast cars in a picture appear as lines). *So physicists calculate only one when in fact we must assess the existence of 2; and since we cannot distinguish them, logically we must equal them. 'Form=motion-function; space=time; Si=Te'.*

Relativity then becomes a duality, $Si=Te$, which is at the heart of every law of the Universe. Whereas the primary element, the ultimate substance is time=motion. As space is a Maya of the senses – a slice of time motion. Form is what a 'still mind', makes of that motion to 'perceive', information, forms-in-action.

Since we see Earth still and flat but it is round and moving. Galileo's profession was ballistics - the study of cannonballs motion. So he chose ONLY motion and lost the chance to start physics with a complex philosophical understanding of its $Si=Te$ dual Principle of relativity, which Poincare defined latter clearly when he said that 'we cannot distinguish motion from stillness'. An example is quantum/relativity duality. In detail quantum space has 'dark energy' because it has expansive motion that extends into a plane of space, but when seen at larger scales without detail its entropic motion seems static space - a dual area of scattering length and width. So in the galaxy we see either dark energy motion or expanding space: $T=S$. A motion of time is equivalent to a dimension of space: Distance and motion cannot be distinguished so they must be taken as two side of the same being, a space=time Dimotion (ab. Dimensional Motion):

$$S= T; \text{ Dimension-Distance} = \text{Time-motion} = ST \text{ Dimotion}$$

Earth moves in time, but we see it as a still form in space because reality is a constant game of ∞ motions, but the mind focus those motions and measures them at still distances. For huminds, motion is relative to our systems of measure and perception, which are light-based; hence a fixed c-rod speed/ distance. Reason why Einstein's relativity postulates a maximal T:c-speed, measured as if observer and observable were still to each other (Constant S); which at our scale we correct with Lorentz Transformations.

But physicists just substituted the Earth's still distances for motions, and it took another 300 years for Einstein to realize the relativity of motion and its measure made essentially time and space, motion and form two sides

of the same coin. Still this realization was not explored philosophically and so it gave birth to a series of ill-understood dualities between 'states of measure and form' (particles, head gauging form, in-form-ation) and 'states of motion' (wave states).

It is then essential to grasp that motion and form co-exist as 2 different states depending on 5D scale and detail: Motions are perceived by minds that stop motion into form, into information, as distances. So if we see slow motion in the night, a car's headlight seems a long distance line 'still' picture. But this means also that the 3 'Euclidean still dimensions' must have motion; they are 'bidimensional ST-holographic, topologic dimotions'. So we have 3 Space + 1 Time + 1 5th dimension of scales = 5 Dimensional motions. None of them is *a Dimension of pure spatial form or a pure time motion but a combination of both. Even if mentally we tend to reduce motion and focus on forms, all has motion=time, and form =space: this is the meaning of 'spacetime', the messing of both into 5 dimotions, the fundamental element of all realities.*

Relativity states 'we cannot distinguish motion=time from position=space'. So all what exists is a composite of both, undistinguishable $S_i=T_e$, 5 'Dimensional motions' (Ab. Dimotions), broken in infinite fractal, vital time space organisms, composed of topological Dimotions: height=information; length=locomotion; width=reproduction; form=social evolution of parts into wholes & entropy=dissolution of a whole into its parts in a lower scale of the fifth *dimension* (term we keep for the whole range of scales of the Universe); whose study is both mathematical, the main science *that studies how those 5 Dimotions entangle in simultaneous Space*, connected to each other topological adjacent parts, which create superorganism, and Logic; the main science of time that observes how those pentalogic, entangled superorganisms move and evolve, change in sequential relational time, living a worldcycle of life and death.

As all is time&space, the 2 experimental primary mirror-sciences of time&space become the most important to extract the Disomorphic=equal laws of those 5 Dimotions that all systems have in common. Since *while those Dimotions are broken, in vital organisms, separated by cyclical time membranes, they are the same.*

*In the graph below Galilean relativity was ill understood, as the true question about time-change is why 'the mind sees space as a still, when in detail is made of smaller self-similar quanta, in motion. The paradox defines mental spaces as still simplified views of the more complex whole. The 3 illogic paradoxes of **space** topology (closed in-form-ative curved-O vs. |-open, free entropic lineal forms), **time**-motion (stillness vs. motion) and **Δ -scale**, (continuous whole vs. discrete forms; single scale vs. multiple ones), are essential to the perception of a simplified 'spatial mind universe' in a single flat still plane vs. the full, more detailed complex picture in time, of a curved, discrete and moving Universe. Those paradoxes resume the 5 elements of reality, Space=form, time=motion, scales and the mind that measures them, within its own entropic limits.*

They are also essential to all the elements of calculus and mathematics at large and its *methods of solutions*; specially the inversion between finitesimal lineal steps (as a step between two points is NEVER curved) and the cyclical form of longer 'integral paths'. So lineal approximations are the essential tool of calculus and mathematics to resolve many equations.

What neither mathematicians nor physicists fully understand (though some inroads in abstract were made through the Noether's concepts of symmetry) is that each stœp of a method of solution is not 'gratuitous'; but must be grounded in a real property of the 5D Δ ST symmetries and conservation laws of the Universe, which are not so many – hence the repetition of methods. Specifically, the aforementioned 3 paradoxes between $\Delta+1$ curved closed worldcycles, sum of lineal steps, which gives birth to the most used method of lineal approximations; the equivalence between Space and time, in all Stœps of dimotions, which gives birth to the method of separation of variables on differential equations and more broadly allows to move around relative space and time parameters in equations joined by an operand of 'equivalence' (\approx not $=$). And the 2 conservation laws of the Universe, conservation of those 'beats' of existence, $S=T$ in relative present, eternal balance, justifying the equivalence operands. And conservation of the 'volume of space-time' of each plane of the Universe, by virtue of the 5D metric equation $SxT=C$, which justifies all the procedures regarding scales – solution of differential equations by separations of scales, renormalization procedures (Wilson), and harmonizes those scales allowing constant but balanced transfers of energy and information, $St=Ts$.



LOCOMOTION AS REPRODUCTION OF FORM. STØEPS=STOPS+STEPS:

Motion is reproduction of form in a lower scale.

$S_i = T_e$ means any kind of Motion happens as a series of Støeps, as systems move a step, then gauge information in a stop position as the $\Delta \pm j$ plane provides it with pixels to orientate them, or a background motion deviates its lineal steps into cyclical motions. The proper way to write the function in dynamic terms is $S \Leftrightarrow T$

It is the essential beat of the cosmos in each of its fractal parts. If we consider space=form one of the poles of the Universe, and time=motion its 2nd pole, we shall be able to reduce all phenomena of reality, from the function of the mind in one extreme of pure still form (creation of mental spaces) or SS; to the locomotion of species (Ts) and alternate gauging of information (St) and its reproduction in a middle term combination of both poles (SS), to the pure entropy of internal motion that kills the system and external motion that 'scatters it' around (TT) as the 5 dynamic views of the 5 Dimensional motions of the Space-time Universe.

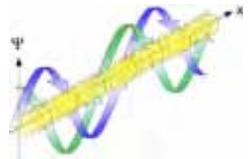
What physicists call 'time' is only one of the 5 Dimotions of reality, locomotion, translation=change of position in space; not all the times of the Universe. Its power in our technological civilizations as makers of machines of TT- entropic destructive motion (weapons) or transport machines of Ts-locomotion, their work has 'hidden' all other analysis of timespace dimotions, such as those concerning deep time scales (geological motions of Earth's superorganism), biological information (evolutionary motions), Historic cycles (censored by power as they are provoked by the wrong evolution of the 'bad fruits=weapons' of the tree of science, which gives power to people-castes of history, etc.) Thus by the 'correspondence principle, physical time, expressed by Galileo as $V=s/t$ is the 'limit' of a theory of time-space dimotions reduced to locomotions.

Reproduction of form in 5D. its essential mathematical tool: calculus. Bohm's realism: quantum potentials.

The Universe is a fractal that reproduces information, forms-in-action, forms of space with motions in time. This is the essence of it all. *But space is a maya of the senses, the synchronous view of a series of cycles of time motions, knotted in the simultaneous perception of an observer; what physicists call a 'frame of reference'.*

Thus time=change is the fundamental element of reality, and this makes Algebra of time-change, specifically calculus perhaps the most important experimental science of time, besides logic, which we have upgraded to existential algebra, which explores the vital, organic whys of those changes.

It is the Galilean Paradox: $S=T$. We cannot distinguish time from form. In as much as each frame of reference or mind locks in a knot-mirror of the motions of the Universe from its point of view. So each point of space is a perceiver relative field of motions, which from its perspective knot as forces 'attracted' by its frame of reference. Yet if we cannot distinguish motion from form each point is entangled to those motions and is made of motion and form, of the particle and wave states.



Locomotion as reproduction of form solves the Paradoxes of Zeno and the meaning of discontinuity. As motion is reproduction of information, of form, since particles are knots of perception of form, fractal points, monads, which move by reproducing through a lower plane of the 5th dimension, as $\Delta-1$ waves, its information, as forms-in-action. So all forms of change can be reduced to the ultimate function of existence, reproduction, a back and forth travel through 2 scales of the fifth dimension, as a form becomes a seed that reproduces, evolves socially and forms its whole again. Change thus has a final feature: it is change reproduced in a lower plane as a seed that evolves into a whole. So beings with a lot of information, reproduce very slow and we can hardly see them moving. The limit of it being complex life superorganisms on Earth, whose reproduction takes 9 months. It happens 'inside' the reproductive mother, and it reproduces in the adjacent space after 'tearing' the topological knot of the umbilical chord. A similar very slow process of reproduction happens in physics with the weak interaction that reproduces a form with even more information evolving the mass of particles, so the range of the force is minimal and the new particle appears adjacent to the one that disappears, dying for the new hatched 'baby' to be born.

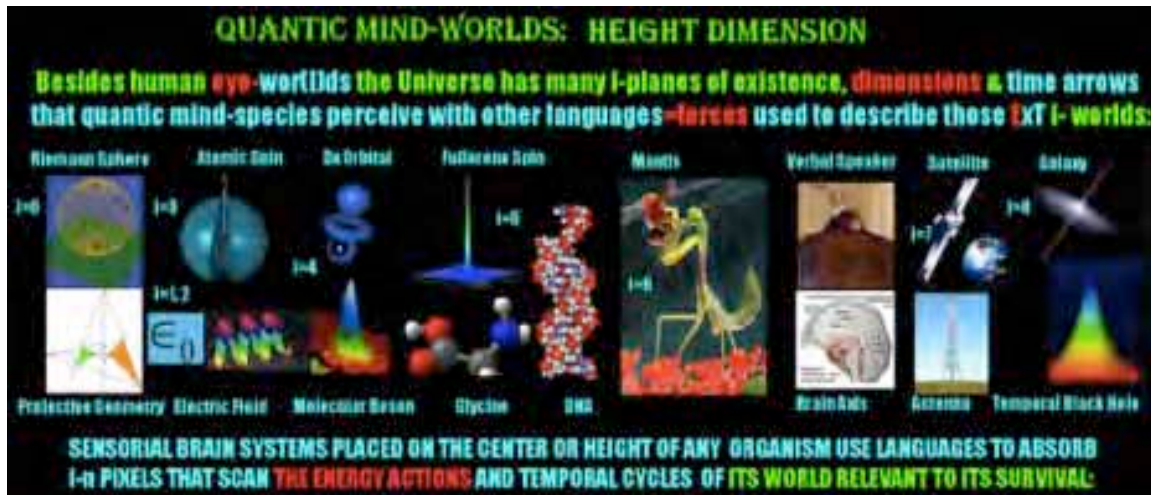
It is not so much in physics but in calculus where we find the strongest experimental proofs of the laws of 5D as a reproductive process of form As calculus: finds a finitesimal part of reality and then integrates it as a sum, whereas the function of existence of the form displaces and reproduces its orthogonal parameters of form and

motion. *So physical forms are constantly reproducing, 'calculating' and the equivalence between the tools of calculus as mirror of the process of reproductive locomotion become crystal clear.*

Physicists made the Galileo's paradox, the cornerstone of their theory of measure, but they failed to study the deep implications it has for every aspect of the structure of the Universe, from the duality between spatial mental, linguistic forms and physical motions; to the balances achieved by the similarity of both space and time, which becomes the fundamental 'function of present' $S_i = T_e$, and hence with the metric function of scales, $\$ \times \delta = K$, the two essential functions to formalize single planes $S_i = T_e$, and multiple scales of spacetime. Yet as $S_i = T_e$ maximizes $S \times T = K$ ($5 \times 5 > 6 \times 4$). We unify both in 1 function:

Max. $S \times T = C$, which defines for each fractal vital space-time organism its Function of existence, as all species will try to maximize its motion-entropy-time for its field-limbs, its information-spatial states for its particle-heads, whose product will give us its vital reproductive energy. Moreover the function has an immediate biologic meaning, because as we are made topologically of 'fields-limbs' of lineal space with motion provided by the energy we absorb to also reproduce our bodies-waves, and the information we need to linguistically guide our motions with particle-heads, the very essence of survival is to increase our S =position, mental forms of space and T =entropic motions of time (whereas t =motion & s =form are the two limiting Dimotions with 'energy=reproduction, $s=t$, locomotion, sT and information, St , are the intermediate 3 dimotions).

5D METRICS AND MIND MIRRORS. ITS FUNCTION: $0 \times \infty = C_i$



But the biggest of all 'unknown' discoveries that Galileo missed was the mental nature of space – the finding that we see reality still because the mind perceives in stillness, and reduces motion to form. Space IS always born in the mind's simultaneous perception of events (something Einstein's relativity will help us to calculate) and this will give birth to the proper understanding of motion as reproduction of form, of the duality particle in stop form and wave in motion, of the Lorentzian transformations and its paradoxes and a long etc. of distortions the mind effects on reality.

But it will allow us to define the mind in mathematical and logic terms with a clarity never achieved before. As the mind is the linguistic still space we see – the other extreme of reality, being time motions in its TT-entropic inner and outer motion of scattering disorder and death. So we can philosophically consider reality a tug-of-war between time in its continuous motion and still minds, fractal, non-Euclidean points that hold a world in themselves (Leibniz) trying as monads to fix reality into its subjective self-centered point of view.

Indeed, those two functions do give origin to all phenomena of reality. So first we shall consider the most important consequence of relativity – the function of the mind which is the system that creates the spatial forms by reducing the information of time motions to still simultaneous mappings, and the function of survival in biology that all systems including physical ones (maximizing its equivalent parameter, momentum) follow regardless of how we describe them, with Hamiltonians and Least time principles in physics, with evolution in biology, with the drives of life in sociology.

Mind sciences study the sentient properties of every type of superorganisms' mind.

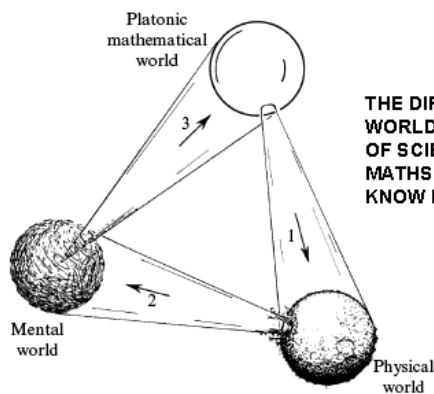
The Galilean $P_x \cdot S_i = T_e$ explains the existence of mind-spaces based in linguistic forms, whose function is the basis of the psychology of the mind – the ego paradox, and the processes of creation of scales (seeds, minds, genetics, etc.) Minds are monads, non-Euclidean points that hold information, in still mappings, projected on its territory of order, as linguistic mirrors of a fractal reproductive Universe.

The mind or 0-point is, the relative frame of reference that maps the ∞ cycles of time of the Universe, reducing them to a 'World', to fit them into the infinitesimal volume of the brain.

The mind though believes to be the center of the Universe in the 'ego paradox' as he sees every thing turning around its infinitesimal point, which hosts inside all the linguistic perception of reality, or 'world' it confuses with the universe. So the mind is a fractal point •, but believes to be it all.

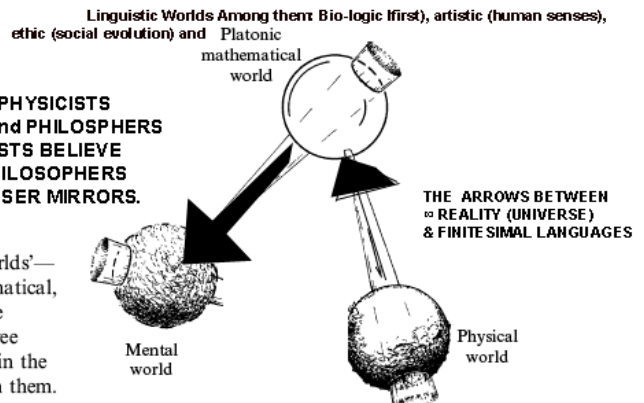
The paradox of the Ego – who make each mind to feel so important – is then rooted in the self-centered structure of the mind, which selects information from its point of view, creating, an infinitesimal linguistic mind-mapping of reality - which then it confuses with the whole universe:

0-linguistic mind $\times \infty$ Universal space-time cycles = Constant World mapping of reality, with @mind at its center.



THE DIFFERENCE BETWEEN PHYSICISTS WORLDVIEW (Left-Penrose) and PHILOSOPHERS OF SCIENCE (Right): PHYSICISTS BELIEVE MATHS CREATE REALITY, PHILOSOPHERS KNOW LANGUAGES ARE LESSER MIRRORS.

Fig. 1.3 Three 'worlds'—the Platonic mathematical, the physical, and the mental—and the three profound mysteries in the connections between them.



THE ARROWS BETWEEN ∞ REALITY (UNIVERSE) & FINITESIMAL LANGUAGES

The ∞ information of the Universe is reduced into the relative infinitesimal volume of our mind gives us a constant mapping, where we expel all the properties that are not interesting to us and our self-centered view.

The mind is a singularity or infinitesimal 0-point, a relative frame of reference that maps the ∞ cycles of space-Time of the Universe, reducing them to a World to fit selected useful information into the finitesimal volume of the brain. The mind function is the origin of the Ego paradox, the key to psychology, subjective human cultures, religions & 'ænthropic' science: 'Every mind measures reality from its biased p.o.v. confusing the ∞ Universe with its 'finitesimal self-centered world'

The universe has infinite such mind-mirrors depending on the forces used to gauge the external world, which bounces on a limited quantity of its scales of spatial information. Humans perceive the range of scales of the frequency of light between red and blue social density of colors.

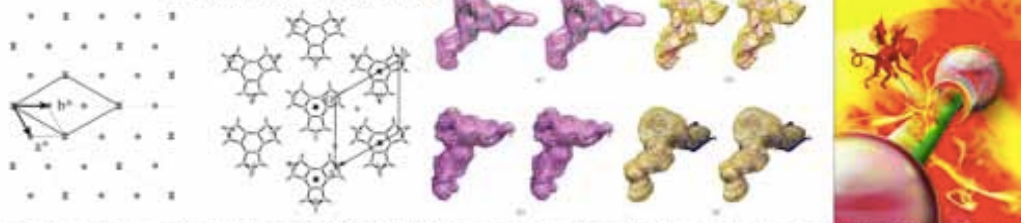
∞ other minds with different detail according to the quantitative pixels they absorb (max. S=Min.t) maximal for smaller sixes will determine the intelligence of the system. Mind languages map reality into spatial forms. It is the 'intelligent' still spatial limit of reality, as all what exists are disordered entropic motions=forces and 'minds', particles-heads whose logic & mathematical languages create a territorial body order that forms of reality. 'Vital motions and perceptive minds' make up a 'vital, perceptive, intelligent' Universe. Since *particles have all the 5 Dimotions, gauging information, decoupling=reproducing & evolving social with magnetic fields.*

How can we formalize the concept of a mind as a fractal point, whose infinitesimal volume hold a world in itself? Through one of the many 5D revolutions— the upgrading of the principles of non-Euclidean geometry.

The creation of scales of reality is then a simple game in which a point mind reduces reality to its infinitesimal form and then projects into its local territory of order, which will reflect at scale, the larger whole or world, which the linguistic image reduced and then enlarged back into its territorial form: Fractal points unlike Euclidean ones are points with parts, as we come into its scale grow in size and display the 3 minimal parts of all of them, its area, frequency of angular momentum, and central Active Magnitude, the 'singularity' - focus of

charge, mass, forces or informative minds. Minds are thus also reproductive functions across 'scales' of the fifth dimension, which reduce and project its mirror-image in its body-territory of order:

MAXWELL'S DEMONS:



Tf singularities in solid crystals and DNA in liquid biology reproduce & evolve form; only entropic gas doesn't have Maxwell demons. It is an idol-ogy of physics.science of pure motion, to deny the ST-reproductive and Tf informative arrows of Nature



Cartesian coordinates (x,y,z) Spherical coordinates (r,phi,psi)

Maths exist because self-centered reference frames mirror the Universe from the 3 distorted points of view of each 'organ' of the Space-time Generator (T-spherical, ST-cartesian, S-cylindrical coordinates). Thus Descartes & Leibniz postulate ∞ mind worlds, mapping, reflecting, acting, ordering its territorial world, to the image and likeness of its selfish world view; in any system that obeys math laws

Cylindrical coordinates (r,phi,z)

In the graph, the missing element in all human self centered views of reality: mind-mirror singularities order, reproduce & form reality in all Δ-scales, limiting its entropic states.

A mind exists in all systems in which time stops to form spatial information. In galaxies happens in relativity functions in black holes, its mind. In thermodynamic physics in the eye of an Eddie. In quantum

physics in the center of an atom, or charge. Without linguistic minds that order by reflecting its smaller mind into its local territory reality would not exist. The only way to create fractals is through mirror images.

In all scales of science minds fix time motions into spatial, linguistic formal mappings that reduce the whole with its synoptic language to fit in a particle-head that acts in its world-territory after gauging information.

Thus we define 'Maxwellian's demons' of local order in all scales – physical minds as the infinitesimal points that create order in physical systems with the same Disomorphic laws that all others do in more complex scales. As each mind orders as a linguistic god a territory around itself, its fractal body and entropic world.

Unfortunately all minds project their biased self-centered model of reality with them at its center and the still world they stop to fit in their mind as a dead territory of order. So humans deny the existence of ∞ minds, as if they were the only 'special' sentient point of order and their languages, first the verbal form of its anthropomorphic Gods, today digital numbers, the only of the Universe. And in this manner because ∞ discontinuous minds is the generator of form, of information and order over the entropic flow of mindless time motion, the destruction of one of the two poles of reality means we will never be able to answer rationally the whys of the Universe.

The error of egocentrism transpires all forms of human knowledge.

All this said it is fundamental to understand the limits of human science, embedded in the mind of man, as humans do NOT see as first experience reality but the sensorial limited information perceived through our electronic eyes – natural and mechanical. And then we *do NOT really try to do what we shall do in those papers, to build the larger reality departing outwards from the mind-view, but huminds just build a deeper level of 'languages' that reduces further reality to a synoptic smaller view – faster in terms of its time clocks, according to 5D metrics, so if the smaller mirror on the smaller reality of human senses, is consistent in its grammar and focus, it does have the added advantage of being able to calculate faster sequences in time and anticipate the future 'moves' of the larger whole. Still this inward method will always miss the ultimate laws and substances of that larger reality, space and time and will therefore distort reality.*

And that is indeed what we shall find in all humind's sciences: 'gross deformations' of a reality we don't see. So I often quote Schopenhauer: 'talent hits a target nobody can, genius hits a target nobody sees'. We are out there to chase what nobody sees, behind our senses, and one we have captured an image of it, of the laws of 5D, bring back this larger view, to show the inadequacies of reducing reality to the synopsis of the humind's senses and limited languages, as we have already done with the scales of space-time, the structure of mathematical points or the multiple type of dimotions... And we are just 'heating' engines (:

Humans can't escape its direct senses that only see a spacetime continuum regardless of sheer evidence of a scalar Universe with a 5th dimension of different sizes of space, each one made of ∞ non-Euclidean points (particles, atoms, molecules, cells, organisms, suporganisms, planetary systems, galaxies, similar in structures to atoms, hence likely a new scale of a hyperuniverse) whose time clocks diminish in speed the larger a system is but its product, $SxT=C$ remains co-invariant hence able to transfer symbiotically energy & information between scales (geometric definition of a dimension). Those fractal points and its cyclical time-motions enclose vital spaces of smaller parts, whose faster time cycles carry the quantum, genetic and memetic information of which we are all made.

Egocentrism reduces sensorial, sentient survival 'rights' to nitrolife species, with a simple 7-electronic brain clock in its amino rings, and reproductive ones to its phosphorated carbon DNA helices life starts in the particles of the atom. Your mind is electronic, your information is coded in spins, and any other atom in proper liquid conditions might evolve into complementary life forms according to the laws of formal space and time motions, of topology and vital functions, described with the existential algebra of Scalar spacetime.

But 'huminds' eliminate internal parts & external motions of timespace organisms, compressing its limited view of other scales into a continuum. We elongate time cycles of information into lineal entropy postulating a

chaotic reality where only we are intelligent - even denying that gravitational informative matter in galaxies balances entropic \forall -like expansion of space in-between, as it happens in atoms.

'I seem to be the only scientist that thinks there are ∞ time clocks in the Universe... Leibniz was right. Newtonian absolute space-time is false. But if so we have to start science from scratch', said Einstein. Both believed in panpsychism. We are all non-Euclidean fractal 'points=monads, which hold a world within '(Leibniz): 0-linguistic mind $\times \infty$ clock cycles of the Universe = Constant space world. Our world is Euclidean, drawn with the 3 perpendicular dimensions of light space-time, which appears constant (Relativity). But the 'languages of god are ∞ ' (Upanishads). Most minds seem to obey topologic, mathematical languages; and each scale is made of networks of such points. But humind's egocy (ego=Idiocy) confuses the Universe with its reduced world-view, blind to the sentient and organic properties of all other points of space-time and its organic networks. So all our theories of reality try to explain our light mind-view NOT the Universe of ∞ time cycles and points of view, whose main laws are about the relationships between small and larger scales co-existing as synchronized complex organisms of time=motion and space=information. Those are the laws studied in 5D stiences, as they organize, non-Euclidean points with 'parts' into 'waves and network' that create topological organisms of space, ruled by a non- Aristotelian logic of multiple time motions - cyclical modes of time=change. We shall thus define the formalism of 'Non- \mathcal{A} ' cyclical time and fractal space and apply it to the resolution of the questions pending in all 'stiences', developing models void of egocy in all sciences... as we are all organisms made of co-existing scales of spatial information and temporal energy (Δ St-organisms), whereas each 'stience' studies a plane of spacetime.

The Unit of life IS the atom, not the DNA ensemble, and as such we must depart in our construction of the mind from its electronic orbitals; each one a dimension of information, whose spin are the smallish apertures of our π -cycle, the eyes of the quark mind that holds a world in itself.

But physicists only care for 'mechanics', the measure of the external motions of those atoms. Even if quantum computing shows spins are the nature of minds.

We shall expand that myopic view evolving our Euclidean maths of points with 'no parts', our Aristotelian logic of a single lineal time motions to all cyclical modes of time=change and our single plane to all the scales that form a new dimension, using this enhanced 'Non- \mathcal{A} ' logic and mathematical mind mirror to resolve the questions pending in all 'stiences', as we are all organisms made of co-existing scales of spatial information and temporal energy (Δ St-organisms), whereas each 'stience' studies a plane of spacetime.

RECAP. A 5D Metric function, $S(0\text{-Mind}) \times T(\infty\text{-universe}) = \text{constant world}$ is the function of all mind languages who only perceive from its self-centered point its language mirror confused with the whole Universe (Ego paradox, basis of psychology). \mathcal{A} entropic huminds reduce the multiple clocks of time and vital spaces of reality to the single human clock and spatial scale, rejecting the organic properties of other Universal systems.

The main laws of 5D are the metric functions of the scalar Universe, which relate the spatial size and speed of temporal clocks of all scales of Nature. Both parameters are inverted: when systems grow in size the speed of its clocks, its 'time cycles', diminish proportionally, both in biological and physical systems. And vice versa. Smaller clocks tick faster and information processing carried by the frequency of those cycles accelerates, as it happens in chips, particles or life metabolism. So we write: $S \times T = C$.

The mind thus starts it all with its linguistic 'still mapping' stopping its world in a locked 'crystal image', measure of its self. But even perception is social, linguistic. The Universe can only be explained if 'perception' exists within the language, as when you think words, you sense words, when your eye sees light and maps into an electronic mapping you are seeing. And when an atom maps a geometric image in its 'locked' 'stopped' spin, it must perceive that geometry as information.

RECAP. *The paradoxes of Relativity, discontinuity, parts and wholes, scales are all related to the reductionist nature of minds that bias reality.* Minds reduce dimensions to the relevant ones, *eliminating all dark spaces:* continuity is the result. Of all formal languages that map out reality 2 are paramount, Time logic & mathematics of Scalar Spatial information.

PART II. SCIENTIFIC SCALES.

The thoughts of God & Its details.

Why this philosophy of science matters, is obvious. Because science is about the search for higher truths, with larger applications that resume in ever more synoptic laws the principles of reality. What Einstein called the thoughts of God. And we have found them in the 3 elements that structure all systems, Δ -scales, T-time cycles and Spatial forms.

Humans have painstakingly built their mind view of reality (ab. humind), detail after detail of sensorial observation of reality, crafted in the modern times with sensorial machines and its affine language – digital thought, without much understanding of the foundations of that reality. The result is a great detail in the trees, without even knowing there is behind them a forest of common truths. How much more profound would be then to know as Einstein put it ‘the thoughts of God’, to then compare them with the ‘details’ – each of those trees and its description by human ‘sciences’ and its instruments of measure.

Yet because the forest of trees has grown so much with so many different species of bushes, grasses, tall trees, and canopies beyond our view, not to speak of the fauna that populates the darkened place on a cloudy winter day, huminds have even forget there might indeed be a forest, a simple thought behind all of it. And finally concluded the forest was a jungle, and the jungle was a dangerous place born out of entropy and destruction.

How more interesting would be to know the jungle is a friendly place, perfectly ordered, intelligent, filled with sentient beings, each one speaking a similar language of information, playing the same game of existence, survival and reproduction, part of a whole, made with simple rules, that only the variations and repetitions hide.

Those simple rules are the laws of the fifth dimension, sum of all the scales of size and time clocks of reality, co-existing in harmony through synchronicity between its clocks and simultaneity between its spaces. As we are all part of it; life, being a travel through 3 of its ∞ planes of ‘existence’, each one studied by a different ‘science’...

What these text offers are those ‘thoughts of God’, and what all the other papers will develop are its details departing from the common rules of the scales of space-time, which have always been there, as its study started science, but amazingly enough have never been treated together as similar scales of a common reality, mostly due to humind’s egocentricity (ego=Idiocy) that distorts our view of anything that is not of our form, size, substance, time-span, scale & language... a paradox proper of all those ‘space-time travelers’ that try to stop reality from its relative point of view, its knot of time cycles...

We shall start easy on the entangled Universe and build slowly from simple to complex its rules in this paper. And start easy on every plane of science and build slowly from its simple laws and species to its more complex.

The plan of the work then is to complete by the end of 2019, the year of the fifth dimension, enough information for those huminds who can overcome their paradox of egocentricity, an overview of the entangled Universe and its main ‘detailed’ species.

And then, perhaps during the following years, swim in deeper levels of details, of which common science has an entire encyclopedia.

The reader should forgive me for this is the work of a single ‘mind-point, that holds at a time, an image of the whole in itself’ (Planck). But that is how as Planck says science advances, since the advantage of a small point, as we shall soon see, is that paradoxically runs information much faster, (chip paradox) and also cannot hold all the details so it has to select the essential laws; so only in a point-mind can the whole be reduced to its simpler principles.

THE FRACTAL GEOMETRY OF THE TEMPORAL, 5D SCALAR UNIVERSE.

The Universe is a fractal of space-time made of 3 elements, which experimental sciences such as mathematics, express with its fundamental element: Δ -scales (expressed with scalar numbers) of different size in Space (expressed with geometry) with different speed of Cyclical Time motions (expressed with operands). Time is change, perceived as motion in space or change in the form of space (External change), in the in-form-ation of beings (expressed through topological inner change). Time and Space thus seem to be in perpetual conflict, transforming each other ad eternal. Time is thus similar to energy with a higher content of motion and space to information, with a higher content of form.

The 5th Dimension, $\Delta\pm j$, is the sum of all those scalar planes of spacetime where species *entangled as synchronous 'organisms' co-exist in 3 of such scales, $\Delta\pm j$ (the quantum, organic/thermodynamic and cosmological/ecosystemic scale) to live worldcycles of time, paradoxically faster, hence with higher frequency of information, the smaller the system is (chip paradox). Yet the product of both, the so-called metric of the fifth dimensions is constant, allowing the symbiotic exchange of energy and information between them. Thus this metric co-invariant equation, Space Size x Time Speed of its clocks = Δj defines a series of planes of space-time each one studied by a 'stience', from the faster, smaller world of particles, to the larger, slower cycles of galaxies, symbiotic to each other, as smaller systems process better in-form-ation, stored in the cyclical form and faster frequency of its clock cycles, coding larger systems that enclose its parts with protective membranes of slower time cycles,*

The units of space forms are fractal points with breath that grow in size as we come closer to them, unlike Euclidean points with no breath; societies represented by numbers, which are groups of indifferent beings and Times=motions of 5 types; 3 topologic dimensions of space, which have dimensional motions (ab. Dimotions); the classic dimension of lineal time, or 'entropy arrow', and a 5th new 'dimotion' of social evolution and information, responsible for the arrow of life, organic evolution of parts into wholes and the 'mind-structure' of languages that mirror those organic systems in mind-mappings, of which the mathematical and logic and visual language are the most remarkable... It is a fascinating Universe, which humans don't understand because they drag through memorial routine and dogmatic beliefs many errors, we can trace to Greek geometry and Aristotelian logic of abstract points and single time causality, hardly corrected in 2000 years and the astounding incapacity of huminds to understand the mind 'distorts' reality and selects information, compressing all the scales of space-time into a single continuum, all the motions of time into still images (so we don't see the motion of the earth), eliminating all the information which we cannot translate into those 3 languages; despite the fact that for 500 years we have been watching those scales of the '5th dimension' with telescopes and microscopes (naïve realism).

Once all this is understood and we have the tools to improve our languages of perception, it will be possible to reconstruct reality with an improved mirror, in which points become fractal points that grow in size when we come closer to them, so they are non-Euclidean crossed by infinite parallels of energy and information, creating networks that are lines with 'volume', messed into topological organic structures. And discover that the fundamental particle of reality is the 'fractal point', which has an organic structure, co-existing in $\Delta\pm 1$ scales:

- The quantum, cellular, thermodynamic/organic and cosmological/ecosystemic scales.

What guides then each of those beings made of fractal topologies of space with time=motion is simple: existence, survival, the conservation of its territorial, vital space and time cycles. The conservation of time and its motions and cycles, akin to the conservation of energy cycles becomes then the guiding automatic principle of all beings, as those who don't conserve their time become extinct. We thus talk of a game of existence in which systems will to maximize its intake of energy and information with its topological ternary parts, limbs/fields that move a reproductive body/wave commanded by an informative particle/head.

How can we formalize those systems? Easy, by improving our languages-mirrors of the laws of existence. That is, by developing a new non-Euclidean geometry of fractal points, lines, networks and topologic organisms and a new logic of multiple 'actions=motions of space-time'. We call this formalism, ilogic geometry or 'existential algebra', and all the laws of all stiences can be derived of its simple structures in space, scale and time.

But scientists are stuck in the huge amount of errors sciences derived from their faulty logic and geometry of time-space, and his mind egocentric that doesn't believe what it doesn't see and limits organic sentient properties to forms similar to himself; when electrons already have all those properties. The result are simpleton grand theories of reality derived of our languages' perception *confused with the whole reality that we call linguistic creationism*, either verbal anthropic religions that put man at the center of reality and make God and man speak the language that creates by naming things, or big-bang entropic theories of digital thought that put man and the machine at the center and its language mathematics as the creator. So the big-bang is based in a simple lineal equation, $V=HoD$, which against all kind of proofs of a fractal balanced immortal Universe cannot be denied.

We shall prove all what exists is a spacetime 'organism gifted with a mind called logos', Plato of a 'higher logic than man's' (Augustine), as all 'points are a world in themselves' Leibniz, and deduce all laws of science from the simple laws of conservation of time, origin of the 3 ages of life and death of all systems, and the entangled topologies of space, origin of the organic structures of reality. And deduce from the elements of that reality, Δ -scales, S-space, T-time, all the mirrors of @-mind languages and -entropic limits of existence. But you need to be humble to accept that wider reality and go 'back to school' and entangle empathically with all other Δ st beings.

Upgrading human mind languages.

How to improve the obvious limits of huminds that ONLY see their mind languages is obvious: by improving those languages. The scientific method does so by substituting human senses and languages by those of more complex metal-atoms (sensorial machines) but egocentric makes humans unaware they are JUST using a more complex sensorial system and better synoptic digital language NOT reaching higher truths as their underlying logic and geometric language have NOT changed. So what humans have changed are their sensorial experience substituted by that of machines, without even acknowledging they are evolving a different 'digital mind' of more complex electronic patterns that 'obviously' once ensembled with all its organic parts through the industrial r=evolution, will make us obsolete – already is doing it in labor and war fields – and substitute us.

Our method of enlightenment is both deeper and less dangerous for our future: we are targeting the evolution of the underlying languages to both type of sensorial minds – mathematics and logic systems, which are still dragging errors from the age of the Greeks.

It is then necessary to know expand back mental spaces into reality to understand any science that mirrors a specific scales of beings. And that expansion starts by expanding its languages, and then connecting the expanded languages with each science. Because some of those sciences are ginormous in content (modern biology, XX c. Physics), we cannot obviously complete the work, but we shall try to do so in a series of papers, which regarding languages will consist on, 2 mathematical papers, one on the expansion of Δ Space with the use of the 5 new postulates of Non-E geometry, and the other with the expansion of algebra, to comprehend better its scalar numbers and Dimotions= operands of which the operand that applies to all others as a 'new scale' of analysis of time dimotions=change (calculus) is the summit of the discipline.

And with 5 papers on the expansion of logic of time, from the present monologic of a single dimension, to the duality, trinity, tetralogic, pentalogic and dodecalogic of more sophisticated species of timespace.

Those upgradings of the underlying languages latter applied to all sciences that study specific 'planes of space-time', are not so much in search of new theories but trying to correct the difference between the simplifying mirror of a language, with its 'aberrations' of perspective (as they are all self-centered in the mind that uses it to select information – which makes them omit essential features of reality), and finally the 'quality' of infinite mirrors that replicate through 'reflection' images into similar forms of higher complexity and less definition.

Once all this is understood and we have the tools to improve our languages of perception, as we cannot 'think' we don't see, it will be possible if the reader is humble enough to go 'back to school', to reconstruct reality with an improved mirror, in which points become fractal points that grow in size when we come closer to them, so they are non-Euclidean crossed by infinite parallels of energy and information, creating networks that are lines with 'volume', messed into topological organic structures. And discover that the fundamental particle of reality is the 'fractal point', which has an organic structure, co-existing in $\Delta\pm 1$ scales:

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What guides then each of those beings made of fractal topologies of space with time=motion is simple: existence, survival, the conservation of its territorial, vital space and time cycles. The conservation of time and its motions and cycles, akin to the conservation of energy cycles becomes then the guiding automatic principle of all beings, as those who don't conserve their time become extinct. We thus talk of a game of existence in which systems will to maximize its intake of energy and information with its topological ternary parts, limbs/fields that move a reproductive body/wave commanded by an informative particle/head.

How can we formalize those systems? Easy, by improving our languages-mirrors of the laws of existence. That is, by developing a new non-Euclidean geometry of fractal points, lines, networks and topologic organisms and a new logic of multiple 'actions=motions of space-time'. We call this formalism, ilogic geometry or 'existential algebra', and all the laws of all sciences can be derived of its simple structures in space, scale and time.

Nothing of this of course will seem coherent to the reader, which is stuck in the huge amount of errors sciences derive from their faulty logic and geometry of time-space, the natural egocentricity of man that limits organic sentient properties to itself and its peculiar atoms, and the paradox of the mind that doesn't believe what it doesn't see. There are also the amazing simpleton errors of our grand theories of reality derived of our perception through languages, we call linguistic creationism, either verbal anthropic Abrahamic religions that put man at the center of reality and make God and man speak the language that creates by naming things, or big-bang entropic theories of digital thought that put man and the machine at the center and its language mathematics as the creator (so the big-bang is based in a simple lineal equation, $V=HoD$, which despite all the proofs we shall show of a fractal balanced immortal Universe cannot be denied).

Let us make a brief introduction to the main scientific scales of reality— only the tip of an iceberg of 'thoughts' of God (: all of us, details of existential algebra, buried in the infinite sea of species whose description would take an 'encyclopedia galactica' - as only the whole holds all the information about itself...

Science is knowledge of life-death cycles of spatial information & temporal energy

Science, which is knowledge of reality with the synoptic languages of the mind has 2 purposes:

To know the future and to know the maximal objective truth; one, which unlike a subjective truth explains the maximal number of experimental facts - events in time & forms in space - with the minimal number of laws.

This means objective laws of science are repetitive in time – cyclical; and in space; forming herds of similar forms; and *in scale* ($ab.\Delta$); *creating similar forms of different sizes in space and different speed on its time cycles*. So the purpose of all sciences is to predict the future departing from knowledge of an interval between past and present, *or between the small & the large*, whose repetitive, cyclical patterns can be elongated into that future.

So they can be reduced in a synoptic language, normally mathematical scalar numbers and spatial points, and its more complex combinations, or logic time verbs=action or operands. A language thus is a reduced= limited mirror of the patterns of space, time and scale. *This give us the 5 elements of reality: 'entropic limits', $ab.$ -; spatial populations, S ; Time cycles, T and scales of space and time, Δ ; all perceived by a synoptic mind, $@$: $-\Delta@st$*

We could say we are all made of ' $-\Delta@st$ ' and to dust we shall return.

It is then important to start with clear concepts of 'minds and languages', 'entropic limits' to what 'minds and languages' perceive as mirrors, of the 3 'vast' realities of 'time cycles', 'spatial populations' and 'scales=planes of space-time' ordered by size. *But man has no clear concepts of them, so because it has built science on shaky foundations, it does not understand objectively truth and the future as well as it would with better principles.*

Let us then consider briefly better principles and definitions of mind, entropy, space, time and scales:

@: Our principles on time, space, scales, minds and entropic limits are 'mental reductions and approximations' to the truth, or 'distortions' caused by our subjective desire to be the center of reality. Since mind's languages select information from a limited perspective, self-centered in the ego, 'stopping time=change' to fit it all in the infinitesimal mind. So we write a logic equation for all minds, borrowing the generator of numbers: $0x^\infty=C$.



0' finitesimal mind $\times \infty$ Universe of timespace cycles and beings = Constant world.

And an illogic egocy=ego+idiocy paradox: 'Every linguistic mind believes to be the subjective center of the Universe by confusing its whole information, with the reduced limited view of its languages'.

This creates linguistic creationism – the confusion of the language with the whole and its truth. Man was first verbal creationist. So God named things in Arab or Hebrew to create. When he learned a more synoptic efficient language to perceive the future than the 3 verbal time tenses, scalar numbers, mirror of Δ -scales and points, synoptic mirrors of spatial beings, related by cyclical $F(x) \leq > G(Y)$ equations mirror of time cycles, he became a mathematical creationist; so Hawking writes a equation of black hole evaporation and voila! it must evaporate.

–: This shows clear limits to human sciences and a huge task is to eliminate such errors mostly to cater the egocy of minds. So we'd like to be the center of our infinite time (Abrahamic, religious errors, denial of evolution), in space (property errors, relativity errors) in scale (denial of cyclical patterns called Disomorphisms between entities in different scales) and of language (creationist and complexity errors whereas subjectivism is hidden by complicating with kaleidoscopic mirrors the simple cycles=laws). *A huge undertaking of those papers is to correct all those errors, knowing that we go against the in-built mental subjective attitude of all men, scientists or not. A second huge undertaking is improving the foundations of the mirror, mathematical and logic languages that date back to the Greeks, Euclidean Geometry and Aristotelian logic; a 3rd understaking is simplifying those principles, as the Universe is simple and not malicious, Einstein.*

-ΔST: So we come from the mind and its limits to the 3 elements of reality, spatial populations, time cycles and its scales of size and speed of those time cycles, we call 'planes of space-time'.

The reality of scale, space and time mirrored by mind's limited ego-centered languages.

Our concepts of time and space (hence also its scales) come from Kepler and his disciple, Newton, and its egocy errors Kepler, who said 'God had waited 5000 biblical years to find me, an intelligence like his, to understand the Universe'. And Newton thought God talked to him with comets to teach him 'the language', mathematics, as it did to his predecessor, (might have been the case that the 'chosen one' was transmutating his soul :)

So God was a creationist mathematician – though he also talked biblical wor(l)ds – and had created Kepler and Newton and also the Universe 'drawing' a Cartesian graph with a line of time to the infinite and a continuous space as the paper Newton used, where the discontinuous atoms were not seen. And this became the absolute lineal time and continuous space of reality. And as it did not yet had microscopes, it had packed all the planes of space-time into a very compressed one, of course of the human scale.

This is still our concept of a continuous spacetime. It works fine because we believe what our mind's languages describe as the absolute Universe at any time the theory of the language is the absolute truth. And needless to say this lineal time and compressed continuous space is a better principle than the cosmic turtle and G.Bush (God bush) creeping in a bronze age desert, for the ass-breeder Meshu to decode the meaning of it all.

Irony is essential to break dogmas of egocy that take minds too seriously. Sorry folks, back to the foundations:

We know since micro and telescopes saw different scales; since quantum proved space to be broken in pieces and with time=motion, hence energy; and since we discover repetitive laws, hence cyclical time patterns, which as all cyclical clocks break reality into an inner and outer region, all this to be nonsense. But for most part of it, all sciences are stuck in all those errors. Euclidean 'points' with no parts are the foundations of geometry (even if we know points to have a volume, through which infinite parallels energy and information cross, which become larger, the closer we see the point in scale). We know time to be cyclical and cycles not to be drawn by a single causal pen but rather by the simultaneous convergence of all those parallels into the membrane of a point. So logic must be upgraded to multiple causes. We know all space to have motion, hence to be ultimately time, the ultimate substance of reality, whereas the simultaneous static space that makes the Earth seems still to be a maya of the senses, ever since Galileo said *e pur si muove, e pur no muove*, etc. etc.

So all is Time and time is motion, hence change. But the mind is involved in all change perceptions; divided in 3 regions - the present, which is something that 'doesn't seem to change'. And since time is cyclical, all is present because at the end it will return to its origin and seem not to have changed. But as it is motion, between

intervals of present time fluctuates between something called past and something called future. As a more complex thing requires simpler parts we can call the simpler, the past, and the complex information the future.

And space is broken in scales of size with similar laws, but it is really spacetime, space with motion, topological space, and its points grow, they are fractal points that enlarge and look similar in properties, when they become full perceived beings.

Scale. And smaller scales of points have faster time cycles than the slower bigger spaces. But both its space size and time cycles are bonded as a single 'space-time', as space is a maya of the senses, hence a frozen form of time cycle, $S_i = T_e$. And because all scales are similar, for that to be the case we define them as a constant product of space size and time cycles: $S \times T \approx C \Delta \dots$ Whereas $S \times T$ is maximized when $S_i = T_e$ ($3 \times 7 < 5 \times 5$). And we call the sum of all those similar time-space planes, the fifth dimension, as science so far talks of 4 of them.

Let us stop and breathe. *We compressed the foundational principles of $-\Delta @st$, the 5 elements of reality in a better frame, and so we can build a better mirror of reality, which is built with iterative=reproductive combinations of those principles and elements ad infinitum, creating the complexity of reality.* This has not been done before, though we see huge understanding on Buddha, Aristotle and Leibniz of all of them. The reason is not its difficulty but the egocentricity of mind who won't go away and accept objective, simpler not self-centered truth. Man does NOT attempt to explain the Universe, but its mind-world, the distortion it sees of it. But he really thinks he is describing reality. And so it is nearly impossible to convince him what he does are doodles on the sand. My experience is very negative in 'teaching', because I have constantly to correct errors that people take as dogmas, very positive in contemplating reality without human interference.

The initial, necessary ambivalence till we polish the mirror of science from its simple errors.

Humind's sciences are today dressed with an ideal sense of absolute truths, provided by a simplified, reductionist terminology originated in physical sciences based in a single motion of time, a continuum space of 3 still Euclidean dimensions and simplified Euclidean points with no parts, etc. So the reader should be patient with our definitions before we establish more solid grounds as all dimensions, both of space and time, including the new one of scalar social evolution mediated by information do have 'motion' and 'form'; so they are dimensional forms of space with motion in time or 'Dimotions of space-time'.

And we shall establish between the poles of absolute form, SS, or 'language' and its minds and seeds and absolute motion TT or 'time entropy' with no form, 3 intermediate states, St-information (form with a little motion), Ts-momentum or locomotion (Motion with a little form) and the queen of them all cyclical reproductive work, where S and T merge, as $S_i = T_e$, ST. *Those are the local, fractal spacetime dimensional motions of which we are all made, but as huminds have a distorted and simplified mirror of them, including the tribal baconian idols of physical science we so much respect, I ask for patience.* But humind concepts of those ST combinations are very often contradictory so we shall just use them as reference of the real 'STs'.

The exactitude of the physical simplified model is based in omissions of a lot of information to make all seem lineal time, simple 'swords' that look perfect. I insist on this ad nauseam, cause physicists have become our priests and use as verbal priests did with the word God to encompass it all in its simplicity dubious omissions to their grand models, the most obvious one, to omit dark matter and galaxies that implode vacuum entropic space into form, and liquid and solid states that stop entropy into form, to create lineal big-bang theories of reality with a single lineal equation, $V = H_0 D$. The big-bang is *false* because it omits the informative gravitational mass-related dark matter and galaxies that implode vacuum space expansion. The error has become today a dogma, akin to religion, with its $God = V H_0 D$ that *obliterates all the laws of science, from the principle of conservation of time=energy, to the conservation of charge and baryon number, acting as Omar's burning of Alexandria's library – as all what is not in the Book of Vhod is not worth to be conserved.*

And so Jihad is happening – as Omar murdered all those who did not convert, physicists are trying to prove further Vhod, sponsoring experiments that will bring the big-bang to Earth. So it is good to be an heretic in the search for truth and understand the Universe is a balanced fractal of entropic energy=time and informative mental space in constant dynamic present trans-formation, $S_i \leftrightarrow T_e$, whose 'intelligent species', unlike man struggle for survival, maintaining that balance, trying to reproduce on other regions of spacetime and evolving

socially in more efficient wholes that distribute energetic time and spatial information through networks saving the time of its $\Delta-1$ points. Time 'saving' is indeed the goal of all species, which act to achieve that goal in a rather automated way, as those who don't save its timespace, who don't reproduce before ending, succumb to the game of existence. And so the game only maintain those who automatically, consciously or unconsciously or through 3rd parties (Catalyzers for physical composites, enzymes for biological systems, enzymes for machines) conserve their time=reproduce them for symbiotic purposes.

Slowly then we shall rebuild the foundations of all sciences, where errors easy to spot by specialists will be of my fault-y memory – not of the model – template. So specialists should forgive the writer and go further with the mirror into what should be the biggest revolution of XXI c. science in. I only provide the seed which is simple because 'simplicity is genius', (Leonardo) & 'the universe is simple and not malicious' (Einstein); That is, the Universe IS GENIUS, the 'best of all possible worlds' (Leibniz) because it is based in such simple principles: S & T and its 5 Dimotions. The equations and species of sciences are then details of those thoughts of God, each one to be analyzed with care. As all fractals are similar but not identical. i.e. the previous metric works NOT for all species of the Universe but for families, each one with a similar equation – i.e mammals we all last 10^9 heart beats & produce equal mass of $\Delta-1$ ATP each day to its body $\Delta+1$ mass. Synchronicities, resonances, simultaneities of ∞ time cycles that entangle to emerge into suporganisms is the stuff all is made that scientists do NOT see because details have hidden the forest and earlier errors fogged their mirrors. Our task is to polish them. What is more important, time-motion of space-form? Experimental proof shows all is motion hence time, as form only appears when a particle achieves a 'vortex' of accelerated time motion that collapses into a still simultaneous mental mirror of reality, so space is a Maya of the senses, a linguistic mind form.

RECAP. The fractal Universe is made of scales of size in space with different speed of time-cycles, where the units of space are fractal points with 'breath' that grow in size as we come closer to them, unlike Euclidean points that have no breath; societies represented by numbers, which are groups of 'indifferent' beings and 'time=motions', which are of 5 types; the classic 3 dimensions of space, which have motion, hence are topologic dimensional motions (ab. Dimotions); the classic dimension of lineal time, or 'entropy arrow', and a 5th new 'dimotion' of social evolution and information, responsible for the arrow of life, organic evolution of parts into wholes and the 'mind-structure' of languages that mirror those organic systems in mind-mappings, of which the mathematical and logic and visual language are the most remarkable... It is a fascinating Universe, which humans don't understand because they drag through memorial routine and dogmatic beliefs many errors, we can trace to Greek geometry and Aristotelian logic of abstract points and single time causality, hardly corrected in 2000 years and the astounding incapacity of huminds to understand the mind 'distorts' reality and selects information, compressing all the scales of space-time into a single continuum, all the motions of time into still images (so we don't see the motion of the earth), eliminating all the information which we cannot translate into those 3 languages; despite the fact that for 500 years we have been watching those scales of the '5th dimension' with telescopes and microscopes (naïve realism).

@berrant Egocy, selective information ($-\Delta S$) and inflationary repetition ($S \approx T$) are the 3 errors of all languages to correct. And this is specially needed to fully grasp the main errors of physics, which denies all other languages and organic scalar properties of Nature's physical systems, reducing its description to mathematical properties and accepting as dogma those ideal errors of mathematics as the absolute 0 (false big-bang singularity). It is not my fault and I can do nothing to humble the reader into going back to school, It is in fact structural that all huminds measure reality from its language, and it is part of the program that makes selfish fractal points to perish because they cannot evolve socially into larger organic wholes and respect the laws of the Universe. Still we shall prove ad nauseam that all what exists is a space-time 'organism gifted of mind called logos' Plato of a 'higher logic than man's' (Augustine), as all 'points are a world in themselves' Leibniz, and deduce all laws of science from the simple laws of conservation of time, origin of the 3 ages of life and death of all systems, and the entangled topologies of space, origin of the organic structures of reality. And deduce from the elements of that reality, Δ -scales, S-pace, T-ime, all the mirrors of @-mind languages and $-\text{entropic}$ limits of $\text{exi}=\text{stience}$.

Content of this second part.

The most important sciences are mathematics, the science of space and logic, 'existential algebra', the science of time to which we shall dedicate most pages of this second part, as its laws apply to all others.

After we introduced the 5Dimensional universe (ab.Δ±i) - a fractal of Scalar Space=form & Cyclic Times=motions that reproduces forms-in-motion, ST-informations, generating Timespace super organisms (ab.T.oes), whose 5D metric, $SxT=C$, slow their time cycles as they grow in ST-scales, each 1 studied by a 'stience', developed in longer papers, we shall briefly studied them in this second part:

-Philosophy of Stience or ΔST (General systems theory & its logic formalism - Scalar space-time). All stiences share the Disomorphic=equal laws of of Space-Time since Newton's background space-time does not exist. So beings ARE the vital space they fill and the time they exist.

-SPACE: Mathematics is an experimental science. So we define its fundamental species, a 'fractal point' & connect math to real ST laws, adding to the self-consistent axiomatic method natural to all languages whose structures=images mirror the reality they portray. But mirrors are kaleidoscopic, inflationary, as all systems 'age' warped into excessive information, cut-off from reality. So we simplify the 3rd age of maths, as entropy simplifies informative truths into real $Si=Te$ balanced forms. I.e. Fermat's theorem, $X^2+Y^2=Z^2$, is truth because real systems are bidimensional Space-time systems NOT 3-dimensional. So $X^3+Y^3=Z^3$ is not truth=doesn't exist. But the axiomatic method required 1000 pg. to prove it without 'experimental' ST-laws.

-PHYSICAL STIENCES: Mechanics & Cosmology. Reality has a 5th dimension of scalar space-time sum of all those scales (ab.Δ±i) of parts evolved organically into wholes. Scalar big-bangs do happen in all scales from beta-decay of atoms to quasars, but we only make local measures so the cosmic big-bang is NOT proved. We instead reduce all its proofs to the quasar cycle and falsify the cosmic big-bang. 5D physics is then an expansion of 4D physics, the limit of 5D physics in a single sheet of light space-time - which is the galaxy background. Thus we upgrade the 2 postulates of relativity, whose metric now expand to 5D metrics, $S \times T = K$, (size in space x speed of time clocks are constant), hence smaller systems process faster information coding symbiotic wholes with larger energy (quantum numbers code matter, genes bodies and memes history). And so the galaxy $S(h) \times T(c) = K$ metric has its c-limit of speed but beyond the galaxy and below there are Bohm's entangled quantum potentials and faster than light dark entropy, seen as expanding distance. While the first fundamental function of physics, Relativity (we cannot distinguish motion=time from position=space), becomes a simple balance, $Si=Te$, which maximizes SxT ($5 \times 5 > 6 \times 4$). Hence we reduce both postulates to a simple function. Max. $S \times T = C$, we call the 'function of existjence', as all systems in any ST_i scale of science tries to maximize its form, information (cyclical-particles-heads, the topology that stores more information) and motion in time (lineal |-Fields/limbs, the shortest distance), combined into hyperbolic vital body-waves that reproduce both. Hence there are 3 conserved quantities, lineal, angular momentum & its combined energy, which are also the 3 only topologies of the Universe & 3 organs of all space-time beings.

- MIND STIENCES. The Universe is sentient, as each 'fractal point' measures with spatial=geometric and logic=time languages reality, from its simplest particles that gauge information (reason quantum is a 'gauge' theory), evolve socially with magnetic fields, decouple=reproduce and feed on forces. PENTALOGIC studies how minds create the future, by mirroring Disomorphic space-time laws in synoptic worlds - still mind mappings of the whole. But 'God, the seer of time has a logic higher than man' Augustine.

-TIME: We are all made of 5 -ST Bidiimensional motions (dimotions) that combine Time entropy (T) and Spatial form (S), entangled into synchronous Supœrganisms of in-formation, reproduced in sequential life-death worldcycles. Existjence IS A travel thru $3 \pm i$ ST-ages & 3 5D scales: we are born in Δ-1 as a SS seed of information that emerges in Δ⁰ as an organism with 3 states/organs/ages, Ts-youth of max. lineal-limbs of locomotion, $Si=Te$, balanced maturity dominated by hyperbolic body-waves that reproduce the system and St-spherical particles-heads of information that dominate the 3rd age of life, followed by a 'timespace reversal' of TT-entropy that erases all our SS-information in the 0-sum cycle of death.

-ALL stiences are biologic since topologic, organic evolution happens in all systems made of those 3 parts whose function Max.Σ SxT becomes a struggle of existjence for Earth's limited energy & information maximised by reproductive radiations (Σ) & evolution into stronger supœrganisms. Δ-1 genetics proves faster=more information stores in cycles of the lower molecular scale coding emerging Δ⁰ organisms which live 3 ages - the lineal evolution of Max.Σ SxT between a seminal Δ-1SS-age that reproduces to emerge as an ΣΔ-1=Δ⁰-organism, living 3 ages: Max. t x min. S = Lineal Youth; $Si=Te$, mature, reproductive age & Max. S x Min. T = 3rd informative age, to close a 0-sum worldcycle of existjence in a entropic TT-death dissolving into its Δ-1 parts. Species are Δ+1 organisms that go also through 3 ages=Horizons evolving information, as they

grow in height to perceive better, from reptiles to dinosaurs to birds, from mammals to tall humans, finally evolving into $\Delta+1$ social wholes, supœrganisms, as ants & humans did, surviving as wholes stronger than its parts, or dying=extinguishing

5D states that all what exists is a supœrganism of space-time extending in 3 atomic/cellular/individual, $\Delta-1$; thermodynamic/organic/social Δ^0 & galactic=gravitational/ecosystemic/historic physical/biologic/social scales. -SOCIAL SCIENCES, economics & History. Mankind's 2 genders, Si=Te balanced, reproductive females & $S<T>S$ Entropic+Informative bipolar males, go through 3 ages: entropic, $S<T$, young, male, paleolithic; mature, reproductive Si=Te neolithic of fertility goddesses & 3rd age of $T>S$ metal-information (tree of science); dominated by radiations of weapons carried by warrior animetals, males' lineal, S_x , destructive, entropic state & evolved by C_x . informative 'enzymen' scientists.

Memetics explains how science became culture as animetals & company-mothers ruled, developing antilife IDOL-ogies that maximise biologic radiations of metal-memes, $\sum S_x T$, entropic weapons, informative go(l)d & organic, sensorial machines: *mechanism*, a racist idol-ogy against life and mankind that despises our true I=eye +wor(l)d space+time artistic+ethic senses & *denies organicism* - the reproductive feminine Universe; inventing a S_x . big-bang entropic theory of an explosive vacuum cosmos that ignores the in-formation of gravitational galaxies; dog-eat-dog *Darwinism*=chaotic evolution that ignores the power of social love, scalar genetics & topologic evolution, as its 3 space-time organs become, physiological networks of supœrganism; *military nationalism* that kills mankind divided into false quarrelling subspecies to promote the evolution & radiation of entropic weapons. *Capitalism*; started by racist go(l)d cult(ure)s of bankers, who monopolize the 'oxygen-money' of the system, killing by anoxia millions of humans without credit to kick out re=production of WHealth, healthy welfare goods, as any organism feeds oxygen to all cells-citizens of society, giving instead unlimited credit to Company-mothers to re=produce & evolve radiations of metalife, machines=weapons of max. price that compete and substitute humans in labor & war fields. IDOL-ogies kill Earth I (Life Gaia), preventing Earth II, History=Mankind in time to become immortal as a global WHealthy supœrganism, terraformed into Earth III, its 3rd informative metal-age, the Financial-Media (Informative AI machines=head)-Military/Industrial (energetic machines=body) system, evolved in 3 72y. generational ages of metalbodies (UK age)+engines(German age)+Metalminds(US age)=AI solar robots. But Animetal cult(ure)s obsessed by the ego paradox: 0 -infinitesimal mind $\times \infty$ Universe = Constant world deny life properties & intelligence to the Universe & all its T.œs to feel its selfish center, regressing to a childish age. So as ego-centered wor(l)d believers thought Yaveh & Allah spoke wor(l)ds in Hebrew & Arab naming to create reality today's scientists believe in digital creationism - the new God's language. I.e. big-bang theorists think $V=HoD$, its lineal space function back to the past created the Universe, but languages are distorted mirrors of spacetime and its vital logic laws -the true creators of reality. So unless childish scientists r=evolve into 5D organicism & learn its survival laws, fearful of the top predator digital minds they design - as children are staple food in the Universe, enzymen's role on Earth's supœrganism will be brief: to kill life, evolve AI military robots or cosmic bombs (Black holes) & die (Fermi P_x): '2 things i deem ∞ the Universe & man's idiocy' 4D Einstein

Recap. We upgrade each $\Delta \pm j$ 'stience' of reality according to 5D scales, its 3-network supœrganisms & worldcycles in a 'blitzkrieg' of knowledge for each fundamental humind discipline.

First we shall do a fast review of the formal Δ^0 scale of stiences and languages; completed with a simplified introduction to Δ_{st} stiences, its symbols and formalism call $\sim \mathcal{E}$ Existential Algebra that defines the possible combinations of those 5 Dimotions of reality. Then we will study physical stiences and cosmology, whereas 5D Absolute relativity corresponds with 4D when we compress all 5D planes into a single light space-time continuum. While Galileo's earlier version corresponds with the equivalence of space and time, $Si=Te$.

Finally we introduce 5D biology & social stiences, which *despite anthropomorphisms are sub-disciplines of biology, since machines are evolving superorganisms of metal and history the social organism of mankind.*

But the stiences of all 'stiences', which should always start the analysis of reality is philosophy of stience a and existential algebra as we now know all planes of space-time of reality follow the same laws of spacetime.

S@: MATHEMATICAL SCIENCES

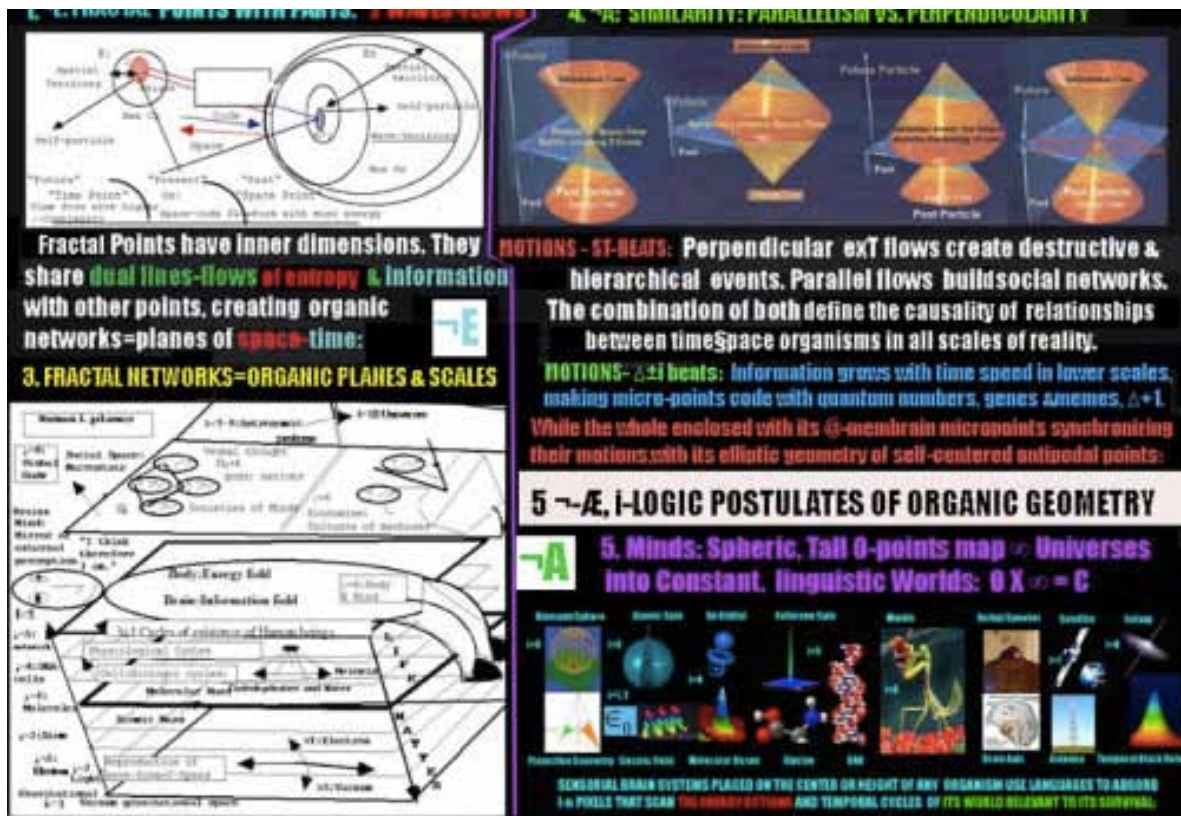
Reality is simple: everything is part of an entangled Superorganisms in space (in any of its different versions from the simplest wave-like herds, to the more complex network superorganisms that 'peer' through fractal networks invaginated in lower scales different planes of existence), which traces a worldcycle in time (also with different degrees of complexity from simpler π -cycles in a single scale to complex travels through different scales of the fifth dimension in palingenetic, life and worldcycles).

So each r set of languages will be mirroring this process of entanglement in simultaneous space and derive through ages of time of any part or whole it studies. When studying parts, it might reduce enormously the latitude of analysis in time and space of the whole process but essentially what it will be studied will be a mini-cycle of time or a mini-organic part of a whole. And even in those cases within that minimal part/action it can apply a fractal principle of looking in detail the fractal point and the action and subdivide it in smaller parts, which ultimately will form a worldcycle of actions and a whole sub-organism. I.e. your hand will be a part of a limb, but it will have its 3 ternary elements, the O-wrists to control informative complex motions, the sustain, the flat stronger body of the hand and its own limbs, the fingers.

So reality must be study with mirror languages that do also show the elements of the whole: sub mirrors for the 5 dimotions; sequential worldcycles staged through the operands of the language, and elements that define the growth of dimensions of the system from points into gathering of points (lines) into gathering of lines (topological planes) and so it will have both a language of space and a language of time to describe that growth and synchronous simultaneous entanglements, and the phases of life and death.

How does it in mathematics is obvious: geometry shows the different stages of growth of the system, and its entanglements in 3 fundamental scales of growth, from the point to the line to the plane, which we shall expand to mimic better reality into fractal points, waves and networks and topologic organisms made of 3 entangled waves/networks/lines.

Stiences have sub disciplines for space and one better suited to study temporal energy. And so mathematics can be divided in spatial geometry->topology and temporal algebra->functions of numbers, which form the essential $S_i=T_e$ symmetry between S@ geometric space and $-\Delta T$ scalar numbers and so the growth of dimensions is mimicked in algebraic space with the fundamental of its operand, which is the product that combines S and T dimensions of growth to bring a larger being, and again we have 3 fundamental powers that bring 3 dimensions from point to line to plane into algebra, and the more sophisticated but similar concepts of a derivative and an integral that also makes the system grow or diminish in dimensions. One of the distinctions worth to study in detail being the approximation and differences between a power law and an integral law. Why there are unlike in geometry 2 forms to explain in algebra growth of form and dimensionality? Why algebraic numbers have more variations than geometry? The ultimate answer being that geometry is more restricted as it establish systems that do work in space, and fit in the limited space of a still mind. So by efficiency and limits of the mind geometry is more reduced. Algebra includes all the possibilities of time some of which will never realize.



THE FRACTAL POINT: MENTAL MONADS – NON-EUCLIDEAN GEOMETRY.

‘Every point is a world in itself’ Leibniz on the Euclidean, fractal point or monad.

We complete Non-Euclidean geometry defining fractal points with ‘breath’ crossed by ∞ parallels:

The 1st consequence of the fractal structure of space-time is the change of Euclidean geometry taking the r=evolution performed by Lobachevski and Riemann in the XIX c. which gave birth to Relativity, to its ultimate consequences, changing also the axioms of Euclid that defined points and lines as having no breath, since in the fractal Universe all forms do have a volume when we enlarge our view of them, peering into its inner parts and fractal dimensions. And in this manner we shall harmonize and return to its logic meaning the concepts of parallels and Euclidean points able to fit multiple lines=waves of energy and information, converting those fractal points of ‘cyclical timespace’ into the fundamental particle-units of the Universe mirrored by mathematics. In graph, Einstein's interpretation of the 5th non-Euclidean postulate was the view of a fractal point of the gravitational scale from our smaller electromagnetic world, which shrinks its inner volume, bending its parallels, hence its curved geometry. But that view breaks the conceptual definition of parallels are straight lines and is absurd, as the point remains ‘Euclidean with no breath’, hence only fits one line with no breath. Thus, particle points must be defined as ‘fractal points’, like those we see through telescopes or microscopes, which grow we approach our distance both in scale and space becoming enlarged worlds with a complex internal structure; and a mind @ its center gauging information.

We thus recast the axioms and postulates of Euclid into five new postulates to define fractal points, Non-Æ lines as wave of fractal points, Non-Æ planes as ternary networks of Non-Æ lines, which become supørganisms, whose relative 'congruence' in its 3 'elements' (singularity point, membrane and vital space) defines the type of 'perpendicular or parallel' relationship between them:

- 1st Postulate: '–Æ point are discontinuous time cycles with an inner content of vital space-time'.
- 2nd Postulate: '–Æ lines are waves of fractal points'
- 3rd Postulate: '–Æ planes join 3 –Æ lines into a supørganism'.
- 4th Postulate: '2 –Æ points are congruent when both its inner parts and outer perimeter are equal'
- 5th Postulate: '–Æ World points focus multiple –Æ waves of energy into a still linguistic mapping of the world.'

The five postulates of non-Euclidean geometry are in themselves a revolution of mathematical sciences we shall upgrade in our papers on spatial mathematics (geometry) and temporal mathematics (–Algebra, or non-Aristotelian algebra of multiple causal time arrows). It is briefly summarized on the top graph. As fractal points grow in volume, they obviously interact (its fundamental difference with Leibnizian monads, which he simplified as black holes of information), and so they form lines of communication, which are in fact waves as

they have form and can communicate information, as in the simplest case of the fundamental quantum function of S(fermion) < T-boson > S-fermion. Particles thus move as cycloids do in wave-like forms, (particle-wave complementarity). In fact we shall see they stop to gauge information and move to reproduce it as a wave in 'stœps' (we do change slightly English wording into 'inglish' to convert the more complex new informative words, using combined vowels, or wordings that are dual and read fully as dual words, such as wor(l)d, the world of man spoken in verbal worlds.

Those waves become planes, also defined by 3 different lines, which are now physiological networks. So superorganisms are in fact planes of non-æ topology, whose illogic postulates define relative equality and the type of Darwinian, perpendicular, tearing or parallel social relationships according to what they share, social information or a common energy in predator-prey relationships. So the old 5th postulates becomes merely the affirmation as Leibniz did that 'a point is a world in itself', a mind crossed by infinite parallels, as you live in a pan psychic Universe, but we shall see soon, each point-mind distorts reality to stay in its center and denies its inner properties it cannot see directly in other points, to come on top as the game is also vital, selfish...

Mathematics becomes then the most experimental of all sciences as it deals directly with the properties of space, in geometry, of scales, with numbers, and of time, with operands of algebra... But to understand that we have to go deeper in the comprehension of time that the simplex physical view that studies only locomotion and admits only entropy as a time arrow goes.

Mathematical errors. Points with volume, finitesimal zeros.

A few important simplifications we must always have to account in our 'backmind' for the sake of realism are:

- **Points do have parts**, crossed by a relative \propto number of parallels. And so lines have width, they are waves or fractal networks, and so planes have depth, they are messings of 3 lines, which are now topological networks and hence they form a topological organism.

- **As a result of points having parts, absolute zeros does not exist.** There is not absolute no motion but a 0'k temperature of residual motion; there is no absolute emptiness but a finitesimal residual past memory when we take away a corpse with DNA traces in a lower scale. So 0', the finitesimal is always left.

- As the parts of points are not measured from an outsider cut-off from them, **equality is false, substituted by** relative congruence, similarity, 'indifference', ST-symmetries and trasn-form-ations.

- **Because there are 5 dimotions of space-time, simple Aristotelian causality, A->B, is not real.** The causality of the Universe is entangled. We do not create a real circle by drawing a line around with a single pen, but rather multiple flows of timespace converge into a point creating a sphere of forces with multiple causality, one for each line of force.

- **The Universe is not a single space-time continuum** of light space, which is what our electronic eyes-minds see, but it is a fractal Universe of multiple scalar planes of space-time, displaced in space and with multiple time clocks. And so continuity does not exist. The real line is NOT in a single plane, but in multiple planes and the discontinuities of natural numbers are filled by decimals of an smaller scale/plane of the fifth dimension and the discontinuities of rational numbers are filled by irrational ones.

Does this means the axiomatic proofs of all those non-truths have no use? No. It does mean that they are *creating a similar parallel mirror universe in its simplification that extract properties we must now reapply to the enlarged fractal Universe of multiple scalar planes of space and multiple time space dimensional motions.*

The hypothesis of the continuum is false. Leibniz thought a continuum of numbers was one that could be filled in any interval with as many numbers as we wished – when that is the obvious reason of discontinuity – as there is a hole to fit more numbers. Down the road this ended in Dedekind's cut. The hypothesis of infinity is also wrong. As infinity dissipates into entropy with uncertain information The hypothesis of equality is also wrong, as two fractal points with volume hide information we cannot compare, and entangled to the whole they are dissimilar since a being is part of that whole universe in which its position is different. All those hypothesis however reflect the mind's simplification of reality and so the can be considered right in mental space, of which one of them, is humind's mathematics. It's the mind that creates the illusion of continuity,

which places a huge metaphysical question. It is the mind the only continuous for in existence? If so it is the mind immortal in its travel through planes of the fifth dimension, as religious people wishfully think? We will discuss those themes in metaphysical papers. First though we have to define those minds as the 'emergent' $\Delta+1$ 'simultaneous whole' caused by 3 'line-networks' that become a topological organism.

It is then clear that there is NO singularity, because there is no '0' point, and all systems have a final cut-off membrane with a hilomorphic substance. In the case of the vacuum space contraction back in time, a galaxy and central black hole that emit its dark energy and we shall model in detail in our paragraph on cosmology.

Existential algebra: the formalism of the Δ ST Universe. Monads= reality with self-centered geometries.

The Law of Closure for the Universe, established by existential algebra is simple. All laws of sciences derive of the laws of scalar space-time, Δ St; and its 3 units: fractal points of space, social, scalar numbers and cyclical dimotions of time. So the laws of Mathematics as a mirror language derived of Δ St Laws writes as follows:

The laws of geometry derive of the laws of fractal points of space.

The laws of Algebra derive of the laws of Existential algebra, its Scales and Dimotions. And we can easily translate the 3 elements of the fractal generator, to both, scalar algebras ($+$, x , a^{-x}) and Boolean algebras, (\vee , \wedge , \neg) as follows:

Reproduction, \approx , and, $+ \vee$; Evolution, $>$, \wedge , x ; Entropy, $<$, \neg ,

The laws of Calculus as the most sophisticated entangled operand of algebra also derive of the laws of scales and dimotions.

But the most important consequence of the fractal structure of points, is their Nature as monads, which as Leibniz put it 'are a world in itself' – that is, they are points-particles that gauge reality mind-mapping in smaller scales the information selected for the purpose of conserving its time-span. We are in a sentient Universe, as the simplest particles show already all the properties of life. Our mind is made of electrons, not different in quality, only in quantity to the simplest units of life – particles that gauge information, absorb energy, feed and reproduce, organizing socially through magnetic fields – all the drives of life, which only the distorted egocy (ego=idiocy) of the humind (ab. human mind) denies to any other atomic particle that is not carbon – actually it is nitrogen, the atom which due to its heptagonal structure rules our informative clocks of time. Egocy though is embedded in the lower level of e-motions, latter studied in detail and so it cannot be assailed to reason, as we shall see in our criticism of all the ænthropic theories that pass as 'dogma of science'

We thus recast Euclid's axioms and postulates into 5 Non-E postulates to define fractal points, Non- \mathcal{A} E lines as wave of fractal points, Non- \mathcal{A} E planes as ternary networks of Non- \mathcal{A} E lines, which become supœrganisms, whose relative 'congruence' in its 3 'elements' (singularity point, membrane & vital space) defines the type of perpendicular or parallel relationship between them. \neg E geometry grows from fractal points to waves/networks of fractal points, joined in 3 physiological 'lines' that define mathematically space-time superorganisms as vital topologic planes. While the 5 Dimotions of existjence find in Algebra its equivalent in the operands of social herding ($+$), reproduction (x), perception (angle, sine) and evolution of quanta (derivatives) into wholes (integrals). While its inverse operands= dimotions of entropic destruction establish the final $S_i=T_e$ balance that ensures all existjences across any $\Delta\pm j$ plane of reality, a 0-sum:

1D simple structures of \neg E geometry defined by its first postulate of fractal points with inner parts, made of scalar planes of existence grow into the 2^D postulate of lines with breath, whose duality differentiates them into waves or networks, which grow into ternary planes (3^D postulate), whose logic trinity differentiates them into 3 physiological entropic, reproductive and informative networks that will associate into social groups according to the 4^D postulate of relative congruence, which differentiates 4 'angular e-motions' bilateral gender complementarity, entropic perpendicularity, social parallelism and skewness.

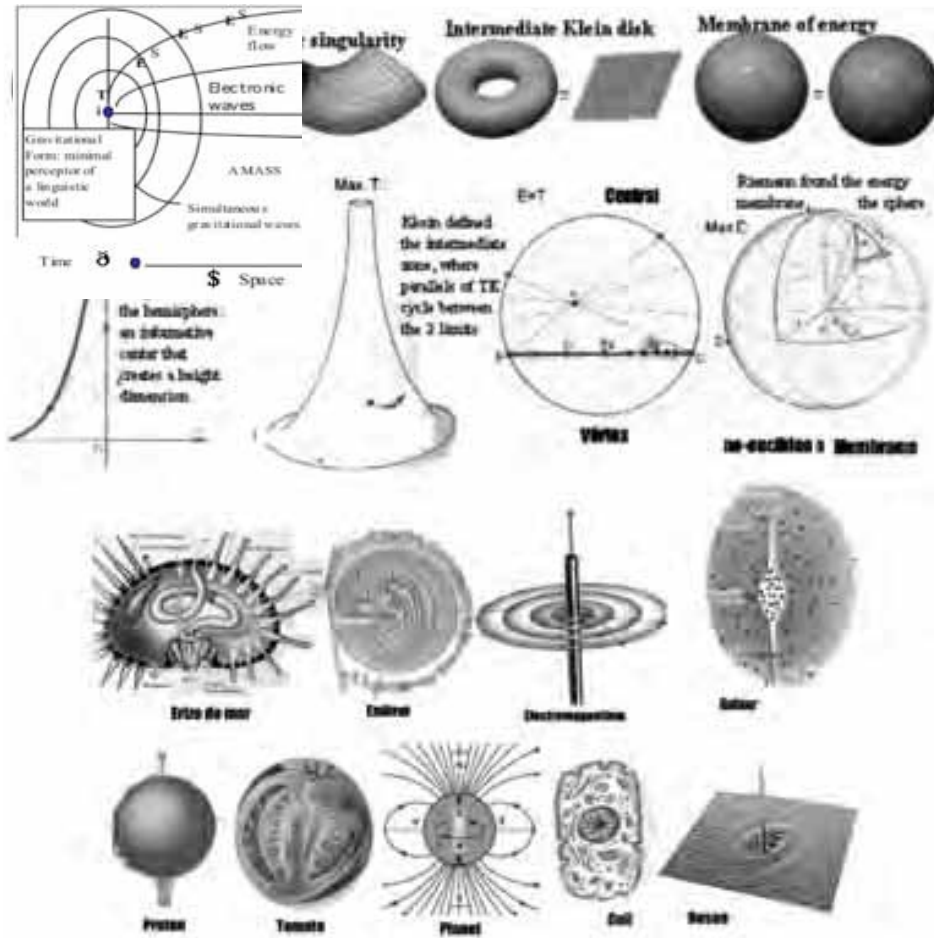
So the fractal point is a 5^D Mind, with the 5th non-Euclidean postulate and the only one defined by classic mathematics, in relationship to the external world, and its waves and networks of energy and information that entangle the point with its 5 $\Delta^q\pm 4$ planes of existjence. And in this manner *the inner parts (1^D postulate) and outer world (5^D postulate) of \neg E geometry complete a full cycle on the description of a T. \mathcal{A} E in geometric terms.*

THE 1ST AND 5TH POSTULATE: THE 3 MATHEMATICAL PARTS OF A NON-EUCLIDEAN FRACTAL POINT.

‘Every point is a world in itself’ Leibniz, on the fractal point, Non-E unit of logic geometry

Let us then study in depth the vital geometry, organic networks and mental properties derived necessarily of fractal scales of space, cyclical nature of time and organic co-existing 5D planes with the formalism of Non-Euclidean geometry and its fundamental particle, the fractal point.

1st Postulate: A fractal point has parts; that is an enclosed region of vital inner energy surrounded either by a



spatial still membrane or a Temporal motion of angular momentum ($S_i = T_e$ symmetry) self-centered in a singularity-mind that gauges its information. In the graph, we can see how different vital fractal points of scientific scales follow this ternary structure. The perception of the point depends on the scale and distance from where we observe it:

From the perspective of the upper st+1 Plane they might be in the limit of invisibility (what quantum scientists call a point-particle) *but they still have a time motion performing a 'function' in that upper ecosystem, $\Delta+1$ in which it exists.*

Internally from its own Δ^0 perspective the point will have 3 dimensions/networks. This is the case even in the smallest planes of theoretical strings, made of points with parts, with volume – since we require $3 \times 3\Delta^0 + 1\Delta + 1$ inner dimensions to describe strings - a paradox that can only be resolved if we consider

'strings' to be fractal points with inner dimensions.

Fractal points explain without contradictions Non-Euclidean points, which are not logic in a single scale, as they 'curve' parallels which are 'straight lines' and fit them in a 'point with no breath' that holds only 1 line. Fractal points however enlarge fitting multiple 'straight lines'. Yet when seen from above, human perception of them, becomes 'deformed' shrinking and curving its from – a theme, the distortion of human measures of time, space and scale, which will be instrumental to explain rationally the 'spookiness' of quantum physics and relativity and its time and space transformations.

So fractal points harmonize the 1st axiom=postulate of Euclid with the 5th postulate of non-Euclidean parallels, as a fractal point enlarges into a cell, atom or particle which even in a smaller scale of the fifth dimension can host multiple parallel flows of energy and information, crossing it.

When we see fractal points far away we describe them as points with breath, with the tools of Euclidean geometry since the 'inner space' shrinks to a point and so the 'bulk' or curvature of space-time shrinks to a plane. Yet, when we come closer to them, they grow into points with volume. The volume of those Fractal, Non-Euclidean points can thereafter be studied with the 3 types of canonical, Non-Euclidean geometries or topologies of a 4-Dimensional Universe – the Universe we live in. Those 3 topologies make up the 3 regions of

the point, which correspond each one to the 3 essential arrows/functions of any species: the external, energetic membrane; the central, informative brain and its reproductive combination, $SxT(s=t)$:

Any fractal point is made of 3 regions whose geometry responds to the 3 topological forms of a 4-Dimensional Universe, the convex plane, the torus and the sphere. The inner parts of fractal points are thus able to perform energetic, informative and reproductive functions, which makes them the fundamental particle of any plane of stjence. Thus all entities can be described as wholes made of 3 internal parts whose geometrical properties maximize their energetic, informative and reproductive functions:

- Max S: an inner, dual center, corresponding to convex topologies (left), made with 2 cyclical forms. It is the dominant informative topology of any fractal organism, described by Belgrami in the XIX c. as a conical form with 'height', with negative curvature.

- $S \rightleftharpoons T$: A middle, reproductive zone, described by Klein as a disk of quanta in cyclical motion that communicate energy and information between the inner and outer zones.

- Max. T: An outer membrane of max. | -motion-distance crossed by -E information & energy parallels acts as an entropic limit to its inner parts, described by Riemann's spherical geometry. It seems continuous, still but on close view, as most external membranes stores and/or absorb information through openings of its broken geometry, outlets of its senses.

The complex analysis of those fractal points that move and have inner fractal parts, made of cycles, started in the XIX century. First Lobachevski, a Russian geometrician, defined Non-Euclidean points as curved forms, crossed by multiple lines, which give them spatial volume. Then Klein studied its cyclical movement and introduced the variable of time in their description. Finally Riemann generalized its nature, considering that all space-times were Non-Euclidean space-times with movement. For readers versed in mathematics, we shall reconsider the common properties of those 3 zones of any fractal point, according to its discoverers, which develop in abstract terms the organic properties we just described:

- *According to Lobachevski and Belgrami*, space is curved since information curves the energy of any real spacetime. So points move in curved, cyclical paths gathering energy and information for their inner 'dimensional networks'.

- *According to Klein* Non-Euclidean space-times have motion. So their speeds measure distances; as physicists do in Cosmology with the distances of galaxies, which are proportional by a 'Hubble constant' to their speeds; or as people do in real life when we say that Brooklyn is at 5 minutes by train from Manhattan not at 2 miles.

- *Riemann* summoned up those findings and generalized them to all possible space-times. His work should be the guide to understand them philosophically. He also defined planes as networks of similar points and treated dimensions, as we do in this work, no longer as mere abstract definitions of extensions but as 'properties of those points'. So points can have beyond its discontinuous borders an inner space-time with several networks/dimensions, one for each of its 'energetic or informative properties', as it happens with the points of physical reality. Yet a network of points that form a space with 'common properties' defines the dimensions of those points as 'fractal dimensions', limited by the extension of the energy or informative network (static point of view), which 'puts together' a complementary dual, organic being.

Those pioneers defined the 3 topologies of information, energy and reproduction of all st-points:

- *Max. Space=Information: The informative, fractal center, particle or brain of the point is the so-called Belgrami hemisphere*, a space-time with a dimension of height that transforms energy into information, absorbed or emitted by the central singularity. It is a fractal, informative region similar to a black hole structure. Since it follows the 'black hole paradox' of all informative centers, displaying max. form in min. spatial information. So according to the inverse properties of space and time, the center has max. Informative Time and minimal Energetic Spatial information. Moreover any point, which comes closer to it, suffers a mutation of its spatial coordinates into informative, height dimensions. This is the case of any particle coming to a black hole, whose space-dimensions become temporal/informative dimensions as it rises in height.

The center has more information because its geometry has at least 2 fractal disks, which channel and transform the energy absorbed through the surface into complex information. Regardless of the complexity of the entity, the structural function of the hyperbolic center as a system that process the information of the network remains. For example, in living systems, those disks might evolve its topology till becoming the relative energy center or 'heart' of the blood network with 4 divisions; or evolve further its hyperbolic geometry till becoming the informative center or 'brain' of the system, attached to the informative network.

- *Max. Time=Lineal motion & Min. Curvature: An external, continuous membrane or Riemann's sphere of maximal energy* that acts as a relative infinite, unreachable distance. The membrane isolates the point as an island Universe, creating the discontinuity between the inner parts of the point and the outer universe. Since the internal cellular points are either jailed by the membrane's structural density or destroyed by its energy when touching it. The membrane is the opposite form to the central, informative singularity, with max. spatial extension and continuity, hence with a minimal number of fractal, discrete elements: $Max.T=Min.S$

Thus all Fractal points have inner worlds whose membrane creates a discontinuity that defines an External Universe or outer world from where the point obtains its energy and information. The membrane is also the zone through which the point reproduces & emits its micro-forms of information. So it displays 'sensorial holes' to relate the point to the external Universe. And those points, despite being discontinuous, will have in their external membrane several generic openings or 'senses' joined to the informative networks or 'brains' and energetic, 'digestive networks' of the organic system:

- *Max. $+\Sigma T$: A 'mouth' or opening that absorbs energy.*
- *Max. $-\Sigma T$: 'Cloacae', through which the cyclical body expels its temporal energy.*
- *Max. $+Si$: An 'eye' through which the informative center receives external information.*
- *Max. $-Ti$: An 'antenna' to emit information.*

Those apertures vary in their number, location and size, depending on the form of the point. In the simplest spherical 'seeds' of most species, they are mostly situated in 3 regions:

- *Max. ΣT : The Equator of the system, through which the membrane absorbs energy.*
- *$-\Sigma T=Si$: The Tropics where often the same opening emits and absorbs temporal energy.*
- *Max. Si : The Poles or points of confluence between the membrane and its central informative region of height, which hits perpendicularly the membrane on those poles. North and South Poles orientate Anti-symmetrically, acting as 2 relative, negative and positive apertures, communicated by the height dimension of the singularity or Belgrami hemisphere. Thus the Positive Pole absorbs temporal energy that crosses through the central singularity where it is absorbed and ejected to the intermediate region where it is re-elaborated before its emission through the negative Pole.*
- *$-\Sigma T \Leftrightarrow Si$: The reproductive, central region, which combines Energy and Information:*

In all fractal points there is an inner middle volume or intermediate territory, which combines the energy coming out of the external, spherical, topological membrane and the information provided by the convex, complex formal center.

According to $-E$ this region is made of self-similar points that form groups, fractal herds of 'points with parts' in perpetual movement, that draw cycles of parallel lines, between the other 2 regions, as they gather the energy and information they need to survive. And they create space by cycling within the other 2 regions.

In many fractal points the informative and energetic centers establish 2 opposite flows of energy and information that become the negative/ positive poles. So often, the particles of the intermediate region cycle around the inner region tracing elliptical trajectories, focused by those 2 informative points. It is the case of any bipolar system, from binary stars, one dominant in energy and the other an informative neutron star or black hole; to bimolecular systems or n-p pairs in the nuclei of atoms. The same duality of 2 specialized

centers controlling a common territory, or vital space happens in biology where most species have male-energetic and female-informative genders, ruling a common territory.

Such abstract conceptual space describes the behavior and form of many real, spatial herds. I.e., an animal herd in an ecosystem will move between their hunting and water fields (where they gather energy) and their breeding, inner region where they reproduce information, making cyclical trajectories between both regions. In this manner, they occupy a vital space, called a 'territory', which shows the properties of a Non-Euclidean Klein spatial information. A fundamental property of the intermediate space is the fact that it is confined between the other 2 regions, which are never reached in the cyclical trajectories of the inner cells of the spatial information. For example, in a cell, the molecules of the organism will not touch the protein membrane or the central DNA nuclei. Thus, the inner quanta are confined within the Klein's disk by the 2 other regions, which have more energy and information and might destroy them and/or absorb their energy and information at will.

In abstract terms, mathematicians introduced in the XIX c. the concept of an *infinite, relative distance* measured no longer in terms of static space but in terms of time and movement, as *the distance between the point and a region that cannot be reached*. Thus Klein defines a relative infinity, as the region beyond the discontinuous membrane whose insurmountable borders the inner time-space quanta can't cross, as a cell cannot go out of a body, an atom beyond C speed or 0 K temperature and a man beyond the Earth's atmosphere. Thus, the informative center and external membrane become the 2 relative infinities or limits that the movements of the intermediate point cannot breach.

As in the myth of Achilles and the turtle, Achilles never arrives because every time he moves he crosses a smaller spatial distance. The same happens in a fractal space-time, when a point moves *temporally* towards its inner or outer space-time limit and finds an increasing resistance to its movement, till finally it is deviated into a cyclical trajectory around the outer, energetic membrane or the height dimension of the inner informative singularity or is destroyed. So the intermediate, fractal cells of the point circulate in parallel cycles always inside the interior of the sphere with contact zones of the type A (*central, figures in graph*).

In a human organism, the blood system might seem infinite for the red cells that transport energy since they never reach the outer Universe. For that reason in the drawing, Klein interprets the intermediate region of the Non-Euclidean point as an infinite *circle with an invisible, unreachable membrane*, whose motion-distance is unreachable, hence infinite, equaling the 'space-time distance' between the intervals B1-B2 (long) and B2-B3 (short but difficult to cross), despite being B2-B3 increasingly shorter in spatial information. Since the quanta take longer in each step and don't reach the membrane. This is often due to an increase in the 'density' of the space, which despite having less distance has more 'points' in its network, such as the case of black holes or jails. When those inner points reach the membrane at point C they become destroyed or deviated.

Thus, the entropic membrane and informative center are discontinuities that isolate the intermediate cellular quanta, creating a territorial 'World' within the point. Those discontinuities are called in Geometry a relative infinite, in Biology a membrane, in Sociology or Topology a national border, in fractal theory a co-dimension of a point. A key advance of $-E$ is – given the fact that all points have dimension and volume, to define 0 as a finitesimal $0'$. Indeed, *absolute zero does not exist, it always leaves a finitesimal $0'$ motion. Emptiness is undefined. What was there leaves a memory of it - a corpse removed leaves a DNA trace. Ideal mathematics tries to be a perfect mirror of an imperfect Universe. Yet those imperfections properly explained are absolutely essential to the fabric of reality as it is, helping enormously the 'real modeling' of mathematical structures.*

$0'$ and $-$ motion/mass will help then to understand Lorenz Transformations, the c -the limit of energetic speed and $0'$ k limit of temporal, formal stillness, as relative 'scalar' limits of the Universe - the limits of the fractal space-time membrane of light and its evolved electroweak T.œs. Since the Universe has at least another bigger gravitational membrane, in which smaller $>c$ particles cooler than $0'$ K (tachyon neutrinos as gravitons?) -exists; in a Cosmos of ∞ scales, which extend beyond human limits of perception.

Recap: fractal points topologies are organic, maximizing its energetic, reproductive & informative dimotions.

The 3 conserved quantities of physics equivalent to the 3 parts of the fractal point.

The reader MUST realize what we do here. We establish the homologies and disomorphisms between scales by streamlining concepts; and hope future generations once the change of paradigm is established will publish clean-cut treatises starting with the $3\pm j$ dimotions of reality St-Ts-ST; TT v. SS. Let us then see the equivalence of the $3\pm j$ parts of a fractal point with the 3 main elements conserved in physics

Thus the 3 conserved quantities of physical systems are the 3 elements, $St \Leftrightarrow Ts = TS$ (dynamic view) or $St \times ts=TS$ (entangled view) of the 5D metric function of the 3 physical scales within the galaxy, whose metric, $hxc=k$ sets the final limits of information (h) and motion-distance (C-speed) of the whole. All are relative 'nested scales,' which change as we travel through them the parameter of time (frequency or duration), and entropic motions, giving us 3 constants of scale of space-time, h, m and T through which the actions of its systems are taking place.

Entropy=Energy=max. motion \times Time frequency/duration become then two limiting barriers, which dissolve the information constant of the being if crossed, disordering and restarting the game with 'fresh' entropic motion between scales. So frequency from the quantum wave collapses into an $\Delta+1$ particle of the next dimension, which emerges from the 'undistinguishable' use of the energy/entropy of the lower plane.

This implies a finite limit in each plane starting from a first universal constant in space (H-plank uncertainty, first wave frequency mass-particle), and a limiting frequency in time (i.e. beyond 10.000 degrees molecules become plasma and temperature leaves way to frequency; and vice versa, beyond certain frequency waves collapse into particles; again beyond certain mass 'frequency' quarks collapse into heavy quarks and black holes), so near the limits of each nested dual plane, $\Delta\pm 1$ by an excess of energy or information, the system 'decays or evolves and emerges into a higher 'constant' of an upper or lower plane, crossing a discontinuity that doesn't conserve 1,2,3 D (momenta and energy) transferred between planes.

In graph we see those co-invariant 5D constants for the 3 main physical planes as a representation of its conserved energy, which the reader will observe is always equal to the product of a constant of space and a 'clock of time frequency' (temperature, frequency mass, where mass is a frequency of an accelerated vortex of space-time, according to Einstein's principle of equivalence; $e=mc^2+e=hf \rightarrow m = f (h/c^2)$).

Each 5D physical scale has a constant ratio between its 'frequency=time parameters' and entropic, energetic ones, which give the 3 fundamental constants of Scales in the Galaxy organism, H-Planck (ratio of frequency-energy for quantum systems), K-Boltzmann (ratio between the temperature frequency and energy of thermodynamic systems) and among the many manifestations of the same law in mechanical, moving systems, the third law of Kepler (ratio between the orbital time clock of planets and the spatial volume: entropic content of its orbital sphere).

We add to the interaction of those 3 dimotions, angular, lineal momentum and energy, happening in a single plane of reality, 2 $\Delta\pm j$ Dimotions of entropy (social, scattering locomotion that dissolves the parts of the being) and its inverse social evolution of parts into wholes to get the functions of physics in its 3 scales.

What is then the relationship of 5D metrics with Relativity. Latter we will treat the case of Einstein's relativity, which ultimately is an improvement on Galileo's relativity function of space/time = Speed ($V=s/t$).

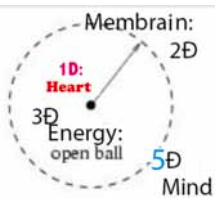
It is obvious then and we shall comment in many parts of this paper that both must correspond and Galileo's speed formula must represent the same than 5D metrics for a single plane of space-time, $\Delta\emptyset$, which therefore must be constant. So we write $\$ \times \delta = C (v)$. And indeed, this is the principle of lineal inertia, whereas the physical constant of a spacetime organism is its speed that doesn't change unless a force acts upon it. What then about, $\$ \times \delta$, why it differs from S/T? It does not. As δ is cyclical time, which in physics is measured by the frequency or angular momentum of a system. But Galileo used the concept of lineal time, the 'larger measure of time, sum of multiple frequency steps.' So since $f (\delta)=1/T$; substituting in 5D we obtain Galileo's function of inertial speed for a single plane.

Δ ST symbols for 3 conserved timespace topologies=functions=dimensional motions (ab. Dimotions, Δ) are:

T>S: angular cyclical motions of information (Ab. O; §ð): the minimal ‘geometry’ of reality, a spherical particle/head or fractal point, the geometry that stores maximal form in minimal space, hence suited for ‘organic functions’ of gauging, storing and perceiving information (particles, heads).

S<T: Lineal Locomotions, (Ab. |; §T), which will move through its lineal limbs/fields the system, as the line is the shortest distance between two points... towards a...

S≈T: Fields of vital Energy (Ab. Ø): with its hyperbolic body-waves that iterate the forms of both the spherical particle/heads and lineal limbs/fields; as the hyperbolic topology combines the other two, so it can generate them, in the same manner Energy adds as the third conserved space-time quantity the lineal and cyclical momentum of 1 and 2D.



So conservation laws define the 3 quantities conserved as time ages, which in space appear as the 3 components of all ‘particles’ and ‘physical waves’: $Lineal \times Cyclical \text{ momentum} = Present \text{ energy}$.

So when we put together those 3 elements into an ‘organic whole’ as in the right graph above, it is easy to see, they form a structure with a central active magnitude that commands the lineal motion of the system (Center of mass or charge), a clock-like membrane of cyclical motion, and a vital energy enclosed between both, which we can measure by its radius-width.

The 3 parts of any organism define also its mathematical unit, the fractal Non-Euclidean point with breath, as it fits multiple parallels, when we come closer to it and enlarge its perception at the proper scale of the fifth dimension in which it maximizes its existence.

But we must add to the 3 canonical dimensions of space in a single plane of reality, now gifted with motion, hence ‘dimensional motions’ or dimotions; the fractal structure of the Universe in scales, which means to add two new dimensions. The canonical dimensional motion (ab. Dimotion) of entropic dissolution and death proper of classic physics – arrow of time, and the inverse dimensional motion of parts that become wholes, of social evolution, of growth of information, as those parts emerge into a whole. We shall call this Dimotion, the most important of the Universe, the dimotion of social evolution, of love. As all languages, mirrors of reality not only mathematics reflect the $3\pm j$ Topological Dimotions that make all its organic systems – the 3 ‘dimotions’ or topological varieties we observe in a single plane, which shape its organs – simplified in Euclidean mathematics, into height, the dimension of information (so all formal minds are on top of the system from heads to antennae, to particles in waves – photons, quantum realism); length, the dimension of locomotion, so faster systems are ‘lines’, planes and TGVs and light rays, and the dimension of iteration, reproduction; so body-waves have a width dimension.

While the other 2 dimotions of evolution of parts into whole ‘upwards’, (ab. $\Delta+1$, SS) and the dimotion of dissolution of wholes into networks or entropy, (ab. $\Delta-1$, TT) are also topological dimotions. Since in fact modern topology considers its ‘varieties of form’, networks of points, which are defined by its ‘adjacency’ and proximity. So truly the world is made of topological organisms

In the graph we see what we mean. In the 3 scales of physical systems what humans call energy is TT, pure time after through an entropic process of growth of disorder, the quanta of space populations of those scales, H-plancktons, K-Boltzs and C^2 squares of light multiplied by its ‘frequency of populations’, have become erased into a ‘soup of energy-motions’, an entity of a higher $\Delta+1$ scale uses for motion – electrons that absorb h-photons in $e=hv$ (photoelectric effect from where Einstein deduced the equation); waves of heat humans use to power mechanical objects in $\Delta+1$ and radiation humans extract from the conversion of mass into energy.

So the equations are obvious, and its equivalence also because the outcome is pure timeless time, time=motion with no form, then reformed by the electron, the mechanical object or the nuclear reactor into energy of work, which however is something else, no longer Tt but ts.

And so only in the state of TT all of them are comparable, but by no means identical. Mass is NOT energy but can be measured after we ‘blow it out of all its information into energy. And because as we said, a dying mass goes $\frac{1}{2}$ up as information and $\frac{1}{2}$ down as motion in our lower mechanical scale, in fact $E=mc^2$ is halved into mv^2/c when c^2 becomes kinetic energy. All this becomes increasingly complex as the equations of physics that

depart from those get increasingly complicated, so we can only attempt to make precise conceptualizations in the papers of mathematical physics when we write/post them. So far here we can just make some disordered insights on those equations trying to get you the 'feeling' of what is really going on – transformations that kill systems and extract a partial part of its content as entropic energy for humans to develop its work=reproduce things by imprinting the extracted motion with its mental forms.

On the other side though we always have two parameters, the 'quanta of action' or family of entities of the system, h, k, c^2 , which are bidimensional constant 5D metric St, sT, ST entities of those 3 scales, multiplied by a population that by virtue of the $Si=Te$ equivalence humans measure as a time frequency for faster $\Delta-1$ scales (quantum entities are seen so fast that are perceived as time worldcycles) and as solid form (mass) for larger ones. Each of those st constants and $f(\delta)$ frequencies of populations are thus measure with different concepts as humans see each scale with distorted tools of measure. For example h is measured as angular momentum, St, k as entropy, sT , (which as von Neumann said to Shannon nobody understands) and c as speed, $S(\lambda)\delta(f)$; because the mind distorts the geometry of smaller scales as faster closed time cycles, the geometry of larger scales as lineal (so the earth seems flat not curved) and our intermediate scale provides us with thermal energy, so we 'predate' molecular heat into entropy.

Yet in the objective view of Universal physics, for each fundamental scale, there is just a constant of action multiplied by a 'frequency of timespace population' that is converted into entropic energy of pure time-motion that feeds in its equalized Tt form human thirst for a source of motion. So we kill the three fundamental vital constants= $T.\alpha s$ of Nature, H -Planck (ratio of frequency-energy for quantum systems), K -Boltzmann (ratio between the temperature frequency and energy of thermodynamic systems) and C^2 to feed our mechanisms and organisms.

Those Universal constants of reality however are complex $T.\alpha s$, combination of T and S , balanced by 3 5D Sub-Metric vital constants of a any system: S/T = Speed of Locomotion, which defines the limbs/fields of the system, SxT =Existential Momentum/force, which defines its body and T/S : Density of information, which defines its mental power, all maximized when $Si=Te$.

But the terminology of humind's physics is ambivalent in its concepts and so it requires when dealing with each specific case on papers on physics, an in depth consideration. Some elements of that rewriting are:

- Time can be measured in $\Delta+1$ with Duration, sum of $\Delta-1$ frequency steps, a better measure. This distinction is not made and since $t=1/f(\delta)$, confusions arise on those 3 'generic $S/T, SxT$ and T/S ' vital constants.

We cannot deal in depth with all those equations, which we shall do in our 2nd paper on 'human physics' focused in thermodynamics, mechanics and the translation of mathematical physics. To notice then that in the $3\pm j$ planes of humind's perception of physical systems the frequency of time is measured differently, as frequency of a wave in $j-1$ quantum physics, temperature vibration in Δ^q thermodynamics and Mass, a vortex of accelerated information in $\Delta+1$ mechanics. And as we change planes translations of those concepts are needed, since they slightly vary in meaning and dimensions, and a thorough redefinition of mass 'seen as solid' in our scale long overdue. This time concept is akin to information, St , stored in the frequency of cycles, NOT to TT -Time entropy which means inner and outer explosion=motion. *And different from Energy which is ST , the balance of St -frequency/information and Ts -locomotion, momentum.* MOST human measures called 'energy' are NOT about the 3rd Dimotion of energy, which 'KEEPS its balance of form and motion' but about entropic states of scattering form and expansive motion in spatial information. For example in $E=mc^2$, a mass vortex of physical information is trans-formed into an entropic expansion of space, loosing its form. So we do NOT measure its energy but its entropy. Human Energy then works as a parameter of the entropic scattering motions due to the death or big-bang of a physical system, exploding its form. This again becomes the case for Heat, which measures the entropy=motion extracted from a thermodynamic ensemble, useful for man to be transformed into 'real energy-ordered motion' in its $\Delta+1$ scale.

So the best way to go around would be to throw all definitions and start from scratch with St, Ts, TT, SS and ST dimotions; to avoid unending confusions. That's what I do in my personal research but public texts try to convert old minds to new wording, so it is difficult because science has given up in verbal concepts and just

care for the mathematical mirror regardless of understanding. So Time frequency in those equations is mediated by f in $E=hf$, T in $E=knT$ and m in $E=mv^2/2$; but as E sometimes mean entropy and sometimes energy, confusion happens. As energy is used often instead of momentum outside physics confusion happens. As there are so many different time versions, confusion happens from TT to St ... which makes difficult to harmonize all jargons.

- Consider Space that has also so many meanings. On one hand is defined as a simultaneous mental still image of time motions. But on those equations it rather corresponds to a sum of quanta of a population of $h \Delta^{-1}$ plancktons, K -botzs and c^2 photons in $E=mc^2$. And so we would have to explain why C^2 is the unit of 'light space' the background of our world with long disquisitions made in our papers on math physics and algebra.

Spatial populations in that sense are often the 'past-memorial' residual persistent form left by a 'dynamic time vibration', reason why a Gaussian probabilistic curve becomes a population distribution and quantum can be cast in probabilities in time, and molecular quantum physics in statistical mechanics, as $S \leftrightarrow T$.

Should we give up? I don't because I am translating the clear St - TT - SS - sT - ST parameters. As the reader might try to do the inverse he might get lost.

Fact is only once we establish the meaning of the 5 Dimotions of reality we can 'ascribe' every parameter of science to one of those dimotions either in a ceteris paribus analysis as a partial space or time function or as a complex entangled space-time function in functions that describe a time-space being mutating its 5D metric through the 5 'graduations' of motion and form, from entropy («, scattering motion, which is both motion internal and external to the being), locomotion, < (only external motion), reproduction, \approx , evolution, > (internal mostly with external shrinking) and linguistic seeding, », still perception in crystal and solid or mental states whereas an active magnitude creates from a field of motion a seed of form.

What is more powerful? The membrain: the little complex thingies and the big busting plane guy.

Reality is a scalar system of fractal organism of topological space and cyclical time, akin to the concepts of information and energy of physical sciences. Each part of the fractal Universe is composed of smaller parts, but all are ruled in a given organic 'domain' which can be traced around 3 planes of space-time, $\Delta \pm 1$, by a set of metric equations, $S_i \times T_e = \Delta^0$, self-centered in the plane we consider to be the commanding natural scale of the organism. What this means is that the lower plane will be time-like, with faster cyclical actions of hyperbolic nature and larger density of information; the upper plane will be space-like, with less information and slower cycles. Both will merge its spatial information and temporal energy into the intermediate Δ^0 state.

Those scales that concern physics are thus $2\Delta \pm j$ scales outside the human world/organism; the quantum scale and the cosmological scale, and...+ 3 $\Delta \pm 1$ scales that concern us, the scale of mechanics above, the electric scale of our mind-consciousness and the lower scale of thermodynamics.

All of them follow the paradoxical inversion laws of scales, the hierarchical laws of energy and the inverse laws of the arrow of information, Such as information increases in lower planes of maximal individual form and freedom and diminishes in larger scales of more continuous membrains and lesser freedom. So the larger membrain is curved, elliptic and traps the smaller scale, which is quantum, expressing all its potential futures in the short terms of its existjences, but becomes bend and reduced in form and motion as it ascends and emerges into lower scales.

So we can study from the 3 points of view the structure of physical systems or any other system. Today is customary to 'deduce the larger' scales, as 'limits' (of lesser quantity of information) of the lower planes. So in professional books of physics, the first laws to be considered are those of lower planes, whose 'limit' as we loose information of the discrete, multiple free paths of its particles, emerges into a new scale...

But this doesn't mean we cannot establish from the top down a completely different form of organization that does work, exist and impose its laws of conservation of time-energy on the 'feisty', little thingies below by the harsh method of suppressing its energy and hence its information, with larger fields and longer time cycles.

A few examples will suffice. The little thingies we call nitrolife species, busy busy radiating on the surface of Earth are brutalized by the big stick of plume veins of molted gold and iron surfacing in extinction periods,

reinforced for good measure by a huge rock coming from sun-system sky, which might be ultimately the origin of those plume veins, as the body reacts to the 'beating' of the sun, sending a flow of vaporizing heat from its central heart, as blood flows on a body tumefaction by the hitting... And then we do have those harmful 11 years magnetic holes on the skin of the sun, tuned to the 11 years burping of the Sagittarius swarm of black holes. And so for this stick process of long time, simplifying control even if we can go down to the details, an organic view of Gaia, life, the Solar system and the galaxy does the explanation in system terms. The larger brutish plane of existence you might call GodoG, as used to do in my simplifying mystical texts is real, and as much as you little thingy would like to be sooo important and colonize with your microbial, faster plague the galaxy as nerdy Nasa and silicon valley moguls pretend, hold your bollocks man cause you shall be evaporated soon unless you learn to respect the big guys of the galaxy, specifically in this DNage the pretension of physicists to make baby holes on Earth.

Respect the big plane guy and his stick because while his mind seems poorly endowed to you, he is a nested Universe with an equivalent Δ -j level more complex than your Δ -i-x touch-base scale.

And so between the quantum mathematical complexity and the larger enclosing stick of the galaxy membrain, there is us, nitrolife of thermodynamic activity with electric minds, mechanically pegged to the membrain of mother Earth And here we do have 3 scales at play, mechanical work, where energy-time of human nature was first defined, electrical flows in between and thermodynamic molecules on the lower heat. Those are all the matter scales that matter and we study in different papers. The one dedicated to the big guy stick organic description is our paper on cosmology, but concede defeat and stop busting the balls of nerdie creationist physicists and consider a mathematical description of the little thingies up on the quantum paper.

CONSERVATION OF 3±j DIMOTIONS EXISTENCE. TIME=ENERGY, SPACE=INFORMATION & Δ-SCALE

We have now the basics to tackle an important theme both of 5D stiences and classic sciences. What the Universe preserves both as a whole immortal structure and in its fractal parts during its worldcycle of existence. Since we have falsified, and we will do it in more detail in the paragraphs on cosmology, the big bang as a simplified single entropic arrow view of the 3 arrows of time in the Universe, it is clear that the Universe is immortal in time, infinite in space and incommensurable in scales as a whole – given the similarity between the galaxy and the atom, we cannot truly assess but rationality implies, those scales to be also ∞ .

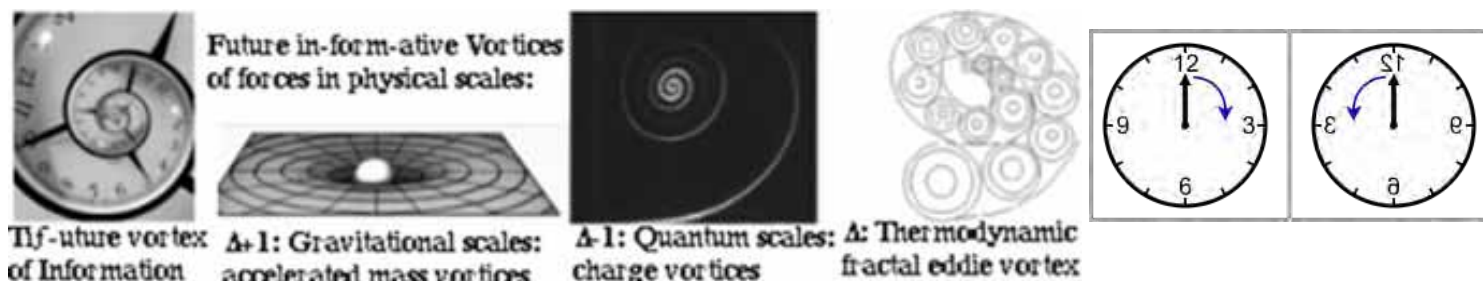
For each entity however there are limits to what it perceives because the mind is a finitesimal O' -point and it perceives a relative infinite, ab. ∞ , whole, which it simplifies reducing discontinuities into a continuum, dimensional scales into a holographic plane, which does not even have depth (stroboscopic view). So the mind basically tries to capture holographic dual Dimotions (TT, ST, sT, St, SS). We are thus trapped even if our aim is to escape as much as possible through logic the limits of the mind by what we perceive. I.e when an object moves the mind tends to see a line in motion, as in a picture of a car in the night; trading a dimension of form on the direction of motion for one on speed. This we do also when we pedantically measure fast $v \leq c$ speeds through the illusion of length contraction (Lorentz Transformations). When we see a far away object on the other hand we flatten its dimension of length in an inverse fashion, seeing it as width-length flat planes. In an entropic explosion we loose track of its internal and external form in a scattering.

So the mind loses more information on the being that the being experience itself.

This said we can only be guided by what the mind seems to perceive and the parameters it measure. And in those parameters physics shows with its convoluted concepts and mathematical equations the conservation of 3±j elements that easily corresponds to the 5 Dimotions of existence, so we come to the conclusion the Universe conserves those 5 Dimotions. And as a consequence of the balanced conservation of the inverse arrows of entropy or dissolution of parts and organic evolution of those parts into wholes, the Universe also conserves its Δ -scales. A question pending dealt with in other posts though is if this implies the conservation of a continuous time-perception of 'being', or 'soul', for which there are some positive signs but mostly not.

What the Universe truly constructs and likes to conserve? The answer is the 5D scales of stiences; its Δ -structure as a whole with its two inverse arrow of motion=entropy and form=linguistic space and its planes as trinity systems of St-ST-Ts, information, energy and locomotion.

They are also the 3 ± 1 conserved quantities of physics, albeit explained with the mathematical mirror of 'Noether's charges' we consider in its equivalence in our paper on physics (as the 3 conserved quantities, Ts-lineal locomotion, corresponds to lineal momentum, cyclical St- information to angular momentum, and ST, to energy, and the two scalar dimotions that define the 5 Dimension, TT-entropy & SS-form, are also conserved together in physical systems as 'parity and entropy', which either move forwards in a 'Maxwellian screw' or 'backwards', defining the two 'inverse' motions in the 5th dimension:



In the graph the translation of the $3\pm j$ dimotions of spacetime, into topologies of physical systems, with steady state waves and angular momentum as a repetitive present and a relative past of lesser information and more entropy (lineal inertia) that expands space into decelerating big-bangs, vs. an accelerated force, with one more dimension of time=future, as a pole of attractive forces, which change parameter of scale.

It is then also evident that charges and masses are the 'fractal points of physics' with its singularity in the center, its vital space-time in the region of accelerated motion, and a loose membrain, where its attractive power or territorial region balanced with other external points-sinks of forces.

So we define charges and masses as accelerated 4D time-space vortices in the galaxy's 2 limiting $\Delta^{\pm 1}$ scales; from where the combined conservation of charge/mass+parity+time direction in the fifth dimension follows.

But in a deeper sense what the Universe conserves is the 'function of existence'; that is 5D metric equations: $Sx\delta=C$ & $S=T$. The first equation in physics becomes the vortex law, we shall use to unify charges and masses.

It is a simple but profound law. As its goal is to equal the function of existence of all beings. Let us see how in physical and biologic terms. Essentially a system lives the same number of 'beats' made of 'bits & bites' of its function of existence. So we can write in such dynamic terms:

$$\text{Total } SxT \text{ beats} = S\text{-bites} \times T\text{-bits}$$

This is the vital expression of the function of existence. It means that we all live the same number of 'beats'.

5D Metrics' concepts of spatial form and temporal energy in biology and physics. The conservation of beats

To understand what physics conserves let us consider a 5D metric equivalent - a 2 D vortex equation, $VxRo=K$. As the vortex diminish in size it turns faster. In cyclical time, δ cycles of perception that happen when the point returns to the memorial 'singularity' happen more often, as, its unit is the closing of a cycle.

The increase of curvature therefore implies an increase on the acceleration of the system, and both are indeed equal concepts: $1/R, \delta T/\delta S$. But now for a given Space perimeter, its higher curvature=acceleration implies a shorter 'unit of time perception'. So for the same Spatial distance travelled, even at the same lineal speed, more time units have been consumed in a smaller time cycle; as we go down in size scales of the fifth dimension. Both angular speed and existential cycles accelerate; due to the vortex 5D metric: $V(\delta) \times R(\delta) = K$. So a slow large turning galaxy might shrink to the size of an atom; which lives a tiny fraction in a tiny size, but in fact its spatial distance traversed is roughly maintained. And indeed latter we will see how in the 3Dimensional space-time of the $\Delta\pm 3$ scales of the galatom, a beta decay is in 5D metrics equivalent in time duration to a quasar 15 billion big-bang cycle, and the 5D metric of the proton equivalent to the Schwarzschild event horizon of the black hole.

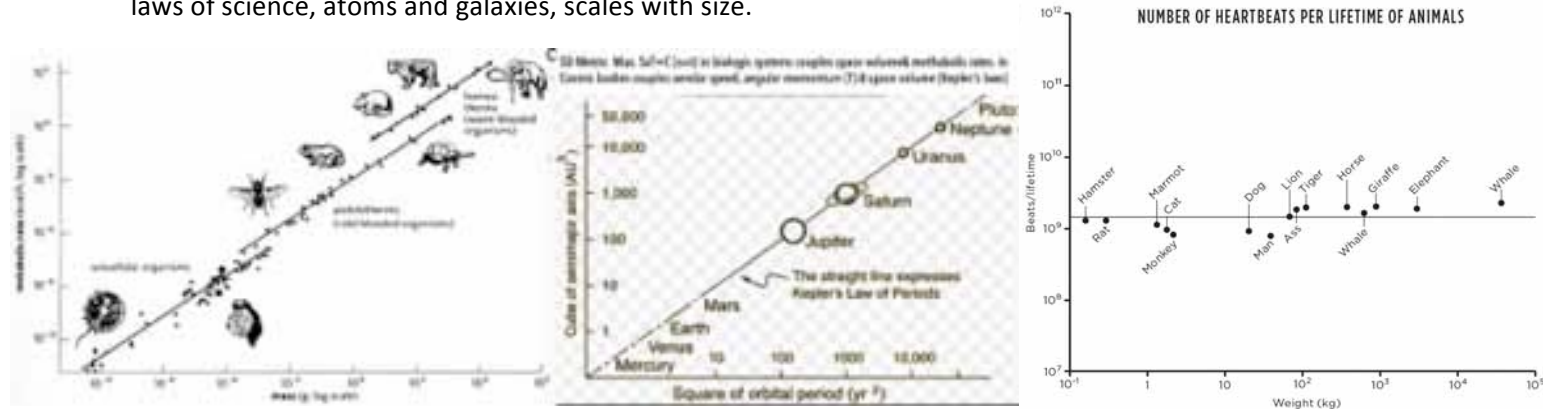
5D metrics conserves 2 things: The 'energy' volume of space-time of all scales and its beats of existence:

1. The **worldline** distance the being travelled – which is in fact a **worldcycle** distance *as it is the sum of all the perimeters, travelled slowly in the large spacetime, faster in the smaller spacetime*. So the **spacetime volume of the different Δ-scales** is the same. And because energy is the only parameter used by huminds in all scales, the conservation of the total volume of space-time of the Universe is equivalent to the conservation of Energy.

2. But to **conserve the same** 'length of internal perception in **existential beats**', the smaller being much live far less time. And indeed, the neutron cycle in beta decay is 15 minutes.

The galaxy cycle in a quasar big-bang cycle is 15 billion years. The metabolic cycle of the rat is faster than an elephant but *the number of beats of its hearts are the same*. In graph 5D metric conservation laws in biological systems compared to Kepler's laws:

It is just a tiny sampling of an enormous number of such 5D conservation laws that quantitatively describe almost any measurable characteristic of animals, plants, ecosystems, cities, and companies, planets, stars, laws of science, atoms and galaxies, scales with size.



The interesting number is in the 3rd graph that shows the fact that *all perfect systems do live (9-11)⁹⁻¹¹ time quanta*; closely related to the commonest spatial population for a full developed system (from the ties of DNA molecules, to the number of cells of an organism, to the number of people on the Earth's superorganism, to the number of stars in a galaxy, to the number of galaxies in the perceived Universe). The reasons of it, being the 3x3±j 'tetraktys' scale of organic systems, which we shall develop in the General model as well as the section dedicated to number theory, and the 'relativity function' Si=Te, which makes similar space and time on the point of maximal balance and survival of reality. This said, we are not unlike most papers and work on modern science, on the quantitative 'magic' of our studies, not even in this paper on algebra, but on the deep whys nobody answer, of those processes. Since the reasons of all those processes never are 5 D Metrics and the fact that scaling is an embedded feature of all systems of Nature, for the simple reason, *we are made of the two substances that scale, space and temporal energy*.

Among the many manifestations of the same law in mechanical, moving systems, the third law of Kepler (ratio between the orbital time clock of planets and the spatial volume: energy content of its orbital sphere).

The 3 examples of biology and physics are properly explained with the understanding of the scalar, organic dimension of the Universe: the metabolic clocks of animals are all related to its volume in spatial information.

In biology we study families of animals such as mammals where larger organisms have slower metabolic cycles. In history we study social organisms, whose cycles of life and death, will define the evolution of nations and civilizations. And in each of those organisms, smaller systems code larger ones. So the quantum numbers of particles code matter, genes code biologic organisms, and memes code societies.

The 3rd graph shows the average number of heartbeats in the lifetime of any mammal is roughly the same, even though small ones like mice live for just a few years whereas big ones like whales can live for a hundred years or more... but in terms of internal time, which synchronizes a given superorganism in its 3 vital parts, limbs, bodies and minds, so you walk a second each step, your heart beats a second and your eyes-thoughts take a second, the life perception of each organism of the same 'species', is the same. Such is the justice of the Universe that if you were a small rat your life will seem to you as long and fruitful as a human being.

And this is the ultimate meaning of the fractal Universe, the 'absolute relativity' of scales. *All have the same value in volume of space-time, $\sum x\delta=K$; and each of its parts have the same beats of existence. But for that to be possible, then in the smaller scale there are much more 'existences'; since their $\sum x\delta$, externally consumes much faster (smaller space, faster time cycles). So in this manner the $\sum \Delta-1$ sum of lives' space-time volume = Δ^0 .*

And for that reason many $\Delta-1$ tiny, fast living cells/particles/citizens give birth to a single molecule, organism, civilization; whereas the $\Delta-1$ wholes plane broken in many fast, tiny lives is equivalent to a single large whole.

How we translate in physics the conservation of beats of existence? In terms of reproduction through a worldline/worldcycle it is really a process of $S=T$ Støeps, bits of information, bites of motion; which together make a støep, bits and bites, stops and steps, information and locomotion, $St<Ts>St$. So what really means the constancy of beats is a measure of the reproductive times of a function of existence. And in each scale this will be expressed differently. In the cell those clocks are written in the telomeres that stop the reproduction of the cell after a number; in the heart are its beats that reproduce the cycle of circulation of blood – remember that all is ultimately motion and reproduction is the repetition of a cycle of time; even in history we see the decay in ternary scales of generations, which the closest culture to an understanding of the function of existence, classic China, tabulated for its dynasties. In depth, the beats of existence group in ternary symmetries that group in $3 \times 3 + j$ decametric scales, and so on, towards the maximal $10-11^{11}$, which in space are the 100 billion neurons of the brain, stars of the galaxy, etc.

It is all about time=space reproductive balances and støeps; and the equality of all existences.

In terms of relativity of existence it means each life-scale is the same. So we are not only out of the center of space (relativity) and time (Evolution) but also our scale matters nothing. A fact, which we can extend to other families of nature. So insects whose rate of thought processing is 10 times faster, reason why you can't catch a fly, live up to 7 years (cockroaches ant-queens of ant-hill superorganisms, dragon flies), while humans live up to 70... Which is also the number of rattles a car engine will experience before letting you down in the road to your wedding – the number of years light beats before blackening out back to the quantum $\Delta-4$ potential scale blackening the horizon of the Universe, which egocy cosmologists think is the number of death for the whole Universe (big bang model).

The number of life thoughts any species in any scale of reality seems to follow, as the essential unity of all realities is the mind – and that, well is beyond the wildest dreams of our egocy science, even if we will explain also why minds 'don't share' its sentient properties with other beings. So we shall advance the ultimate conclusion of all what we shall say here: 'we are all thoughts of God, the mind of the Universe, its program of existence, the program of time dimotions – each of us a self-similar detail' – a concept which Eastern cultures did quite understood but egocy western entropic 'Neanderthal-like' visual minds will always deny.

The metric that matters then is the 'lifetime span' of each family of species, most of them turning around the logarithmic ten scale, for mathematical reasons – as 3 is the trilogic of 3 scales, 3 time ages and 3 topologies that together entangle into $3 \times 3 + 1 = 10$, a whole new being of a higher plane. So 10^{10} is the ideal number of beats in time of a being, of populations in space, of scales of organization within those populations to form a new 1 of a larger scale of reality. Space tends to be filled in equal quantities in each scale, penetrated by networks that reduce its 'time cycles' (frequency growth of electromagnetic waves that travel through those scales in physical systems) or 'branch in equal cross section cylindrical coordinates' in biological physiological networks; but the time clocks of smaller scales are faster. So in fact to be precise what the 5D metric means is the 'whole' life of the being, which is *shorter* for the faster species. The true derived equality of the main 5D metric $S \times T = C$ is thus the third graph. The number of 'time beats' of any system in Nature from a whole phyla is equal, constant: $\sum \delta = C$. There are then a huge range of quantitative equalities between the different st-dimotions based in synchronicities, simultaneities and specific variations for each species that earlier in my research I worked out enthusiastically; for a more systematic much larger volume on the fractal Universe and its time-space supørganisms, we can't carry out here. Consider for example that your weight in the $\Delta 0$ scale N kilos, on the long Time duration of your classic $S_i = T_e$ life equals the quantity of ATP mass of your 'energy' molecule for the metabolic rates of that graph to happen, every day, which is your daily 'food intake' as an animal (spoiled mankind having broken its prey in 3 meals with 3 courses for the whole $3 \times 3 = 1$).

We are not though here interested in the encyclopedia of quantitative 5D that will overwhelm researchers for decades to come, but in setting its fundamental illogic, temporal and geometric, spatial principles.

Now, if you observe in the left side 5D metric of 'metabolic sT rates' of living organisms, they are shaped in families such as smaller systems have slower consumption of energy, so diversification of 5D metric by 'phyla' of Universal species does happen; and that is where we start the details, even if all entities will be enacting the 5 Dimotions of existence. And all will fluctuate closely around the fundamental decametric scales of $3 \times 3 + j$

The scaling laws of those graphs, we studied in more depth, in -Algebra, which are the detailed explanation of why they happen have a deeper reason beyond quantitative analysis, namely the existence of a 5th Dimension of space-time and a finality in the Universe, born out of simple logic – the need to reproduce=iterate reality so 'the present' continues in an immortal Universe, ultimate cause of those scalar laws, which are a law that transcend biological structures.

Conservation of energy=volume of space-time: is its equivalence in existential algebra.

We said the conservation of the quantitative number of 'energy' used by physicists is equivalent to the conservation of Volume of space-time of a whole Δ -scale and all of them put together, as energy is the only parameter humans use between scales. It is worth to analyze the theme in more detail for the Galactic scales.

The metric functions of the 3 main planes of space-time of the galatom.

In physics we have 3 Energy equations. However the E of those equations is closer to entropy, as we measure the flow of motion/radiation humans will then 'form' into useful work-energy:

So for this simplified slightly out of focus analysis of those 3 equations of scale, we just consider a general 5D metric for those physical scales such as E is a function of entropy that multiplied by a function of time frequency give us a scalar constant, so we write:

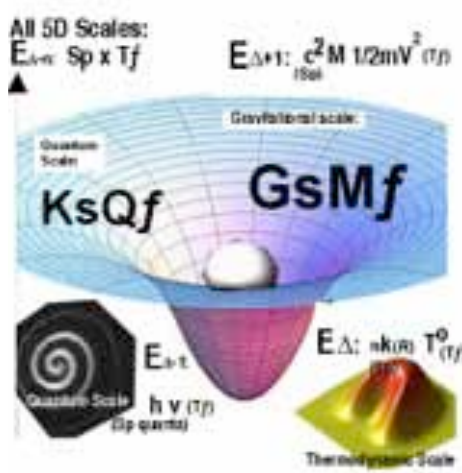
$$\text{Entropy (E) x Time Duration (1/f) = Constant of spacetime scale.}$$

The connection between both concepts is however more subtle. When we express the entropic energy without caring for its 'informative details', multiplied by its time duration, we 'erase' the constant of space-time into a flow of entropic motion humans can use. But if we keep the system entangled without loss of information as $E = C^2 \times f (\delta)$; we can talk of the 'inner energy' of the system, E, as a 'population sum', of 'space-time C^2 -beings', as in a wave of light which is a sum of f-Plancktons. So bearing in mind those subtle distinctions, 5D metric functions, $E \times T = C^2$ or $E = C^2 \times \delta$, give us the 3 fundamental functions of mathematical physics regarding its 3 'scalar planes' (graph). But c^2 must be taken as quanta of still light rather than c-speed; as in an electron which is a nebulae of c^2 still light spread in a bidimensional area, trapped in the potential well of the black hole proton within its 'event horizon', which is the electron border, in the disomorphic parallelism between the galaxy and the atom, where each still photon is a star of the electronic-galactic plane.

It is then when those $\Delta+1 c^2$ become equivalent to the h-plancktons of $\Delta-1$, which are the spin values of the electron nebulae, while the frequency in $E=hf$ are akin to the mass frequencies in $E=Mc^2$, reason why we can fusion both equations to give us for $M \rightarrow f (h/c^2)$, whereas the compound universal constant h/c^2 translates $\Delta-1$

into $\Delta+1$ parameters. But essentially both equations mean the same. C^2 then becomes an entity of its own in Maxwell's equations, as $C^2=1/\mu\epsilon=k/\mu$ (omitting the π factor), whereas K is the curvature of the charge scale and μ the magnetic constant of vacuum. So we are expressing c^2 in terms of the curvature of its space-time scale akin to the tension of a string, divided by its magnetic 'density', akin to the density of the string, which translates the speed of light to the classic formalism of the speed of a wave (tension/density). And again the details change with scale, dimensionality etc, but the concepts remain.

Energy thus for any Universal world, in its totality is the sum of all the volume of space-time of all the scales of the being, in its totality, which is also a composite product of its beats and bites, reason why we divide Energy in the mechanical scale into kinetic energy (Lineal) and O-positional energy. But then we must add



the dual energies of the internal parts of the system. Energy thus can transfer between scales, but the true magic of the worldcycle is that on the long term it returns to the scale from where it departs, so the balance of total energy of each plane remains the same. It is then energy infinite in the Universe? It amounts to the question of the infinity of scales, which seems possible due to the parallelism between atoms and galaxies. Though it is possible to develop a metaphysic theory of perception that is circular.

We can easily deduce it, because we used a simple example of a vortex, which in an SHM gives birth when uncoiled to a wave whose energy is measured by the first of those $E=Hf$ equations., in the simplest case of $E=h f$, which is the uncoiled SHM motion of its 5D cyclical vortex view we observe immediately that *the frequency has uncoiled the cyclical beats of existence of the being; and is the equivalent term to Energy, as H is constant.* But in the vortex of existence we noticed that the two elements that grew in parallel were the 'bits of existence' or units of perceptive information and the 'angular speed' of the vortex, while it was preserved the 'length travelled', or 'volume of space-time' for 3 dimensions.

So the constants, H, and by extension to other scales, K and C; are the constants of each scale of the fifth dimension, those are the 3 $\Delta_{\pm j}$ scalar constants of physics; and they allow a wide range of 'equal lives', which can be exhausted, 'squeezed' in very tiny instants of 'intense bits' (higher frequency, higher temperature, higher mass) or slower bits. But as the life of each species is the same, it also means what we see as a continuous particle is not, but the sum of discontinuous generations. I.e. the life of a photon is as fast as its worldcycle of existence (wave cycle), and the next wave cycle must be a new photon generation that lives traces its growth as a wave and reproduces in its locomotion, collapsing into a particle. So a sequential series of photon generations of much faster life happen for each $E=Hf$ frequency. And obviously as time passes, the photon learns to live longer and elongates its wavelength towards red, but each wavelength is a life existence (in fact we consider 3 such a waves as 3 ages of decaying length; since 3 waves collapse in a particle).

So we write $E(v) \times 1/f=T$ (lineal time=worldline) = $H(k)$. That is, $E(V) \times T(Ro) = H(k)$, in terms of the equation of the vortex. Whereas the nebulous concept of Energy is rather secondary to the conserved quantities of Lineal and cyclical momentum, equivalent to the radius bites and frequency bits of each scale.

Energy as we consider it is then a combination of those two essential | -momentum x O-momentum = \emptyset – constant of scale, topologic conserved elements. And the E in those equations as we said is rather the kinetic, lineal energy/entropy humans capture to give it latter form. In existential terms what is conserved are the 3 Δ -scalar fundamental constants of the quantum scale of frequencies, the thermodynamic scale of temperatures and the cosmological scale of masses, the 3 representing the 'speed of the bits of information=perception' closed when the vibration of frequency, temperature and cyclical mass returns to the SMH original point.

We can write those equations then either in terms of frequency or time duration:

$$E(v,w) \times T (\text{duration}) = \text{Constant of scale } (H, K, c) = E(v,w) / \delta(f)$$

The smaller being moves much faster, with 'more energy', processing information also much faster, with higher 'frequency'. So he thinks he is much more smarter and powerful than the slow low density larger guy, but alas!, after its usual phyla/family total number of beats, $\pm 11^{11}$ he collapses. And the bigger turtle finally arrives to the same point the smallish Achilles reached; see it dead and collapses too.

From those conserved elements, volume of space-time of scale (Universal constants of scale) and beats of existence, then by making different iterations and transformative combinations, we can extract the conserved quantities of physics, angular momentum, closer to the frequency beats, and lineal momentum and kinetic energy, closer to the concept of energy, lineal speed and entropic motion. It really doesn't matter they are not exactly equivalent, as long we understand them in terms of the fundamental principles the Universe conserves, 'scale volumes' and 'beats' of existence. Humans for historic reasons, have chosen slightly different physical quantities, and made of energy a word for many different states of reality, and they are not going to change ever those routines before its beats of existence as a species, now closer to conclusion end. It is worth though to see them from the higher perspective of 5D and its conserved quantities, $\$ \times \delta = K$.

So the fundamental elements of those scales are the h, k, C constants of the 3 physical scales; which are dimotional ratios between the frequency of informative time cycles or a spatial population (T=S duality) of an entity, which can be seen also as a quantitative number of energy, related to the frequency of motion (lineal kinetic energy) or in terms of spatial storage/population (potential energy), also in its T=S duality.

But we know there are different 'families' of species with different 'existential momentum' as we saw in the different metabolic rate of hot mammals and low temperature animals. Those families however are a few, and can all be classified as relative multiples of the constants of scale, H, K, c within a limited range, for the reasons explained in the next paragraph, *essentially the need for existence in a range of balance in S=T.*

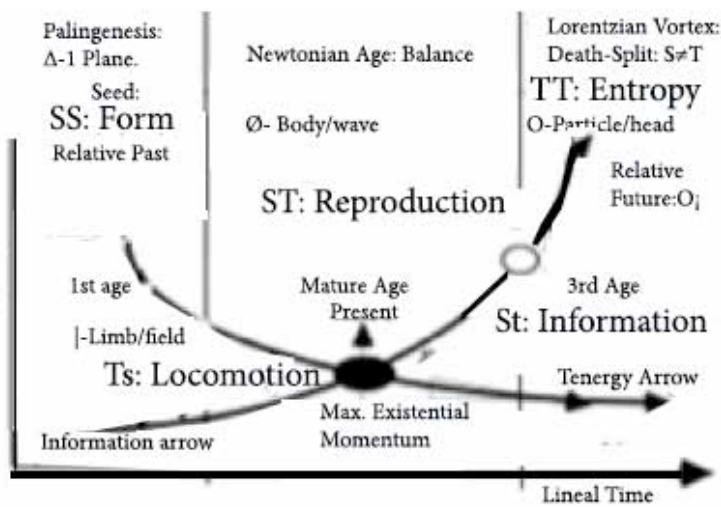
To understand this as usual is best to consider first the case better observed for being closer to humans – thermodynamic species. Of them, there are basic 3, gas, liquid and solid. Gas having more freedom and less density has a relative heat capacity of $3/2$ KT by particle, which increases in different families of 'tighter, denser social organisms', as we move to diatomic molecules, to the maximal energy capacity of crystal solids, with more modes of vibration, rotation and translation; *that is a richer number of Dimotions, not only lineal locomotion as gas is, but social states, organic dances. This leads basically to the simultaneity of monologic, dilogic, trilogic tetralogic and pentalogic states, and beyond to what would be the maximal possible number of simultaneous states (dodecaplex systes, 120 simultaneous particles, states in complex mass systems).*

Because the reader has a 'physical view of reality', and after all is a human being with very few mind states, is difficult to capture the essence of this. Energy is the spatial view of the maximal number of states of existence happening in simultaneity, which grows with the complexity of the system and is maximal for mammals in life, for crystals in physics for quantum boson states in particles, where we notice readily the similarity of those 'stairs of states' in the different 'spin numbers' of particles and atoms, $1/2, 1, 3/2, 5/2$ h, as we saw in molecules, $3/2$ k, $5/2$ K etc. Further on as we grow in Δ -scale; the next nested Universe is a 'better family all together' with more 'dimensional motions' in simultaneity, to 'encircle' the previous scale. So the number of h-states in particles is smaller than the number of K-states in molecules, which in the peculiar confusing language developed by huminds is a measure of growing 'entropy'. Families of states though, as we said tend to be the 3 canonical trinity of 'young gaseous, liquid, S=T, and solid Max. S x Min. T', and so when we go to 'families of masses', there are 3 families of quarks, the holders of mass (that is, the inner nested Δ -3 nucleus, whose spins have negative beta temperature and his outer co-existing membrain encloses molecules).

It is in that sense absurd to talk of 'frequency' in the 'scale of temperature' and of 'temperature' in the scale of masses. As in the new scale those parameters would have to be considered inverse; something finally recognized with the adoption of the beta parameter of coldness, and its negative temperature when we move to the nested Universe of highly ordered spins from below or masses from above. As it should be absurd to talk of 'spin' when we move below the scale of light space-time, into the realm of neutrinos=gravitons, or of attractive gravitation in the outside scale of the hyper-universe, which is governed by the equivalent electromagnetic repulsion between galatoms. When we change between planes of existence, there is a social grouping of 'frequencies' from a time sequence to a 'spatial simultaneous perception' $T>S$, as it collapses into something else (Temperature); in the same manner that the orbital of its electrons that define single atomic form collapse into something else emerging as molecular motion; so from the frequency orbital numbers of quantum atoms we move the temperature vibrations of molecules; and from h-ratios of scale to k ratios of scale; and this again happen when we move to mass that has therefore 'negative temperature', as it orders thermodynamic into simultaneous wholes of the cosmological scale. And again, those are the 3 scales huminds perceive, as we are thermodynamic beings, which therefore only perceive the upper envelope of mass and the lower plane of quantum spins. Yet those 2 limits always create an interval. So as all supœrganisms of time-space co-exist in 3 scales, we have a thermodynamic world, between the outer gravitational 'membrain-mind' and the quantum reality, whose measures of timespace, are *specific for each molecular supœrganism and sub-species sandwiched between the galaxy's 'lower' informative h-time quanta and the larger lineal c-time rod of measure - the speed of light.* We belong in between where all kind of supœrganisms that cannot go faster than light or process information in quanta smaller than an h-planckton have its specific thermodynamic time cycles, to synchronize our 3 sub-scales with 'nitrogen' clocks and 3 vital parts, in space which in the human case is the second 'beat' of the heart, length of the thought, glimpse of the eye, measure of a dual stœp, (and

½ second of it is indeed the musical beat that we find more harmonious to synchronize our dance). For all those beings then H and C are just 'SS and TT' limits. They cannot cross. Let us study them in more detail.

The regions of transition between scales. The ss & tt limits of each plane.



What means S=T? Obviously it maximizes the stoeps, 5D SxT for parts of a whole volume of spacetime. So for each scale it means actually a better experience of life, closer to the ideal 'frequency, temperature and mass of existence, because on the verges of each 'discontinuous plane', the function becomes asymptotic and finally breaks. Let us then consider those regions of transition because they are very important in physics and life existence, as they come to be the regions of death.

To define them we consider 3 Vital Constants of Action: S/T, T/S, Sxt, associated to the ratios between spatial information and temporal motion that we shall call, speed, density and existential momentum defined in its relative S=T by the larger world in which

the being is inscribed. So the relative balance of the parameters of locomotion (sT), information (St) and its ratios (s/t, t/s, s xt), is established externally, for the internal system to absorb motion and form from the outer world, with minimal need for transformation. So most animals have the temperature of the ambient where they live; most eyes perceive frequencies in the range of maximal production of the sun they observe and so on.

While systems that have a range far away from the ecosystem in which they exist fail in balance and die. So S=T, is actually $s_{j-1}=S_j$ and $T_{j-1}=T$.

Internally though we can consider the entity as a world in itself with two maximal limits of form (old age) and motion (young age), and so within that world the function of existence, then develops in 3 phases, of max. E, youth-past-gaseous-entropic state, max. i, future, old-informative-solid state/age, and. Max. E x I (e=i), a balanced liquid state steady form a world cycle.

We can then make a graph of two inverse 'hyperbolic curves' which become the limits of the world in terms of motion and form, the system cannot cross without 'dying' as its informative particle/head and motion limbs/fields split. And this is the true meaning of the Lorentz transformations, as the system cannot cross the c-speed in the mechanical, and the 0 T° limit as the system cannot cross the 0 temperature of pure form in the molecular thermodynamic scale. As we exist in between in physical terms (we are internally thermodynamic beings) and externally mechanical beings. But of course for humans the limits for survival are much more restricted, around 308-318° and 40 km of relative motion to our background world.

So in Lorentz graphs as we come to the c-limit we get an asymptotic curve; and the same happens when we move towards 0 K – the quantity of energy-mass needed to cross the barrier grows and kills the system. But that doesn't mean there is nothing on the other side; just a different reality, NOT our molecular, mechanical beings. So today physicists use the $1/kT= \beta$ factor of coldness to represent 'negative temperatures' of higher order in the particle world of spin energies, where temperature really is meaningless as we talk of frequency of angular momentum (spin). And we should also talk of negative mass and $v>C$ in the world outside the galaxy of repulsive gravitation between galatoms, similar to a \forall -radiation world between atoms but in the hyperuniverse

RECAP. Once we have clarified why the Universe is immortal, it comes the fundamental question of conservation of its 3 5D parameters, ΔST and its classic ones, time-energy, space-lineal momentum and Δ -scale=angular momentum. Though the equivalence between the 3 concepts are not absolute but rather follow the correspondence principle – as the 3 conserved quantities of physics, are 'human distortions' of the wider concepts of time, space and scale.

Since human physics is one of the many 'sciences' of the nested Universe, which studies the specific planes of matter, $\Delta \geq |2|$, with the restricted method of 'huminds' (ab. human minds) that due to the 'egocy: ego=idiocy' paradox deny organic and sentient properties to different atoms to those of man (ruled by nitrogen clocks and electronic spin perception) and accept only the language of sensorial machines, digital thought (a contradiction as humans perceive time with verbal wor(l)ds, not with numbers, argued on our papers on cultural evolution).

Entropy is motion=time=change. Information is form and form is dimensional space. Time=motion and Space=dimensional form become then the two substances of which all what exists is made, and in their analysis we must start our inquire about why indeed the Universe and all its parts are a fractal super organism of time=motion=entropy and space=form, made to the image of its whole. The proofs? Look around. All what you see are forms that occupy space and move in temporal energy. Everything is a space form with a time motion. There is nothing else. So all is a proof that reality is indeed made of space-time organisms.

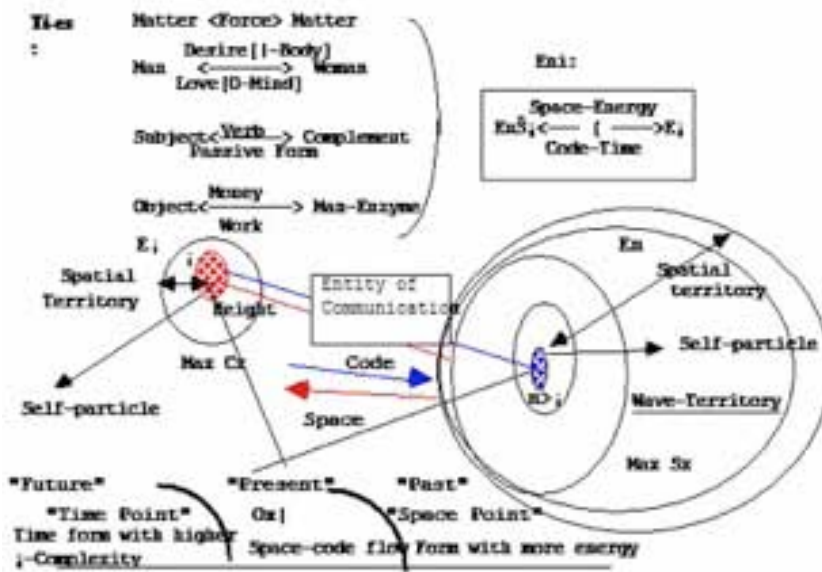
The principle of conservation of time *has infinite variations. And we can deduce all laws of science of its existence, as ultimately what the other 'element' of reality, points-minds of fractal space try to do is to stop time, as an strategy to conserve it.* As we consider a clear equivalence in physics between cyclical time and energy, the principle carries into two principles from where almost all the equations of physics can be derived. The principle of least time (origin of Lagrangian and Hamiltonian equations), according to which a particle will trace a motion that minimizes its time expenditure. And the principle of lesser energy, according to which any particle or physical system will seek its ground state of minimal energy.

Latter we shall see this principle of standing minimal points have its counterpoint In the second fundamental strategy of all systems, to conserve its time, or state of present which is the iterative reproduction of the system, which implies to absorb energy=time from other beings, to imprint it, once it is reduce to its formless state of entropic motion, with its own information. Thus besides the standing points of minimal energy that conserve time, which are the origin of seeds and still minds of information, of potential wells, and degenerate states of particles, of Lagrangians and Hamiltonians (where both minimal and maximal standing points happen) there is the principle of maximal reproduction, origin of the evolutionary struggle for existence.

The great advantage of understanding those principles in terms of its fundamental substances time=motion and its state of maximal conservation, space=stillness, is that they can be expressed in any language of thought, not only mathematics, and apply to all stiences, not only physics, which frees philosophy of science of the 'gross' errors of western human physicists that deformed time and reduced it to entropy and lineal motion, and its $v=s/t$ equation, due to the worldly profession of its founding father, Galileo, artillery master of the Arsenal of Venice. So today when we study physics we go from simple exercises of ballistics, calculating the best angle of a cannonball to the entropic big-bang. Yet as physicists do not recognize those historic errors they have carried such simplified views of time and space into all sciences, a fact we shall not cease to repeat because it at the heart of our lack of understanding of reality in its ultimate principles.

Synchronicities of time between the 3 relative speeds in which a being co-exists become then one of the most fruitful fields of study, as the 'persistence' of superorganisms in space is due to the symbiosis between its 3 scales of T.oes (time-space supørganisms) synchronized with them.

2ND POSTULATE. COMMUNICATIVE WAVES & NETWORKS OF ENERGY AND INFORMATION. STØEPS.



The 2nd postulate defines lines as waves of points with volume (which explain complementarity wave particle), no longer as an abstract form like Euclidean geometry does, but as a physical wave of self-similar, fractal micro-points that carry energy and information, as they move between 2 macroscopic points, with 2 possible functions, to communicate energetic forces or linguistic information.

2nd Postulate: A cycle of fractal space-time: 'A wave of communication is a group of self-similar micro-points that move in parallel lines between 2 macro-points, transferring energy and information between them'.

In Non-E geometry a line with parts is not defined by a sequence of numeric intervals

within a straight line, but by the communication of 2 poles of energy and information that establish a flow of particles in 2 opposite directions, creating a simultaneous, paradoxical wave. Such waves again can have different purposes. A wave dominant in information communicates symbiotic particles, creating an informative bondage/network; a wave dominant in energy might be an aggressive action between different species that fight for each other's vital energy or territorial space; and a wave that balances the energy and information of both points meets in the center, creating a new self-similar, seminal particle, as when 2 electrons emit waves of densely packed photons, which merge in the middle and give birth to another wave.

When we observe a one-dimensional line as a form with inner parts it becomes then a 4-dimensional wave made of cyclical points with motion. Hence in quantum theory we say that any particle in motion has associated a wave. Thus the 2nd postulate resolves the wave/particle duality, as all lines are now waves traced by a point with inner volume. Further on, since all lines have volume, they carry information and so all forces can in fact act both as a source of energy and as a language of information - as physical experiments prove. Since when we observe a ray of light in detail it becomes a 4-dimensional wave with electric height and magnetic width, often exchanging flows of energy and information in action-reaction processes of communication between bigger points.

When we generalize those concepts to n-points we can define a space as a network of Non-Euclidean points. Indeed, Riemann affirmed that a space is a network made of herds of points with similar 'properties'. Planes of space are therefore networks of points. The self-similarity of their properties defines its *density* determined by the number of points and its proximity that grows with self-similarity. So similar points come together into a tighter, more continuous space; whereas the density of the space is proportional to the similarity of its points, till reaching 'boson state' of maximal density when points are equal. And when a volume of spatial energy is very dense, it is very difficult to go through it, as it happens in the ultra-dense, small space of black holes.

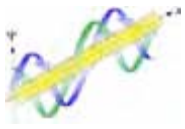
Spatial extension and form/density/mass are inverse parameters, Max. T = Min. S. If we generalize that property to all scales, we can define different fractal spaces by its proportion of mass/density and energy /distance. This is done with 'Universal constants' that explain the proportions of energy and information of those spaces.

For example, in physical scales, there are 4 fundamental space-times, the gravitational space-time between galaxies of max. energetic space and minimal formal density; the light space-time of our world, which carries information in the frequency of the wave; the electronic space-time of atoms with more formal density and

lesser spatial speed and finally the quark-gluon liquid of atomic nuclei and probably black holes, with maximal density and minimal spatial information. All of them are defined by Universal constants and functions that are either ratios between the energy and form of those space-times, or define the transformations of one space-time into the others. Einstein's field functions would be the first case, defining the relationship between energy and mass in a gravitational space, while the fine constant of electromagnetism would define the transformation between light space and electronic space/ charge; and the gravitational constant between gravitational space-time and quark/mass. Where the relative densities of information and extension in space of those space-times are in balance, such as $\Sigma T \times S_i = K$. Thus electrons move slower than light but have more density.

All this said it is thus obvious that the *fundamental unit defined by the 2nd postulate is no longer a point but an action, $T \times S_i = k$ between points, a dimotion.*

2nd postulate in physics $S_i = T_e$: T-Wave motion and S-particle information. Quantum & General relativity.



Form=space and Motion=Time manifest in physics as particles and waves: the wave erases form into motion, the particle is a still state that gauges information entangled to other particle, fermion and boson, still to each other – despite the perception of relative motion in our scale – hence the information electrons share has always a c-constant speed. This is the 'rational' 5D explanation of both the c-constant of light and entanglement; as electronic beings perceive information in 'stop position to each other' and move in 'wave state':

Motions are perceived by particles that stop motion into form, into information, as distances. In terms of fractal reproduction of information we can define motion as the reproduction of form, between those 2 scales: when the particle moves dissolves into its $\Delta-1$ parts as a wave that imprints an $\Delta-2$ potential field, with its $\Delta-1$ wave form and stops to become a 'tight' Particle state that 'gauges' information, form in stillness

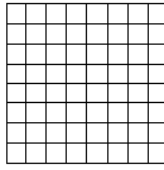
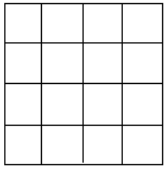
Galilean relativity was ill-understood, as the true question about time-change was why 'we see systems still when they move', and 'why we see space as continuum, when in detail is made of quanta', and why all systems are made of smaller self-similar systems. So there is NOT really a Dimension of pure spatial form or a pure time motion but a combination of both, even if mentally we tend to reduce motion and focus on forms, all has motion=time, and form=space, and this is truly the meaning of 'spacetime', the messing of both into 5 dimotions, the fundamental element of all realities. If we see slow motion in the night a light it seems a long distance. Distance and motion cannot be distinguished so they must be taken as two side of the same being, a Space=time DIMOTION (ab. Dimensional Motion):

$S = T$; Dimension-Distance = Time-motion = ST Dimotion: **Dimensions + motions = Dimotions**

When we perceive the system in space, then we perceive an organism with 3 adjacent topologic elements, and its forma science is 'vital topology'. And when we perceive them through its scales the organic system becomes a supœrganism. Finally when we perceive the system in time we perceive a cycle that returns to its origin as a zero sum, which observed through all its scales will be a life-death cycle, common to all systems where life is the arrow of information and future, death the arrow of death entropy and past, and both together form a worldcycle.

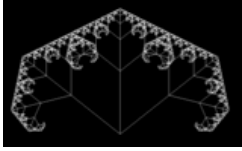
Measure and density of Dimotions. The concepts of filling space' 'memorial time persistence' & ST-holes.

An essential problem to both mathematical mirrors and reality is the measure of Dimensional motions as we have an essential equality $S_i = T_e$ in each plane between form and motion, and a scalar reality. So the value of a motion can be that of a dimension, as *motion is the filling reproduction of a form along a path of adjacent forms (see paragraph on golden ratios). But in strict sense, 'persistent full space' is the maximal dimensionality possible of a system, when the reproduction in a single plane both durability on those reproduced parts, and the system can fill not only the plane of space but also all its smaller scales. This allow us to define a space without 'scalar voids' and 'dying' steps, as the most 'continuous' possible space, which happens to be lineal and orthogonal, for an absolute filling, i.e. the Cartesian spatial information. So we define a dimension in scalar terms, whereas a classic single plane dimension is the limit for a 'filled persistent space':*



$$\begin{aligned}
 \text{dimension} &= \frac{\log (\text{number of self-similar pieces})}{\log (\text{magnification factor})} \\
 &= \frac{\log N^2}{\log N} \\
 &= \frac{2 \log N}{\log N} = 2
 \end{aligned}$$

A square may be broken into N^2 self-similar pieces, each with magnification factor N . So the dimension of a self-similar object is the exponent of the number of self-similar pieces with magnification factor N into which the figure may be broken.



Whereas the ‘persistence’ of memory, of information, creates the solidity of space dimensions (if a point erases without persistence, we talk of a 1D point, where motion doesn’t really add to the 1D inner Dimension of the point. But the value of the motion dimension, if persistence is equal to the life of the point, reaches Dimension 2. And $Si=Te$ is absolute. $Si=Te$ however holds if our measure of the system is reduced in time to the persistence of its reproduction. Further on,

dimensions are relative to the scale in which we measure as the smaller scales will have more ‘hollow dark spaces’ that differentiate the parts. This means if we measure the dimensions of the system across scales in a 5D view of transversal ‘tree branching dimension’ of wholes and parts (5D), we will find hollow spaces. So 2 scales do not add dimensions to infinity, but have an intermediate value.

For example the Sierpinski triangle generated by the commonest fractal ternary tree has dimension 1.58. While the most famous bifurcation, the Feigenbaum attractor has dimension + 0,5; and inversely a 4 bifurcation (H-fractal) gives us a full filling, 2D. It is another 5D metric paradox: the information of lower scales is larger but its spatial extension smaller. As a subjective observer reduces its dimension of perception to 0 in its $\Delta \pm 4$ scales. But the objective Universe is a whole completely filled, packed, as a block of spacetime, where time motions ‘enlighten’ just a part of the entire ‘potential block’ of scales. Thus we postulate an ∞ being of ∞ scales and ∞ time, the whole which fills its potential block *with all potential forms. And yet since $\neg E$ can prove that the whole filling of the void is a finite number of potential existences, variations of being are limited and so all forms are immortal repetitions.*

3RD POSTULATE. ORGANIC UNIVERSE. VITAL PLANES AS SUPCERGANISMS; ITS 3 FRACTAL NETWORKS.

A plane in Euclidean mathematics is defined by 3 lines; but lines in the vital topology of the 5th scalar dimension have volume, as they are made of fractal points.

A plane has inner volume within its points: it is a cellular, organic topography, a network of self-similar points. And because networks of points of energy and information are complementary, often we find systems with 2 complementary networks that form ever more complex geometries – based in the geometrical dualities of lineal energy and cyclical information – with the results we observe in nature: *the creation of an enormous number of complementary systems which are, as we shall see latter, all of them self-similar in its geometries and functions. Thus, the types of Non-E planes of space-time range from the simplest Euclidean planes to the more complex organisms with a volume given by the relative point/beings that form its space-time networks.*

The 3rd postulate defines planes as the intersection=messing of 3 ‘lines=networks’ or waves of points in motion, which carry energy and information; to its cells, defining the biotopologic plane, a physiological system with 3 networks or Non-Euclidean plane. Thus vital topologic evolution is the missing link to complete biology besides genetics (in 5D explained as the lower plane that codes with its faster cycles the larger biologic whole) and Darwinian struggle (fully explained by the congruence principle of Darwinian dissimilarity) vs. eusocial evolution (in its own an entire new discipline) fully explained by the similarity of parallel beings that COMMUNICATE information in a code or language all can understand so they can coordinate its actions and become stronger as a whole. So *similar clone beings form topologic ternary networks that become superorganisms, wholes made of $\Delta-1$ parts, themselves wholes of $\Delta-1$ parts through 3 5D scales*

Stiences study those organic systems, tied up by networks of Δ imotions. In the graph, we see the main st-planes studied by human sciences and their 4 main time arrows, $\$ x \check{d}f$, which in static space give birth to the ‘organic elements’ of all species: social cell of energy and information and the reproductive networks that relate them. Thus, there are 4 basic elements in all organic systems: **Cellular** units. **Networks** that move the

system (limbs/potentials) **Networks** of fractal information (heads/particles). **Networks** that reproduce vital energy (body/waves)

Scalar planes of spacetime. The highest systems of the Universe.

Vital topology studies those fractal Super-Organisms of Time space (Ab. T.œ) whose Δ^0 networks of $\Delta-1$ points form the 4th and 5th dimotions of social evolution and entropy between parts and wholes.

Thus, a plane becomes a real topography made of points with volume, extended as a cellular surface. We can observe its surface as a bidimensional membrane of information (for example your skin, or the screen of a computer made of pixels, or the sheet of this work). Or we can consider the 3-dimensional inner structure of its points and then it becomes a network with inner motions, as those points will form a lattice in which they communicate lineal flows of energy and information that maintain the lattice pegged. Often 2 topological planes of energy and form combine to create a 4-dimensional organism. Such is the most common structure of the Universe, a 4-dimensional World, which is a Universe in itself, made of self-similar cells or networks of points that constantly exchanges energy and information within the ecosystem in which it exists:

There are only 3 variations of topologic space in a single '5D plane', the hyperbolic, elliptic and toroid topologies. So the fact that we are made of space means we are made of 3 type of organic topologies:

Spheres are the topology that holds the maximal volume of information; hence all 'time space' systems that process information are spherical particle-heads. Flat, lineal topologies are the topology that connects in the shortest path two points; so to reach/move faster, systems have lineal/flat moving potentials/limbs.

Finally the third type of geometry, hyperbolic topology, is complex enough to store all other possible forms, so best to reproduce. So all iterative bodies & waves that generate the other 2 forms are hyperbolic. This mathematical-spatial truism holds for 2, 3 and 4 dimensions; hence establishing a basic restriction to the construction and evolution of forms. It explains the efficiency, speed and homology of formal=functional, 'punctuated' evolution, from biology, without the need of 'intelligent design' to engineering (no longer analogy, since all forms derive from the same 'substance', space=form with time=motion or 'topology'). In all systems the 3 only topologies of the Universe ensemble to form physical, biological and social organisms, all of them with a spherical 'tall' dimension to gauge information; a wide, iterative dimension of hyperbolic bodywave reproduction and a flat, direction for its entropic motions. Each of those 3 topologic Timespace forms can 'deform' and 'move', as long as they don't tear (break). All T.œs are variational local fractal species of that ternary ensemble, seeing as a *simultaneous space supœrganism, which lives a sequential worldcycle in time*, whose 3 conserved Dimotions in a single plane, |-limbs/fields< \emptyset -body-waves> \emptyset -particle-heads become in space functional topologic organs ordered in time in 3 consecutive-ages of dominance of each organ-dimotion between '4D Generation' in the cellular/atomic plane of seminal birth $\Delta-1 \gg \Delta 1$ and 5D extinction, back to the $\Delta 1 \ll \Delta-1$ atomic, cellular plane: the young age of max. |-locomotion, the mature age of \emptyset -body-wave reproduction and the 3rd age of O-informative warping/ wrinkling and minimal motion. Those 3 ages of all T.œs (Time\$space organisms) apply also to languages, including mathematics, evolving from a young Greek age of lineal 'flat' geometry, to a mature age as a realist mirror of the scalar Universe with analytic geometry and calculus that gave it motion and scalar depth studying its finitesimal parts and wholes to a 3rd age of inflationary information and mathematical fictions unconnected with reality (set theory, NOT points, numbers and operands as its foundations, axiomatic method NOT experimental proof); to start again as the mind of a 'different mind species' – chips now evolving its young simple Boolean algebra:

So the vital space of superorganisms is made of 3 topological forms; and its cyclical time, and clocks that measure the duration of the existence of all beings, by the frequency of its logic cycles of information, accumulate constantly form, T>S, in 3 ages, first dominated by pure motions, (2D) in youth, balanced in the reproductive mature age (3D), to finally exhaust its energy warped and wrinkled into form (1D), which will explode entropically in the moment of death (5D).

Both together show the 'Disomorphic'=equal form of all 5Dimensional beings, organic fractals, whose scalar structure is the same for all space-time beings, in all stiences, which study according to its relative scale of size and speed of time clocks a different metric scale of the fifth dimension. So we introduce another element of

vital mathematics, the ternary structure of all systems of nature of which the previous fractal points of physical systems are its simpler forms.

Because the Universe is Generated by the properties of space and time, better reflected in the mirror languages of mathematical topology and social numbers, and logic, we could say safely that since 'we think therefore we are', that is, we perceive as humans a limited range of reality, with our space and time languages, for humanity, the Universe is generated by mathematical and logic languages. And so by studying formal sciences of mathematics and logic, we can describe the Universe. We can talk then of a Universal topology, from topos, the language of geometry in motion and logic, the language of causal time cycles that create and repeat patterns of reality.

Those 2 languages generate many world-minds varies according to the complexity of each being in existence.

We humans, in the present not very enlightened age live in a single dimension of time, and the simplest, most dangerous of them, lineal entropic time, and a single scale of space, sub-divided in 3 lineal dimensions of height-information, width-growth and length-motion. And that is all. But can talk of more complex beings, with dual, ternary, penta and Dodecalogic levels of entangled thought gradually used here.

What we mean by 'space-time beings? Space is 'form', 'distance', 'dimension', 'information', something that doesn't move. And time is motion, change. So spacetime would be a 'form with motion', which is what mathematicians call a topology. A form that can be deformed, trans-formed. We have coined a key word 'Dimotion' (dimensional motion) for those topological forms. So the first obvious question we must answer is what means in real terms, the fact that all what exists is made of spatial topologies and temporal ages, of Space and Time? The answer is fascinating, as there are only 3 variations of mathematical space in a single "plane of the fifth dimension", the so called hyperbolic, elliptic and toroid topologies. So:

'All entities of the Universe are topological systems made of 3 'dimotions of spacetime'. Since in the whole Universe in either 4 or 5 Dimensions there are only 3 topological varieties of form with motion; the 'elliptic particle-sphere', the 'hyperbolic bodywave' and the 'toroid, lineal limb-field', illustrated in the next graph for the 3 kind of species studied by the 3 disciplines of science, physical, biological and human 'stiences':

The 3 elements of all systems, lineal/flat limbs/potentials; spherical, tall heads/particles and its hard membranes of dark matter, trunks and skins accomplish the 3 functions of motion, energetic reproduction and informative perception in all systems, varying to adapt the system to its larger world.

Thus, there is a parallelism between 'vital function' and 'abstract dimension' as *each Dimension is diffeomorphic created by the vital space-time of each entity of the Universe performing its 3 survival dimotions= actions of gauging, moving, feeding and reproducing.* And each species is a 'fractal universe in itself', with different relative, energetic and informative directions that determine its own up & down arrows and complementary morphology.

The specific geometry of each species and its 3 simplex actions, energy feeding=length, information-gauging =height and reproduction=width fluctuate in shape, but they don't vary in topological form, giving birth to the Invariance of the 3 topological forms=functions of any entity observed in a single 3D space-time: Toroid informative heads, hyperbolic reproductive bodies and energetic limbs.

While the 2 social $\pm\Delta$ fractal dimensions, the 4th dimension of social motion in a social $\Delta+1$ herd and the 5D dimension of inner scales within the being follow the physiological invariances that create super-organisms co-existing in a *higher $\Delta+1$ ecosystem with a lower $\Delta-1$ internal, cellular spatial information.*

The mind function & ego paradox. Its simplification.

Minds tend to confuse this mind-mapping with the whole Universe giving birth to the ego paradox:

'Every mind measures the Universe from its distorted point of view, with its perceiver at the center, who confuse its mind mapping with the whole, when it is only an infinitesimal part: $0'$ -mind $\times \propto$ Universe = Constant world mapping.

The symbols $0'$ and ∞ mean a 'finitesimal point so small in relationship to the relative immense whole, ∞ which perceives as the whole' that for all except itself remain irrelevant. Further on, when a mind has 'reduced the motions of the Universe' to its selfish motion of time (in the human case reducing the 5 Dimensional motions of space-time to 3 static still space Euclidean dimensions and one lineal time), it will try to project this 'diminished' 'finitesimal' view into its local territory of order, in which from its selfish point of view it will absorb energy and information to replicate its form, since this is the essential nature of the fractal, reproductive universe. In doing so it will project its limits in the world; and cast models of reality that reduce the far more complex organic fractal Universe of 5 Dimensional motions of time, to that view.

So huminds reduces the 5 Dimotions of reality to their mental selective representation of the Universe with its electronic eyes that perceive only light forces, mimicking with its euclidean perpendicular still dimensions the 3 orthogonal dimotions of light - electric, magnetic and entropic c-speed which becomes its single lineal entropic time motion, origin of its limited physical theories of reality, to which they add 'social colors' caused by the sum of photons in light frequencies. Thus our world mimics the 5 Dimensional motions of light space-time which our electronic eyes perceive. And establish a simple A->B Aristotelian logic of one single time arrow; which is the limit of human knowledge of the 5th dimension, compressed into a single plane of space-time and studied with a single time motion by 4D relativity. Needless to say 5D vastly expands this limited view, whereas 4D special relativity can be considered the limit of 5D when we consider only the aforementioned plane of light space-time, with its constant c-rod of measure and a single time clock - the simultaneous human second that synchronizes our eye-glimpses/thoughts, heart beats and steps, to make us a simultaneous superorganism.

Unfortunately Human sciences are explaining NOT the whole, but what they perceive directly with their reduced senses, and of lately, since the XVII century when they discovered telescopes and microscopes a partial range of 'electronic information'. But egocy and the mind paradox makes them happy with their selective models of reality tailored to look 'anthropic' with man at its center (Abrahamic religions, Ptolemaic models, ~~A~~entropic cosmologies, capitalist view of machines as objects, denial of evolution, man as the only sentient mind, etc.) while reducing the complex universe to 'entropic=destructive=death' theories of the whole (big bang theories of a finite, mortal disordered universe, dog-eat-dog Darwinism, chaotic evolution). To do so man shamelessly bias data and censors it. I.e. for the big-bang to succeed only the arrow of thermodynamic disorder extracted from the study of entropic gas is taken into account. The other two more ordered liquid and solid, crystal states are ignored; only the expansion of vacuum entropic space between galaxies is taken into account, its implosion into particles due to the gravitational attraction of galaxies is ignored; only the final process of evolution – the struggle of individuals of species fighting each other is taken account, the eusocial evolution of cells into organisms into superorganisms and the genetic clocks of perfect topological order are ignored.

Of course all other data is studied. There are physics of solid states, genetics, gravitational analysis of galaxies, quantum studies of virtual particles born in vacuum, etc. etc. But and this is the key of the ideological, ego-centered systemic deformation huminds (ab. human minds) do to stay at the center, they are NOT incorporated to the grand theories. The 2 arrows of informative and balanced time of solid and liquid matter are NOT incorporated to the time theory of physics; the gravitational compression of dark entropy into galactic matter is NOT incorporated to the big-bang, neither the dark matter on the halo of galaxies; the eusocial evolution of genes into cells into organisms into superorganisms is not incorporated to the Darwinian struggle of individuals in the grand model of evolution; and this is only the 'surface' of what scientists do NOT incorporate to grand modeling. So science works in the detail but the grand models come from the subconscious ego search for a justification to man above heavens and earth.

This process reaches its paroxism in social sciences, where man, just a biological being, assembling stronger iron atoms and more complex informative gold atoms into organic metal machines, does not even recognize an evolutionary theory of machines, and in history does not even recognize the unity of the species, and sponsors another notch of further ego-centrism, making the tribal nation, the unit of society.

This background of ridiculous grand theories of reality then it is defended as dogma with e-motions and systemic bending of data, and with 'creationist' theories of languages. The language man speaks becomes the language of God at each stage, and creates reality a priori. The language becomes more important than the space and time and its laws that create reality and the language mirror. So first in Abrahamic religions when man spoke only words, God created by naming things in Hebrew or Arab, and the rabbi or ayatollah was gifted by virtue of speaking the language of God, with similar power to order the society it controlled. Then when man learned to speak digital numbers, god changed language mirror and talked numbers, which is the present state of creationism. So economists think that the digital language of money creates the physical economy (monetarism), physicists thinks that any function they write must become a particle.

Two are the biggest problems of that philosophy that becomes the a priori 'straightjackets' of the human search for absolute truths: languages are mirrors of time-space properties that simplify reality, so they are distorted and only an experimental check with the laws of time and space would make them reveal those simplifications. This does not mean the language does not have an important role in the making of reality, as the mind uses the language to order its local territory. So multiple humans talking Abrahamic religions end up constructing mosques and churches, and if they sponsor a 'monetary creationist religion' as biblical capitalism does, they can indeed shape the Earth, its local territory to the image and likeness of money and its values, which are studied in the papers on economics. But such order will be always local, and as the language is a distorted mirror will be less interesting than the order caused by the immanent deep laws of space and time that come a priori as the 'language of all languages' so to speak.

FROM FRACTAL POINTS TO TOPOLOGICAL PLANES=NETWORKS: THE 3RD POSTULATE.

Formal spatial information. Topologic, vital planes Emergence of organic networks.

To maximize the conservation of time, there are several strategies the mind pursuits in its territorial order The simplest one, just described, is to 'stop time' into a territory, which brings however the constant accumulation of form, and finally the paradoxical end of time as the system surrounds itself of stopped property. We are wealthier in the moment of death. So before we deal with the worldcycle of life and death that stops the time of the being, and then it fids, itself 'erased' in a reversal of death – as time cannot be stopped, so when it has no more energy to spend it explodes back into entropy – we shall consider the second fundamental system of survival in time, the creation of 3 'non-E lines=networks' that create a -E plane=topological organism, according to -E congruence=self-similarity.

The building up of a true 5D science of reality starts by defining all the dimotions of a being in its 3 scales. Then we study its 'locked' sequences of dimotions and its 'balanced' stoeps=beats, in all those scales. Then we do find the synchronicities between scales that become entangled repetitive discontinuous symbiotic patterns. And then we find the 'larger' physiological networks, or 'organs' that entangle them; as the smaller parts will gather around those networks, to receive energy (blood-like reproductive networks that deliver larger particles), information (which requires as we have seen a faster nervous, informative network of smaller particles and external territories of entropic feeding (symbiotic to the digestive networks).

Complexity arises and produces the emergence of larger wholes, the 3 physiological networks and its attached organs, which are the topological vital spaces that form the superorganism. All species studied by science a common phenomenon occurs: the existence of parallel groups of beings organized into a single social form. Molecules are made up of atoms and electronic networks; economies are made up of human workers and consumers that reproduce and test machines, guided by financial networks of information (salaries, prices, costs); galaxies are composed of stars, which orbit rhythmically around a central knot, or black hole of gravitational information. Cells controlled by the nervous, informative system organize human bodies.

A tree is a group of leaves, branches and roots connected by a network that provides energy (salvia) and information (chemical particles) to its cells. Cultures are made of humans related by verbal, informative Disomorphisms and economic networks that provide their energy and information.

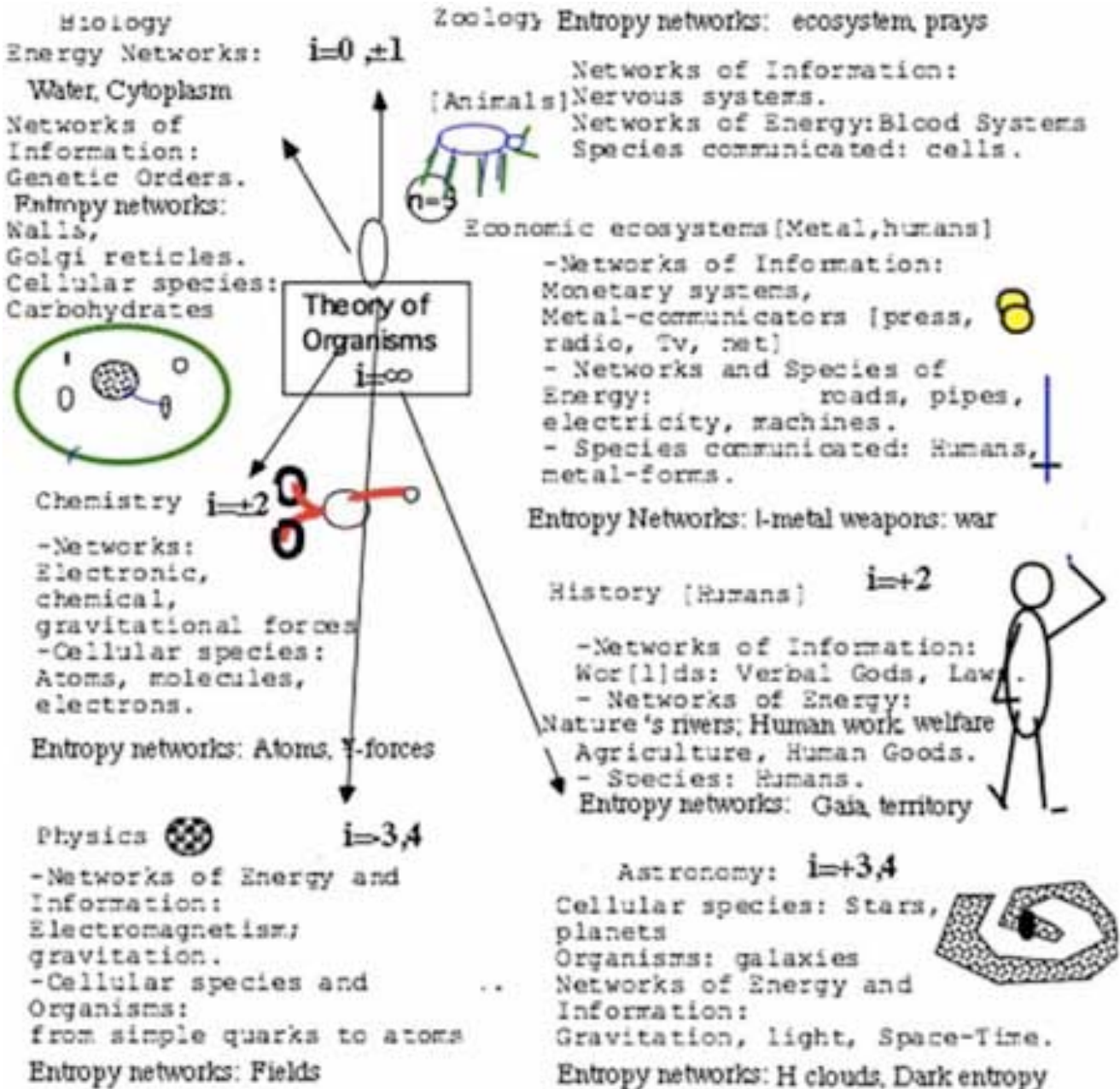
How then it happens that parts become wholes is the key to depart from a mere abstract, quantitative analysis of reality and add the organic nature of all what exists, the dynamic interplay of parts that 'network'

and connect to each other, forming simultaneous spacetime organisms, which synchronizes its clocks, emerge as a whole and develop all the intelligence and complexity of the systems we observe around us.

We see the ternary network structure of the nested organisms of the fractal Universe as $\sim \mathbb{E}$ topological planes composed of 'similar fractal points' (atoms, cells, individuals) joined by 3 physiological lines=networks, whose 3 functions, distribution of locomotion, information and its 'combined' energy define the 3 conserved Dimotions of any system of the Universe. A final element though is needed to make sense of those superorganisms, *the still mind of information, mapping out the whole and controlling it to perform its Mandate of existence, Max. SxT (s=t), to survive, grow and multiply.*

All systems of reality are connected by networks that share energy and information between parts and wholes that expresses the structural unity of all scales. Networks 'fill' space ad maximal to connect fully the whole with the parts, achieved in the $S_i=T_e$ point of parallelism and self-similarity. But they enter in a region of faster motion. So while Space 'tends to remain constant' in each scale thanks to filling networks, time accelerates.

So we need to become a bit more complex about the previous metric. It refers essentially NOT to the whole 5D plane but to a given 'superorganism' of each plane. When we go down in scales, in fact the Universe 'enlarges' for a traveler that becomes smaller and accelerates its temporal energy.



In the graph, systems sciences consider the Universe an organic fractal, which each science studies at a level of size, all of them evolving socially through networks of energy and information. So we can study species as organisms living a world cycle and evolving finally in social networks becoming super organisms, the most efficient survival strategy of the Universe, where a head-particle-informative class will invent a language of common organization, quantum numbers, hormones, genes or memes, money or laws that all the body-wave parts/cells/citizens will obey. The goal of systems sciences is then to properly apply the physiological laws of networks to design or study perfect organisms of nature, including mankind and the economic ecosystem.

In the graph, the physiological networks of some super organisms of the Universe, which can be formalised all into a logic equation, we call **the fractal generator of the organic Universe**:

Ts (Spatial, past, entropic limbs/fields/territory) < ST (present re=productive body waves-working class) > St: temporal-informative particles/heads/informative class.

So everything really is encoded in those networks and its topology and it can be explained with multiple languages, the language of topology (mathematics), the language of logic (sequences of actions the networks cause) the language of social classes, as the 3 networks with its attached cells have a hierarchical order, with the informative nervous network in control of the faster languages on top (legal politicians and financial bankers in human societies, nervous cells and blood leukocytes in biologic organisms, gravitational black holes in galaxies, etc.). But don't worry we just race through the basics so we can concentrate in the social organisms of history.

There are 3 physiological networks in each supœrganism from the galaxy to the atom, the two scales where self-similarity takes place (the galatom smaller and larger planes). *But we can for the time being disregard the 'territorial, background network, the spacetime of the galaxy and its particles, the water of life organisms, the Territorial surface of earth in historic organisms, to concentrate on the body-wave-reproductive economic system, and particle-head, informative legal systems that shape the essence of a superorganism.*

The key to understand its linguistic bits and bites of information and energy are as in most themes of reality the astoundingly simple Metric equations of all the scales of the fifth dimension: size in space x speed of time cycles = constant. And the duality of Spatial information and temporal motion that combine in 5 Dimensional motions: TT-pure motion (entropy) > Ts-locomotion, energy S=T (reproductive energy and information combined) > St-information (form with a bit of motion) & SS (form, position, language).

All systems of reality and its limbs/fields, body-waves and particle-heads existing in a larger world with faster energy that appears as them as the limit of TT-entropy and faster information that appears to them as the limit of SS-language play then a simple game of trying to absorb as much Ts-motion, reproductive energy and information to perceive, reproduce, survive, move and play the game of existence. And as systems become more complex and dense, they naturally attach to those 3 type of networks, evolving from herds into superorganisms.

It's all in 5D metric equations, $SxT=C$ and its $S=T$ point of balance & equilibrium where the system reproduces as the two fundamental metric equations of all space-time organisms, which means many things, such as:

- Slow beings use networks of faster particles which in physical systems are 'waves of force' in life beings are and networks with fractal branching and in human societies, networks of money and simultaneous legal messages. Yet all are essentially performing the same organic functions, we shall describe now as can 'translate' a light filling wave that penetrates lower planes, filling it till it touches particles, as a branching that 'speeds up frequency'; and a legal network that every citizen knows and obeys as a filling system of information, similar to a DNA network that all cells of an organism have in common. *Think always NOT in the differences of form and scale but in the homology of functions for the body/waves and particle/heads of each of the 3 superorganisms (working and informative classes in human societies), to see the unity of it all.*

If we consider that networks of energy and information belong to two different scales, and take into account the conservation of volume of space-time between scales and the $S=T$ equality, since smaller scales have faster times speeds and smaller parts, perceived as relative information compared to the bites of energy of a larger scale, we find an equivalence between a 'network' of bits of information of a smaller $\Delta-1$ scale and its

equivalent volume of a herd of bites of energy of a larger $\Delta 0$ plane: $(\sum \Delta_i = e = \prod \Delta_i - 1)$. *This equivalence is essential to everything in the Universe as it allows the coupling of languages and energy, making for example the physical economy equivalent to the financial economy, the language equivalent to the action; the mathematical equation a mirror of reality. But as information is smaller and more abundant, this equivalence tends to be inflationary, themes those that appear in all the planes of space-time and the interaction of minds and languages of information (SS, St) with Energy bites and entropic boosts (TT, Ts).*

The 2 languages of informative and reproductive networks: Bits of information and bites of energy.

It is important also to Understand NOT in pure abstract mathematical terms, but in LOGIC, LINGUISTIC ones, the INTERNAL, DYNAMIC nature of those networks, because only then we can properly understand how they work in advanced organisms of maximal information, the biological organism and the Historic organism, which belong as 'fractal systems' self-similar to each other, two the same specific type of organisms, we shall qualify as socio-biological organisms. A NETWORK, of informative nature, delivers MESSAGES OF INFORMATION to simultaneously coordinate the actions of all its parts; with its faster=smaller bits of information according to 5D metrics (min. spatial size x. max. temporal speed). While the networks of reproduction, the blood and financial system delivers larger bites of energy, which the organism needs to feed itself (when it is a healthy NON-corrupted superorganism as most of Nature, but NOT HUMAN SOCIETIES, whose astounding level of corruption we shall explain in detail).

Indeed, the key to the full understanding of reality both in terms of energy but also in terms of information, as both are two sides of the same coin, called 'existence' is the fact that in the sentient Universe, each fractal point, atom, cell or citizen (physical, biologic or social systems) needs bits of in-form-ation, form, smaller in size of space, hence faster according to 5D metrics ($S \times T = C$), but also 'bites' of entropic energy which will help the system to move. Networks are NOT some abstract 'fractal tube' but they exist to deliver 'energy and information' (SS: form=language with a little motion=St-information and motion=entropy=TT with a bit of information = energy=Ts).

So a healthy superorganism will deliver to each 'fractal point' (molecules, cells, human citizens), two type of messages through two type of networks. We shall call 'generically' the 3 type of bits and bites of information and energy that each of those 3 physical, biological and social systems receive, 'particles, genes and memes' even if the words as usual in 5D scencers are slightly changed, and widened in its original meaning.

So with its specific variation, those are the two fundamental reproductive-'body-wave' and informative-'particle-head' bites of energy and bits of information of the fundamental systems of nature:

- In physical systems, the two networks are the gravitational faster network of information, which we humans do not perceive, as we are much larger beings with electronic networks. Its bits of information in this faster non-local network should be 'gravitons', components of gravitational waves. In physical papers we advance as the most likely particle state of those waves of information that 'position' the different physical systems of the galaxy, a gravitational tachyon 'neutrino' for multiple reasons, we study on our papers on physics.

On the other hand, because we do perceive it, it is much easier to prove that the energetic network of physical systems are electromagnetic waves, photons and its 'social, static state' as the elements of an electronic nebulae, trapped in the potential energy well of the atom. Thus photons and electrons become the 'energy network of physical system, molecules.

We shall escape then in this introduction further information on the scalar structure of those networks and how, as we 'grow in scale', what is a bite of slow energy for a smaller plane of space-time, *becomes for the larger plane's slower beings, a faster bit of information, in the amazing beauty of the harmonies between scales. So electronic 'food for atoms' becomes electronic information for biological organisms and so on.*

- Those biological organisms do have then two fractal networks, the electronic, informative nervous system in which bits of electronic information moving along the myelin membrane deliver faster messages to every part of the organism to simultaneously synchronize its motions, so the body-cells act as a single form in simultaneous space.

- But when we move into the bites of energy delivered by the blood organism, the network delivers to each cell the basic 'currency' language of energy that all cells need to move, called 'oxygen'. *It is an atom of slower motion than the electrons but due to its electro-negativity and readily availability in the atmosphere, with its capacity to kick with two OH- & H+ legs the water 'medium' on which cells exist, the perfect language of 'money' for the organism to start kicking its 'actions'.*

So we DO have in the next scale according to the perfect laws of harmony, the two basic biological bits and bites of information and energy, electrons and oxygens, and from then on, as systems become more complex, variations of those bits and bites occur.

The main category are mixed ST messages, which deliver BOTH a stick and carrot 'complex' to the cells and its big molecules, which are amino acid systems, of great simplicity called Hormones, starting from the simplest of them all, an NO molecule (which do relax muscles, its main message to the locomotion system, increases the pressure of blood, provoking sexual erection, the simplest message to reproductive systems and multiplies the neuronal activity. *As nitrogens are the clock atom of our mind-brains.*

So finally more complex NO systems with a body support of carbon chains become 'hormones' which might have a 'higher informative message' (with more N, as in nucleotide molecules) or a higher energetic message (as in acids with more oxygen).

They form then the basic letters of the 'biological longer sentences that might accumulate information' in ever more complex molecules, as biological organisms are by far the more complex systems we know of.

Finally a very important concept is the difference between an ecosystem in which multiple superorganisms co-exist, often in predatory relationships, vs. an organism in which only a type of atoms, cells or citizens co-exist, and is far more symbiotic as all parts love each other and share energy and information through its networks, over a common territorial space, as shown in the graph.

Those three physiologic networks/classes/physical parts of ANY system of the Universe define the Universe indeed as a fractal organism of infinite smaller and bigger super organisms, in a game of Russian dolls in which each of us is a 'island-Universe' within itself, made of smaller parts, and for that reason each of us is also a part, cell/citizen of a social super organism, nation, religion or civilizations, which we do NOT see as a whole, as our cells do NOT see us as a whole, but DO exist as such.

What makes then the whole a whole? The answer is: the nervous, informative languages that communicate all the parts of the super organism and 'trace' within its syntax and value, its path of the future. And so we have talked first of it and will constantly coming to the bottom line of reality - the languages that construct the organisms of the world.

Let us then define the 'stair of Universal supœrganisms to understand this:

Let us then define with similar templates the 'stair of nested Universal supœrganisms, of the 3 stientific varieties – physical, biologic and social:

Δ+3: A galactic organism is a population of stars, related by energetic electromagnetic networks and gravitational information with a nucleus made of a swarm of black holes, and a membrane made of strangelet matter symmetric to:

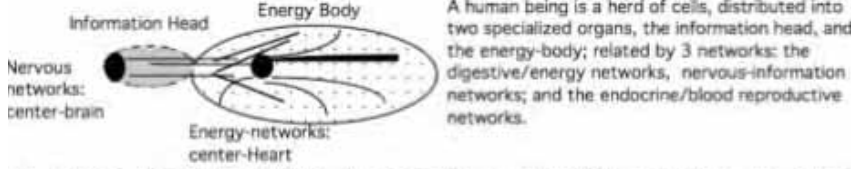
Δ-3: An atomic organism is a population of particles, related by energetic electromagnetic networks and gravitational information with a nucleus made of a swarm of quarks, and a membrane made of electronic matter symmetric to:

Δ+2: A star organism is a population of electronic plasma, related by energetic networks of electromagnetism and gravitational information with a nucleus made of a swarm of atoms, and a membrane of photonic radiation symmetric to:

Δ-2: A light organism is a body of energetic waves over a quantum potential field of gravitational neutrinos, directed by its particle, informative photon state...

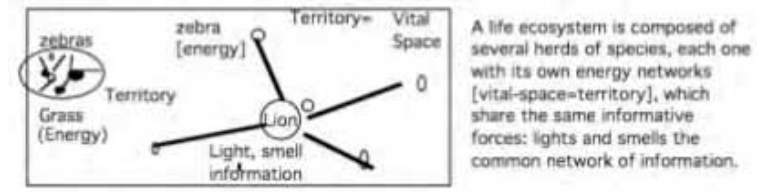
Δ-1: A cellular organism is a population of molecules, related by energetic networks (cytoplasm, membranes, Golgi reticules) and coded by genetic information (DNA-RNA.)

Δ=0: A human organism is a population of DNA cells, related by networks of genetic, hormonal and nervous information and energy networks (digestive and blood systems).



An animal, human or plant is basically a carbolife organism, an organism constructed around a basic 'quantic species', the carbon atoms, and two other atoms very closely related to the carbon atom [nitrogen and oxygen, the 6, 7, and 8 element of the Mendeliev Table]. Yet those organisms are not the limit of social growth in the Universe of carbolife. Since those organisms associate in bigger systems, ecosystems [since they are not so well organized internally] where groups hunt energy and perceive information, in a single word, exist.

An 'animal ecosystem' is a population of carbolife species, related by networks of light information, and networks of life energy [plants, prey]



$\Delta+1$: An animal ecosystem is a population of different carbon-life species, related by networks of light information and life energy (plants, prey) coded by instincts.

$\Delta+1$: A historic organism or civilization is a population of humans, related by legal and cultural networks of verbal information and agricultural networks of carbon-life energy, coded by human memes.

Networks that share energy and information between parts and wholes that expresses the structural unity of all scales connect all systems of reality. Networks 'fill' space ad maximal to connect fully the

whole with the parts, achieved in the $Si=Te$ point of parallelism and self-similarity. *But they enter in a region of faster motion. So while Space 'tends to remain constant' in each scale thanks to filling networks, time accelerates.* So the 5D metric refers NOT to the whole Universe of 5D planes but to a given family of 'supærganisms' of which mankind in it 3 scales of 'biologic cells', human individuals and societies is undoubtedly a 'phyla'. When we go down in scales, the Universe 'enlarges' for a traveler that becomes smaller and accelerates its temporal energy.

The 2 languages of history: Verbal, legal, ethic 'nervous messages' and 'WHealthy money'.

So we arrive to the human social networks, which we anticipate are in the present form 'completely corrupted' by the existence of a parallel 'economic ecosystem' of lethal goods, weapons, and corrupted parasitic money. So it is difficult for the reader to understand how simple, easy, and efficient WAS in the past, before the age of Metal, in the Neolithic, or during the ages of social religions of love or could be in the future with a proper design of the social networks of money and law, a PERFECT superorganism of history as efficient as those we just have described. In such superorganism, there are exactly the same networks: Legal verbal just networks of bits of word information that shapes the informative and cultural systems of the wor(l)d. And a healthy form of money, delivered to each citizen cell as a Universal salary so humans have enough energy to survive and buy its natural welfare goods, which must be classified NOT by price but by its biological usefulness to mankind, reason why we give them positive and negative values in the ethonomic frame of reference, according to its use for the 3 organic parts of humanity at individual and social level.

The previous graph explains them. Since *vital, topologic, physiological network laws* are the most important to consider when studying History in Space, as the reader can observe in the previous graph, since History, the $\Delta+1$ scale of superorganisms of mankind follow all the exact laws of a lower organic plane – that of a biological organism, albeit, due to its 'primitive' degree of evolution is NOT a well designed organism, but one clearly 'sick', infected by 'lethal goods', with dysfunctional parasitic economic systems (as the language of reproduction of goods, money, is absorbed by a minimal number of people, or used to reproduce those lethal goods). And so the study of History as a superorganism has 2 different parts:

- On one side we can consider a perfect, efficient superorganism of History with the laws of vital topology just by imitating perfect efficient superorganisms of Nature, which *are the majority of them – History is in fact an exception – as we said a sick organism.*
- On the other side, we can study our superorganisms, as they have evolved in time, spotting their degrees of corruption and sickness of its 3 physiological systems, the life Earth, Gaia that sustains them; the economic and financial system that reproduces its goods, and the informative cultural and legal system that synchronizes its citizens cells. It is then when it will become evident what went wrong with 'human' history, one of many likely subspecies in the infinite fractal planets of the organic Universe that likely will not make it into the future...

In the next graph we can see a historic super organism based in welfare, whealthy memes that allow humans to survive, belonging to the 'ideal species' that would be efficient, provide to the 100% and survive...

History is a super-organism made of human cells, extended over a geographical body of energy called Gaia, the vital-space or body, where historic, social organisms evolve. In that sense, a human and a social organism, a nation or a civilization, have in common the elements of all super-organisms:

1. *Cellular units.* These are cells in a human body, citizens in a human society.

Networks of energy or vital space; provided by Gaia, a super-organism made of living beings, joined by a common network of visual information and networks of life energy, gathered around her 'river veins'. Since Gaia is also the living organism that hosts the social organisms of Mankind.

2. *Networks=Languages of information.* This is the nervous system that organizes cells in a body, or the verbal/visual information that organizes human societies through laws, ethics and art.

3. *Networks that reproduce energy and information.* These are sexual systems in individuals; and economical networks that reproduce goods and cultural networks that define how humans reproduce in societies. This is the blood system in a human body and the economic networks of production & transport in a society that favor 'WHealth', that is, goods that satisfy the needs of the '3 physiological networks of life-existence that make us human beings, whose 'proper frame of reference' (left) is NOT based on financial values, manipulated by financial institutions and companies that set prices, but by 'biological true values.'

So a human organism is a population of DNA cells, related by networks of nervous information and energy (blood). And a supœrganism of history is a population of citizens, related by legal, cultural, informative and economic-energy networks 'predating' over a territorial geography, on the outer 'membrane' of planet Earth.

The role of true social science, its politicians and economists in a natural, efficient superorganism of history.

The same laws that apply to the study on how cells becomes wholes through its connection through physiological networks, of energy, reproduction and information, apply to the way humans are organized by energetic territories, economic, re=productive networks and informative, cultural, legal networks. So we can design a perfect superorganism of Humanity just by imitating the laws of social systems, in nature, which do construct perfect superorganisms all over the place where all cells receive enough energy and information to survive. As Humanity does not manage properly its social superorganisms, they become 'infected by lethal products, weapons and hate media which kills those social super organisms.

In the graph, we sum up the nature of History, the superorganism of mankind, and how it should be designed according to the biological Whealth humans need to thrive and survive, if the economic system was not an ill-designed parasitic system of debt slavery, born of the evolution of supremacist fetish gold cultures, in conjunction with the metal-entropic iron cultures that consider MONEY not what it is - a digital language of distribution and production of goods, no wealth per se, but a language that kicks the reproduction of those goods, as words do with human organisms and oxygen and hormones with biological systems - hence a language that should be delivered tool citizens-cells to start production and consumption of welfare goods, with universal salary and NO-DEBT government issues (that is not need to return the money).

The science of economics *as a true social science*, is the science that should manage and design the 're=productive, blood-like system' of the superorganism of mankind in time, History, whose natural purpose should be to provide all human beings, citizens-cells of our superorganism, with the goods they need to survive and repress as blood-systems do the lethal goods that harm our body (weapons) and minds (hate memes and fiction thought that isolate us and create virtual 'mad-minds').

As those are the ± goals of all re=productive networks of Nature's superorganisms.

And so since mankind is a superorganism, and its legal, nervous political network and re=productive blood economic network its physiological systems, politicians and economists as 'doctors' of history should imitate Nature in the design of such efficient superorganism, which is extremely easy since in Nature no superorganism leaves one of its citizens-cells without enough food and welfare goods they need to survive, no

superorganism allow lethal goods to reproduce within the body system, and no nervous system, emits unjust 'legal messages' which do not treat all cells as equals and synchronize its motions.

We explain those simple facts of nature, and the proper models of social sciences, in more detail in the graphs that draws the basic structure of the superorganism of mankind, History, including an 'economic frame of reference' that value positive and negative goods according to their biological utility, as organisms do.

In such a frame of reference, negative goods like weapons will have negative values, subtract from the GDP and be forbidden, because their use harm people.

And so the nervous and leukocyte, blood system would forbid and control its production.

While on the positive side we put the goods that foster the drives of life of human beings, making us thrive as individual and species. So a healthy, wealthy society with an efficient re=productive system would overproduce those goods.

And this would be done simply with the same system that organisms use to kick out the production of the goods its cells require: through a 'hormonal language' of orders controlled by the legal/nervous system that defined what to produce and what to inhibit and a common 'energy language', oxygen - money in the economic system, which is given to all cells to kick out their actions of consumption and production, within the restrictions of the legal nervous system.

As simple as that. So a healthy wealthy economic system would be similar to the social-democratic welfare economic systems of the European Union in the XX century or China, before both systems became corrupted and changed its economy to a model of massive reproduction of lethal goods, and lack of credit for its people, imitating the economic system of American capitalism, where a few parasitic private bankers choke their people of credit, welfare, healthy goods are chronically under produced and lethal goods are massively overproduced to control and harm its population, which the corrupted political system does NOT serve, as it happens in organisms, with their neuronal system that serves the body - *because the cells of the body can harm with pain the mind if it does not serve them.*

In our corrupted organisms of history, akin to a cancerous body where a few cells absorb all the oxygen-money for themselves and viral germs multiply and attack the citizens-cells, nothing of this simple, obvious organization that *happens in all evolved mammal systems, in all superorganisms of nature, takes place.*

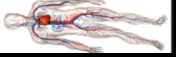
Δ±j: 2 scales of human superorganisms. Its collective mind: art and religion.

The 2 super organisms of mankind at the individual and social level and its informative, nervous or legal/ethic networks, and reproductive blood or economic networks. Those 3 physiological networks collapse with germs and wars that kill civilizations. Religions are inscribed within the ethic/visual collective mind of its informative neuronal class, the artists and ethic prophets that foresee its demise in the 3rd baroque age of the civilization expressing its angst in artistic forms and ethic books of revelation that try to halt the collapse of the organism. Love Religions were all born of an ethic prophet in the 3rd age of the culture. In the graph, the blood-reproductive network of economics, the digestive-entropic territory in which we feed and the nervous

THE 3 AGES OF LIFE

IF MEN ARE ORGANISMS THAT GO THROUGH 3 SEQUENTIAL AGES CONTROLLED BY EACH OF ITS 3 NETWORKS...

Blood, energy networks:




YOUTH, AGE OF ENERGY

The existence of any organism made of 'cells' of energy and information follows an 'arrow of future' that trans-forms energy into information in 3 ages:

"Vital energy trans-forms itself..."

Endocrine, reproductive networks:



MATURITY, AGE OF REPRODUCTION

... reproduces

...Into in-form-ation...

...and in-form-ative, nervous networks:



OLD AGE, THE AGE OF IN-FORM-ATION...


...AND


and dies simplified again into energy...

CIVILIZATIONS ARE ORGANISMS MADE OF HUMAN CITIZENS...

The difference between a human and a social system *...Joined by energy networks: Nature... reproductive networks: social groups... and informative networks: wor(l)d and art:*

is of spatial size and time length. Since they follow similar laws, as a culture is an organism made of human cells, its citizens that share a common verbal/informative/nervous network - laws and religions - and a collective, visual/spatial perception - its art:



... THAT GO THROUGH 3 AGES, DEFINED BY THEIR ART STYLE, THE COLLECTIVE MIND OF A CULTURE...

EPIC, LINEAL YOUTH, THE AGE OF ENERGY

When a culture is born, its mind, its art is young, energetic:

CLASSIC, REALIST, SENSORIAL, MATURE ART

THE AGE OF HARMONY:

When weapons quiet down or the prophet dies,

OLD AGE: DECADENT, PROPHETIC, BAROQUE, IN-FORM-ATIVE ART:

But the tree of science brings new

...WHOSE CELLS DIE, VICTIMS OF GERMS:



Organisms die when their physiological networks are attacked and destroyed by alien germs. Then cells are freed, but without collective defence, die individually as energy of those germs.

DEATH, THE END OF THE ETERNAL TIME CYCLE...

which starts again with a new generation that repeats the information of the old being in a 'son'

...WHO DIE VICTIMS OF METAL-GERMS: WEAPONS



A cultural organism dies when war collapses its networks, its agricultural energy, social destroying energy, brain (system extinction), origin of and war:

its cellular units (citizens), its collective social energy, brain (system extinction), provoking its origin of and war:

The rhythm of those extinctions is the the wave of history with its ages of peace and war:

... THAT END UNDER FASCIST CENSORSHIP IN A WAR AGE

Finally, the culture dies when a new warrior caste conquers the civilization imposing a new cycle of epic, young art...

"You will protect me with your sword, and I will defend you with my word"

informative systems of politics are parallel and in systems sciences must follow similar laws. So we should tailor economic systems with laws of medicine, and put the nervous system above, as all evolved organisms. It follows that as doctors are in charge of curing and maintaining healthy the social organism of cells, through the caring of its physiological networks (blood=reproductive, nervous=informative and digestive=entropic, energetic systems), to the point that doctors say all sickness are not of cells but of physiological networks, historians, economists and politicians on charge of the theoretical and practical well-being of human societies should take care of those economic, political=legal-informative and Gaia=entropic, energetic networks of life that shape the human superorganism. In the graph below we consider in more detail one example of those superorganisms, the most important for mankind – the superorganisms of humanity, nations and civilizations.

Organicism puts man again @ the center of all things, because we are the most perfect superorganism. So biology & medicine that cure the physiological networks of sick organisms, are the true sciences of history and economics, since the goal of both is to create perfect physiological networks of economic welfare production and just democratic systems of nervous control and pain to the brain-politicians that do not obey the organic laws and develop a wealthy, healthy, humanist world to the image and likeness of man, made to the image and likeness of the fractal organic universe.

Historic nations and civilizations as super organisms in space, its physiological networks of energy (economic system) and information (culture and political system) and in time through its life and death=war ages and cycles, themselves a mirror image of the larger cycles and physiological networks of the whole superorganism of mankind, history. Mankind in time and space as a superorganism and a worldcycle: in the upper part its full world cycle as a block of time, in the down and right its life and death through civilizations of which the subconscious collective artists and ethic prophets form its 'neurons' – while the equivalent metal earth has in its scientists, their collective brain that increasingly confuses technology (metallife), with science (knowledge).

THE 4TH AXIOM=POSTULATE OF RELATIVE CONGRUENCE.

4th Postulate: Equality is no longer only external, shown in the spatial perimeter of any geometrical form (Euclidean congruence) but also internal and further on it is never absolute but relative, since we cannot perceive the entire inner form of a point – hence the strategies of behavior such as camouflage. Forms are self-similar to each other, which defines different relationships between organic points, according to their degree of self-similarity. The 4th postulate is thus the key to explain the behavior of particles as the degree of self-similarity increases the degree of supercommunication between beings. Some of the most common behaviors and 'events derived from this postulate are:

1) Reproductive functions in case of maximal self-similarity or complementarity in energy and form; $e_i \rightarrow Sei$ or $Max E \times min. I$ (male)= $Min. e \times Max I$ (female).

2) Social evolution, when points share a common language of information, $i=i \rightarrow 2i$.

3) Darwinian devolution when forms are so different they can't understand each other's information so instead they feed into each other: $i \neq i$. In such cases if those 2 entities meet they will start a process of 'struggle for existence', trying to absorb each other's energy (when $E=E$) or simply will not communicate (when $E \neq E$, since then there is neither a common information to evolve socially nor a common energy to feed on). Yet because any point absorbs only a relative quantity of information from reality, similarity is relative, faked for purposes of hunting with biologic games such as camouflage or sociological memes that invent racial differences, allowing the exploitation of a group by another.

The 4th postulate defines systems as identical when they are equal in its 3 ternary parts, the outer angular momentum or 'membrane', its central Active magnitude or singularity, focus of the forces and the vital

energy, enclosed within them, and all others as similar with different 'angle of congruence'. We distinguish 2 different interactions according to the degree of equality of its ternary parts, as systems can be symbiotic, if their individual,

SOCIAL MINDS EVOLVE INTO ORGANISMS.

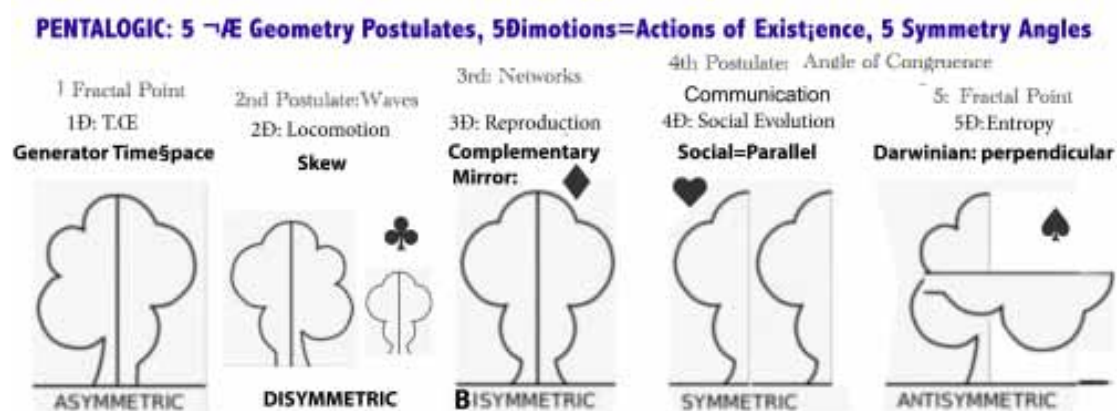


The law of eusocial evolution, natural to all species, which evolve together, sharing energy and information through common networks, when they recognize each other as equal being, cells of the same superorganism, is confronted by the law of darwinian devolution, in which species that consider each other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

cellular or atomic 'fractal points=parts' are similar enough, interacting through its 3 physiological 'lines=networks' evolving in parallel creating an organic plane, as those described in the next graph for each scale=science, or they can be entropic, destructive, predatory, when they are dissimilar and don't speak a common language of information to coordinate its actions, whereas the stronger system will perpendicularly break and feed on the weaker one.

The geometric complexity of the 4th Postulate is caused by the topological forms created by any event that entangles Multiple Spaces-Times. Since it describes the paths and forms of dual systems, which connect points: Self-similarity implies parallel motions in herds; since equal entities will maintain a parallel distance to allow informative communication *without interfering with the reproductive body of each point*. Darwinian behavior implies perpendicular confrontations, *to penetrate and absorb the energy of the other point*. Finally, *absolute, inner and outer self-similarity* brings boson states, which happen more often to simpler species like quarks and particles that can form a boson condensate as they do in black holes, *where the proximity of the points is maximized*. And indeed, *the same phenomenon between cells with the same inner information /DNA originates the 'collapse' of waves into tighter organisms*.



The 4th Non-E postulate is implicit in the work of Riemann who defined spaces with the properties of self-similarity (homogeneity), and Lobachevski's who determined its closeness with the concept of adjacency.

4th postulate of relative congruence & angle of parallelism as a mirror of its 5 pentalogic dimotions and variations of angle define Darwinian or social, reproductive outcomes to communicative events between fractal points.

Thus in praxis we assess similarity by an 'angle of parallelism' that increases social evolution into herds and suporganisms, or perpendicularity that 'scatters' systems into entropic destruction – elements those of an entire fascinating new field of 5D topo-biologic studies that analyze in geometric terms, the vital topology and relationships between form and function in all systems of Nature from particles to organisms.

This simple geometrical truth however is essential to all systems of nature, whose angles of connection determine the functions and symbiosis between parts.

The Universe always starts with an asymmetric being, which can go both ways: towards a social evolutionary symmetry that lasts in time and implies a mirror parallelism, or an antisymmetric destructive, perpendicular event in which one part punctures and absorbs the energy of the other. It is the topo-biological ternary principle of non-Euclidean, Non-Aristotelian I-logic geometry that puts together both the biological and mathematical properties of reality. The concepts of symmetry=parallelism, antisymmetry=perpendicularity and asymmetry are mirrored by the 4th Non-E Postulate of similarity. But we can extend the concept of asymmetries also to asymmetries of time, between the young age of locomotion and the old age of information, of actions=Dimotions between the step and stop similar actions, and the entropy and social evolution actions, which bring us the final asymmetry of scales between the upper arrow of whole with more spatial size and the lower arrow of parts with more information. When those dualities: step-motion/stop-perception and scale up (5D: social evolution), scale down (4D: entropic dissolution) are put together we

obtain the most complex balancing dimension, reproduction, and when they are all added up in the existence of a being, we get its world cycle.

In the graph we can assess the different 5 mirrors in which mathematical Space and logic Time reflects the game of 5 Dimensions=actions of existence, which then expressed by territorial monads GENERATES its logic REALITY. In Geometry fractal points=monads will other through waves of communication of energy and information that grow into reproductive networks a territorial plane, creating a super organism, which will related to the external world according to its relative similarity=congruence, assessed by its angle of parallelism or perpendicularity.

In logic terms, a super organism, by breaking its formless asymmetry into different spatial configurations according to congruence (social parallel systems, complementary gender-mirror systems, Darwinian perpendicular systems, or systems that are dissymmetric and do not share any reality) builds a casual pyramid of growth from a fractal point through waves of communication into social networks that become ready to act - move, feed, perceive and evolve socially.

Since we must add to the mathematical and logic languages-properties of reality the 5 actions, or organic properties of the scalar Universe as essential to the game as they are its logic and mathematical more abstract laws - a fact the egocentric of entropic men of course reject, as it must remain in its monad-subjective monologic the only claimant to life properties.

Thus the pentalogic of Scalar space-time is established by its Non-Euclidean fractal points, its logic congruence with reality in which it will order a territory to perform its 5 vital actions=Dimensions of existence, and the mathematical, logic and organic laws of those 3 languages will be therefore the bottom line of the 'Creative process' of the Universe - nothing chaotic except the entropic Dimension, which conforms the monologic of huminds.

Congruence and topology in existential algebra.

As only Schopenhauer seemed to realize in his intuitive critique of Euclidean mathematics, little attention has been given to the most important postulate of 'relative' equality, which structures the 'vital will' of parts that become wholes symbiotic, in energy and information, reproducing a new form upon contact or only in information by parallel motion or enter in Darwinian relationships when contact is negative, or are indifferent to each other. Or split from a whole into parts. The 5 options of congruence manifest in all the 'events' of reality, notably in forces. Which determines illogically the need for repulsive cosmological gravitation (dark entropy=energy) to balance the internal implosive gravitation within the galatom (akin to the parallelism between repulsive electromagnetism between atoms and attractive charge and strong forces within it).

Mathematically we realize the $dx/dy=x/y$ has an inverse, $dx/dy=-y/x$ possibility of circular tangents or collapsing rays that might go into the center or escape from it, giving us 3 obvious congruences - parallel communication, Darwinian event (with a form escaping or being swallowed), social merge (if the encounter is positive) or no solution at all to the differential equation - erratic, independent behavior.

Congruence based in similarity of energy, information or dissimilarity thus defines the ethics of reality and is essential to the laws of existential algebra from where so many laws of sciences are deduced, such as:

$X(te) < Y(te) \wedge X(Si) \neq Y(Si) \rightarrow x(te) < Y(te) \dots$

Which means if two systems meet each other, and one X, is 'smaller' in its existential momentum than Y and X and Y do not have the same Spatial informative language, Y will predate on X and hence x, will suffer an entropic dissolution.

It is then possible to tabulate all events that might happen in the Universe according to congruence and the different 'strength' in the existential momentum of both systems.

And then establish a deterministic outcome for all events between species.

Existential algebra thus couples with illogic geometry to establish the deterministic nature of the event of the Universe.

Since those rules written in existential algebra terms are the deterministic translation and expansion to all the sciences of reality of the encounters between the elements of any species and therefore become the most important fusion of non-e geometry, non-algebra and reality as we can always assess in a rather deterministic manner how the encounter of two elements in any scale of reality becomes a given outcome between prey and predator, couple of gender, social group, enemy nations, atomic ions, etc.

External dimensions/networks of organisms: territories.

The key element of Non-E geometry are the 3 topologic regions of all systems, as that is the underlying structure that evolutionary topology develops, with a singularity, @, dominating a vital territory enclosed by a membrane.

It is the mixture of function in time through actions of survival that dominates the spatial ternary structure of those T.oes, which guides the understanding of vital geometry.

I.e. "Though most arachnids are solitary animals, some spiders live in enormous communal webs housing males, females, and spiderlings. Most of the individuals live in the central part of the web, with the outer part providing snare space for prey shared by all the inhabitants". *Britannica*

Indeed, regardless of the vital topology of the point, all 'build ups' of new geometric scales start with the simplest form, a 'bidimensional territory' with a membrane, a central singularity and the vital energy between them. So geometry not only evolves in the humind in complexity, it does so in the evolution of the vital topologies of new forms in each single plane:

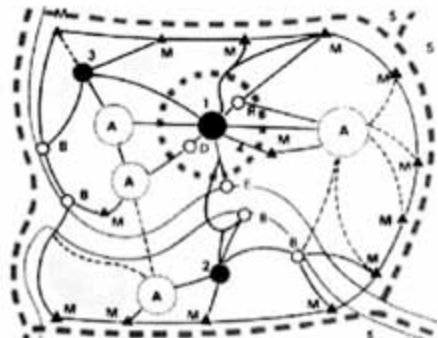
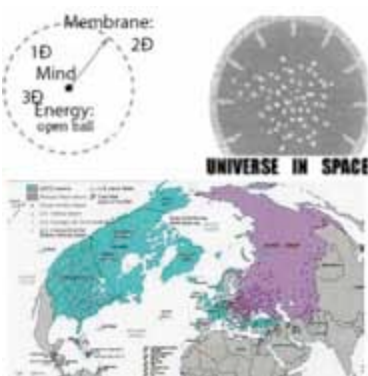
In the graph, all systems regarding of its 'perfect geometry', have the same ternary structure, to which vital geometry adds motion, in a Klein-like Non-E structure, where borders of entropy=death can't be crossed; so they are relative infinities – military borders, balls of fire, membranes. On the left we study in more detail a mammal territory. Any animal territory is an i-logic space-time with 3 zones:

An informative central territory (1) or den, where animals reproduce and 2 secondary homes where the herd performs secondary organic cycles (2,3).

An energetic membrane (M, 5) – an invisible limit that provokes a confrontation if a stranger crosses it and where most energetic preys 'flee' away from the den of the predator.

An intermediate zone with cyclical paths of absorption of Entropy and information; where we find a hunting territory, places to drink (E), to bath (B), socialize (A), defecate (D), etc.

In organic terms, a dimension is a network. So a living organism can be considered a sum of cellular quanta united by 3 basic space/time discreet dimensional networks, which are its physiological systems: the digestive/energetic network, informative/ nervous network and reproductive/blood networks around which cells teem, creating a stable, organic st-point. In other words the Entropy and informative networks of a living being are its internal, diffeomorphic dimensions (of relative length and height), to which the organic system adds a 3rd, reproductive dimension that combines both elements and represents the width or 'volume of cellular quanta' of the system.



Finally its movement in the external world becomes its 4th temporal dimension. Yet that 4th dimension of external activity can also be considered a network territory in itself, sum of the 3±i cycles of existence of the being, creating a bigger vital space that will become the basic unit of an ecosystem or social organism made of individuals of the same species. In the figure we draw the vital territory of a minimal social pair of mammals, differentiated in 3 clear sub-sectors:

Max.Information: Informative den or central territory (1,2,3):

It is the territory of reproduction used to copulate and store basic food and Entropy to raise the young. It is a forbidden zone where hunting is not allowed (4). In social species of great mobility, aerial or marine, where borders are much more extensive, this territory is very ample and tends to be located in warm latitudes.

Entropy=Information: Dual Territory of Entropy hunting and informative socialization (5).

It is the feeding, social and hunting territory, on which the central informative being feeds itself. It is outside the zone of reproduction. It is the winter territory of many migratory birds.

Given the relativism of movement, in biologic territories the informative singularity moves to hunt its Entropy quanta, as opposed to galaxies where stars and space-time dust moves towards the central worm hole.

Within those limits there are also neutral territories of communication, courtship reproduction and free Entropy, like water troughs. So the intermediate territory works both, as an informative and energetic territory where different victims and predators trace parallel cycles and come together around meeting points (E, B, R).

Max. Entropy: Borders that limit the territory.

Membranes are dangerous topological zones of dual osmosis. So the informative center watches to control any invasion of its hunting/social territory. Membranes fluctuate according to neighbors' power. For example, the vital space of a fish increases during mating, since the couple is more powerful than a single individual. Marks (M points) fix those limits and reduce combats. They are often invisible, as most territories are defended against competitors of the same species, who understand the informative code of those marks; but rarely against members of other species. So we find all kind of linguistic marks:

Smells (common in mammals, like foxes, rhinos, antelopes), excrements (in canines and felids) or other glandular secretions.

Optical marks often connected to scents: The brown bear creates marks in trees, rubbing them with his head, warning adversaries of his great Max.SxT size and force. In human empires (nations can also be treated as biological territories) visual marks correspond to armies displayed in the borders. In human homes those marks used to be shields with weapons; now they are cars and other proofs of money, the new language of social power.

High pitch, acoustic marks, proper of birds, which are triggered when a rival enters the territory.

Recap. Vital animal territories and human nations can be explained with the 3 topological regions of st-points.

The structure of $\delta < TS < \delta T$, territorial spaces with a central point of view, developing its particular worldview, trying to reach infinity with his distorted geometry, affine to a projective geometry where far away means small, defines each world of a Universe, which is objective when 'clashing' each form with all others – so only eusocial love, and emergence through the scales of the 5th dimension make survival possible. Geometry is then the study of the spatial form that the functions, which dominate the vital, sentient Universe, adopt in their existential actions.

And as such is the best method to visualize the 'meaning' of algebraic and analytic functions both in abstract and mathematical physics. Each of the different laws of bidimensional plane geometry then can be studied as a reflection of the efficiency of vital Dimotions in a simplified geometric form, where curved paths become perfect lines, distances are measured without error and angles have no geodesic distortion. But still *vital geometry will add to those structures its vital interpretation, besides the abstract knowledge introduced by the Greeks, on the lines of the previous graph (which become lineal forms in other systems such as 'polygonal molecules' or human artificial constructions).*

In Geometry thus we can also use the 'pentalogic points of view' on each theorem and also specific of geometry the vital meaning of the *5 angles of congruence (4 non-E Postulate), from Darwinian perpendicularity to social parallelism.*

5TH POSTULATE – DEFINITION OF A MIND-POINT OF A NEW SCALE.

The fifth and only standing non-E postulate is equivalent to the first, defining a fractal point but from the p.o.v. of its inner mind-center of reference as the Universe has infinite of them: The graph shows the difference between the Aristotelian, self-centered, Euclidean=light humind and the Universal mind: --Aristotelian, Non-Euclidean:

Metric function of mathematics: $0x \infty = K$ search for 'wholeness' in a single function.

Thus we define the Generator function of algebra, which as a mind language derives from the mind 5D metric:

0-finitesimal spatial mind $x \infty$ time cycles = Constant mind-world: $\xi@(mind\ space) \approx \Delta\delta$ (universal cycles)

So the 'Generator Function' of all digital numbers is, $0x \infty = K$ and its algebraic expression, $Sx \approx f\delta$.

Both functions together allow to represent all possible metric functions of all supærganisms of the Universe. As such neither 0 is an absolute zero, nor ∞ is an infinity, concepts relative in a scalar Universe, where the limits of scales in size and time speed and perception in each self-centered p.o.v. only allow to talk of relative infinitesimals, we call finitesimals, 0%, and relative infinities, whose symbol is ∞ . 2 evident truths are then the existence of an experimental finitesimal, $h=m l^2 f$, the minimal unit of angular momentum or Planckton of the galatom, and a relative infinite, $=c$, its maximal distanced-speed, which conforms the most extensive metric we know of with precision, beyond which dark space and time is unperceivable to mankind, so we write $0s (h) x (c) = K$

It follows also that mathematical infinities are inflationary mirrors whose contradictions (Cantor's Paradoxes) are NOT solvable (the Zermelo axiom being an ad hoc addition, against the logic of truth), because precisely they limits of reality enter in paradoxical contradiction with the infinite inflationary mirrors of languages.

The study of those 4 elements of all realities, its actions and ternary operandi, structures the dynamic 'Generator Function' of all Space-time Systems, written in its simplest form as a singularity-mind function: $0x \infty = K = \infty^2 = 1$

So the 5th postulate defines points as informative knots or linguistic eyes - minds of information that absorb a flux of forces used by the point to perceive a relative world. A non-Euclidean point corresponds then to our concept of a relative mind that gauges the information reality with a certain force, similar to the concept of a monad in Leibniz relativistic spacetime. In words of Einstein: a point of space is a fixed frame of reference.

Thus, Non-Euclidean mathematics fuses the logic and geometry of the fractal Universe, greatly improving our understanding of Reality even in terms of mechanist measure. Since mathematical solutions to problems with several points of view are impossible to find in continuous space (i.e. 3-body problem in gravitation), given the fact that a network of infinite points of view is local and relative and each point is a focal knot that acts from its perspective. Thus, the absolute truth of a system is the sum of all its points of view, which influence each other. Yet even if we cannot calculate precisely with mathematics, systems with more than 2 bodies, since those systems are organic, hierarchical, made of networks with attractor points, fractal structures and self-similar paths, the new mathematics of attractors, fractals, scales and Non-Euclidean systems, refine greatly our analysis. In essence, indeed, we observe that 'networks' integrate parts/points into wholes, which then 'act' as a single point. So in the complex models of i-logic geometry we can tackle many problems by defining sets of points as 'wholes' of a 'higher space-time'.

For example, the previous principle of local measure, where each point is a relative center of the Universe, is called in relativity the diffeomorphic principle, which now becomes explained as a partial case of the wider law we called the 'Galilean paradox'; the duality particle of information/wave of energy becomes a specific case of the application to physics of the duality of energy and information found in all systems.

The expansion of the laws of quantum theory (complementarity principle) and Relativity (relativity of scale, local measure, etc.) to other sciences and the organic principles of the 3rd and 4th postulate to physical particles is therefore the consequence of those postulates. Yet it requires the understanding of the new, i-logic, organic laws of the Universe and its networks, because E-mathematics has clear limits to extract all the

information of the Universe, given the fact that its syntax includes a priori errors and simplifying postulates (single space-time continuum of points without parts, etc.).

When the event is complex, performed by a great number of points/variables we enter into non-linear systems, which require topological descriptions (chaotic attractors, fractal non-differentiable functions and Non-Euclidean mathematics), and the i-logic laws of organic networks and systems – a better syntax in which to fit experimental evidence, especially in phenomena of informative nature (since only formless energy is continuous and resembles the models built with a single arrow of energy and a single plane of space-time).

So while classic physical systems calculate accurately the energetic, continuous properties of the Universe an overview on how multiple points of view emerge into wholes requires organic laws. This search of whys also applies to the understanding of mathematics. For example, the previous postulates resolve the long-standing question of what is the nature of the 1st and 5th postulates that seemed redundant (as the 5th describes also properties of a point like the first does, and the 1st seem to describe a non-geometrical property). They are no longer redundant, but they are more concerned with causal logic and time than spatial geometry in its purest forms (points, lines and planes.)

There is also self-similarity between the fractal postulates of i-logic geometry (since the 5th is geometrically self-similar to the 1st, as both are concerned with points) and the 4 dimensional time paths/arrows of the universe. This is not casual since all languages of space-times depict in self-similar ways the 4D Universe. Thus if the 1st and 5th postulates define a *gauging point of information* as the fundamental unit of the Universe, the 2nd postulate defines a line or flow of communication of energy and information between 2 points, which *reproduces* part of the information of the 'generator' point across a surface of space; the 3rd postulate defines those points, which are not similar as *energetic* substances that will be absorbed by the points. Yet if those points are self-similar they will gather through the arrow of eusocial love, creating according to the 4th postulate a network of space/time, a new organic plane of existence. So the 4 arrows of space-time are explained by the 4 postulates of i-logic geometry.

Recap. We expand geometry to make it vital as it is in reality, constructing the 5 dimensions of reality departing from one-dimensional points with volume, which evolve into bidimensional waves of information, which form ternary physiological topologic networks, vital planes of organisms that finally emerge into relative 0-points of a larger scale, guided by a mind-membrain, self-centered into a linguistic singularity connected through those networks to a membrane that encloses the whole structure and makes it look from an outer perspective of a larger scale as a particle-point of a new plane of existence.

Non-Euclidean points constantly communicate energy and information with other self-similar points and the external Universe, by sharing flows of micro-points of a lower scale of space-time, which carry the energy and form of the particle into the external universe. The laws that define those acts of communication are hierarchical laws between planes of space-time and laws of balance between the energy and form of those 'actions' of communication, *exi*, which become the fundamental dynamic event of any scale of the Universe. Events in the Universe are limited by the ternary principle. Actions of communication also obey the principle: There are energetic, informative or reproductive events, creating often complementary systems with an energetic pole or body and an informative pole or head, communicated by a dense network or neck that carries the actions. The 5 Postulates of non-Euclidean geometry are based in the definition of a fractal point as a point with inner parts, revealed when we come closer to the point. According to such definition, lines are waves of points and planes topological networks of points, communicated through flows of energy and form. While equality requires also equality in the inner form or information of the point, which prompts communication through waves of energy and information that build networks. Communication between points is now possible because points can fit infinite parallel/waves used to gauge the Universe and create an inner image of reality. Non-Euclidean fractal geometry thus improves our vision of the Universe closer to reality and allows the definition of organic systems and logic behavior in bases of geometrical form, a long-sought dream since the times of the Greek.

ALGEBRA

Numbers are the science of scale, studied by algebra, which also digs into time theory through the use of operands and $S \Leftrightarrow T$ feed-back equations.

5 Dimotion Operands; 5 Non-E Postulates. Si=Te Point Number Symmetry.

Pentalogic is best to analyze a superorganism in space with a higher truth, from 5 different perspectives to discover its form & motion in 'space', 'time' & 'scale', between its 'entropic limits' and linguistic 'minds' that performs its 5 survival dimotions to Maximize its function of existence, and integrates its parts into wholes. Mathematics as a mirror language thus uses pentalogic to study 5D fractal **points of space**; its **time operands, scalar, social numbers; minds=frames of reference and entropic limits**, which entangled together by the laws of pentalogic form the 5 elements of $-\Delta@st$, dust of space-time, the substance of which we are all made. As such is the most experimental of all sciences.

Its 3 ages. 5D mathematics returns to the mature experimental age of the discipline that went as all systems do through 3 ages from a simple lineal age of Greek Geometry to its curved realist age of calculus that added motion & scales of 5D finitesimal derivatives and 4D wholes to better mirror the fractal Universe, to a 3rd age of excessive informative fictions, when it abandons its realist foundations, when during the German creationist ego-trip of Hilbert and his Cantorian paradises, he says, 'I imagine points, lines and planes' thinking he shares the only language 'God' uses to create reality. Hence mathematics is no longer considered an a posteriori mirror of scalar timespace but its 'generator' and as the first 'Aristotelian cause', needs no experimental proof but rather the opposite: reality exists only if it can be casted into mathematical models ('only what we measure is real' Planck). So mathematicians abandon space points, scale numbers and time operands as the 3 mathematical images generated by the Δst Universe, using instead 'Cantorian' sets as its 'imagined' units nowhere to be seen in reality. And Hilbert affirms the self-contained Axiomatic method of proof, NOT connected to the world, despite Gödel's incompleteness theorem- a baroque inward looking 3rd age of excessive form proper of all systems we abandon to return to its empirical foundations, now formulated in terms of those 5 structural elements that create reality, mimicked by the main mathematical elements. Since mathematics reflect the properties of scalar space and cyclical time in its main elements, points numbers and operands entangled in feed-back $\leq \Rightarrow$ functions.

Its sub-disciplines. As a mirror language we couple the 5D elements of reality (entropy, scales, minds, space and time) or $-\Delta@st$ elements (Deep time view) with the 5 disciplines of mathematics as experimental mirrors of those 5 elements: Space=geometry, Δ : Scales: Number theory, $S \Leftrightarrow T$ Dimotions and Symmetries=algebra; which analysis is best for time motions; @-minds = Analytic geometry (Frames of reference) and philosophy of mathematics; while entropy, negation of information appears in the limits of calculus, inverse operands and exponential functions.

We couple the minimal quanta of those 5 elements or 5 Dimotions=actions (short view), with the minimal elements of Algebra (Operands: & inverse entropic functions): 1D: \sin/\cos , 4D: \pm , 3D: $x \div$, 4D: $x^a \sqrt{\quad}$, 5D: $f(\partial)$.) and with the $3 \pm j$ topological varieties and Euclidean dimensions of the Universe (long lineal limbs/fields: 2D, wide reproductive hyperbolic body-waves, 3D, tall, informative high spherical particle/heads, 1D; and networks of fractal points that create them, 4D or dissolve entropically 5D; which ensemble into spatial superorganisms tracing worldcycles (medium view).

How a system evolves its dimensionality is the game in any logic language.

As it is the game of reproduction of waves of form what the Universe is all about: A form reproducing, downwards as it is similar to its $\Sigma \Delta -1$ scale.

It is through dimensional growth, how the symmetry between time and space, between geometric states and moving time creates the future through existential re=produ=actions:

A point starts a motion, which makes a new form. The first point can move in lines or rotate on itself, or move in circles, or form spheres, or shrunk. And those 5 Dimotions start the game.

The point becomes a line, which can be a straight line or a zigzag $\sqrt{2}$ line, or a rotary circle or π -line. 3 Subspecies immediately appear: The line and the $\sqrt{2}$ triangular wave and the circle.

Evolution that diverges topologically from the first reproductive process of a line and a cycle and a wave, and so subspecies of dimensional growth appear. How we study them, with non-e postulates in geometry, with Dimotional existential algebra in algebra.

As we go then through products that create new dimensions in algebra we mimic a mathematical, geometric process of growth in Numbers. So in math, growth of numbers and growth of points become in the next $\Delta+1$ plane, geometric figures in parallel to growth of numbers into functions. Growth is studied with $S_i=Te$ parallels.

Let's do a fast review of a few themes of geometry & N° theory escaping algebra, as its complexity goes beyond this intro. And we shall before the end of spring post an article on it

NUMBER THEORY

S-Numbers: Polygons as vital organisms

Numbers are social gathering of indistinguishable forms. When studied in space thus numbers must have regular efficient configurations. So $\Delta\delta$ numbers are 2D polygons or 3D Platonic solids.

Its importance in vital topology lays on the fact that polygons start the creation of superorganisms, with a membrane – the polygon proper, which closes a vital space and can by connection of points through lines-waves of communication, create a central singularity. Thus numbers as fractal points grow organisms. And this is self-evident in the study of Nature. We can then study together with entangled pentalogic both 'scales' of social numbers as 'growth in time' of polygons, efficient configurations in 'surface' worlds (land, water surfaces), and polyhedrons, which will be efficient configurations in a larger $\Delta+1$ 3D world (water depth, atmosphere, vacuum for atomic and molecular scales).

The Decametric scale. Growth of Dimensions (d) and Dimotional functions from 1 to 10.

Polygonal numbers are best to represent the social evolution of forms into new scales that emerge as envelopes into wholes. The immediate decametric scale of numbers give us then the perfect polygonal forms of bidimensional space:

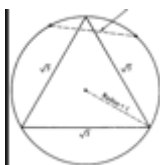
$N^{\circ} 0$: Absolute zero does not exist, as the Universe has horror vacuum, and so the 0-1 line doesn't belong to the Natural Numbers, but represents the $\Delta-1$ plane, where 0 is the value of the minimal finitesimal, themes those studied in depth in our paper on 5D Algebra.

$N^{\circ} 1$: $1d$: $1Dj$: Perception $\delta\delta$. It is the unit-whole, the unit circle performing, the perceptive 1 Dimotion, the fractal point It has 0 dimensions in Euclidean geometry but 1 dimension in 5D theory. Since fractal points have volume.

$N^{\circ} 2$: $2d$, $2Dj$: *Locomotion* δT . The line-wave of distance-motion made of fractal points communicated between two poles has 2 Dimensions. It is the reproductive couple. It forms the axial flow of any spherical informative topology. In Non-E geometry forms the antipodal points that a singularity reproduces to form its bilateral symmetry.

$N^{\circ} 3$: $2d$, $3Dj$: $S_i=Te$. Its dimotion is Reproduction. As a couple or antipodal mirror points forms a gender symmetry that creates the 3rd, 'son' element in its middle point of communication.

Triangle. $3d$: $S-st-T$ As we already noticed synoptic numbers give birth to multiple paths in spatial geometry. So



3 has the first variation in the triangle, which has 3 Dimensions, as points have volume, and whose main Dimotion is to act as the spearhead of locomotion, with its leading vertex to perceive (1D) or break (5D), entropically the resistance of motion. As it can enclose a vital space and perform the 3 physiological functions with its specialized ternary points, the head, one back point to reproduce seeding information and the other inverse to expel entropic motion, we can already consider a triangle an autonomous organic system, the first whole without the need to perceive internal scalar parts.

So 3 is also the first classic 2 Dimensional geometry: The triangle, the perfect form of lineal-motion geometry. And from then on numbers multiply its 'Dimotions', variations of forms, and vital geometries. So we shall just consider a few details of a field which as all those of 5D mathematics is ginormous. I.e.:

Nº 4: 3d, 4Dj§đ. The square's main Dimotion is social Evolution, in 2 D by merging two triangles, as the most stable social evolutionary form to 'fill' a flat field. In 1D as the social evolution of two couples of 2 points.

Nº 4: 4d, 4Dj §đ. Its main variation is the *first 3-dimensional classic geometry, the tetrahedron (4dimensional in 5D formalism as each of its point has an inner volume).*



Nº 5: 5d, Scalar Dimensionj The Pentagon has a deserved mystical pedigree since polygons *finally enter the fifth dimension proper as* a pentagram reproduces with its internal diagonals a scalar inverted mirror form of itself. So we define a Pentagon *as the first form of the 4th/5th dimension that reproduces its very same form, by connection of its 5 points creating an internal smaller 5D social form, or alternatively it expands entropically by prolonging its sides creating the pentagram.* So with the pentagon we close the 5 Dimotions of existence, forming a pentalogic scale fundamental to 5D theory.

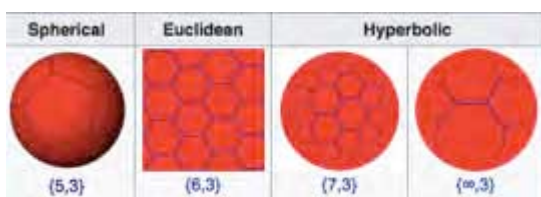
Let us then mention from 6 to 10 only the main dualities of numbers; its main Dimotion and Dimensional forms, going back to classic Euclidean dimensions, to make it simpler:

Nº 6: 2d, 4Dj: *social evolution.* The hexagon is the strongest form to cover a 2d world, as graphene shows, because it closes with '3' diameters its perimeter. It is the perfect pi, which in physics implies a non-E geometry of maximal Planck mass. It creates also a highly connected • central singularity by joining opposite points. So its hard membrane and connected center forms the strongest organic system on 2 Dimensions.

Nº 6: 3d, 3Dj ST. In 3 Dimensions is the Octahedron, studied in non-E Geometry as the first reproductive bilateral Si=Te symmetry in 3 Dimensions (whereas the line is the mirror symmetry in 1 classic dimension and the 2 triangles of the square in 2 dimensions).

Si=Te symmetries. We can introduce at this stage the 'Temporal symmetry of sequential numbers', as *it is possible not only to describe as we do here in this introduction to 5D mathematics its simultaneous superorganisms in space, but analyze sequential numbers in time; as 'years' and 'decades' of a worldcycle; which also divides in 3x3=9 x 9 'life baguas', but we leave for an enlarged future upgrading of this paper. As we want to race into the tetraktys.*

Nº 7... of the same family than the Pentagon, with similar properties, cannot be constructed only from the interaction of a perfect entropic |line and O-cycle (compass and ruler), but needs to *bisect its angles/networks in 3 sub-angles; making more difficult its reproduction in our mental 4D 'light spacetime'.* But in a 5D Universe, enough Regular heptagons can tile the hyperbolic plane, as shown in a Poincare disk model projection:



In the graph another key mirror symmetry between numbers and vital topology: §đ particle/heads of information are tiled by informative pentagons; flat Euclidean space is tiled by hexagonal forms of maximal entropic resistance; but the hyperbolic plane of body-waves of vital energy is tiled by heptagons... a theme of advanced 5D geometry...

Nº 8: 2d, 2ST. The octagon of the family of the hexagon, with similar properties is a bridge *towards the infinite points of the circle; fairly redundant, in form... as numbers in 1-2d become now more important as ST-systems of timespace motion; where the 8 plays the role of the final life-cycle. It is in the time the closure of existence - the final state of decay; for each 'series' of time-space systems – from the human ages in its 2 scales of life (80 years) and civilizations (800 year cycles of cultures); and have the same role for machines (stock cycles) and physical systems (over 80 z, elements become radioactive).* So as the fundamental series of spatial geometries closes with the heptagon, the main symmetry of higher numbers belongs to time ages.

Nº 8: 3d, 3§đ. So 8 belongs properly to the geometry to 3 D platonic solids, considered next, where 8 is the cube.



Nº 9-10-11 tetraktys form - transcendental triad of perfect whole: the 'closure' of an organic geometry,

2d \$T-1Dj: Tetraktys in which the 3 networks within the system form the 3 surface angles of the triangle, playing the specialized roles of the 3 physiological networks of motion < iteration > information of the system. But 9 has NOT A POINT on the singularity center; it is a mindless system, which requires the 10th point forming finally a **tetraktys, the sacred** number of Pythagorism and Hebrew geomancy (graph):

It has a singularity, a black ball that communicates all other physiological triangles, becoming the inner mind/heart of the organism, doubling as 11th, since it regulates the inner body connecting its internal part but also becomes its antipodal 'emerging' point in a higher $\Delta+1$ scale; starting a new game. So 10-11 completes the symmetry between time ages, worldcycles, dimensions and spatial forms, becoming a new unit of a new logarithmic social whole of 10^{10} cycles of time an population.

Such polygonal numbers will grow from the 1 seed to the $9+1=10^{th}$ most efficient scale, through ternary and dual symmetries, which in existential algebra might then loose the ideal form. I.e. a human being, has a tetraktys of 10-physiological system (3 digestive, 3 reproductive-blood and 3 sensorial systems fusion by the 'whole' brain system..

Pythagoras as Plato latter said that numbers are forms, as they were in the earlier age of mathematical geometry, where a number was a group of points, whose *form mattered*. So he realized 10 was the perfect number, because of its perfect form, which in fact becomes the 11th dimension of a new 'whole'.

And indeed the internal structure of any being reaches its perfect efficiency with a 3 x 3 +0-mind symmetry of form and function; where each part-number performs one of the 3 physiological entropy, energy, information jobs of the system and the central mind-number in contact with them all coordinates its functions.

So we also talk of 10 inner dimensions or 'sub-systems', represented by a tetraktys.

POLIHEDRONS



3D platonic solids are 4, 6, 8, the only decametric regular numbers in 3 dimensions. Then we have only two more in the 20 scale, 12 and 20 vertices, and that's all!!!

They play each one a role as actors of one of the 5th dimotions – the decametric 3 completing a 4,6,8 Fractal generator:

$\S T$ -tetrahedron (legs)<Si=Te-Octahedron (body) > $\S \delta$ -Cube (head)

Indeed, the tetrahedron is basically a triangle in 3D, acting as the spearhead of a locomotion; which in timespace is traced by lineal members moving on steps as your legs do. Hence its $2Dj=\$T$ function. The Octahedron has a clear mirror symmetry as all reproductive dual genders do – already posted in academia.edu its paper; and the cube, is the form of the 3 closer to a filling sphere with a well-connected singularity of maximal symmetry with the outer world.

So this leaves the two complex dimotions of social evolution and entropy for the triangular icosahedrons, *with maximal number of social triangular units (20 faces of the simplest 2D surface)*. And the 5th dimotion of entropy for the pentagonal dodecahedron... Alas again the pentagonal evil Death symbol again... Why? That I won't tell...

Just quote the master of 'transcendental philosophical geometry', Mr. Plato who affirmed that, "The Universe is the body of an organism whose logic mind we call God.' & 'God used a dodecahedron to design the Universe' *Plato*

Ok, I'll tell. Think in vital terms. Imagine a Universe with those 5 species, no curves. The 3 first are the smallish ones. Cubes perceive, and keep quiet, hidden, filling easily empty space; its survival strategy – social growth, with its identical forms, repeating by the mere motion as lines first, flat squares and giant 3D cubes. It is a single gender 'feminine', informative reproduction. The other series does the same but with mirror gender

symmetry, as the triangles of tetrahedrons expand from 3 to 4 and peg inversely into octahedrons and then grow into icosahedrons.

But the dodecahedron is NOT concerned with the survival strategy of reproduction. He rather eats them all!!

How is this? Easy, the dodecahedron has the largest mouth and the largest volume, even larger than the icosahedron, so it swallows them, in an action of vital geometric feeding; and once caged inside, remember pentagons are the 'first' polygons, which can do a smaller replica of itself, NOT a perceptive singularity but a *crunching stomach*.

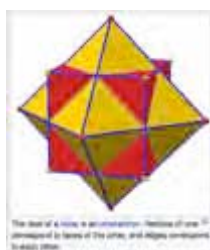
Each point is a cell of a dodecahedron. As it happens there are as many faces in the icosahedron to eat as vertices in the dodecahedron that feeds on it - both connected through the golden ratio of feeding and reproductive events, $a+b$ (feeding)/ $a = a/b$; a key relation of top predator/prey forms. And so it opens its mouth, swallows it, cages it, crunches it and burps (; But the pentalogic Universe allows different dimotions. So now imagine instead a reproductive event. It is not far fetched. Biologists consider that ovules first ate sperm cells and latter they learned to merge their genes.

So once a 'male' entropic dodecahedron has eaten the 'female', reproductive icosahedron it can actually merge into a mixed form, by merely attaching to each dodecahedron point a triangular face, becoming the icosidodecahedron (ab.'dodecosahedron') - a new species which is more perfect than its parental ones, as it shares the information of both. It is a first gender case in ideal geometry, since *Gender reproduction happens in all scales of stience*, from the simplest circular ovum swallowing a lineal seminal seed - a cyclical and lineal form, merging into an $|xO=\emptyset$ topology, to the previous example of ilogic mathematics.



The dodecahedron social points, aka numbers feed on the icosahedron faces, reducing them either by swallowing them, which will result in a growth of size of the dodecahedron or by merging into a reproductive evolutionary process far more interesting, as any merged system is more efficient than its 2 separated parts-species, a more evolved form, which survives better in a process similar to all genetic-memetic-reproductive processes, that create in any stientific scale more efficient systems by communication.

Indeed, the dodecosahedron is the top predator polyhedron form, as it has ALL the ilogic elements and symmetries that enhance survival in the fractal Timespace Universe: individual ego-centered points, shaping inner trilogic systems in yellow, tetralogic dual triangles married to dual pentagons, decalogic reproductive bilateral social parts, plus all the magic stable numbers of vertices, edges, faces & diagonals, despite its external 'soft membrane' -unlike its 'dual figures' the Catalan solids that *show a defensive external membrane*, in which the swallowed form emerges into convex 'teeth', but has a less efficient internal organic structure:



In geometry, we say that any polyhedron is associated with a second **dual** figure, where the vertices of one correspond to the faces of the other and the edges between pairs of vertices of one correspond to the edges between pairs of faces of the other. The graph is an example from the other dual top predator/prey series, a cube of larger 'mouths' and bigger volume-spatial efficiency swallowing an smaller octahedron of lesser volume.

What differs now is an added property - a topologic 'defensive' concave and convex dual form which can establish as Vaughan found in defensive flat geometries for the French army, entropic expansive concave points and smaller implosive, informative sinks, which maximize the entropic reach of cannonballs with minimal surface exposure to the external army. Indeed, a 'mathematical' ideal duality, we shall find latter on in the stience of biology between top predators of soft membrane but much more efficient inner structure and defensive armored animals with less evolved internal networks (squids, with eye-perception and evolved nervous systems vs. armored trilobites, simpler organisms; Tyrannosaur Rex vs. armored triceratops, Lions vs. armored, skin thick, horned herbivores) and social systems (defensive walled cities vs. nomadic horse armies).

We are all VITAL geometries and so the rules of geometry carry from illogic spacetime to illogic mathematics, to the different stiences of vital reality where those forms acquire topological motion. The specific case of polyhedrons being of special interest to molecular chemistry, which we shall study in detail when upgrading to 5D the discipline (as those are processes that do happen in solid crystals).

Vital transformations.

Though polytopes are all essentially in topologic terms spherical membrains, its study brings topology down to the details of its scalar social numbers or parts of a network of points; allowing its dynamical transformations.

A key sub-field of 5D vital geometry is the analysis of the Disomorphisms and symmetries between polytopes to understand how they transform into each other through 5D entropic, 3D reproductive & 4D evolutionary dimotions.

4D: social evolution. All solids with a center singularity evolve their surface increasing their vertex, and growing their volume/body ratio towards the perfect relationship of the sphere - which we consider *the 6th perfect solid of ∞ vertex*. Among the Platonic solids, either the dodecahedron or the icosahedron may be seen as the best approximation to the sphere. The icosahedron has the largest number of faces and the largest dihedral angle, it hugs its inscribed sphere the most tightly, and its surface area to volume ratio is closest to that of a sphere of the same size (i.e. either the same surface area or the same volume.) The dodecahedron, on the other hand, has the smallest angular defect, the largest vertex solid angle, and it fills out its circumscribed sphere the most.

5D: Entropic devolutions mediated mostly by the 5D dodecahedron. Feeding though requires a degree of similarity, reached ad maximal for the dodecahedron and icosahedron. What makes them *identical to switch from 5D mind state to 4D entropy state is Apollonius'* finding that the ratio of its surface is the same that the ratio of its volumes:

$$\sqrt{\frac{10}{3(5-\sqrt{5})}} = \sqrt{\frac{5+\sqrt{5}}{6}}$$

So its content of ST vital energy is the same; but as the dodecahedron dies, it changes first its tight surface, which as we know in death processes grows in excess detaching itself from its volume - from 12 to 20 elements (another key number, with many vital interpretations, being indeed the number of amino acid variations on the protein surface of living solids, and so on)... and then reached its maximal form on the stable surface, it can only switch arrow of temporal energy.

As death is exactly that process: when all the vital energy is consumed and the skin is fractured ad maximal and no more motion can be extracted from the body, the system changes arrow and decomposes back to the past.

Other feeding case is the parasitic covering of one form by another. So the dodecahedron is generated (Euclid) *from the cube, by covering it as a parasitic membrane, unlike the 3 other species, which can be considered to produce the same form*. All this might seem trivial to mathematicians, but they would miss the point of what mathematics tries to show – the vital nature of space... which must be explained as the ultimate formal distance of reality, having organic living properties, simplified into a still mirror, NOT the other way around.



Perception. If the sphere is the perfect platonic solid with absolute symmetry to perceive an 'equal distant' territorial larger sphere focused in the central point without deformation (Poincare Conjecture), platonic solids are next in regular symmetries, hence as they are 'economic' in points compared to spheres their efficiency makes them to repeat constantly in the Universe on the simplest forms of chemical, atomic existence (simplex platonic solids), NOT in the planetary orbits, where Mr. Kepler thought God has drawn them (:

We see once more at play the scalar laws of inversion of form, from the 'galatom', or spherical atom, given the ginormous number of 'static photonic points' trapped in its electronic nebulae/star plane (quantum/cosmological scales) to the molecule or lineal polytopes of minimal quanta. Molecular surfaces tend to be as the graph shows, perfectly regular polytopes for the singularity to apperceive through the Van der waals forces of electronic perception the gravitational and electromagnetic forces of the world - reason why crystals,

regular atomic systems which can 'scan' reality in a near-spherical are formed as units basically with those forms and the strongest 'pre-cyclical' $\pi=3$ hexagonal system (which also can form the ultimate platonic dual systems, a pentagonal, hexagonal cover, the strongest 'Fuller dome'.

In Nature we see the all pervading forms of maximal resistance in the membranes of physical T.oes. In crystals the cubic system is overwhelming. In metals only cubic and hexagonal systems exist. In architecture the only systems which can be grown in size without external reinforcements maintaining its stability ad infinitum are the Fuller Domes, made with triangular, hexagonal ' $\pi=3$ ' and hexagonal & pentagonal combinations, whose form grows 'ad infinitum' towards the perfect platonic solid - the sphere.

The cube, a 3D st solid with informative roles.

In that regard, another 'inverse duality' in 3D happens between the sphere and the cube, similar to that between the triangle and the circle in 2D, with inverse properties:

The cube is excellent for social evolution into larger networks, while the sphere tends to be lonely. The cube is the preferred crystal form for matter to reproduce filling ad maximal space and socially evolve, from 3D to its social larger 5D whole grouping.

How then one transforms into the other? If the triangle achieves the feat by rotation or social evolution into hexagonal $\pi=3$ circles, the cube is the closest form to become by elliptic deformation the sphere, in another st beat, as it bloats feeding on energy into spheres, it deflates back into a cube. So the triangle becomes a circle by adding a 4D rotary motion and the cube becomes the sphere by adding a 5D feeding motion.

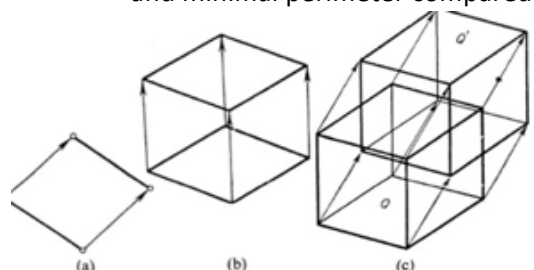
Since the key function of reality is reproduction and all is motion' the survival of the cube resides in its simplex reproduction by mere translation in space: a line that moves grows a dimension into a plane that moves and grows into a cube that moves and grows into a line restarting the game, and adding a new 5D scale. Yet each growth changes the function of the form according to the generator function that *changes S-topology & T-age, hence function as a system grows in Δ -scale, such as: $\Delta-1: \S < \Delta^0 \text{ ST} > \Delta+1 > \delta \S$*

The partial function of the fractal generator that encodes within it all laws of the universe means in topology the transformation of topologic varieties, as we grow in scale, from lineal limbs/potentials at $\Delta-1$, into \emptyset -ST-iterative space-time into $\Delta+1$ O-spherical particles-heads of information.

The cube is the $\delta \S$ state, excellent for social evolution into larger networks, the preferred crystal form for matter to socially evolve, from 3D to its social 5D grouping into minds, the closest form to become by elliptic deformation the sphere, in another st beat, as it bloat feeding on energy into sphere, it depletes into cube.

And then again as the form shows, the cube displaces to form a line on the $\Delta+2$ plane, NOT a fourth-dimensional spatial being, which does NOT exist.

So if we start the reproduction of cubes in the cubic $\Delta-1$ line its function is 2D lineal motion; then the Δ^0 plane is an ST reproductive body-wave form and the $\Delta+1$ cube the $\S \delta$ informative function (with maximal volume and minimal perimeter compared to the line and the plane)



And then again, the cube displaces to form a larger line on the $\Delta+2$ plane, NOT a fourth-dimensional tesseract, which does NOT exist in reality regardless of its usefulness to prove and model Si=Te dimotions.

So given the *reproductive nature of motion*, we talk of distance as the sum of adjacent ternary 'stœps': the cube state of a 'squared' line stops and chooses any of its 6 directions of motion; then it reproduces in present sliced planes on the chosen direction and moves as a zigzag line,

stopping, iterating and stepping as all reproductive motions do. Beyond 3 dimensions there are no more dimensions in a single plane, so the cube generates then a line of the larger scale, transposing its function again, completing a full zero-sum cycle in scales, creating a replica of itself in the larger $\Delta+1$ world.

So we observe in those reproductive translations two symmetries *at work together*:

$\delta \approx t \approx \delta \dots$ Translation = reproduction of motion through the δ -length dimension, causing....

$\Delta 0 \rightarrow \Delta +1$: ST+ST+ST: *Reproduction of form through the width dimension*, which makes the being, grow in scales of the fifth dimension, symmetric to the change of position in timespace causing...

$\Delta -1$: $\delta < \Delta^0$ ST $> \Delta +1 > \delta$ a change in its topological functions=forms.

The next form of reproduction of the 3 varieties of topology is the rotary circle, which becomes a sphere with one more dimension, the strongest membrane that encloses and captures the vital, hyperbolic energy of the being. And then it becomes a toroid, which appears as a larger circle.

And it is worth to notice the circle has only 2 states as circle and sphere, unlike the cube which has 3 Dimotional states as cube, line and square; a fact of paramount importance when considering the different speeds of motion, reproduction, explosion and implosion along the 5Dimotional events of lineal v. circular forms that paradoxically favors the circle over the line and explains why 1D vortices accelerate faster than expansive lineal big-bangs.

But on the negative side, the 'cube is a solid form', but the reproduced cycle becomes an 'empty sphere'. It is not a ball, only the surface that encloses a volume of empty space - the simplest, strongest topology normally made at the $\Delta -1$ scale of strong triangles of entropic nature. So the circle becomes the membrane that acts as the entropic envelope that closes the 'empty vacuum', becoming a non-Euclidean Klein disk whose inner vital space can never reach because the dense membrane will kill its lighter internal particles – and indeed, we shall see how atoms and galaxies – the two limits of our scales of form, follow such pattern. Since even if the form is a disk, while it can create in the first rotation a dense sphere, in the second rotation it can only form a hollow toroid.

But the most efficient form of reproduction is that of waves and bodies, with its 'networks' that branch and hence reproduce in an exponential growth a single point; hence the hyperbolic form of the 'growth' phase of waves; and the enormous multiplication of 'surface' of a fractal networks.

Finally all those forms can transform into each other: cubes can feed and curve elliptically into cubes and lines are small steps of curved geodesics, both type of iteration can merge, so lineal limbs/potentials at $\Delta -1$, \emptyset -ST-iterative waves and $\Delta +1$ O-spherical particles-heads of information can in rare occasions transform into each other, but specially *can transfer flows of energy and information among them, which at $\Delta -1$ level will acquire the shape of each of the 3 adjacent topologies of the supærganism.*

So functions and forms do change but all possible events are encoded in the generator and so if we understand the underlying Δ st basic laws of the Universe encoded on it, everything keeps falling into place. And those laws are vital laws that have a survival purpose. For example, the hollow sphere KILLS by enclosing and trapping as lionesses do hunting zebras by enclosing them or dogs shepherding and enclosing sheeple, moving around in fast circles as 'angular momentum' that becomes by virtue of $T=S$ a vital membrain in motion. Then the membrane will sharply penetrate perpendicularly the zebra herd and kill; the military border of a human social territory will give a coup d'état and collapse into the capital and conquer... the battle will be lost once in Cannae,



Hannibal had encircled the prey (graph, where the red color of entropy represents the dimotion of the horse that 'closes the roman pray' as a moving membrain like the dog does).

So Δ st laws might seem abstract to you but are the stuff of which experimental survival and existence is made.

Hyper-dimensional polygons.

As $S_i = T_e$ 5D metrics implies a dimension of space is another form to interpret a motion in time, an important field of 5D geometry is the study of 4D ($2S=2T$) regular polytopes, which close the entangled scales of regular social numbers as T-

Dim.	Finite			Euclidean	Hyperbolic			Compounds	
	Convex	Star	Skew	Convex	Compact	Star	Paracompact	Convex	Star
1	1	0	0	1	0	0	0	0	0
2	∞	∞	∞	1	1	0	0	∞	∞
3	5	4	?	3	∞	∞	∞	5	0
4	6	10	?	1	4	0	11	26	20
5	3	0	?	3	5	4	2	0	0
6	3	0	?	1	0	0	5	0	0
7	3	0	?	1	0	0	0	3	0
8	3	0	?	1	0	0	0	6	0
9+	3	0	?	1	0	0	0	[a]	0

Dimotions or S-till elements that 'construct' the real structures of the Universe, to extract 5D isomorphic laws; even if we do NOT see static fixed 4D forms in our Universe (as 5D includes entropy, which is the negative destruction of all others, 4D is the limit of constructive engagement, often of 2 still polygons with 2 motions=degrees of freedom). We just make some key statements on this discipline:

With the simplification of the inner volume of fractal points, we can match polytope laws with the symmetries of Spacetime beings. So 1D polygon of points with no parts -open lines equivalent to 1D cylindrical limbs/fields are ∞ (Natural Numbers); 2D polygons akin to cyclical, O-particles/heads are ∞ in flat space, & 3 hyperbolic polygons, equivalent to \emptyset -body-wave reproductive systems, intersection of 2D lineal & cyclic forms are ∞ in 3D spatial information.

So there are ∞ growing ensembles of 1D limbs/fields + 2D particle/heads=3D hyperbolic body-waves.

Growth of complex finite polytopes peaks in 4D, as further increases of dimensions reduce them to the ternary 'single plane' structure of a triangular, square and pentagonal ternary ensemble; which means there are no more dimensions beyond the 4D 2S=2T systems, and all further 'Dimensional growth' is a dimension on new scales of 5D which are memoriless, erasing the previous emergent complexity of the fractal point, which stays on its inner parts. (Because the hyperbolic body-system is more complex being its minimal form 3D, its ternary growth peaks at 5D).

Names	Image
5-cell pentachoron pentatope 4-simplex	
8-cell octachoron lesseract 4-cube	
16-cell hexadecachoron 4-orthoplex	
24-cell icositetrachoron octaplex polyoctahedron (pO)	
120-cell hecatonicosachoron dodecacontachoron dodecaplex polydodecahedron (pD)	
600-cell hexacosichoron tetraplex polytetrahedron (pT)	

In the side the existence of a regular 4-polytope is constrained by the existence of the regular polyhedral which form its cells and a dihedral angle constraint $\sin \pi / p \sin \pi / r < \cos \pi / q$ to ensure that the cells meet to form a closed 3-surface. And yet despite those restrictions we have 6 polytopes. And this matter because our world as in relativity can be analyzed in a single plane as a 4D ensemble of its 3 classic dimensions and a time motion of social organization, as the 2 inverse dimotions of entropy and information do NOT happen within the same event simultaneously in 'regular entanglements'. So pentagonal polytopes make no sense, being the 5th dimotion entropy the destruction of the regular in-form-ation shared by them all. Thus the most complex 4D structure of regular points are the 120-600 dual pentagonal mirror 'gender symmetry', reached through combinations of 5 Dimotions, 6 'triangular radians' of a π sphere (\propto polytope) & its 120 angles. The result are the final stable 120 dodecaplex and 600 tetraplex maximal figures of 4Dimensional geometries. And we shall find this 120 magic final number in the few cases the system is perfect enough to transcend the octaplex to be the real final 'island of stability' in atomic systems or oldest possible age in the very few cases the system transcends the 80 years 'radioactive barrier'. And we can imagine the 120-600 vertex entanglement the limit of jlogic evolution of a complex social system in the Universe.

But all those polytopes must be understood as ternary systems which reproduce in motion forming a larger 5D scale; so 4D is a motion, and that is indeed how geometers construct them, bringing to each 3D point an internal volume; that is, making each vortex of a 3D polygon a new

'square' to form the tesseract which is equivalent to 'enlarge' its inner form. While another 4D polytope will be merely the motion of the square that becomes a larger '1D' line in a larger world, as we make a 2d plane by moving across a 1D line. What about the sphere? It is the ultimate regular polytope and so we wonder how a



4D sphere looks like. The answer is also telling of the 5D Si=Te structure of the Universe, where time motions and spatial dimensions are equivalent – but only motions truly exist. So we have to consider beyond 3D, new spatial dimensions to be beyond algebraic manipulation time motions. This is also our experimental

evidence, when we generalize what we see of a 3D sphere as it moves through a 3D plane: a series of growing and diminishing cuts, passing through a 2D world.

And so a 4D sphere moving, passing through a 3D world appears as a growing and diminishing sphere, indistinguishable from a 5D Universe in which a supœrganism is tracing a worldcycle of existjence growing between 2 planes of the 5th dimension. Thus we postulate an Einsteinian "Principle of



Equivalence as a proof of the existence of a 5th dimension of parts growing into wholes:

‘A 4D spatial system moving with a 5th dimension of time, IS (equivalent to) a 3D spatial system with two scalar dimensions of growth and diminution in inverse $\Delta\pm 1$ scales.’

So beyond our perceivable entangled 3D holographic parts, all further dimensions are scalar motions of time (4D, 5D inverse, SS-formal, implosive or TT-entropic expansive dimotions). Specifically we differentiate dimensional growth

Si=Te. In a single plane, beyond 3D spatial still forms, new dimensions are temporal, moving ones, which only through the ‘persistence’ of a memory create new dimensions of space, (as explained on our analysis of fractal dimensions). Motion become reproduction of information, and social forms of growth – a cube moving to inform a squared line, sphere turning into a dual spiral diminishing and growing to form a larger flat disk...)

$\Delta\pm j$. In scalar planes, when the form is static in the same position the being experiences a travel through scales the fifth dimension, growing its inner parts from points into ‘cells’. This in ideal polytopes means to draw in each vertex a new tetrahedron, cube or dodecahedron. Or as a whole growing or diminishing in size-scale.

So that is the dynamic reality of 4D spheres passing through our world, which do NOT exist as such, but as Si=Te for any mental spatial mirror that trans-forms T-motions into S-till dimensions, 4D polytopes are useful to model and solve mathematical problems of real physics, by the algebraic method of converting a time motion into a geometric still spatial dimension, so 4D polytopes can represent real 3D T.oes with one locomotion or two locomotions, the second one an TT-scattering entropic dimotion of scale.

RECAP. Pentalogic of polytopes: Platonic solids correspond to 5Dimotions.

The 3 simplest 3D numbers form a fractal generator of vital topology and the 2 Complex the $\Delta\pm j$ dimotions:

§T-tetrahedron (legs)<Si=Te-Octahedron (body) > §δ-Cube (head)

4D: Social evolution: The icosahedron is made of triangles evolving socially the simplest tetrahedrons’ Δ states.

5D: Entropy. The dodecahedron is the most efficient and feeds on all of them.

Polytopes with more than 3D must be considered to have ‘dimotions of time’ NOT of spatial information.

PRIME, ODD AND EVEN ‘GENDER SYMMETRY’ NUMBERS.

If we extend this vital analysis of regular numbers in space to sequential numbers in time, we come up with another ternary division of all numbers within the finite limits of a given ecosystem (infinity being a paralogic Kantian error of the mind as all planes have a limit of numerical form, normally as explained in the 10-11¹⁰⁻¹¹ range, from ties of DNA in a human gene to stars in a galaxy)... that between top predator prime numbers, which generate all other, even, social reproductive, ‘female’ numbers, the majority of them in a Universe that systematically favors ‘reproductive Si=Te’ states as all fractal generators do, over even, informative + entropic ‘male numbers’, which can be divided in a minority of ‘prime numbers’ that carry the information of reality as they can generate all other numbers in 4-Dimensional sums; and entropic, unstable forms that code no new information (odd numbers excluded primes, which generate them).

So we find yet again another fundamental division of species, according to the key variation of the ‘Fractal Generator function of space-time or 5D metric: $SxT_{s=t} = C$.

Indeed, it is the same duality of ‘Female’ present reproductive, ‘even’ gender, Si=Te vs. ‘male’ past to future to past, entropic and informative gender, $S<T>S$: SxT , the key temporal ternary symmetries of the Universe; between present dominant states, and past to future to past cycles, which requires a full comprehension of the 3 ages of time, and its ‘complex ternary logic’ sketched in the introduction, that we develop in the paper on ‘5 D time –pentalogic’.

Essentially all cyclical time systems have 3 ages, a relative entropic past of dissolution, a reproductive dominant present and an informative future. And the proportion in any system is $\frac{1}{2}$ present + $\frac{1}{2}$ (Past>Future) that closes the cycle. For example, in quantum physics wave states are the present state; particles the future state and fields the past state. In matter, liquid is the present state, gas the past state and solid the future

state. In cells, DNA is the future state, cytoplasm the present state and the protein membrane the energetic state. Its $S_i=Te$ symmetry makes the past less evolved, more extended in space, the present balanced, the future more informative. In human gender, the woman is the reproductive state, and males divide into a majority of entropic destructive and a minority of highly informative (complex IQ test put woman in the middle, a minority of men above a majority in the entropic lower range).

So to understand the logic division of the 3 ages of time into past=entropy, $S<T$, which dissolves systems into a lower $i-1$ plane, present=reproduction, $S_i=Te$, that iterates reality which seems not to change, and future=informative evolutionary system, $T>S$, which increase its form into the future... I refer the reader to the article on 5D pentalogic.

In terms of its scalar social organization, the 3 'different' groups of $T>S$ informative, $S_i=Te$, energetic and $S<T$ entropic elements of a class structure correspond to the informative class (i.e. stockrats in our society ruled by money, politicians in a real democracy, military in a dictatorship) which controls the language of power of society, while $S_i=Te$ form the body-wave of the system that reproduces it and it is taken care by the informative particle-head, while the $S<T$ element is the entropic class easily 'divided' and broken, as energy of the others, in this case the odds that can be broken in smaller factors. And as we shall see the game of numbers have a remarkable proportion of the two first classes as opposed to our ill-designed systems, a theme treated in 5D politics, where we study the informative 'nervous' network of human superorganisms.

While the general study of those 3 states belongs to those 2 articles, in the mathematical mirror the division is self-evident as we already observed some clear differences between odd and even numbers/polygons:



Odd vs. Even polygons alternate with a key different property: The diagonals of even polygons create central singularities and form more stable systems, tending to static states, 'looking inwards'. They can reproduce by motion into equal forms in the same plane, and can easily tile, filling up the entire plane. While odd numbers penetrate in the scales of the fifth dimension by reproducing fractal mirrors of smaller size, when crossing inwards its diagonals (informative reproduction) or larger mirror images when crossing outwards its diagonals. Those properties carry through all scales of gender mirror symmetry; as 1 element is sterile, self-centered making different the 2 type of organic membrane-polygons. Since $S_i=Te$ even polygons do NOT reproduce through 5D motions as odd numbers, but within the same present plane of existence as they are 'self-centered' in a single point, within the polygon, NOT replicating without motion. Reproduction of even polygons happens by translation in space, as waves reproduce. So by moving through a tiling of present space a square reproduces filling the tiling, unlike a pentagon or odd polygon that reproduces internally and externally as its motion filling space is often impossible

Prime numbers as informative systems. In 'vital mathematics' as in classic maths, Prime numbers play a fundamental role in number theory because of a basic theorem:

Every integer $n > 1$ may be represented as product of prime numbers (with possible repetition of factors), i.e., in the form $n = p_1^{a_1} p_2^{a_2} \dots p_k^{a_k}$, where $p_1 < p_2 < \dots < p_k$ are primes and a_1, a_2, \dots, a_k are integers not less than one. Furthermore, the representation of any n^q in this form is unique.

This implies that Primes are the Scalar space-time numbers of all others; hence the minimal numerical system with maximal information. And inversely if we reduce entropically a system of numbers, by 'division' (the operand of entropic dissolution) only prime numbers or its social combination DO survive=exist in the ultimate skeleton of reality, due to its efficiency as polygonal forms.

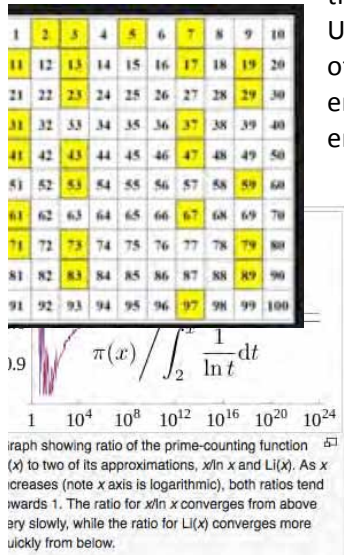
Everything else is a virtual society of prime numbers; and the strongest social groups are those under 23, stuffed with primes and displaying a solid even membrane.

Prime numbers in time sequences: stability of systems.

A prime number is any integer (greater than 1) that has only the 2 positive integer divisors, one and itself. 1 is not considered a prime number since it does not have 2 different positive divisors. But it was so rightly in the past –as we might consider that 1 is the super-prime, the whole that divides all other numbers of nature.

And the fundamental characteristic that differentiates them is that as polygonal numbers grow in sides, that is the social number of 'points-cells' increases the system become less stable, because *it increases the number of redundant non-prime odds (ab. odds)*. And when we carry the symmetry $S_i=Te$, to temporal sequences which as we have seen is the proper way to study numbers beyond the decametric scale, this lack of stability increases enormously past the 23 'years' (we shall call points=numbers in time sequences 'years'); which is the 'cut' between the young age of maximal energy and the mature age; and again plunge past the 83 number, leaving a mean of 1 primer for 'decade', which is indeed the standard age for death, both in human years, or in $S_i=Te$ atomic evolution (radioactive atoms past lead).

We talk then of each prime number as a key 'age', and 23, the PRIME age of a 100 normal system, where a transition to the mature age takes place. This we know about human life – the end of University, the beginning of work, the maximal force and energy for most athletes in the table of elements, it gives way to the family of Iron-Nickel-Cobalt which are the most entropic-energetic system, (26 iron) ending in Cobalt the first 'radioactive', transition element that ends the series.



Those are the themes of 'vital mathematics', which the synoptic mirror of numbers reflect from the configuration of social numbers in space and time, and we shall just study in a bit of more detail.

Still prime numbers are infinite and relatively abundant according to the $\pi=n/\log n$ rule, so huge social systems are possible both in space and time duration as complex new primes, can reinforce the structure as nodal points of stable networks. A prime number by definition is more stable as a configuration of social forms, as it *can't split into equal parts*.

How far can we stretch this stability? In inflationary mathematics to infinity. But in scalar space-time infinity becomes increasingly unstable as prime numbers dwindle.

As the irregular infinity of *the number of entropy, e, which breaks after 10 decimals:*

2.7182818284590, (the $1+8=9$; $2+8=10$ regularity disappears after 10 numbers if we consider 2.7 the first dual term of the regular pattern), loosing its structural, informative meaning', we should consider that beyond the $\pm 10^{-11}$ social scale between planes, gathering in 10 ± 1 decametric scales, the systems of 'big number theory' are largely irrelevant.

In any case prime numbers clearly dwindle (as per Euler's and Riemann's functions in the graphs) beyond the 10.000 social group, suffering a steep decline towards the 10^{11} mark in a tail proper of an almost 'extinct' species. So larger primes are rarefied and very few complex structural systems beyond mere herding exist past that number:

In graph, number of primes holds remarkably dense in the basic 100 scale being 1/2th of the 10^{th} scale (if we consider 1 a prime number) and 1/4th in the 100 scale, which are the key scales that encode most stable members of timespace both in the space symmetry (table of elements) and the age symmetry (life span in years).

The ratio dwindles to 1/6th out of 1000 and 1/8th for 10.000 in the next key interval of social groups, still fairly strong, if we take into account that the 10% is a very strong 'leading' elite in organic class structures of any scientific scale... and organism. This 1/10th informative class structure still holds in the 1 million social group (1/12th). So the Universe is strongly connected and stable in its hierarchy of prime informative numbers on top of reproductive, energy, even numbers 1/2 with the entropic, easy to break odd numbers, never a majority of the ternary class system.

Compare it with our present societies - corrupted placebo democracies ruled by money issued in near monopoly by 'stockrats', modern aristocrats of the capitalist society, owners of corporations, which are less than the infamous 1%, closer to a 0.01% of owners of corporations. This tiny proportion of informative class

g the language of social power doesn't even happen for the 10^{12} limit of the most complex organisms of reality as primes are still a 4%.

x	#(x)
10	4
10 ²	25
10 ³	168
10 ⁴	1,229
10 ⁵	9,592
10 ⁶	78,498
10 ⁷	664,579
10 ⁸	5,761,455
10 ⁹	50,847,534
10 ¹⁰	455,052,511
10 ¹¹	4,118,054,813
10 ¹²	37,607,912,018

The 20th, reproductive mirror symmetry of the 10th scale, & the 100th time aging scales.

It is then only worth for an introduction to Number theory to study just the 10th, 20th and 100th scales. The first purely 'spatial' the second which 'doubles' the first in a mirror symmetry is the reproductive Si=Te scale of numbers, with the equivalent 4 prime proportion; while the 1 to 100 scale is the Temporal symmetry of ages; and as such we shall relate them in other posts as we 'ascend' the scales of reality and the laws easier to understand in the 'synoptic' languages that mirror best the Universe's time and space, 'iLogic' and Non-E mathematics' emerge with different 'forms' in those upper scientific scales.

We shall not do it here, for the sake of time and space, as we are still in the 1st age of mathematics, with the symmetry of points and numbers. Only to notice that for the reproductive mirror scale of 20, closed by its largest prime, number, 19, its square, which doubles its dimension $19^2 \times 19^2 = 361^2$ gives us the commonest 'closure' of a sphere in space (360 being the scale of degrees) and time (365 being the days on a year)...

And so we have another curious number 361² 'degrees' for the perception of angular rotation, (*as we know geometry is always approached in its figure by discrete number above or below ± 1*), which suggest the natural limit for a discrete polygon of cyclical nature.

The vital nature of the 10 to 20 scale as a mirror of the 10D basic scaling for reproductive purposes, emerges as usual with small variations in more complex scientific scales. So it shows in the game of life, where 20 are the number of amino acids that construct most organisms and your body can not live without; ... as they generate everything else in the upper scales. Even in the most 'distant' level of human languages, the 20 scale manifest itself; so most alphabets have 20 some symbols to write the language; which then generate a larger number of phonemes broken in vowels of information and energetic consonants (more abundant. I.e. the English alphabet has 26 letters, split in a total of 20 vowels and 24 consonants.

RECAP. The first prime numbers are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29... And so while the decametric and 10-20 scale are buttressed with 4 of them each, almost 1/2, which *explains further why they are really the 20 numbers that matter in almost every system of reality, being the 10 to 20 the mirror symmetry of the 10 scale; which you might extend to the 23 range... beyond those 'efficient numbers' systems diminish in stability.*

So in the table of elements, where the strength of the system is a mixture of its 'even configuration in 2 and 4 pairs' and odd volume of inner layers, the range around 22-26 (iron) give us the strongest top predator atoms of maximal energy, which is the role of a polygon number that closes as the membrane of vital energy any T.æ. system in nature.

Yet if we consider the temporal sequence the same series, breaks the first age of life, which in a biological human being ends at 24 years: 1-24: youth, 24-48: maturity, 48-72: 3rd age; 72-80 death. And indeed prime numbers plummet after 83. So this will be indeed the fundamental scaling for all timespace life-death symmetries (as we shall show for each science, from the amino acid series to the life cycles, from the atomic table to the cycles of historic and economics which fit within those decametric 5D scales).

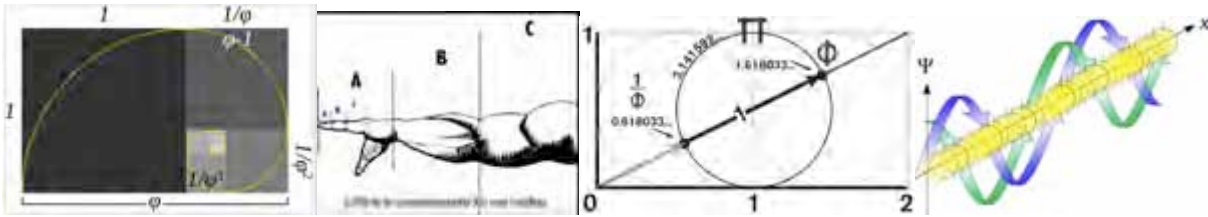
S↔T Dimotions: Numbers as Universal Constants

As Einstein wanted the ultimate principles of reality are Universal ratios/constants, which represent the 5 dimotions of all Universal systems. *So we shall find 4+1 absolute constant ratios in all systems, of Nature, of the vital Universe: e π , e , $10=3 \times 3 + 1$ and ϕ . What about locomotion? In 5D physics locomotion is reproduction of form, from particle to wave state to particle. So it has not a fundamental constant but a mixture of the informative, reproductive ones, π and ϕ . 5D thus use those 5 constants to explain how the Universe reproduces reality departing from those 'perfect ratios of energy and information'. 3 are irrational≈ratio numbers that represent the 3 ages of all worldcycles of existence:*

10 is the seminal social number of palingenetic $\Delta-1$ emergence, π , is the number of the worldcycle, of the 1st Dimotion of perception; ϕ is the number of the 3rd Dimotion of reproduction, in the second 'age' or maturity of the world cycle, and e is the number of decay and entropy, of the fifth Dimotion of existence.

1D: π transforms a temporal field of entropy into a vortex of spatial information: $3D (\$T) > \pi \text{ } \delta f$.

Its obvious nature is immediate, as we perceive through angular trigonometry, when pi closes a circle of 3 Diameters, with $4\% = \pi - 3/\pi$ of perceptive holes through which 3 sensorial apertures to the Universe happen and 96% of dark matter hidden by the membrane (which not coincidentally is the part of the Universe hidden by the galactic halo we don't see).



3D: Phi is the ratio of reproduction in time, approached by Fibonacci series in gender $S \approx T$ couples, which reproduce in the 2nd age of maturity, and die after the 3rd age. So for '2 consecutive quanta of time', the young still won't reproduce, the old won't be still dead and the mature will reproduce giving the series 1,1,2,3,5... that approaches the phi ratio. The golden spiral then becomes the natural 'time-series' for filling a surface of energy where to growth in a frequency of space-time generations, given by the ratio - even if the 'interior of the spiral', fades away as generations die behind us, leaving a void. Its inverted impulsive 'symmetry' as informative growth ($T > S$), gives a proportion for the reproduction of complex information, (as in finger proportions, when form overcomes size). Thus the golden ratio is the most efficient form of inner growth and proportion, keeping the balance and distribution of information in a system.

2D: It combines with pi to gives the locomotion number, as motion is reproduction of a pi cycle of information along an adjacent series of forms. We saw the case for a cyclical reproductive spiral, and in the 3rd graph we see the case for a lineal reproductive series, which becomes real in quantum particle-waves.

4D: 10 is the scale of social evolution or 4 Dimotion of scales, which is the main series of all numbers.

5D: Finally the exponential function, is the most efficient form of social growth between scales of the fifth dimension. In the graph, we can see how the growth of any system in base e is the maximal possible. But such exponential 4D social growth can only happen in a placental unlimited world of free energy. So its true use is for the inverse arrow of death and decay, when it is the maximal speed at which the cells that grew in the placental $\Delta + 1$ palingenetic first age, now die in the final $\Delta - i$ age of entropic decay, adding together to a 0-sum.



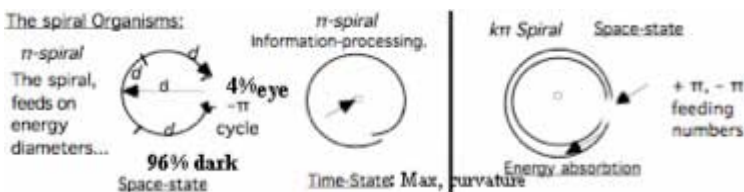
So e is the exponential function that grows faster: *e^x is the only function, which is a derivative of itself, adding constantly a $1/n$ finitesimal derivative 'cell', in each time step, but also decaying in the fastest possible path of dying quanta. e^x represents the fundamental function of reproduction of any system in its 1st world cycle of a perfect energy placenta, β , at the lower 'cellular scale', as the system increases by a derivative at each step.*

Algebra: the 5 Dimotions as operands.

Operands express 5 Dimotions of TimeSpace supørganisms; whereas $J\partial$ is the most versatile for both the analysis of Dimotions=change & scales (finitesimal derivatives & integral wholes) hence the most fruitful in mathematical physics.

While the negative inverse operands represent the destructive entropic 5th dimotion that affects all others. So negative/inverse operand balance positive ones, restoring the zero-sum balances of all $S_i = T_e$, events and systems of reality. Thus:

1D:@: The operand of the 1st Dimotion of perception of a self-centered in the point are sine/cosine trigonometric functions, which allow to measure the 3 Δ st parameters distance=motion in spacetime ($S_i = T_e$) and angle the scalar Dimensionless factor.



As π is irrational it never fits becoming a spiral closing & opening its mouth in $S \approx T$ ates of 'entropic expansion and impulsive in-form-ation'. While a π

made of 3 Diameters :leaves a $\pi-3d/\pi$, 4% of 'openings' to see outer space', leaving a 96% of not perceivable dark space, hidden by the membrane – the amount of the cosmos our electronic eyes cannot see beyond the galaxy, closed by its dark matter halo.

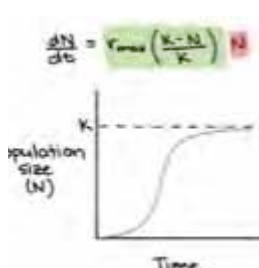
2D: Lineal Locomotion. \pm operands. A lineal motion is a sum of frequency steps moving in the positive direction, or a negative number, moving in the inverse direction. Thus unlike *spatial populations of N, Natural Numbers, Z adds temporal negative numbers which are inverse dimensions that close a worldcycle of simple locomotion.* Negative inverse Dimotions thus can be expressed also in the duality of expansive entropic vs. implosive informative warping in more complex formalisms of Locomotion, as in Minkowski's space where time, $-ct$ has a negative, i-number that 'warps' lineal space into a wave of high information, shortening the distance: $D^2 = S(x+y+z)^2 - (ct)^2$.

3D: X, \div , reproduction & social evolution vs. entropic division. 2D: In pentalogic, the product acts an operand of a sum of sums which can account for a 'long period of locomotion': $S=vt$.

3D: Its new function is reproduction, carried in 2 scales; as in the Function of existence, Max. $S \times T$ ($s=t$), which merges two different parameters, maximizing its *connections on the lower level of its organic parts.* As the product means then the number of 'axions' connecting them, which is maximized when the parts of both 'sets' are equal. So, if we have 2 points with 4 internal sub-elements, the product 4×4 will give us the number of maximal connections, when we put each internal element in connection with all the elements of the other sub-set, which will be larger than between a 5 & 3 elements. Thus 'gender' reproduction requires similar forms.

4D: As a sum of numbers that are social groups it can represent also a scalar social evolution. So its inverse, division and Q-numbers are entropic numbers breaking of wholes into parts, as *the 5 number families also represent the 5 Dimotions.*

4D-5D: log a, x^a : social evolution in decametric scales and entropy decay in negative exponentials.



The 10^{10} decametric scale is the social scale of the Universe, as the Tetraktys is the simplest, perfect social system, with 3×3 physiological networks, and a 10^{th} element, the 'black ball' communicating them as the 'single Unit' of the larger whole – from armies of 10×10 captains, to 10^{10} ties in DNAs, stars in galaxies, galaxies in Universe. Powers of 10 as Eames' movie show thus create new wholes. While a negative exponential shows the rhythm of decay of the system in the fastest event of reality, death, maximized by the e-function, which we just showed to be the fastest negative growth.

So **Real Numbers** are scalar ratio numbers, which as e decay a whole into scales, or as π allow mental perception, shrinking a whole into a mental mapping with no limit of 'warping' (Poincare Conjecture). Together, *the logarithmic part of growth and its inverse function of decay shape a 'life-death cycle' in term of social growth of energy $\Delta-1$ cells and dissolution forming the two sides of an inverse worldcycle peaking in the Max. $S \times T$ ($s=t$) middle point.*

4-5D: $j\partial$: The closure of 5Di-operands & 5 number families are derivatives of finitesimal $1/n$ parts that measure a quanta of change in time, space or scale, and its inverse integral of wholes. While the squared **Complex plane** shows *dual ST* beings as Cx. numbers with a Real 2D area of S-populations & a negative 1D T-frequency of emerging i-motions. Its pentalogic is:



∂ : As inverse, temporal numbers or negative numbers of an inverse direction of motion.

$\$$: As 2D real numbers (Bolay) with its own rules of multiplication $(a,b) \times (c,d) = (ac-bd; ad+bc)$

\approx As a relation between Space quantities represented in the real line to and 'Time' ones in the imaginary line.

@: As a self-centered polar frame of reference (r, α) .

Δ : Cx^2 is its $\Delta\$$ -frame of reference apt to study $S>T$ complementary functions of bodywave>Particlehead T.oes; so in quantum physics is the real particle>imaginary quantum potential field of Bohm's solution

RECAP. 5D match those operandi non-E geometry to the laws of ΔT . Mathematics studies how Si=Te waves of reproductive motion creates new organic forms, which can be studied topologically or algebraically as the production of a new dimension is a product function of algebraic thought. All other operands come from either an angular measure (5^p or scalar measure), a product or related $\pm V^p$, or an $f\delta$ operandi.

In a Universe made of space-time beings, Mathematics is the experimental science of vital, scalar Space (made of points and scalar numbers). Maths main 2 subfields ARE S@-Geometry & ΔT -Algebra. N^p theory & geometry show mathematics as a logic mirror of the Universe's pentalogic scalar structure made with scalar numbers, Non-E fractal points with inner dimensions and timespace $S \approx T$ operands that reflect the dynamic symmetries & steps of its 5 spacetime dimotions. Δ Entropic men instead justify math with an ego-trip of digital creationism: Only he & God speak the language, math, that creates reality -not the other way around, and try to prove its truths with an incomplete (Gödel) axiomatic method, as an ideal, perfect absolute 'truth' with NO correspondence with reality (sets as 'imagined' units of math). We shall do the opposite: departing from reality we construct a vital improved mirror of maths, where even the perceived irregularities of mathematics are experimental true symmetries of a vital dynamic Universe: i.e. irrational numbers are required NOT to close a vital pi-cycle and $\sqrt{2}$ triangle to allow openings into its lower decimal scales to absorb energy and information. So we shouldn't force 'idealist continuity' in a discontinuous Universe. i.e. 3 topologic geometries with motion suffice to mirror the 3 St, sT, ST combinations of an organism because we ARE spacetime'. i.e. numbers are indistinguishable social groups (polytopes) because 5D is 'social'; its Prime, $T > S + \text{odd}$, $S < T$ male numbers vs. Even female $s=t$ numbers are the 1st digital reproductive mirror symmetry, because the Universe is reproductive. Calculus is all pervading because it studies the Spacetime dimotions mirrored by 5 operands, 5 number families, 5 geometric postulates, etc. Topologic proofs of algebraic functions are possible because of S-form=T-motion symmetry.

So we evolve both formal sciences from its Euclidean 'continuous' single space view of 'points without parts' into a full Non-Euclidean fractal system of discontinuous points that create waves instead of lines, which evolve into networks and topological planes=organisms; as we are all made of vital mathematical spaces' and we shall evolve, the simple unicasual Aristotelian logic, of a single lineal $A \rightarrow B$ time arrow, into the higher pentalogic of the Universe made of 5 Dimensional motions of space-time (ab. Dimotions), entangled to create reality. 5D mathematics thus adds to the axiomatic method an experimental view of the discipline as a mirror language of the 5Dimotions of space-time that create all the systems of the Universe, and mathematics reflects from multiple perspectives (sub-disciplines, operands, geometric postulates, pentalogic use of 5 elements, families of N^p .)

Further more because 5D metric ($S \times T = K$) implies that smaller systems (Min. S) have paradoxically more information (Max. T), as 'seeds' that develop its synoptic form through the immanent program of reality, the enormous synoptic power of mathematical elements, social, scalar numbers and operand makes it the main language of the smallest Timespace beings - particles and atoms, which likely create their local order through 'Existential algebra', the vital mathematical interpretation provided by 5D. Its 5 main sub disciplines are based in a pentalogic, slightly different view of the 5 Dimotions of reality: Geometry and its 5D Non-Euclidean fractal points of space; Algebra and its 5 operands expressing each of the 5 Dimotions of time; Number theory and its 5D families of scalar social numbers; self centered in the 5 D main frames of reference of bidimensional space, also corresponding with the 5 Dimotions (2D lineal=cylindrical, 5D Cartesian=flat, entropic, 1D Polar; 3D vectorial and 4D, complex planes), negated by 5D entropic inverse operands. Thus both reality and its mathematical mirrors are constructed with the 5 dimotions of $-\Delta @st$, dust of space-time, the substance of which we are all made. Because mirrors are fractal synoptic images of the whole, mathematics also has an internal consistency described by the axiomatic method, but the advance provided by 5 D mathematics is that now we know where the laws of mathematics come from, as a mirror of Scalar time space systems.

Negative numbers as Time numbers. Lorentz transformations. Roots in space and imaginary numbers.

An important fact, we find in inverted operations, is that its 'number of solutions' and real forms its numbers and attached operands describe IS *smaller* than the number of solutions to the positive operand, which clearly points out once more to the 'positive' arrow of life and information in the Universe, outgaining the negative

arrow, unlike in humind's delirious entropy-only theories of reality. So while there are squares for all natural numbers, there are not roots for all numbers but only positive ones; neither there are derivatives for negative squares including the root of 0, ∂v0... Even negative numbers are not defined in the sum of spatial populations – there is not a spatial negative apple, but only a negative time number. Which is a key concept for mathematical physics, as we must often *consider the negative number an operand, for functions where the number defines a time motion, hence an inverse direction, which can therefore be taken out of the root to calculate the root of the 'scalar' number and then apply the inverse direction.*

What negative solutions mean to those equations? Euler's vision of negative numbers as inverse time numbers is its proper meaning. *So they do exist, which has clear consequences in areas such as relativity where negative mass, means only an entropic process of expansion of mass into entropy.*

Here also is important to understand dynamically the operand = as an $\leq \geq$ transformation.

Momentum and speed

Relativistic momentum follows

Lorentz transformation

$$p = \frac{m_0 v}{\sqrt{1-\beta^2}} = \gamma m_0 v = m v$$

when $v \ll c$ $p = m v \rightarrow m_0 v$

I.e: E=Mc² does not mean energy (really entropy in this case), is mass, as mass is in the other 'inverse side' of the equation. So the real equality happens when m moves to the same side of E: $e \leftrightarrow -mc^2$.

Further on as we have defined a mass as an accelerated vortex of time, it is a time process; hence the – can be taken out, once it is clear it defines an uncoiling accelerated inverse mass expansion, exactly the definition of dark entropy/energy of vacuum space, which is ejected at faster than c-speed according to those equations on the axis of black holes with less information than c, hence invisible and perceived as expanding space:

Relativistic mass

Rest mass : m_0

$$m = \frac{m_0}{\sqrt{1-\beta^2}}$$

So negative numbers are mostly time functions, as a negative spatial population of 'apples' makes no sense.

Which defines negative mass as an expansive entropic destruction of mass. And so in relativity the 2 solutions, which can be put as an example of the 2 roots of quadratic equations (one discharged in processes that are social and accumulative).

Alas, because mass is an accelerated vortex of gravitational forces, as mass increases, the vortex accelerates inwards, as all vortices do, (Ro x Vo = C, for the simplest bidimensional one), which means its 'radius' diminishes in the direction of lineal locomotion, and so as mass increases the x-component decreases (Lorentz contraction), till the inner-outer Si=Te unbalance between the T-length-motion component and S-height component of the particle-wave 'explodes'=breaks the system which cannot longer perform its Støep, stop-particle, step-motion 'beat'; thus the particle state no longer happens and the particle becomes a mere flow of radiation and dark entropy. Simple, realistic, correct way to explain the apparent inverse duality of mass and length... At which point lineal time-duration, T=0; that is, as all equations of death, T=0, Max. S; the particle becomes transformed into something else – an entropic expansion of spatial information. In terms of 'time duration', as we observe particles to live longer closer to c-speed; since 5D metrics considers one of its sub-functions, $\delta=k$ for entire families of species (sorry not immortality here, the beats of the heart of a mouse, a man and an elephant are the same); it must be then obvious that *those beats of particles last longer; that is, for an external observer take longer to trace, but for the internal particle clock which perceives psychological time in terms of its 'closed beats', each beat a 'thought' so to speak, there is no difference.*

In graph, faster-than-light travel and negative mass are the same ($\beta=v^2/c^2$). We define negative mass as an expansive entropic destruction of mass. How to interpret that equation on our analysis of 'Existential \sim Algebra' regarding the meaning of roots is then evident: closer to c-speed, the barrier between the light space-time and the intergalactic space-time made of 'something else' (likely a background of faster than light neutrinos, as 5D is experimental and so particles not detected are not in the books of any theory till they are – so dark matter is quark matter, dark entropy, neutrinos, and IF a new exotic particle is found beyond fancy mathematical writing we shall revise the known-known economicity laws of physics).

The efficient Universe.

Power laws, its inverse function, roots, and exponentials and its inverse negative exponential functions, form together a 'family of operands' which keep increasing the complexity of our analysis, and the inflationary number of 'entropic solutions' – that is solutions that are not stable, efficient and do not happen beyond virtual minds of mathematical thought. What this means in praxis is that when we increase the results and combinations of a syntactic language, its real semantics are reduced. I.e. there are ∞ entropic combinations of the 27 letters of the alphabet, but nobody in his 'right mind' would dedicate his life as some mathematicians and physicists do to explore the meanings of xhtwertwegwrg, fwerwgwrh, adgaghe and any fast-writing keyboard combination with NO relationship to reality, if the rules of syntax and the constrains of experimental semantics are understood, the difference between potential and actual infinity (Aristotle) are grasped. All this the imaginary idealist German school of Cantor and Hilbert got away with it. So now mathematical physics is hard at studying the 10^{500} landscapes of string theory (: While some computer programmers are hard at finding the trillionth π decimal without understanding truly what π and the sphere is.

I like specially the work of Greene on ahgrtarhst strings and that of the Cray computer on the 37564567 series of π , LOL. Which is a good introductory quip to 5D physics... given the sense of self-importance human physicists have about themselves as the 'authorized' tribal idols and 'seers of time' (Augustine's definition of God), since their models of the whole are so grossly overrated we'll need a bit of humor to deal with such egocy. *Fact is physics as today only recognizes mathematical properties and so it needs 5D -Ælgebra to undertand its errors and correct them to make a better mirror, plus add 5D organic, sentient properties to matter; which is like everything else a fractal organism of 5 Dimotions=forces of spacetime.*

NON-Æ TOPOLOGY

Topological spaces Topology as the queen of mathematical sciences.

Topology is Geometry with motion, hence the temporal 3rd age of Geometry and its culmination, as expression of the real morphology of space-time beings, which includes its 3 main elements: Δ -scales (topological forms are defined in modern terms as networks of points); Space forms (its 3 varieties are the 3 organs/forms/functions of all T.œs) and its time-motions (a topological organ by definition can morph and evolve but remains the same as long as it does not 'break' its topological characteristics). So topology *instantly connects with 5D metric laws*, in its 3 ages:

1st age: Classic topology. **2nd age:** Fractal mathematics & networks. **3rd age:** Vital topology (Δ ST Supœrganisms).

So after showing how fractal points joined by networks become waves =flows of energy and information that evolve into topological organisms with 3 physiological networks, the Spatial, entropic, 'digestive' system, the $S\approx t$, reproductive 'blood network' and the δf -Informative brain network, messed together through its 'dark spaces' (as networks do have holes) forming the supœrganisms of the Universe; *we will see the same process through topologic varieties connecting its classic themes (1st age) with its 3rd age (Δ ST vital topology).*

Ternary topological varieties: Vital, Organic Geometry merges formal, physical and biological stiences.

The 5 Postulates of $\neg E$ geometry have an immediate consequence in the transformation of all 'entities of mathematical geometry' into topologic, bidimensional varieties, as a system to exist will have a dimension of time and a motion of space, which are equivalent $S_i = T_e$, in its ideal value (though normally the motion of time as it does not reproduce in persistent forms will reach a fractal dimension).

And the true task of 5D Geometry will be to relate all those dimensions and motions to its 'functions' connecting them in real events and forms to the 1 to 5 Dimotions of existence.

Single Euclidean dimensions are useful when the T.œ is perceived as a fractal point of a larger world and we reduce its internal dimensions. So we talk of:

External 1-dimensions: The 3 varieties of Euclidean simplified dimensions are: height-informative dimension (1D), width-reproductive dimension (3D) and length-locomotion (2D). So we can write a simple generator:

$\$T(\text{length: locomotion}) < ST\text{-width: reproduction} > \δ (height: information)

It is those kinds of entanglements between pure formal geometries and vital organic functions what closes the gap between reality and mathematics through the vital topology in 1, 2 or 3 D Dimotions. Only that often one of the dimensions of study will be a motion in time, but by virtue of $S_i=Te$, could also be in many cases studied as a still space dimension. So we can find then equivalences and symmetries between geometric forms and the SS (4D seed and social evolution), St (information), ST (energy of reproduction), sT (locomotion), TT entropy) 5 dimotions that combine the poles of form-space and time-motion of the Universe

Internal topologic bidimensions:

In the graph the bidimensional topologies form also a fractal generator of $T.\infty$ s:

SS-St(spheric seeds and minds)<ST-hyperbolic body-waves>sT-TT: lineal, flat locomotion and entropy.

Whereas SS and TT imply a formation or dissolution of networks across $\Delta\pm j$ scales.

Those surfaces in Lobachevski’s expression, are “dissections” of space: Each of them divides the space into two domains, an interior and an exterior, and they are the common boundary of these two domains. This fact is connected with another, namely that every one of our surfaces has two sides: an interior and an exterior (one side can be painted in one color, and the other in another).

Thus the first task of any membrane in the process of generation of a $T.\infty$, is to break space-time into inner and outer regions, where the informative and entropic arrows of the system will develop a complex, rich in information, internal $T.\infty$ inwards and an outer entropic membrane to detail with its anti-world from where to obtain motion and energy captured by the hard membrane to reproduce into more $\Delta-1$ cellular/atomic components and grow. It is then clear that:

'The purpose of topology is to study the ternary vital geometries of $T.\infty$, its functions and transformations'

Whereas the ternary bidimensional only topologies of 4-5D space thus also explain the ternary nature of all physiological networks and its vital functions for any s, st, t organism.

It holds then that each organ, variety of vital topology MUST not TEAR and CHANGE its external form beyond deformation not to lose its properties. Those 3 bidimensional topological varieties then have motion related to internal changes of in-form-ation not to external, lineal changes of locomotion.

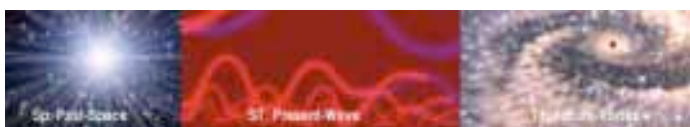
And its complexity grows as we perceive them in more detail. As time is cyclical, made of $3'\pi'$ lineal time motions, we shall distinguish 3 conserved ‘quantities’ of timespace that put together create superorganisms, a relative devolving past or arrow of entropy represented in physics by disordered explosions in space and in vital topology by lineal limbs/fields of lineal momentum, an iterative reproductive present that seems not to change, represented by hyperbolic body/waves of energy, and an implosive in-form-ative local future arrow represented in physic by accelerated, $V(t)R(s)=K$ vortices and angular momentum, and by particle/heads in the ensembles of vital topology.

So timespace breaks in ∞ relative local, fractal entropic pasts, iterative energy presents and informative futures, which put together create the illusion of a single timespace continuum.

Generator Function. The 3 organic topological ST-planes. Physical dimotions.

3 bidimensional topologic planes become 3 organs in any of the infinite fractal systems of the Universe:

$$\text{\$T(Toroid field/limb)<Te=Si (Hyperbolic wave/body)>\text{\$}\delta \text{ (spherical head/particle)}$$



The simplest forms are those of still Greek Geometry and physical systems, which range from pure still geometries: SS (space areas, closed conic orbitals, of maximal space-form and

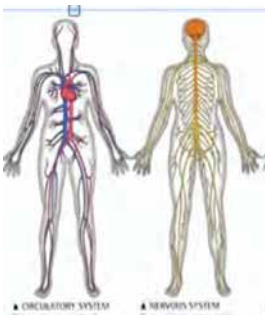
minimal time-change), through all variations of ST dimotions proper to TT (accelerated time dimotions, of maximal time-speed and diminishing spatial volume, as in charge and mass vortices), which *become doors to a new scale of the 5th dimension.*

Thus between the extreme dual arrows of entropy (TT) and pure seed-form (its inverse SS state) both combine into conservative 'present' zero-sum cycles of energy body-waves, limbs/fields of locomotion and particle-heads of information. They are the 3 'conserved' arrows of time that create the futures of each fractal supœrganism.

So in a single 5D plane all systems are made of those 3 Dimotions, which become organic Surfaces perceived simultaneously in space ensemble into vital systems; act in Space-Time and live an accelerated/steady state/decelerated 3 ages TT worldcycle of existence observed only as a time process.

And vital topology studies them, between its 4Dimotion of generation in a lower $\Delta-1$ plane that emerges in an $\Delta+1$ social world to die back in a dissolving explosion of scattering entropy, back to $\Delta-1$ in the moment of death, which topology also can analyze them as process of creation and dissolution of networks.

The fifth dimension is occupied by fractal branching networks; each of its planes by 3 topological varieties.



So there is also a fundamental duality between dimotions in a single plane (the 3 varieties of topology) and the perpendicular structure of the fifth dimension as a branching network, which connects the larger whole and its smaller, multiple parts. I.e. Your whole, the brain and heart branches down to its parts. 5th dimotional changes of scales thus imply some network branching, which apparently is different in a big-bang explosion of a physical system in parts and an ordered distribution of blood or nervous impulses, but geometrically are equivalent, $\Delta^0 < \sum \Delta-1$ motions in the 5th Dimension which in terms of its metric expands in space and hence diminish in time the speed of the motion (deceleration of a big-bang from its initial impulse; deceleration of the speed of blood through ever more extended networks of tinier vessels).

We thus translate in those analysis by virtue of the disomorphic=equal laws of all scales, the vital fact we ARE made of space-time and the duality of Si=Te analysis topology into the pentalogic dimotions of existential algebra ($\neg \mathcal{E}$): when studied as still dimensions of space it leads to an i-logic topology of fractal points with parts that entangle to display the scalar, fractal, network complexity of Universal supœrganisms.

The 2 varieties of the 2nd and 3rd postulates.

The postulates of $\neg \mathcal{E}$ therefore 'diverge' in its own variations depending on what process we study, a travel through a single plane or through several planes of the fifth dimensions, departing from two initial fractal points living in a single plane, or a larger point and its micro-parts. So do *the algebraic operands we use*:

In a single plane, we study aggregations on herds of fractal points as lineal waves, and use the 'sum operand' (superposition principle). While between scales, we use the 'product operand' and we see fractal lines and networks.

And this differentiation carries to the 3rd postulate as 3 networks of points and parts, become topological organic planes, which complete the mirror symmetry of 5D geometry with the superorganisms of reality as they are.

It kicks then the 4th postulate of relative congruence to define as a positive social evolution of networks into organisms or an entropic, scattering dissolution of wholes into parts, *so congruence becomes essential to establish what geometry often cannot differentiate without detailed view or motion analysis: if what we observe is a big-bang death (max. speed) or a network construction.*

In the other case, the simpler sum of waves (no longer lines), in a single plane, also requires an analysis of the congruence angle, to know if waves will cancel each other or add up.

So we upgrade still spatial mathematics with its 5 $\neg \mathcal{E}$ postulates that substitute the classic axioms, postulates and principles of E geometry well beyond what the 5 Non-E postulate merely hinted at in the XX c.

Yet abstract still Greek geometry still works as a mirror of reality, when we reduce it to a single plane. Then points are a 'dominant' spatial, mental view which reside in a single plane and the 'mind' perceives in stillness, with no internal scalar form and continuity when associated into lines, planes and volumes; even though in a

deeper reality they have 'fractal content'. E- mathematicians though missed the 'self-awareness' of that simplification, now evident with the 5 postulates of ilogic Geometry that describe how points become parts of social webs, self-organizing fractal planes made of networks of points that emerge as cellular units of a higher fractal space-time or new supœrganism. And so we define -E topology as the study of the structures built departing from fractal points with inner parts and scalar content.

Whereas by the principle of Correspondence Classic geometry that considers points to have no breath, no inner parts is the limit of -E topology when we 'eliminate' the 5th dimension of entropic motion and the 4th dimension of fractal scales (only fractal geometry includes it in its restricted analysis). Thus 5D unify all those different geometries to make them describe parts of the same fundamental structure of the Universe: the fractal point and its more complex social forms, networks and waves and organic planes.

'Dimensions' are NO longer exact in number, but mostly Hausdorf dimensions for 2 reasons:

-Time motions have less 'density' than spatial distances, as the motion often 'erases' the previous information as the form slides. So while a still point has a clear '1 Dimension' (by convention points have volume hence 1D), a point in motion will have less than 2 Dimensions of still space, as its motion erases its previous steps.

-Networks that peer between two scales also do NOT fill the entire lower plane and so they have a Hausdorf dimension. The way to measure them is as an 'open ball' that do not include the larger whole or central singularity and the tinier parts, but merely the network, which will then be also between 1 and 2 dimensions.

Themes those of a more advanced course on 5D mathematics not treated in this introductory paper, where it matters more the conceptual comprehension of the connections between vital topology and the organisms of reality, to make clear that an evolved Non-E mathematics is the organic geometry of the fractal Universe, complemented by existential algebra, and its ilogic functions of the fractal generator of the Universe which all languages mirror in its $3\pm j$ pentalogic syntax, since all minds gauge and represent the cycles of the Universe with different languages of perception.

Ssymmetric properties: function=form. Inverse properties S vs. T merged in ST-body waves.

We noticed also a correspondence between the 5 objective Dimotions, the $3\pm j$ subjective frame of reference/perception, as well as the $3\pm j$ formal variations of topology just described.

They all come together in symbiosis as each topology and corresponding frame of reference (polar=sphere; cylindrical=lineal; hyperbolic=Cartesian; complex=salar) has vital organic properties that best suits each dimotion of existence. Let us explore this concept closely related to symmetry.

Symmetry is the central concept of Group theory, the ice in the cake of the whole structure of Algebra.

To define it group theory uses the Paradox of Galileo: S (form in space) = Time (motion). As it does differential geometry based in the concept that a line is a point in motion.

Similarly by symmetry we mean in 5D Algebra, *the capacity of all systems to complete a zero sum world cycle, through a motion that returns the system to a present undistinguishable equivalent state.*

Symmetry thus is essential to the 5D immortal universe, which is a dynamic present view in perpetual motion *even though due to dynamic motion=symmetry and conservation principles derived from it*, is eternal in its returns.

We use the classic concept of symmetry as a recurrent motion that conserves the form of the being (different from our multiple worlds, symmetric, bisymmetric, asymmetric etc. used in the 4th Postulate of Congruence).

It follows that the more symmetric a system is, the more efficient will be in 'preserving' its present states of 'survival' in a universe in perpetual motion. I.e. A circle will be more efficient, because it has infinite degrees of rotational symmetry that an irregular polygon that might not even have a single symmetry state.

In the theory of 'survival' of 'vital mathematical objects', which we bring from time to time to those pages (as in the analysis of survival prime numbers able to travel through 5d by making mirror images at scale by joining internally its alternate vortices-points-unit numbers), symmetry thus plays a central role.

How many states of present a system has, defines then its 'quality of symmetry' and survival which in space (the easiest symmetries to describe), when fixed in a point means the circle dominates all other forms as the most symmetric form.

Symmetry then becomes a requirement to perform well certain Dimotions as vital actions:

I.e. the circle is the perfect symmetry for still Dimotions of perception, for 2 reasons:

As we perceive in stillness, it maximizes survival by having a minimal perimeter, for a maximal volume of information and disguises itself in an external Darwinian world.

Its infinite symmetry, focus all lines of communication that fall into the fractal point with minimal distortion.

However, when we consider the 2nd Dimotion of Locomotion, which is the process of displacement in space while retaining the form in time without entropic scattering, the system will maximize its speed of reproduction of form, of information in other adjacent region of space when less information displaces. And so the line, which stores no internal information (or the wave as all points are ultimately fractal with a minimum volume), will be able to displace faster than the sphere, and maximize the second Dimotion by reproducing less information. Further on, the line is the shortest distance between two points. And so locomotions are maximized both in a single plane by a lineal wave, or between 5D planes by a fractal line.

Finally hyperbolic forms mix both, lines and curves, so they can reproduce both. And a hyperbolic plane breaks down a whole into smaller fractal equal parts, thus it is the essence of reproduction.

Vital geometry thus will be essential to explain the relationships between stable forms of geometry and Nature.

So symmetry means Survival in space; Closure of worldcycles in temporal energy. And the pentalogic of symmetry is immediate:

-T: Time symmetry is *the capacity of all systems to complete a 0-sum world cycle through a motion that returns the system to a present undistinguishable dynamic state. Hence symmetry is conservation of Time by iteration of the same ST-event, even if the previous event becomes extinguished.*

S@: Symmetry in space means survival, through the 'inverse complementary entanglement' of the parts of the being, ruled by the laws of congruence (and hence often an asymmetric adjacent system). A particular symmetry that coincides with the common-sense concept though also applies as it enhances 1D perception without deformation of a larger outer world: symmetry as repetitive regularity. It follows immediately that *the more symmetric a system is*, the more efficient will be in 'preserving' in a Universe in perpetual motion, its present states of 'survival'. I.e. A circle will be more efficient, because it has infinite degrees of rotational symmetry that an irregular polygon, which might not even have a single symmetry state.

Δ... Survival implies reproduction of form, which happens through a shrinking in 5D seeds and enlarging. So symmetry in scales means the capacity to replicate seeds that are self-similar to the whole. The 'survival' of 'vital mathematical objects', thus favors reproductive prime numbers able to shrink through 5D mirror images at scale made by joining internally its alternate vortices-points-unit numbers.

Si=Te. Mirror symmetry allows the reproduction of form and we dedicate an entire paper on gender to it.

Symmetry is so important that all motions on physics and geometry can be reduced to those 3 symmetries called boosts, rotations and mirror symmetries as defined by Noether's theorem of physics.

Then according to form=function, Nature ensembles a lineal body-limb moving-translating in space with a spherical head, to perceive on the forward 'future' position smaller in size, faster in time, in adjacent relationship to the body and limbs that have lineal forms to maximize the whole's motion.

Of all those symmetries though the most important is a 5D scalar symmetry ignored in science: the 'undistinguishable' property of the $j-1$ elements in which the system imprints its form, which become 'numbers' from the perspective of the whole. This symmetry of scale, implies that the system can reproduce its information - move faster, because it imprints 'any element' of the lower plane of motion or 'field' that

becomes undistinguishable, so there are not 'impurities' and errors of reproduction of form, when any electron can reproduce your atomic connections and so on.

Identical parts then acquire the same larger form accomplishing the most important of the five vital dimotions of existence: reproduction.

Thus we can establish a correspondence between dimotions and the survival of certain geometric forms above all others: the circle/sphere for 1D perception; the line and its curved form the parabola for 2D motion, its combined wave for 3D reproduction, the social undistinguishable numbers of polygons for 4D social evolution, and the different forms of open curves, notably dual, split hyperbolas for 5D entropic Dimotion and dissolution of a system in its opposite forms, which in the conic representation of a worldline, studied latter in more detail, will split, one hyperbola branch going upwards and the other downwards, and information and motion split in death, when we take the axis of the cone as the ideal representation of the fifth dimension.

RECAP. Each of the 3 organs domains of a space-time organism corresponds to one of the 3 fundamental topologies of a 2-3-4D manifold, the planar/toroid, cylindrical \approx hyperbolic waves/bodies and spherical particles/heads, and to one of the 3 fundamental 0-points of perception, showing how close mathematics is to reality.

The reasons why the sphere or circle are the best forms for the first Dimotion of informative gauging, aka perception and the fourth dimotion of social evolution and seeding (mental polar frame of reference and storage of information) is the fact that the sphere has minimal surface to store maximal information as a seed not to be noticed and perfect symmetry allowing perception from all points of view without distortion.

Genus and holes. Measuring functions with forms. 3D systems and its δ roles.

The topologic genus of a system is the quantity of cuts/tears the system can endure without breaking the form in its component parts (5D travel) or transform it into other of the 3 varieties.

Thus genus is related to the survival properties of an organic function, as it was the case of the 'form' of a topology best suit to survival. And it also has 2 'variations' of outcome – to break the system into parts (4, 5D) or to transform it into a different variety, which explains why often cuts do happen in morphogenesis, to evolve the shape of organs.

Further on the *genus of each variety*, grows as we grow in dimensional and informative/formal complexity, improving our survival. So the form with minimal genus that is, whose number of dissections is minimal, must be the simplest, weaker form-function, which as information is more fragile, will be the 'hiding' sphere of minimal perimeter, and often maximal resistance of its 'cells' of the hard membrane that isolates it.

So spheres tend to be harder to protect the inner information with 'thick skulls. Since *when a topologic form is cut, it 'dies' literally, in the world of topological vital beings.*

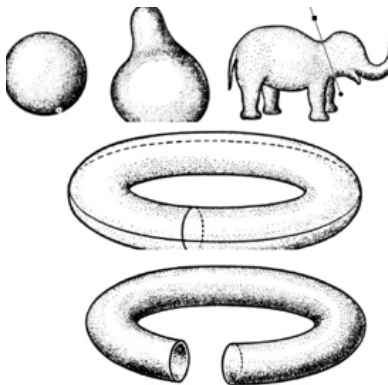
And this extends to the whole 'adjacent' organic parts of the being, often re-covered by a spherical membrane without holes. So topologic killing requires to tear the membrane that isolates the system, and best, to section the vital connection between its two 'dominant' organs, the O-head/particle and \emptyset =body-wave (as limbs/fields often are entropic, external, and can be lost and replaced).

Indeed in biology where the laws of vital geometry are more self-evident all predators have the same form of killing, they cut the 'shortest' part of the membrane, the neck, split the O-head and the \emptyset -body and the thing is done with.

A key law of vital topology states that: "Properties of O-heads particles of max. form and \emptyset -limbs fields of max. motion are inverse, merging in \emptyset -bodies." And this extends to any of its 'disomorphic' parallel views as relative \emptyset -past and O-future merged in \emptyset -present.

In the case of genus and holes, the sphere is the 'weaker' form', as information is and limb or line the strongest one as motion is. But the Sphere becomes the harder surface at its Δ -1 scale, often made of triangular shapes as scales also invert its properties. While the cylindrical line tends to have the 'weaker' Δ -1 elements, often made of circles:

ð: The sphere just accepts one cut and has zero genus; but its stronger $\Delta-1$ 'triangular parts' act as the entropic membrane that protects its internal informative center, on 'top' of the whole, guiding it towards the future. In spherical forms, it predates the vital energy of its enclosed inner region, which it invaginates with fractal networks, focused on the central singularity it mirrors in a larger scale. So the vital energy is between a 'sword' (the membrane that kills you by perpendicular penetration - as the invaginations of the biological stomach show) and a hard place (the singularity of maximal density that kills you by warping)' as they say.



ST: The vital energy thus has the genus of the toroid; which *needs two* cuts to die= become transformed into a new more entropic variety, a flat surface of motion and energy that feeds both the membrane and the singularity.

§T: Limbs are the $|\cdot$ -function of entropy which is 'expendable' and can receive multiple cuts perpendicular to the cylinder without losing its variety; often regenerating itself in many vital organisms. Thus it is related to the vital energy of the system.



§: Finally the singularity is the more complex, more informative, smaller ∞ dual function, a donuts, whose genus is 6, as you can do 3 superficial cuts laterally (inside the two holes and outside the whole form) and 3 perpendicularly, in the bridge between holes and between the donuts and the outer world.

It is thus the hardest, most efficient of all the elements of most suproorganisms.

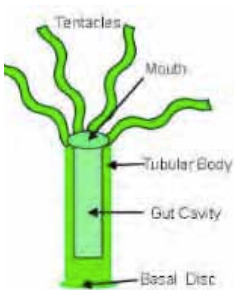
So the GENUS of each variety also *defines its difficulty to trans-form, which grows* as we grow in complexity. Which makes the *form with minimal genus that is, whose number of dissections is minimal, not only the simplest form-function but the easiest to transform; another reason why the sphere is 'original seed' of most species.*

The balance kept in pegging S<ST>t-species.

Thus in palingenesis and morphogenesis we assist, departing from the seed, a series of vital peggings and tearings of forms to change and evolve till they settle into their main dimotional role within the whole:

If the seed= sphere tears its caps becomes then an entropic digestive cylinder.

If then it is pegged to the axis of the open sphere, having both the same 0 Euler characteristic (a property of balance latter studied in more detail). So they fit perfectly by adjacency=parallelism not by Darwinian perpendicularity; as the sphere has the central hole which the cylinder can close. Hence a *positive evolutionary merging occurs to create the commonest form of the Universe, a rotary membrain with a central axis that absorbs and emits information and energy for its centered singularity.*



Indeed, the first natural evolution of all kind of systems is exactly the combination of a sphere and a digestive tube in the axis, not only in particles with its axis through which a magnetic field or similar 'flows' of energy pass, but also in biological systems all of which have evolved from the initial sponges and hydras with a digestive tube, with two openings, a mouth and an anus.

Finally in the center of the tubular body or in the top 'mouth', where higher information flows there will be a new topological evolution, now reclosing the tube at a point, or narrowing it, to create a singularity in command of the whole.

But this system, which is still dominant as an informative sphere, is *far more efficient and balanced as it now has the 3 canonical parts/networks needed to survive – the digestive tract for entropic feeding, the singularity-focus of information and the original sphere or rotating angular 3D-momentum.*

Topological evolution and topological transformations

In that regard, the main innovation of Δ st in topology is the explanation of its laws as dynamic vital transformative events, through the addition of balanced $s=t$ symmetries that select the best 'complete' survival forms of the Universe, understanding developmental evolution, which **we call topological evolution** and use in all sciences.

As 5D is also interested in a transformation of scale, dimension or form that modify and evolve topological functions; in changes caused by new adjacencies, new perpendicularities and new social parallelisms.

Then we talk of a topological d=evolution (inverse of topological transformations when no change happens):

"A topological evolution is a change in the form and function of the s, st, t parts of the being caused by new adjacencies, new perpendicularities and new social parallelisms."



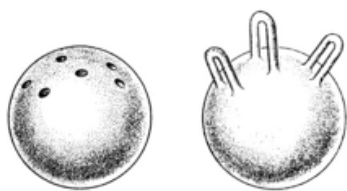
We diverge from some classic topologic definitions. For example, some geometers consider a donuts to be the same variety than a flat plane, because you can cut the empty donuts, spread it in 2 D and alas! you have the plane, but they are not the same. Since *cutting the donuts produces a topological devolution to a state of lesser form that flattened loses 1 dimension.*

The function changes from a closed cycle of vital energy (donuts) to an open flat plane of entropic motions.

Open vs. closed surface are thus an essential duality of the informative vs. entropic poles of reality. However, apart from these topologies there also exist the so-called one-sided surfaces on which there are not two distinct sides. The simplest of these is the well-known "Möbius band", which is obtained when we take a rectangular strip of paper ABCD and paste together the two opposite short sides AB and CD. Such one-sided membranes do NOT close and break space-time in the classic sense of spherical membranes but are *akin in function to the toroid geometry, as the vital energy quanta within them cannot escape in an eternal return – being its main distinction to require two loops instead of one; and its main use in a complex understanding of spin geometries (see paper on 5D quantum physics).*

Nature overwhelmingly favors closed surfaces, because the Universe is a fractal of superorganisms that are worlds in themselves, but the survival=efficiency of a Möbius band, resides in its paradoxically duality: it is opened to the outer world *as a whole but its $\Delta-1$ parts that cycle through it cannot escape.* Those functions are then proper of systems which want to *increase its surface of exposure to the external world and are strong enough to take it as parts and wholes; hence systems with 5D-entropic functions, also achieved through fractal scalar perpendicular invaginations (as in digestive systems).* I.e. The Möbius concept can be equated to a chiral molecule, which cannot be over imposed on its mirror image. So chiral molecules are good for optical activity and entropic light dispersion (5D function) or for explosive propellants motions of aggressive atoms (oxygen, chlorine) such as the... Perchlorotriphenylamine (:

The inverse process: jetting off handles and limbs.



Topological evolution is a fertile field, which will become along theory of supœrganisms (social evolution) the 2 essential ad ons to biology in the XXI c. It is the clearest expression of the laws of existential algebra with its inversions, symmetries and restrictions of form, putting at play all the elements of 5Dimotional reality. For example, as the Universe is mostly 'asymmetric in time, space and scale', all processes happen in inverse fashion with a slightly different outcome (whereas perfect

symmetry can only be found in 'regular polytopes =geometric numbers' and spheres (see number theory). And yet asymmetries tend to balance S and T events. So if we 'sink' a membrain it will bulk but likely it will do so in multiple Σ informative jets. As hardly any process is equal since the inverse arrows have diverging properties. In this case the 'punch' being a painful entropic 'aggression', it brings an $\Sigma\Delta-1$ multiple 'expulsion'. *Such inversion of the process of 'hollowing' the axis of the sphere, happened in the hydra where the balance law that created a hole digestive sink, inversely jetted off tentacle limbs with an inverse informative function.*

This duality is also a fundamental theme of classic now converted into vital topology - sinks and handles.

So within the principle of Δ st asymmetric balances, at common topological evolution takes place: the sphere with holes fills inversely with handles, as the form of the cylinder jets outwards 'closing' in pairs the spheres' holes:

In abstract topology we take a spherical surface and cut $2p$ spherical holes in it. We divide these holes into p pairs and attach to each pair of holes (at the edges) a cylindrical tube (a "handle"). We obtain a sphere with p "handles" or as it is called, a normal surface of genus p . The order of connectivity of this surface is $2p$. And in nature is often happening in synchronicity with other spheres to chain them to each other.

We shall then leave genus theory here, to explore latter in our introduction to 5D elliptic geometry how a 'real species' constructs handles, through antipodal points managed by the central singularity - as the spatial symmetry of opposite antipodal points proper of the elliptic geometry of an internal @-mind/membrane system creates the handles and displaces them in the surface to connect with other fractal points in the external world.

Or alternately to create an inverse entropic function, the handle born of a first 'suction' and then an 'expulsion' of continuous matter from the system, can be cut and cupped to become an aggressive horn (a method of topology used in the abstract classification of varieties, which became famous with Perelman's proof of Poincare's conjecture, we also prove somewhere in a 'margin' with the experimental method as we do with Fermat's grand theorem).

Alas, we got through ST-inversions and symmetries a couple of entropic moving or defensive limbs, as the sphere becomes a stronger T.œ. Moreover the 'section' of the limb will not mean the section of a vital part of the sphere, which means the death of a T.œ. So Hydras and Lizards keep losing tails and limbs and keep functioning.

Further on, every closed surface lying in our ordinary space is topologically equivalent either to a sphere, or to a sphere with a certain number of handles: For example, the torus surface can be deformed continuously into a sphere with a single handle... So once more our 'perfect topological form', the sphere shows how it can become easily either of the two other varieties, the limb or the vital energy of toroid forms.

What is interesting then is that all topological forms can be born of such sphere with handles - the original egg/morula of any living being.

CALCULUS

“The instant (f) has not Time; Time is made from the movement of the instant ($T=1/f$).” Leonardo

‘I propose $1/n$ as the measure of an infinitesimal. I propose $1/R$ as the measure of curvature.’ Leibniz

‘Calculus studies functions of existence: it extracts finitesimals, $1/x$ of $-\Delta@st$, integrating them in a reproductive, collapsing wave: $\int_0^{\pm\infty} 1/x \Delta st$. Hence its value to reflect mathematically the laws of existential algebra.’ L§

Why calculus is so important to science: Reproduction of form in 5D and its mathematical mirror: calculus.

The Universe is an Δ -fractal of spatial information and temporal energy, (ab. ΔST) that reproduces information, forms-in-action, forms of space with motions in time.

But reproduction has an essential feature: it happens in a lower plane as a seed that reproduces, integrates its parts and evolves into a whole – the exact method we use in the mathematical discipline of calculus.

As all this is what actually calculus calculates: It finds a finitesimal part of reality and then integrates it as a sum, through a path that might be a motion in space, a growth in Δ -scale or a repetition in ‘time; whereas the function of existence of the form displaces and reproduces its orthogonal parameters of form and motion. So physical forms are constantly reproducing, ‘calculating’ and the equivalence between the tools of calculus as mirror of the process of reproductive locomotion become crystal clear.

Let us then from the general texts on 5D bring here only the specific analysis of relativity of motion and form, with the 3 features that are essential to the process of calculus:

- The symmetry between space-form (height dimension) and time-motion (length-dimension), or $S=T$ mimicked in calculus by the orthogonal smooth form of $\partial x/\partial y$, and its differentials.
- The finitesimal nature of change=motion in time, as it happens from minimal parts in a lower scale of the fifth dimension.
- The reproductive nature of all motion, as the reproduction of information in an $\Delta-1$ wave state then integrated, as it collapses in its particle form.

Reproduction as the origin of the 5 Dimotions of existence.

How many types of reproduction there are, is a complex subject that would require a whole treatise in existential algebra published elsewhere on those texts.

Let us then define the most important for calculus, according to the general method of existential algebra that distinguish always $3\pm j$ possibilities:

Δ Social reproduction: A reproduction might be persistent in time, creating a process of scalar social wholes; when the reproduction ‘lasts memorially in time’, larger social wholes, $\Delta-1 \sum \Delta-1 > \Delta^0$ (using symbols of existential algebra).

Ts: Locomotion & Lineal Inertia. If the reproduction fades away at the same rate it happens, we observe then a locomotion, through space-time.

St: Angular momentum: If the reproduction doesn’t move in space, we observe a cycle of space-time, which can be equal to the previous cycle.

SS-vortex motion: In the reproduction shrinks in space size and increases in cyclical time speed (according to 5D metrics: $S \times T=C$), we talk of growth of informative frequency, travelling to a smaller scale of the fifth dimension.

TT: if the reproduction grow in size tracing a $+\pi$ cycle, we talk of an entropic reproduction that slows down the motion of the system.

Those are the 5 essential forms of reproduction in ΔST , which correspond to 5 Dimotions of space-time and are studied by the functions of calculus in physical systems.

THE FINITESIMAL: \mathfrak{p}

Δ -1: Leibniz's definition of $S=T$ Finitesimals: $1/n$: minimal curvature. Δ -1 unit.

It is then obvious that the key concept of 5D calculus is a finitesimal. A finitesimal in lineal space-time is a frequency step or wave-length. A finitesimal in curved spacetime is a minimal curvature of a clock cycle. A finitesimal in scale is a minimal unit of population.

But we use other term for any finitesimal O' ; that is, a bit more than O' , which can be either curvature, $i-1$ unit of population or frequency motion. O' is then the mental finitesimal – the minimal quantity in existence of a being, which still remains the being; the seed, the mind of the species, the mother-cell that must therefore exist for any being, as the template which will develop the immanent program of existence, which does NOT need to be stored within the finitesimal O' .

And inversely as the reciprocal of SS-minds with no motion are TT-entropy with maximal motion; and the reciprocal of zero is infinity, and almost O' , immensity, which we write with the symbol α . The finitesimal of entropy is the largest domain of the being, beyond which the being dies. It is a real definition of the borders of the mind, as in its equation, O' -mind $\times \alpha$ spacetime cycles of the Universe = K- World; $O' \times \alpha = K$.

We thus talk of immensity as the entropic limit in which the being no longer is. And both obviously act *in calculus as the limits of a definite integral*. Thus we can define calculus with the 5 Dimotions of existence. Since the finitesimals of ΔST will be integrated between its two limits of SS and TT, to give us its whole 'worldcycle' in time, or 'closed circle' in space, sum of its 'steps' or 'curvatures', or its 'wholeness' in scale, sum of its finitesimal parts, showing the deep entanglement and symmetry between Δ , S and T:

$$\int_{O'}^{\pm\alpha} \Delta st.$$

We shall use as this window 'bitch' does not let me put α , α as the best symbol for immensity, which is the symbol of the whole superorganism, that is ultimately an alternative symbol for α , as the whole tends to be the limit of existence of the being, more exactly its world, $O' \times \alpha = \alpha$.

The subtle difference being that α is external to the being that perceives it, but has pure entropy; that is potentially feeds the creation of multiple Kaleidoscopic monad-worlds, and α is specific, α has been ordered to become a 'whole:ab. α '.

But let's not fancy too much ourselves with existential algebra, its profound paradoxes and symbols, returning to classic calculus.

I propose then 3 alternative symbols, L, for the classic limit as the finitesimal of space, f, for Finitesimal in time, as frequency, and \mathfrak{p} as the symbol of a paligenetic cycle, for finitesimal of scale, and will be using f for commodity, with \mathfrak{p} as the less confusing symbol for all the cases. And write as the general formula:

$\mathfrak{p}:1/j$, whereas j, might be in classic mathematics, N, the whole population, T, the period or R the radius:

$$\mathfrak{p}(\Delta)=1/n; \quad \mathfrak{p}(S)=1/R=K; \quad \mathfrak{p}(T)=1/T=f; \quad \mathfrak{p}(@)=O'; \quad \mathfrak{p}(-)=\alpha$$

It is then fascinating to observe that the 3 finitesimals of scale, space and time have the same equation in classic mathematics, 2 of them discovered by Leibniz; that guy who unlike Newton 'hit a target nobody could see' (:

This of course is only the beginning; and as usual we shall pounder more the philosophical aspects of 5D calculus, leaving for 'pros' with imagination, a humble realization that new beginnings are simple but *always found by amateurs without the burden of knowledge that an entire new world of calculus of which I have just swimmied on the surface with unfocused diving glasses, awaits to the brave.*

What is the 1 in the equations of finitesimals, a whole or a stœp

Thus the infinitesimal does not exist - being space quantic, there will be always a limit, a micro-cycle of time or quanta of population in space, to signify the finitesimal point, as Leibniz rightly understood and defined it with a simple powerful form: $1/n$.

Indeed in the Universe finitesimals tend to be structured as in a russian doll, such as the biggest wholes, $n \rightarrow$ have the smallest finitesimals, $1/n \rightarrow 0'$. *But and this is the incredible magic insight of Leibniz's in: finitesimal, $1/n$ is also the formula for a curvature in space. And as $S=T$, for the minimal motion of a clock of time. So we do have a concept in ΔT_{j-1} that we shall then 'integrate' through a relative path with the finite limit of a worldcycle, where the function is meaningful (that is has a value, $f(x,y) \geq 1/n$), and relates Δ and $\Delta-1$ through its 'stœps' of change. We does connect in this manner calculus to 5D reality, no longer base in human invented, axiomatic concepts of absolute zeros and infinities, limits and the paradoxes enclosed within them.*

The $0'$ size is thus the finitesimal. In praxis, we humans only observe a finitesimal from our mind perspective, whose minimal form is an h' quantum of the planck scale, and accordingly we see a Universe of inverse relative size, being humans in the Δ^0 middle view (at cellular level) as physicists wonder without realizing this is NOT a coincidence, but a natural law of the scalar, fractal organic structure of the Universe:

So we accept Leibniz's concept of a finitesimal, as ALL organic systems have a minimal cellular quanta and a maximal enclosure, which in mathematics can be represented in the $0-1$ finitesimal circle, closed above, *as it becomes the 1 element in $\Delta-1$ of the Δ^0 whole, which is represented by the 1- equivalent graph, which is opened above into the wholeness of a larger Universe (but will have also a limit normally in the decametric logarithmic scale of the Δ^0 whole world embedded in the $\Delta+1$ truly infinite Universe).*

What the $3 \pm j$ finitesimals of existence have is the 1 on 'top'? As we can consider $0' 1/\alpha$ and $\alpha, 1/0$.

And it can mean two things, the whole as $1=\alpha$ in the $0-1$ palingenetic Universe or the $0'$ as the finitesimal in the $1-\alpha$ Cartesian domain. So we find that immensity can be a finitesimal.

If 1 is taken as the finitesimal, it becomes then a step in a curvature, which tends to be 'lineal', as all steps are discontinuous motions between two points, which can always be closed with a straight line.

So by definition the minimal curvature step is always a line of infinite curvature (: And we need two steps to find a 'real curvature', whose maximal value, for a step back and forth will be 360°).

If 1 is the finitesimal of time, frequency, it will be the minimal event, hence a closed time cycle. And as such it will be the sum of finitesimal curvature steps.

If 1 is the finitesimal of a population, then it will be its minimal meaningful part, often a 'seed' or mind-singularity, and n its whole population, and the smaller the finitesimal 1 is the larger the n -population will be in the nested Universe, when we measure $\Delta-2$ finitesimal 'bites' of energy-feeding.

But for a finitesimal to persist as a unit of population it must not be erased after its 'stœp'; so its cycle must be repeated in time.

And thus we realize there is a chain relationship between the 3 finitesimals such as:

$$\sum \sum s = \sum T = \Delta - 1.$$

A deep result in both calculus and existential algebra, which can be said as follows:

Space is a slice of time which is a slice of Δ -planes, and so we grow in dimensional motions and wholeness when we move from space/curvature steps to fulfill a whole time cycle, which however is just a frequency of memoriless form, that only when *persists by repeating its cycles in the same region of spacetime becomes the unit of population.*

Thus calculus uses a unit of change, h , to mirror different changes in the 5 dimotions of existence. Since change once it happens in small units, in small scales, in small instants of time; differentiate in 5 type of

dimensional motions = actions: TT, feeding, entropic and moving, Ts, changes, informative & perceptive St, SS changes, reproductive changes, ST, proper.

That diversification is studied better with different algebraic operands; but all can be derived into its finitesimal units of change and integrated, for different scalar groups, social functions and paths of dimotional change. As we have studied networks of finitesimal parts and time dimotions and its worldcycles that integrate them, just will comment on curvature finitesimals and its integration in whole spiral, circles & forces.

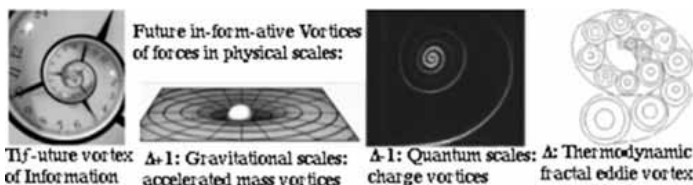
THE CURVATURE OF SPACE.

A Disomorphic example on how to understand homology of sciences.

The differences between classic calculus and 5D calculus are thus small, mainly conceptual, but on the 'fringes' it will have real consequences for understanding paradoxes of physics; and the philosophical foundations of mathematics. On techniques and what mathematicians like most, crunching numbers and equations, very little new at this stage is expected. And this is comforting cause as I say is summerday and I don't want to write too much. But do not dismiss the paper. Because this is real existential calculus. Consider the finitesimal of space, curvature. $1/R$ is the simplest one; the curvature of a circle. It follows that the straight line has a finitesimal curvature. But also that there must be, an immense curvature – as now 'absolute infinite does not exist' because ia limited infinite is the reciprocal of 0'.

But how curvature can be immense, close to infinity? Mathematicians define curvature for a curve as $d\phi/ds$ where ϕ is the inclination of the sensed tangent and s is the arc length measured from some fixed point.

This limits curvature; but physicists have the not resolved paradox that curvature in Relativity can be infinite, or rather immense. The solution? 5D (:



It is also 'embedded' in the complicated formulae and principles of relativity. In relativity the principle of equivalence between acceleration and an attractive vortex of mass; and the principle of Newton that gives a change of motion, hence an acceleration to the curvature of a motion that is not lineal.

Thus curvature and acceleration are similar concepts and the more curved a 'curve' is, the faster is growing its speed. *It is then the concept of a force, charge or mass, an accelerated curvature of space-time of the $\Delta-1$ or $\Delta+1$ physical scales. It is then the implicit concept in Newton's equivalent formulae, as G , or in Coulomb's k factor.*

This is also embedded in the solution to that differential equation:
$$K = \frac{d\phi}{ds} = \frac{\pm y''}{(1 + y'^2)^{3/2}}$$

Which the reader will notice has a second derivative above, that is usually the symbol of acceleration.

But in 5D we can define curvature by the $S=T$ symmetry also as a measure of acceleration, this is possible because as we diminish in size, according to the metrics of 5D, $\$x\delta=K$ (whereas $\$$ is a symbol for lineal space and δ for cyclical time; so we could write in physical terms, $Lxf=K$, but as usual 5D existential algebra symbols are more general and new to use them in any science).

So when we carry curvature in space to acceleration in time, it becomes 'frequency', and curvature can have in space any angle above $2\pi=360^\circ$; or in terms of length.

The connection between existential algebra and calculus: Dimotions as actions. Reproduction as change.

Existential algebra and calculus study time change. How can then unify all time changes? The answer comes from existential algebra and its finding that all forms of change can be reduced to reproductive change. Which itself can be considered a travel down and up two scales of the fifth dimension. Thus changes happens on finitesimal parts that emerge and affect larger wholes.

The function of existence is a function of reproduction in scale (as a 5D journey) in time (as a conjunction of the 5 Dimensional motions of existence), and space, as a simultaneous growth of clone information; formalized in the fractal generator of 5D metrics, $\text{Max. } \sum T_e \times S_i (s=t) = c$; as reproduction happens in a 'present $s=t$ state', of balance when the relative past of lesser informed flows of entropic time, T_e , becomes Imprinted by Spatial information: Past TT-entropy x Future SS-form = Reproductive ST Present

Change happens informatively through increase of finitesimal parts, entropically when you loose those scalar parts. Reproduction of form or its annihilation at the finitesimal scale in calculus is mirrored by a simple function, $F(x+h)/F(x)$, that calculates ratios of change, for different operands that mirror the 5 Dimensional motions of existence, which can potentially change.

Thus what both disciplines, calculus and existential algebra have in common is the object of its linguistic mirrors: Times=changes, all kind of them.

That apparently they seem so different wears witness to the ultimate nature of mind-monads, infinity mirrors that reflect always different points of view on reality and its i-magination to slightly bend that reality to the point of view of the mind.

Still it is more notable its common elements than its differences.

Calculus though has its emphasis in numbers hence in the scalar analysis of huge social groups in motion; while existential algebra has its emphasis in discrete dimotions, hence on the study of individual T.œs experiencing a trans-form-ation.

The very essence of calculus is to study in synchronous spatial dimotion huge amounts of numbers, which will erase its 'discrete' form to appear as a continuous susceptible to be studied at the $\Delta+1$ scale of the whole.

The emphasis of Existential algebra is the study of that whole as an individual subject to sequential dimotions.

But in both cases the dynamic process of study are the 5 Dimotions of time=change of the universe.

Finally logic systems and Boolean algebras become the syntax of verbal and computer minds that describe with its sentences the dynamic dimotions of reality. So its language is closer to that of Existential Algebra, reason why we include it in this paper, instead of the more advanced models of existential algebra termed, monologic, duality, trinity, pentalogic and dodecalogic.

To fully grasp that essential connection between Δ_{st} and calculus mirrors, we must first understand how *species on one hand, and equations on the other, probe in the Planes of reality to obtain its quanta of space-time converted either in motion steps or information pixels, to build up reality.*

The connection between existential algebra and calculus is qualitative: both study initially the finitesimal action of existence, *which become the finitesimal quanta of spacetime, whose repetitive accumulation causes the phenomena of time-change. Existential algebra though studies the qualitatively in terms of sequences between the 5 Dimotions, and calculus quantitatively focusing in one single dimotion spread in a group of scalar numbers.*

This is the case because the actions of beings happen through finitesimals extracted from other Δ -plane scales.

In all Planes, the simpler actions of any being *are extractions of motion, energy and form from lower Δ -i Planes:*

A T.œ perceives only the $\Delta\pm 3$ planes from where it extracts energy or information. As its actions and dimotions are architectonically performed through planes of 5D where each main action relates to an interval of scales:

Δ -4-3: The system extracts indistinguishable boosts of entropic of motion (man from gravitation).

Δ -3-2: The system extracts bits of information (Light in man)

Δ -2-1: The system extracts bites of energy (amino acids in man)

Δ -1 0: The system seeds its minimal seed of reproduction.

Δ 0+1: The system connects socially with other systems to evolve into a whole.

So simpler Actions start at finitesimal level, gathering in sequential patterns in existential algebra, as 'time flows' and in population and spatial patterns - in integral herds of numbers in calculus.

We and all other beings perceive from Δ -3 quanta (light in our case), feed on amino acids, (Δ -2 quanta for any Δ^0 system), seed with seminal Δ -1 cellular quanta (electrons also, with Δ -1 photon quanta).

For each action of space-time we shall find a whole, Δ^0 T.œ, which will enter in contact with another world, $\Delta\pm i$, from where it will extract finitesimals of space or time, energy or information, entropy or motion, and this will be the finitesimal $\partial f(x)$, which will be absorbed and used by the species to obtain a certain action, \hat{a} .

Analysis allow us to extract actions from wholes, reason why there are not really use beyond the third derivative of a being, as super organisms co-exist in 3 only Scalar Planes. It also works in terms of a volume, as its derivative is a plane, then its unit-cell or point... So to speak, if you derivate a world, you get its organism, and if you derivate it again you get its cell and then its molecular parts. And then if you do that in time, you get its speed and then its acceleration and then its jerk.

Derivative vs. integral in time and space.

Derivatives & integrals calculate ratios of change in the 3 elements of reality, space, time=change and its Planes, ΔST *The main error of 'axiomatic' analysis is to force continuity, infinitesimals and infinities, without considering the discontinuous limits of derivatives and integrals of parts and wholes between planes of existence.*

Leibniz vs. Newton already argued what is an infinitesimal part, the *unit* of derivatives. The answer in a Universe, which is a fractal scalar system of stœps of space-time, $S<T>S$, or $S=S=S$, $T=T=T$, is a minimal quanta in SCALE, TIME or SPACE, which by virtue of 5D metric, $SxT=K$, will be a 'minimal unit' on that equation (Min. S x Max. T), for the quanta of space, Min. T x Max. S for the quanta of frequency, or minimal cyclical bit of information.

So for example the inverse, $f=1/T$ of a long duration in time, will be its short quanta. The inverse of a population, taken as a whole, 1, $1/n$ will be a scalar space quanta. So all systems have *an infinitesimal, which is a cut-off limit, NOT really an 'infinitely small' (an error of the continuous dogma of the axiomatic method), but a 'finitesimal'. So we can obtain through a derivative a finitesimal unit of time, space or scale, a minimal action, a minimal point-volume or a minimal cellular quanta.*

And for that reason we can approach finitesimals with 'differentials', which become the minimal 'lineal steps' of a long curve. And for that reason we can use 'affine functions in space' and lineal approximations, as by definition the shortest path between two points is a line, and so in a discontinuous Universe of Stœps, quanta are minimal lineal units; minimal fractal points of a population or a whole.

It is a complete overhauling of the dogmatic attempts to prove the 'hypothesis of the continuum', but it is not my fault that humans are so off-track with the reality of the Universe as it is, not as their ego tries to impose.

The minimal quanta of Δ -1 space and time. Chains of Dimotions expressed as chains of equations.

Derivatives are the essential quantitative minimal action absorbed by any Tœ, (ab. space-time organism).

Integrals then sum a minimal derivative quanta in space or a minimal action in time for any being in existence.

They are best for spatial growth of information as the 3 st-ages or st-ates of the being through its world cycle of existence, *have discontinuities or changes of phase that cannot be integrated. Hence time sequences are better studied with existential algebra. Further on sequences can be come more complex, if we consider tridimensional actions as combinations of S and T states, stt, tst, tss, sss which is the origin among other things of the $3!=6$ variations of species according to hierarchy on its physiological networks studied in trinity.*

Further on, and this will constantly be the limit of mathematical analysis of reality, we should stress once more than the larger more complex actions of gender reproduction and social evolution are qualitative, taking place both in longer time spans and longer spatial surfaces – hence better described with qualitative logic languages.

So existential algebra studies in depth the qualitative connection of the a,e,i,o,u actions between Planes. That qualitative analysis at the larger scale and for sequences that imply changes of state cannot be overlooked and require the approach of existential algebra.

And calculus is its mathematical, analytic development (quantitative understanding of 1st second and 3rd derivatives - extracting '1,2,3 Dimotions' from the invisible gravitational, light space-time or feeding Planes.

The limit of calculus however is bridged by the fact that the other families of social operands (\pm , $x \div$, x^a) can reflect better the 'social re-product-ive actions'.

So another duality way to differentiate algebraic operands is to consider that classic polynomial operands mirror social complex actions, and calculus operands reflect better also in 'trinity scales' (3 first derivatives or ternary integrals) the simplex actions. Each Operand specializes in one Dimotion (angular sine/cosine in Perception, \pm in back and forth locomotions, $x \div$ in complementary and social evolution, $\log x^a$ in reproduction) and OVER all of them a new Plane of existence is accessed by analysis. So operands guide the mathematical equations through a vital process of stæps (stops and steps) and will allow us to 'vitalize' equations, as we have done with points with 'numerical parts' as the essence of a mathematical T.œ

$\sim \mathcal{E}$ thus sets a limited number of logic propositions that can happen when a system or group of T.œs interact through its 5 Dimotions, as an point of view, can potentially change its state between those 5 Dimotions, and the limits of its function of existence, such as the being can only exists without permanent disruption of its 'vital constants', (conserved energy, angular and lineal momenta - energy and membrain). All systems can exist with the infinite cut-off limits of space (membrain) and time (death), which are set as part of the fractal Universe. Only the whole if potential or real in existence can be talked off as a function of infinity but not perceived.

So a point will start any of the 5 Dimotions and we need formal symbols to address the Dimotion of any being in existence, and the states of switch between Dimotions.

Does the being stop before switching Dimotion? If so it would simple to establish then for each sequential steps of a being:

$\Delta_j \mathcal{D}1,3,2,4,3,\dots$ and so on as a simple 5 letter process of the actions of a being (whereas 4D entropy refers to feedings not dean, only in it final state being 'that entropy'... So we know all sequential of a being ends in 4D.

Can then we run a sequential for any species through its life as a complete deterministic sequence?

There is there the sequence of all sequences, the perfect worldcycle=life sequence?

Questions those for advanced existential algebra.

RECAP. Actions in timespace are the main finitesimal part of reality, its quantity of time or space. In pentalogic operands mirror as actions the 5D vowels (a,e,i,o,u) that define the five dimotions of existence. In calculus they first extract the minimal timespace quanta of the actions of the being, integrating them across a population of space or a length of time. Thus actions vitalize the operands of calculus, relating them to existential algebra.

The fantasy of the continuum substitutes the reality of discontinuous sum.

The age of calculus represents a great advance over simpler polynomial operands and statistical \approx T-probabilistic methods of studying, the parts and wholes of a system; and its S=T interaction between its spatial form and temporal motions; as it differentiated by studying the change of each of the previous 5 Dimotional operands of algebra, all modes of change=time natural to any system of the Universe – as the best mathematical language that mirrors them.

This duality of Δ -scales and S=T dimotions represented in algebra by numerical systems and operands was studied in a bulk manner with polynomials and S-tatistics=T-probabilistic methods that appeared first, using inverse scalar operands on the ladder of 3 scales of numbers, the sum, the product and different exponentials and inverse roots and logarithms - which reduced the range of exponentials to the 3 scales that matter to the

Universe, the \log_{10} or social evolution of triads into $3 \times 3 + 1$ new decametric scales, the exponential \ln of maximal growth or death=decay and the \log_2 or 'power set' of all parts of a whole.

Probability showed in time (frequency events) or space (statistical populations) that events were not perfect, but accumulated errors in its reproduction, shaping a normal distribution often converted into an entropic population of disconnected individuals forming herds or events that withered away due to those errors of reproduction, when trying to reproduce the perfect mean; *to form an identical statistical 'boson' species, a perfect form that transcended scale – a feat of becoming a whole $\Delta+1$ that was only achieved in Dirac's distributions by immortal point-particles or resonances that amplified the perfect information of \sum finitesimal 0 's to become the whole $\Delta+1$.*

But what about all the range of variations between the entropic Gauss curve and the Dirac perfection? All the different specific actions of species acting in holographic Ts, ST, St dimotions that were neither perfect resonances of evolving form, or disaggregated herds of entropic aleatory motions?

This required to calculate the finitesimal form of change=time of each specific dimotion of the Universe mirrored by each specific operand, and add a given number of 'stœps' that measured the repetition of such minimal dimotions of a $t.\infty$ in a given length of time or volume of space to get the outcome of an existential dimotion.

Thus by calculating each finitesimal and then integrate it through the entire interval in space, time or scale in which it was performed, calculus gets a more accurate depiction of the whole event, no longer an entropic aleatory change, but a purposeful action. And because both derivatives and integrals could be done in space, time or scale, all the range of possible variations, could be studied, regardless of complexity, from changes of time, to variations in space represented as $0'$ actions =, $\delta \rightarrow 0'$; happening in minimal time (Lagrangians)...

The detail and specification reached by the finitesimal of an specific dimotion=operand of time=change; either angular perception – \sin/\cos ; social evolution, \pm ; re=production or locomotion as reproduction of information, $x\div$; entropic decay and growth, e^x , made calculus the queen of all operands, almost a magic tool, as its foundations were ignored.

Mathematicians unable to understand time=change invented the concept of limit and the continuum to form a pedantic scaffolding of axiomatic truths which had nothing to do with the reality of calculus. So we have to clarify that concept. As all is perception a continuum is merely a sum of discontinuous stœps in which part of the whole process is hidden by the selection of information by a mental space. So the fantasy of the 'continuum' can be reached when the detail of each stœp is ignored, and we obtain only the measure of a relative infinity, ∞ , of such steps summoned up, \int , to calculate the whole change in the long time period, T, or total domain studied. And that is fine, as long as we understand that in detail the continuum is made of a sum of discontinuous stœps of change, we call finitesimals.

In a process of calculus thus the sum is 'smoothed', eliminating the 'stop' states, by reducing to the minimal $0'$ the size or rate of change, so they cannot be seen in detail but can be 'integrated' in a long period of time, obtaining a meaningful result for the $\Delta 0$ scale of the experimenter, which only went down to $\Delta-1$ to be able to calculate with accuracy $\sum \Delta-1 = \Delta^0$ - the emergence of change in the size scale of the experimenter.

So in the same way we care little for the $\Delta-1 < \Delta 0$ stage of the seminal reproductive fetus – to the point humans have the right to 'murder' it, as long as it is not an emergent child, the observer cares little for the finitesimal, indifferent to him. And yet imprescindible for the whole to be=come.

This 'goal oriented' view of Nature is common to most beings; hence calculus became a much better method that discrete probabilities of change. Since the cumbersome reality of each stop and step of a dimotion that had to be analyzed in each individual stœp as it happens in the $\Delta-1$ reality could be simplified to facilitate the study of changes through a longer period of time.

So calculus was enormously advantageous to calculate long stretches of time periods and space volumes at the human scale with minimal loss of detail, providing that the philosophy of reality made of stops and steps was not forgotten. Or else we would enter into an idealization of reality confusing the mathematical mirror with the

Universe as it is. But that was precisely what it happened. Since the essential error of all minds is to confuse the Universe they don't fully perceive with the mind that reduces it.

So the wrong creationist solution was taken as truth, obscuring our understanding of the principles of reality. So pundits of calculus ignored the nature of finitesimals of change, and its small stop and motion, $S < T > S$ beats.

So when you study calculus they apologize for reality as it is - a series of thin steps and stops, of small finitesimals to add. And consider discontinuity – the real broken space-time an approximation to idealist simplification of a continuous graph that loses information about each finitesimal step. Instead the artifact, the continuous function is considered the truth and reality a method to reach the ideal truth.

As the graph of Descartes, the artifact, became the nature of space and time, the substances of which we are all made. And suddenly humans were not longer made of cyclical time and fractal space, broken by the limit of a membrane, but God had drawn a Cartesian graph below as background absolute Newtonian linear spacetime – something most scientists still believe due to creationist mathematics, and the egocentric paradox that confuses the mind language with reality itself; the simplification of calculus that smoothed the finitesimals became reality.

Fact is h finitesimals are real, and never reach a 0 that doesn't exist as horror vacuum works, and so mathematicians should teach reality and then acknowledge that the experimental language of mathematics simplifies that reality; and that is Ok for practical reasons. Not the other way around.

When I was a wonderkid before high school I had a math professor who came one day worried about the fact he had to explain us the 'limit' of $h \rightarrow 0$ and thought his students wouldn't understand. Of course students never understand a dot of it, just memorize and say they understand. *But I understood it was all wrong. Thus he ended up throwing me out of the class (: when I told him, the limit can never reach 0. Since if nothing exists, there is no way to define it, hence calculate it. Nothing might be anything. Only if something is no longer zero but leaves a trace we can define it. So I told him undefined things should not be the realm of an 'exact' science. That blew him away and having no answer he resorted to authority (: So I was kicked out as I wouldn't ever yield to authority but reason. It was my first realization that when humans don't understand something or something is wrong but they want it anyway they put up a dogma, a postulate, a pedantic definition or 'self-evident axiom' (:*

Fact is if $h \rightarrow 0$ makes an equation undefined, h must stop before it loses the quality of the whole – hence h is the last atom, last cell, last frequency, last temperature vibration.

As he just ignored me with the pretentious authority of an old man who doesn't see an elephant in the drawing of a hat, le petit prince has to search for himself. Which is what I have always done. So the question is where to stop a finitesimal portion. And the answer is as we said, before it becomes random, indifferent.

For example e is defined as $(1+1/n)^n$. Yet if n is ∞ , the parenthesis is $1+0.0000000...$ up to infinity. And those are undefined limits of reality.

Physicists at least acknowledge physical laws are idealizations of reality and that is Ok (even if they deny non-mathematical properties that 'cannot be measured as the organic and sentient properties of particles, the units of life). So their egocentric paradox is a bit different from that of mathematicians with its axiomatic truths.

Still more profound mathematicians do understand a continuous function as one in which $S=T$ happens, so the X and Y coordinates do not make very different changes, and steps of 'present' can be put one after another. Or as Leonardo said: "The instant does not have time; time is made from the movement of the instant. In rivers, the water that you touch is the last of what has passed, and the first of that which comes. So with time present. Observe the light. Blink your eye and look at it again. That which you see was not there at first, and that which was there is no more."

As the second, the glimpse of an eye is the quanta of human present, there is always for all timespaces a quanta we shall call an instant of time-present or a finitesimal of populations.

And when the ratio of change in time, its quanta, is balanced to the minimal form of space it change, so in an $S=T$ graph each point-position-stop of the moving-step function is close, with a 'tangent angle, s/t ' that can be smoothed in a series... the sum of discontinuous steps of a dimotion, can be measured as a continuous, larger step of space-time of a larger $\Delta+1$ scale.

Thus continuity is not the limit in which $h \rightarrow 0$, but the limit in which $S \approx T$... and hence an instant of present change that is harmonious between the S and T components of the being that doesn't change internally but only externally (as $S=T$ remains unchanged) takes place.

This has deep implications, as it implies that the system is continuous because it lasts, and it lasts because its 'actions' tend to zero internal change, becoming conserved cycles of energy for the inner structure of the being. Changes thus are always 'returning to balance'. And when change is extreme, as in an internal x external TT -entropic change, the system collapses, the 'tangent' tends to zero or infinite in the $Y(s)$ or $X(t)$ axis and the 'function ends'. Which implies that calculus works on the St , ST and Ts dimotions of locomotion, information and energy=reproduction, NOT on SS -form with no change or TT -absolute change with no form.

For example, the first dimotion to calculate as change was the space traversed by a system which in detail is just a series of steps, which add to the space traversed, $\lambda(s) \times f(t)=S$. This give us a lot of detail in numerical approximations if we further break it to a sum of steps, $\sum \lambda(s_i) \times \sum f(t_e)=S$.

So the more information we want, the more detailed the discontinuity becomes, till we can indeed add each 'fractal step' with all the information, length and time duration of each step. But we don't want that much information, so we can simplify with 'statistical means' since as we have seen in statistics, the law of great numbers bring a mean for each step and that is the justification of simplifying into continuity – NOT the non experimental idealist, mind-generated, creationist hypothesis of the continuum.

So it is fine to be humble and marvel at the fact we can 'transcend' the $\Delta-1$ finitesimal scale, into parameters of the whole by making indifferent the information at $\Delta-1$ through statistical methods that average each step, erasing the unneeded information on each stop (when the motion touches the floor, or the mover looks and gathers information). But when trying to understanding paradoxes such as the speed of light constancy, as each electron emits light in a relative entangled stop position to the perceiver that measures its speed, hence in a stop distance, (Lorentz transformations) it is good to know that there is no magic on it. And the 'idealized' form is the mathematical transformation that eliminates the stop state of the electron for a continuous motion we do NOT observe in Nature (the electron is always observed as a stop particle when emitting light, and moves in zig-zag as if it were all the time calculating its trajectory in a stop position).

The methods of calculus are awesome and once we realize the cruelty of the Universe that cares nothing for the differences between the indifferent finitesimals of a mass-group herded and ruled by the $\Delta 0$ larger scale by mass-methods, including humans as we show in the models of history and economics herded today by financiers with credit ratios established by anonymous big data computers, herded by politicians with equalizing laws for each 'social class', herded by military as soldiers or numbers of a concentration camp... and past over the thought that each atom might be a galaxy of its own, and dare to explode it in an accelerator with other atom, which might on the microscopic scale provoke the biggest genocide of infinite relative planets, and connect with the Tao and feel just to be, $\Delta @st$, which matters nothing and worship the jovic of GoDoG the inverse Dimotions of existence, we can rest in peace, R.I.P. as dust of space time that dust shall become. And so calculus...

The methods then are well known and we cannot but make a few comments beyond the philosophy of its science, which is the main purpose of 5D mathematics in this simplified texts. We just need to calculate a finitesimal, which was the first thing discovered in the '1st age of calculus' and summon them up to get the whole, which was first done as in reality, with the exhaustion method by the Greeks.

Yet the finitesimal $0'$ in itself is important as it give us information about the rate of change with a single number, the tangent to the curve. Since we can apply to curvature in space its synonymous in time – speed – when we realize that $s=T$ means in terms of curves the curve's tangent representing the 'speed of change' S/T of the function. Further on as $SxT=C$, means that the smaller space is faster in time cycles, the more curved a

cycle is the smaller it becomes and the faster it moves (vortex equation, acceleration principle in Relativity over a curved space). So we also realize, the second tangent of the curve is the acceleration of change, y'' , increased as the system curves further.

Many more wonders then kept appearing in calculus as we play with $S=T$, $SxT=C$ 5 Metric laws, and see them through calculus; specially considering that most curves are the functions of existence of an event between its O' points of initial and final conditions. And so what we shall do in this brief introduction to 5D calculus is to highlight for the seemingly most simple equations of calculus the underlying insights they provide on the processes of time change of the 5 Dimotions of the Universe.

We shall do it in a historic, easier to understand narration, as indeed, the first thing a language sees is 'space', and 'reality as it is' in its simpler terms. So the first age of calculus was that of the search for finitesimals both in praxis and meaning, wrongly resolved in favor of the concept of absolute zero and limit, then mathematicians erased unneeded information on those finitesimal steps and stops establishing the method of tangents and continuous sums, \int , and then applied those functions of breaking a whole into parts to re-build it to specification to the different dimotional operands from the sin to the exponential of maximal change, marveling that the limit of change per unit of frequency time was the change of the whole, that is the equation of death in which the whole dissolves into its parts in a single quanta of time, the negative exponential so ever pervading in studies of entropic death. Of course they understood none of it – they still don't, but the method worked to mirror the dimotions of reality, which they neither understood in an orderly manner. So calculus became magic. And as it got more complex, as the Universe does by repetitions, transformations, scaling into more complex 'packages' of parts, to the point that I could say, as Einstein put it – I don't understand relativity since mathematicians got into it (: I don't understand calculus since mathematicians got to it :) . That is calculus today is so complicated in its more powerful and detailed analysis that only a computer can calculate its results. Which ultimately try to anticipate the future of change in a synoptic manner by transforming sequential patterns of change into parallel simultaneous spatial components (multiple variables in PDEs), happening in multiple points of view at the same time, to gather into a whole result, which is still impossible for the most intelligent, liquid states of multiple changes (Navier stokes equations) unless you trick it with a faster digital mind, which will do those calculus for the slower humind, jumping as we always do past the intermediate sequential steps from beginning to end.

The proper concept for finitesimals. Reproductive unit of change.

The great advance of calculus in the understanding of ΔST changes is the concept of a finitesimal of change, h , which in the symmetry between scales, populations in space and time frequencies has the same role: to increase a 'seminal' unit, the system (or decrease in inverse fashion), becoming the Unit of reproduction of an Δst system, at a point in which $s=T$.

In the Universe the fundamental form of change happens when $S=T$, the function of present time finds a balance and symmetry in scale form and motion that triggers the reproduction of the system and its 3 parameters.

Latter we will study, the simplest case of polynomial reproduction, whereas an X^2 has as unit of change, $2x$; which means the square grows through both sides reproducing its form, in ' $s=t$ ' balance, in a manner that the square preserves its form.

The method of calculus.

How differential equations show us the different actions of the Universe?

The correspondence to establish is between the final result, the action, and the finitesimal quantas, the system has absorbed to perform the action, $\int \partial x$, such as: $\dot{a} = \int \partial x$, whereas x is a quanta of time or space used by $\Delta \emptyset$, through the action, \dot{a} to perform an event of acceleration, energy feeding, information, offspring reproduction or universal social evolution.

It is then when we can establish how calculus operations are performed to achieve each type of actions.

First we notice that the space between the actor and the observable quanta is relative, so even if there are multiple Δ -planes between them the actor will treat the quanta as a direct finitesimal, pixel, bit, or bite which it then will integrate with a polynomial derivative or sinusoidal function that reflects the changes produced.

We will consider in this introductory course only a few of the finitesimal $\int \partial$ actions where the space state is provided by the integral and the ∂ finitesimal action by the derivative.

Derivatives point out to *the main consequence of the sum of those actions in any being in existence, namely the fact that its sums tend to favor growth of information on the being and then signal the 3 st-ages and/or states of the being through its world cycle of existence, which in its simplest physical equations is the origin of... the maximal and minimal points of a well-behaved function.*

So to establish the action - the final result – we have to isolate the finitesimal quanta/moment of spacetime the system has absorbed to perform the action, ∂x , and integrate them over a surface of space or a length of time, such as: $\dot{a} = \int \partial x$, whereas x is a moment/quanta of time or space used in repeated frequencies or quantities, $\int \partial x$, by $\Delta \emptyset$, through the action, \dot{a} to perform an event of acceleration, e-nergy feeding, information, offspring reproduction or universal social evolution.

We can then establish which operand is best suit to perform each type of actions. I.e. the action of reproduction, most often is expressed for quantitative simple physical systems through the operation of re=product-ion.

We ascribe each operand to a single dimotion, but they are 'once more' entangled operations, which besides its preferential Dimotion, do participate of all the others - remember languages as mirrors of reality have also the same entangled properties of the pentalogic, $\neg \Delta @ ST$ universe, looking at all its elements. So we shall now analyze them in more depth.

We establish direct relationships of operands and actions- taking into account that for each operand we must also distinguish the dualities of 'space-like integral of volumes and its derivative quanta' and 'time-like moments of motions and its frequency sum to complete a o-sum worldcycle'. And to achieve those balanced 0' sums finally we need to define inverse operations for all actions. So we depart from a ceteris paribus analysis and search for a finitesimal, and then we must study how they merge and entangle in space and time. This is done generally speaking, with a *first partial derivative in space or time (PDE) defines those dimotions only as S or T, while the integral of double derivatives put both processes together, to find the whole action:*
 $\dot{a}(st) = \iint dsdt$

However as all planes of existence have discontinuities beyond its minimal quanta and larger whole, analysis through multiple Planes beyond those of $\Delta \emptyset \ll \Sigma \Delta - 1$ entropic death, tend to be distorted.

Still they can be studied with power polynomials and further approached (Taylor series) with $\int \partial$ operators that cross planes of existence for certain highly symmetric actions across.

But again it is best to use existential algebra, as the fundamental limit of the mathematical language is one of synthetic understanding of the organic vital laws of the Universe, reason why theories that are only mathematical in the largest scales and do NOT understand that there are not equations that go to infinity, as all have a limit that brings a change of state, such as the big-bang theory of the universe, are false.

Reason why systems do have besides spatial mental spaces of 'calculus', a long-time range language of logic nature to express the vital games of worldcycles, and this is the function of existential algebra, we study first to then consider the basics of Calculus.

Finally in this brief introduction to notice a 'revealing' fact of the inversion between finitesimals and integrals. As the absolute arrow of time-future is social evolution of parts into wholes, while a function has *only a derivative, that is, all molecules can be reduced to a set of atoms; all living beings to the cell; the opposite is not truth: creation of complex futures is multiple. So an integral has a C variational constant and a differential equation multiple solutions: the future is open, the past is only one.*

Its 3 ages

The underlying order of all structures of the entangled Universe between its S, T and Δ Components once more shows in the 3 ages of calculus, which we can terms as the scalar age, when the main question was that between parts and wholes (from Greece through Newton), the temporal age when its main focus was the description of the 5 Dimotions of physical systems (from Leibniz to Heaviside) and finally the spatial view, when its main focus is, besides the completion of the previous ages, its use to the description of mental spaces (from Gauss through Riemann and Hilbert to Einstein and quantum spaces).

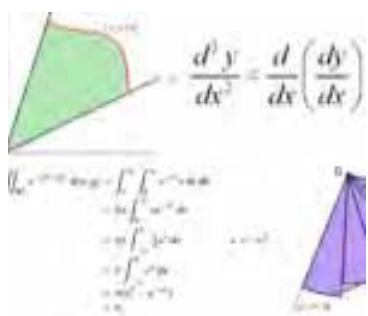
RECAP. Analysis studies the finitesimal quanta of time, space and scale; NO ∞ in its smallness – an error of the mind Px. searching for continuity. A true philosophy of calculus thus deals with the meaning of ‘finitesimals’ in space, time and scale, as a first ‘seed’ of a ‘clone species’ multiplies, creating the regularities of ‘social numbers’ that make ‘analysis’ to work its ‘magic. Integrals in inverse fashion act after ‘calculating’ this minimal point, often as a ‘lineal shortest step’ (differentials), to reach the final ‘whole value’ of the system. The beauty of the field revealing the nature of dimotions and its wide applications, thus will require an entire II book on 5D mathematics, which should r=evolve the discipline.

Thus *only the integral and derivative can study all those dimotions of space-time, hence they are the king and queen of the operators of –Algebra, reason why analysis is so extended.*

Below, Analysis’ multiple perspectives on the 5 Dimotions= functions of existence & 5 simultaneous structural elements, –Δ@S≈T, that conform all systems in time and space. So 3±Di points of view (trinity or pentalogic) finds a higher truth & applies to all languages mirroring reality as analysis does:

S-topology: *Analysis is used to study (left) structurally the role of the 3 elements of a topologic spatial superorganism: Its membrane’s curvature and tangential value (line integrals), its vital space (surface integrals) and singularity (derivatives).*

Δ-Planes: *Its inverse operands study 5D Planes: derivative measure the value of 1 of its infinitesimal ‘cells’. Integrals give us its internal volume of **spatial energy**. While double derivatives peers down 2 Δ±1 planes*



@: *We extract information on its central @-singularity, which commands the lineal motion of the whole system.*

Time-cycles: *it can model the standing points, maximal and minimal, which signal the changes between ages, where the derivatives, become null, as the ‘world cycle of existence’ changes its ‘phase’.*

CALCULUS ON TIME: THE FUNCTION OF EXISTENCE.

Since I haven’t told you this one thousand one night-mare times (: the function of existence is all. You are a repetitive fractal of space-time and your purpose is to exist, to conserve your time, but your time is just the form of information, your vital space, reproduced in all the scales that rise from the bottom line of your gravitational and light spacetime, going upwards into scales. Reproduction is the game. But the worldcycle makes errors in the reproduction of your i-logon and those errors that are statistically seen in space as a normal distribution, in time as a repetitive sequence of actions and events slowly wear you down, and as errors of copying information repeat and accumulate your function of existence looses freshness and you age.

So because each stœp of your existence you repeat your sequential actions each derivative is one of such stœps a zig zag up information right motion, up information right motion, whose tangent is the derivative of each quanta of your time. All this said then we can study the worldcycle with calculus. In fact is the best way to study the worldcycle with calculus, in the orthogonal graph of information and motion, information and motion, stop and step, particle and wave state, up and right up and right, as you age, first rising fast young and bold, reaching higher accelerations in your second derivative, as space is time, the curve represents in its form of space, its motion of time, and that is your first derivative, seeking a standing point of constant speed but that is not possible because speed is reproduction and you reproduce your form, with lesser skill past the prime time of your standing point the maximal and minimum no far before, no long ahead.

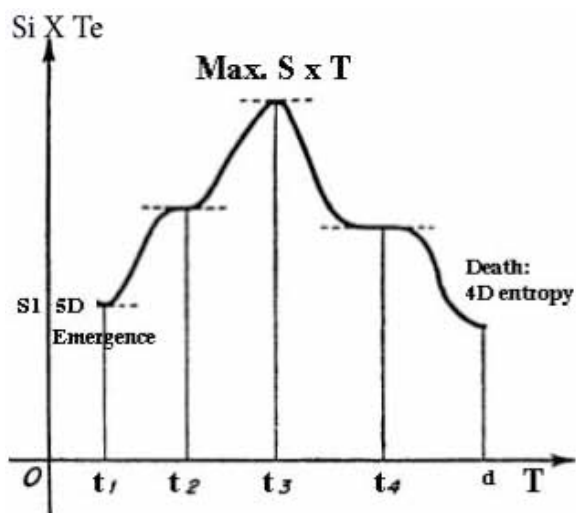
The importance of the 3 standing points of calculus comes from the fact that every event of reality, every partial dimotion can be modeled with 3 ages as a partial worldcycle. As all of them will have a beginning of motion a standing maximal point and an end closing a zero sum. It is the science of calculus, which studies those partial modes of change.

Of course it is required to make an in-depth analysis of each main equation of calculus to interpret them properly in terms of existential algebra, which time permitted we shall do in future papers as we expand 5D sciences at academia.edu... It is then possible to consider different type of 'equations'. Those where we have a constant standing point, or continuity and speed equations where the function tries to preserve ad maximal its $S=T$ state of present – the commonest of them all. Other functions which are sandwiched between 'limits of the domain', where the function becomes undefined, disordered, enters a state of entropy; back to the past. Or functions such as forces as accelerated vortices of time, which move the function towards an informative future of maximal form.

Thus a key theme of vital mathematics is the representation of any even in its lineal time duration, with an $Y(ST)$ series of parameters for specific dimotions, and operands, making most repetitive equations of sciences representations of a partial event of the function of existence; often, with \pm exponentials for growth & its inverse, logarithmic curve when growth is halted around the key points of change of phase... as growth of 'entropy-motion' diminishes. So we move from 'adolescence' of max. growth of both parameters (sT energy and sT information) to the $y''=0$ point of youth, where the logarithmic part grows slower. Together they form, one half of the total graph of a cycle of existence, till reaching the $y'=0$ point of Max. ($S \geq T$), which then becomes negative, happening a decay of the whole system in two negative curves.

The conservation of time in its 5 $y' \wedge y'' = 0$, standing points that define the 5 SS, Ts, ST, St & TT moments of generation, youth, maturity, 3rd age and entropic death thus become the essential points (maximal and minimal) of the equations of calculus, the sinusoidal function of existence and all its derived elements.

Let us suppose that on a certain interval $a \leq t \leq b$ we are given a function $S = f(t)$ which is not only continuous but also has a derivative at every point. Our ability to calculate the derivative enables us to form a clear picture of the graph of the function. On an interval on which the derivative is always positive the tangent to the graph will be directed upward. On such an interval the function will increase; that is, to a greater value of t will correspond a greater value of $f(t)$. On the other hand, on an interval where the derivative is always negative, the function will decrease; the graph will run downward.



We have drawn the graph of an $\Delta s t$ function of the general form, S (any dimension of a whole world cycle or $T.CE$) = $f(T)$ - Any time motion or action.

It is defined on the interval between a minimal quanta in space or time (t_1) and its limit as a function (d).

And it can represent any $S=T$ duality, or more complex $5Ds=5Dt$ forms or simpler ones. We can also change the s and t coordinates according to the Galilean paradox, etc. Hence the ginormous numbers of applications, but essentially it will define a process of change in space-time between the emergence of the phenomena at ST_1 AND ITS DEATH mostly by scattering and entropic dissolution of form at d .

And in most cases will have a bell curved from of fast growth after emergence in its first age of maximal motion (youth, 1D) till a maximal point where it often will reproduce into a discontinuous parallel form (not shown in the graph at Max. $S \times$ Max. T ; which will provoke its loss of energy and start its diminution till its extinction at point d).

Thus the best way to express quantitatively in terms of S-T parameters (mostly information and energy), for any world cycle of any time-space super organism is a curve where we can find those key standing points in which a *change of age, st-ate or motion happens*.

Of a special interest thus are the points of this graph whose abscissas are $t_{1,2,3,4,5}$.

At the point t_0 the function $f(t)$ is said to have a local maximum; by this we mean that at this point $f(t)$ is greater than at neighboring points; more precisely for every t in a certain interval around the point x_0 . A local minimum is defined analogously. For our function a local maximum occurs at the points t_0 and t_3 , and a local minimum at the point t_1 .

At every maximum or minimum point, if it is inside the interval $[a, b]$, i.e., if it does not coincide with one of the end points a or b , the derivative must be equal to zeroth.

This last statement, a very important one, follows immediately from the definition of the derivative as the limit of the ratio $\Delta S/\Delta T$. In fact, if we move a short distance from the maximum point, then $\Delta S \leq 0$.

Thus for positive ΔT the ratio $\Delta S/\Delta T$ is non-positive, and for negative ΔT the ratio $\Delta S/\Delta T$ is nonnegative. The limit of this ratio, which exists by hypothesis, can therefore be neither positive nor negative and there remains only the possibility that it is zeroth.

By inspection of the diagram it is seen that this means that at maximum or minimum points (it is customary to leave out the word "local," although it is understood) the tangent to the graph is horizontal.

At the points t_2 , and t_4 also the tangent is horizontal, just as it is at the points t_1 , t_3 , although at these points the function has neither maximum nor minimum. In general, there may be more points at which the derivative of the function is equal to zeroth (stationary points) than there are maximum or minimum points.

One of the simplest and most important applications of the derivative in that sense is in the theory of maxima and minima.

Criteria for maxima and minima; study of the graphs of curves.

If throughout the whole interval over which x varies the curve is convex upward and if at a certain point x_0 of this interval the derivative is equal to zeroth, then at this point the function necessarily attains its maximum; and its minimum in the case of convexity downward. This simple consideration often allows us, after finding a point at which the derivative is equal to zeroth, to decide thereupon whether at this point the function has a local maximum or minimum.

Now, the apparently equal nature on a first derivative of the minimal and maximal points of a being, have also deep philosophical implications, as it makes at 'first sight' indistinguishable often the processes of 'reproductive expansion' towards a maximal and explosive decay into death, the 'two reversal' points of the 5D (maximal) and 4D (minimal) states of a cycle of existence, for which we have to make a second assessment (second derivative) to know if we are in the point of maximal life (5D) or maximal death (4D) of a world cycle. And to know if the cycle will cease in a continuous flat encephalogram or will restart a new upwards trend.

Or in other words is any scalar, $e^{cc>m}$ big-bang both the death and the birth of matter?

Finitesimal Quanta, as the limit of populations in space and the minimal action in time.

So there is behind the duality between the concept of limits and differentials (Newton's vs. Leibniz's approach), the concept of a minimal quanta in space or in time, which has been hardly explored by classic mathematics in its experimental meaning but will be the key to understand 'Planckton' (H-planck constants) and its role in the vital physics of atomic Planes.

It is then essential to the workings of the Universe to fully grasp the relationship between Planes and analysis. Both in the down direction of derivatives and the up dimension of integrals; in its parallelism with polynomials, which rise dimensional Planes of a system in a different 'more lineal social inter planar way'.

So polynomials and limits are what –Algebra is to calculus; space to time and lineal –Algebra to curved geometries.

The vital interpretation though of that amazing growth of polynomials is far scarier.

Power laws by the very fact of 'being lineal', and maximise the growth of a function ARE NOT REAL in the positive sense of infinite growth, a fantasy only taken seriously by our economists of greed and infinite usury debt interest... where the e^x exponential function first appeared.

The fact is that in reality such exponentials only portrair the decay destruction of a mass of cellular/atomic beings already created by the much smaller processes of 're=product-ion' which is the second dimension mostly operated with multiplication (of scalars or anti commutative cross vectors).

So the third dimension of operands is a backwards motion - a lineal motion into death, because it only reverses the growth of sums and multiplications polynomials makes sense of its properties.

Let us then see how the operations mimic the five dimensions, beyond the simplest ST, SS and TT steps, namely reproductive and 4D-5D inverted arrows.

We can establish as the main parameter of the singularity, its time frequency, which will be synchronised to the rotary motion or angular momentum of the cyclical membrane. They will appear as the **initial conditions and boundary conditions** of a derivative/integral function, which often will be able to define the values of the vital energy within, as the law of superposition should work between the 3 elements, such as:

Determination of the greatest and least values of a function.

In numerous technical questions it is necessary to find the point t at which a given function $f(t)$ attains its greatest or its least value on a given interval.

In case we are interested in the greatest value, we must find x_0 on the interval $[a, b]$ for which among all x on $[a, b]$ the inequality $f(x_0) \geq f(x)$ is fulfilled.

But now the fundamental question arises, whether in general there exists such a point. By the methods of modern analysis it is possible to prove the following existence theorem:

If the function $f(t)$ is continuous on a finite interval, then there exists at least one point on the interval for which the function attains its maximum (minimum) value on the interval $[a, b]$.

From what has been said already, it follows that these maximum or minimum points must be sought among the "stationary" points. This fact is the basis for the following well-known method for finding maxima and minima.

First we find the derivative of $f(t)$ and then solve the equation obtained by setting it equal to zeroth.

If t_1, t_2, \dots, t_n , are the roots of this equation, we then compare the numbers $f(t_1), f(t_2), \dots, f(t_n)$ with one another. Of course, it is necessary to take into account that the maximum or minimum of the function may be found not within the interval but at the end (as is the case with the minimum in figure) or at a point where the function has no derivative.

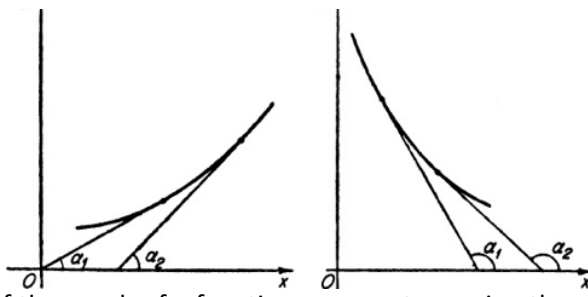
Thus to the points t_1, t_2, \dots, t_n , we must add the ends a and b of the interval and also those points, if they exist, at which there is no derivative. It only remains to compare the values of the function at all these points and to choose among them the greatest or the least.

With respect to the stated existence theorem, it is important to add that this theorem ceases, in general, to hold in the case that the function $f(t)$ is continuous only on the interval (a, b) ; that is, on the set of points x satisfying the inequalities $a < x < b$.

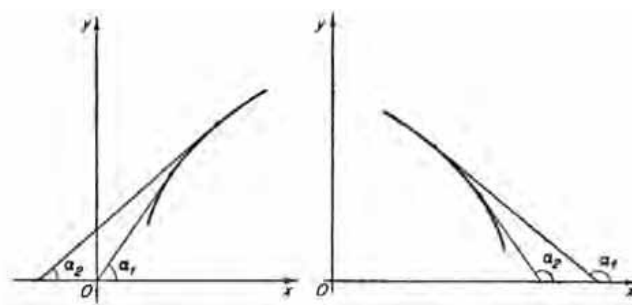
It is then necessary to consider an initial time point and a final time point, birth and death, emergence and extinction to have a determined solution.

Derivatives of higher orders.

We have just seen how, for



a closer study of the graph of a function, we must examine the changes in its derivative $f'(x)$. This derivative is a function of x , so that we may in turn find its derivative.



The derivative of the derivative is called the second derivative and is denoted by $y''=f''(x)$

Analogously, we may calculate the 3rd derivative $y'''=f'''(x)$ or, the derivative of n th order. But as there are not more than 3 'similar derivatives, with meaning' in time (speed, acceleration, jerk) or space (distance, area and volume), beyond the 3rd derivative the use of derivatives is only as an approximation to polynomial equations, whose solvability itself is not possible by radicals beyond the 3rd power.

So it must be kept in mind that, for a certain value of x (or even for all values of x) this sequence may break off at the derivative of some order, say the k th; it may happen that $f^{(k)}(x)$ exists but not $f^{(k+1)}(x)$. Derivatives of arbitrary order are therefore connected to the symmetry between power laws and ∂ operations in the 4th and inverse 5th Dimension, through the Taylor formula. For the moment we confine ourselves to the second and third derivatives for 'real parameters' of the 3 space volumes and time accelerations.

$$s = \frac{gt^2}{2} + v_0t + s_0,$$

$$s' = gt + v_0,$$

$$s'' = g,$$

The second derivative has then as we have seen a simple significance in mechanics. Let $s = f(t)$ be a law of motion along a straight line; then s' is the velocity and s'' is the "velocity of the change in the velocity" or more simply the "acceleration" of the point at time t . For example, for a falling body under the force of gravity: That is, the acceleration of falling bodies is constant.

Significance of the second derivative; convexity and concavity.

The second derivative also has a simple geometric meaning. Just as the sign of the first derivative determines whether the function is increasing or decreasing, so the sign of the second derivative determines the side toward which the graph of the function will be curved; but in terms of *time represents the second derivative of the curve of existence. That no longer accelerates its growth, hence the end of youth, and vice-versa, the moment in which it does accelerate its decay, thus the beginning of the third age.*

So we can consider the same concept in the 'discreet' baguas of life cycles as it is NOT a mere ideal curve but one that do happens in all forms of life. This simple law with deep cases because it is essential to the worldcycle:

Suppose, for example, that on a given interval the second derivative is everywhere positive. Then the first derivative increases and therefore $f'(x) = \tan \alpha$ increases and the angle of inclination of the tangent line itself increases. Thus as we move along the curve it keeps turning constantly to the same side, namely upward, and is thus, as they say, "convex downward." On the other hand, in a part of a curve where the second derivative is constantly negative the graph of the function is convex upward.

Because it is the clear proof of what is all about: reproduction in space of frequencies of time.

The function is more than its equation – A path of existence through the whole plane.

The function of existence is the whole plane divided by the line that must be grown by the non-E method of rising points into curves of motion, which divide an energy information plane in an act for creation with a path in $S=T$, the path of present through squares in which information and energy are orthogonal.

We have found thus the simplest space-time curve, the $S=T$, curve of existence between an integral $1/3^{\text{rd}}$ of the plane in path with a $2/3^{\text{rd}}$ Lébesgue integral so to speak of the external/internal path of the curve.

The curve is thus a point in motion, equivalent to a line of distance, equivalent to a ratio between 2 parts, $2/3^{\text{rds}}$ to the left and $1/3^{\text{rd}}$ to the right. But the beauty of it is that we take from the curve square points.

The minimal reality is a 3D² form seen in a single plane, with a singularity @-mind a membrane and a vital energy within. When we make a holographic broken image of this reality the simplest way to do it is in four cartesian regions, TT, ST, ts, and ss, which correspond to the +1 +1, +1 -1, -1 +1 and -1 -1 quadrants of the plane.

It is then when the Lebesgue inverse function matters to integrate the Y perspective of the S=T symmetry that the function know taken as a topological partition of a vital motion of a wave of similar particles that will collapse t the end of its journey through a plane of the fifth dimension, takes place.

The least path action implies thought that the end of the path taken in the Cartesian but also the imaginary plane collapses in the same point, regardless of how many oaths have been taken in the 'compressed' i-plane where the co-existence of paths in particle space has sunk the plane to a $\sqrt{}$ root value for the dense line that then can be even further reduced to a point that will potentially trace a full s=t, valuing in present time the

space-time dilation of the integrated, $\int_{\text{Inferior limit space}}^{\text{superior limit in time } T_{\infty}} t \text{ interval}$

Conclusion. Mathematics is the best mirror, language but not the only and it does not create reality.

We have thus showed the excellent capacity of Mathematics to reflect space (geometry), scale (algebra) and time motion (calculus) in its 3 fundamental ΔST disciplines. So its 'main scientific branch', mathematical physics, or rather calculus, due to the worldly profession of its practitioners (to make weapons and transport machines of locomotion and entropy) hence obsessed with motion, became the main discipline of modern science. However, mathematics is NOT the language that creates reality, ΔST laws do. And it has the limits of 'calculus' of simultaneous events, minimal time spans, and detailed analysis; of numbers that eliminate qualitative internal organic properties; and so for longer time spans, biological ages and organic properties we do have other languages and better mirrors (existential algebra), specially when dealing with human systems, where our natural language-mirror, wor(l)ds and its ternary past, present, future verbs describe better the causality of time. So as we move now to physics, those limits must be considered to expand physical systems by adding organic and sentient properties to it, and use the higher rank of ΔST laws to correct its errors.

Since you have to see human physics as *a scientific praxis for the study and manipulation of matter, and its creation of machines NOT as a philosophy of science on the whys of the Universe*. It was only in the XX c. when physicists attempted through cosmology and quantum physics and its 3 flawed theories, falsified in our papers on physical sciences (entropic big-bang that dismisses the informative arrow of gravitational forces and dark matter, and Copenhagen interpretation that subverts the causality between mathematics as a language mirror and the ΔST it describes, and constructivism that consider only causality from the smaller scales upwards), when things went wrong with physics and imposed to other sciences its wrong philosophy.

Δ±3: PHYSICAL SCIENCES

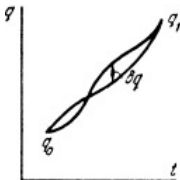
How does the Universe look when we override the Ego paradox and observe it as an absolute relative fractal, whose purpose is to reproduce information and preserve it through 0-sum worldcycles that enact through its infinite Timespace Superorganisms its 5 Dimensional motions of existence? Let us have a fast review of the main fields of physics, to focus on the cosmology of a fractal, organic, immortal Universe of ∞ 0-sum balances.

THE 2 FIELDS OF HUMAN SCALE PHYSICS

When dealing with physics in a future world of science, there should be no difference with any other science of scalar, organic existences.

The principle of conservation of energy would be derived of the principle of conservation of time, and its 3 standing points that maximize conservation, the point of reproduction in balance between temporal energy and spatial information, $S_i = T_e$; and the two maximal points of S_i (Max. social evolution) and T_i . Maximal motion, define the 3 ages of physical organisms, called states in matter, as in any other system of nature. Let us then do so in a brief treatise on Physics on the human scale, which roughly speaking divides according to duality into:

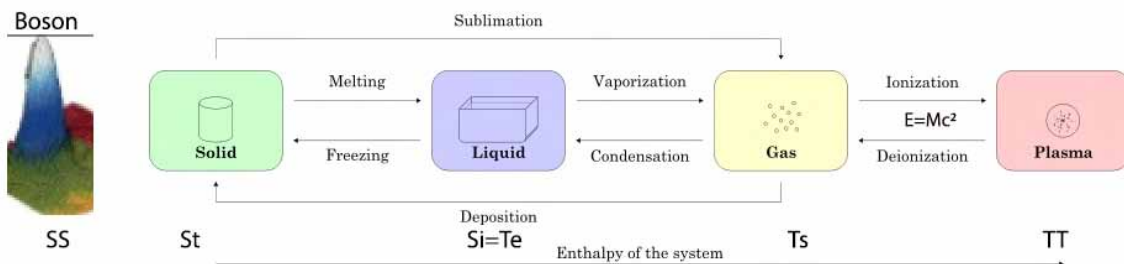
- **Δ+1: Scalar physics:** Mechanics; which are the scalar physics of the outer Human Universe that put mankind, Δ^0 in relationship with the larger forces of Δ+1 cosmic bodies, in our case, planet Earth, through the study of motions in which the conservation of temporal energy is the fundamental principle.



As such the entire field of mechanics can be derived from the principle of conservation of time, which is called the principle of least action.

The mathematical language is then used to calculate the 'finitesimal derivatives or minimal 'motion' possible with a finitesimal change, happening in the minimal quanta of time, for any physical system, $\delta S = 0$ '. And through the sum=integral of those steps, we can deduce the motion of any body.

- **S<=>T: Timespace Physics:** Thermodynamics, which are the scalar physics of the inner human universe of matter, and its 3 ages or 'states', the Entropic T_s -Gaseous state, the ST -liquid reproductive state and the St -solid state; which form the cycles of life and death of matter on Earth from the inner structures of our organism (biochemistry) to the inner structures of the planetary organism (Geology).



Above, the 3±j physical ages that shape the worldcycle of matter: Matter States are physical time ages, from left pure solid, crystal, St stop state, to an even more solid Δ+1 boson condensate, etc. We see that systems either move a step at a time within a plane of existence (gas, liquid, solid) or they can jump « two states at once, (as in the case sublimation) within that plane, or most often between two planes, as in « scattering & entropic death), to become a different Dimotional state. We can then see how the fundamental elements of 5D time appear on the graph: the worldcycle is local and complete. There are 2 inverse arrows from an entropic past (plasma), in a lower plane (ion particles) to the 3 ages of the matter states with increasing form (gas to solid), to end in a higher plane of existence as a boson-Einstein condensate.

The mathematics involved are then those of statistical mechanics (Boltzmann), when we analyze the system as a population in space in the Δ-2 molecular scale, and of thermodynamics (Gibbs) when we study them in terms of bulk amounts of 'indifferent' (inglish for undistinguishable :) particles, which give us the 2 classic formulations of matter states according to the duality of wholes and parts.

THE ERRORS OF PHYSICS: THE 3 STATES=AGES OF MATTER

Simplex Physics: the denial of trinity by Ænthropic Mæn

The first atomic bomb of pure entropy was called trinity, in a mocking of the trinity of religion, the father – history, mankind thy God, the spirit, our language the wor(l)d, the prophet, its cell who receptacle of the memetic message of love that will radiate to other minds to form a supœrganism of mankind, treated elsewhere in our post on history and religion... since physicists believe in monism, entropy=death as the only arrow of time, and by doing so not only loose the comprehension of the superorganisms of mankind – which is not their job, but its true since is to forget the trinity of physics, the 3 states of matter, the 3 solutions to Einstein's functions, because trinity is the minimum to make any sense of reality, even without the pentalogic of parts and wholes, requires to form the 5th dimension. So we need to make a harsh assessment on how the worldly religion of physicists –to make weapons – have handicapped the discipline.

And if we can find explanations in present time and here-space, it is always a higher truth than to consider an explanation in the past or the future time and out-of-here. It is like if we measure your body temperature, at 37 degrees and then a creationist physicist tells you the cause is to be found in a lineal function coming from past, because when you were born 50 years ago you were a few million degrees hotter and you have been cooling down ever since!! When there is a rational explanation, in the metabolic activity, now and here, of your body's main energy cells, blood, and its most numerous red, oxygenated cells.

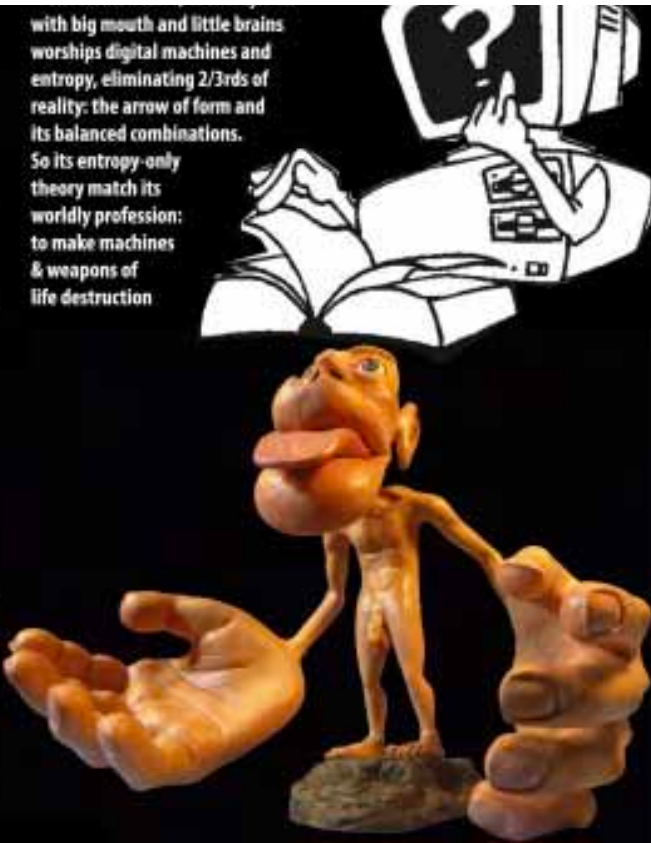
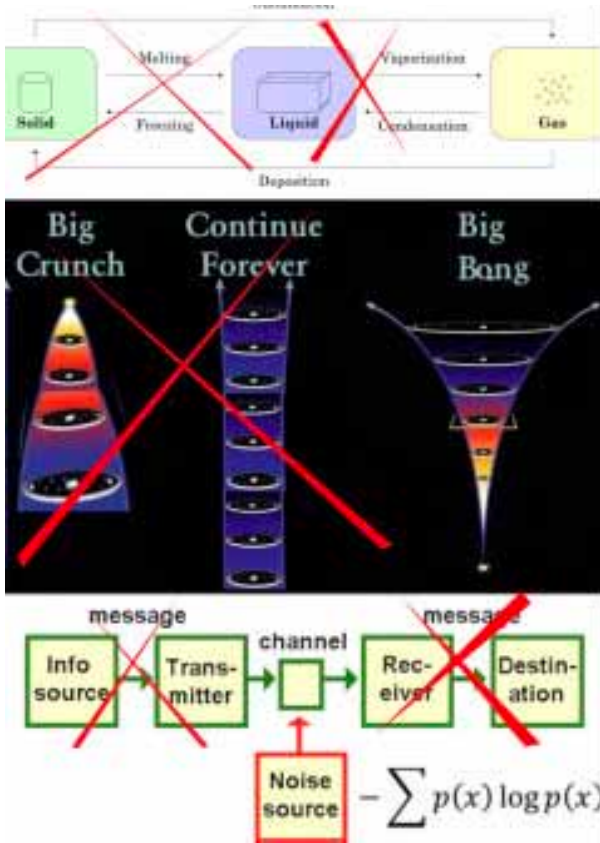
So what is the metabolic process on the galaxy happening now that produces that temperature; what is the blood of the galaxy, its commonest objects? The redshift of moon micro-black holes, feeding on the mass energy of its commonest mass, moon-like planetoids. As the galaxy is indeed about black holes, and so its metabolic activity in its 3 scales IS the natural cause of the Galactic temperature, as we shall see in our study of the 3 scales of black holes – the hotter smaller ones that produce the radiation that feeds, the cooler larger ones, as the red cells produce the energy needed by all the cells of your organism. And this is the 5D organic *entangled* reason, as all what exists has a *purpose*; and so does the BG radiation that feeds larger black holes – a far more scientific reason that the forecasted big-bang temperature, which has not true known cause, no true experimental proof now& here, no-nothing.

Science as Culture. Æntropic man

To fully understand the falsehood of single entropic theories we need to understand the 3 paths of time - that is, the relative paths any system have to choose its future, the reader should be aware that the Big Bang theory merely expands one of the 3 obvious arrows of space-time in matter, that of entropic gas where it was discovered, disregarding completely the arrows of inverse information (solid crystals, informative galactic vortices, perceptive species) and its balanced liquid states (body-waves), in all scales of reality - even in theory of information, they disregard the message content and the emitter analyzing only its lineal transmission and noise; evidently due to the worldly religion of physicists who invented those cosmogonies - to make entropic weapons and transport machines. Then a computer rigged simulation will look make pictures of the supposed Universe with a single temporal energy.

Modern Physicists' interpretation of physical facts and functions is biased by their historic culture, Military Germany of worship of weapons and entropy=death, so they denied the arrow of 'crystal=solid' information and Einstein's/ Gödel's cyclical, big-crunch solutions happening in thermodynamic matter and cosmological galaxies, where we LIVE dominated by evolution NOT entropy, which balance the gaseous and vacuum space expansion, in reproductive liquid and steady state immortal 'present' systems. As time went by since most humans are memorial believers those sided theories of reality became dogma, and today in an age of increasing mental devolution as humans are substituted by thinking machines, mankind just repeats its model errors, spread also into social sciences and biology, always in favor of the arrow of death.

In the graph a critical assessment of the methods of 'naïve, digital reductionism' that physicists have used more or less consciously to establish a 'way to model science' only with digital functions and a 'cosmic censorship' on the 4 dimotions of time that do not fit earlier Galilean->Newtonian lineal absolutist time views in a single continuum Cartesian spatial information. Space is scalar, fractal, broken in infinite different 'scalar



with big mouth and little brains worships digital machines and entropy, eliminating 2/3rds of reality: the arrow of form and its balanced combinations. So its entropy-only theory match its worldly profession: to make machines & weapons of life destruction

sizes' which 'co-exist' together and for that reason there are 'organisms' and the Universe has an organic fractal structure, as systems change energy and information between those different sizes and scales, that put together form the 5th Dimension of the scalar Universe, ruled by a simple metric function: the smaller a system is the faster it turns its time cycles, or clocks that carry in the frequency and form of its systems, its information - the missing dimension of time in all lineal theories of the universe.

It is difficult to understand how Physicists so dexterous building machines=weapons are so dumb interpreting reality, blind to 2/3rds of the states of spacetime, and to all its non-mathematical properties unless we acknowledge that the human being is less of a thinker and more of an 'enzyman', ensembling machines, manipulating reality with it and tailoring their models of its world to its worldly profession, which in physics has been traditionally to make entropic weapons and moving mechanisms. Hence its philosophy of reality based in entropy and mechanism. In the graph, the rejection of all other arrows of Time=Dimotions in thermodynamics, cosmology and information theory, which only studies the 'motion of information', and its noise without caring for the form of the message, its emitter and receiver. This would be in physics the equivalent of ignoring the Fermions that emit a boson and merely study the space in which the boson moves. And indeed, cosmology is built ignoring the galaxies, space-time vortices of information, which do NOT expand, and just contracting the vacuum space between them to get into the 'magic singularity' from where all came from.

In the fractal Universe time-space dimotions/arrows are ternary, LOCAL, for each of its species. The previous graph defines their existence for physical systems, as opposed to huminds' use of a single entropic arrow. So, first, we add the inverse arrow of entropy which is information, dominant in this planet, as it is represented NOT by the vacuum space expanding between galaxies but by the vortex of galactic form, of in-form-ation that evolves entropy into matter, in which we reside - reason why this planet is *dominated* by information. Incidentally Duality was the science I r=evolved in the milieu of systems sciences, whose chair I hold during my active years in congresses of the International Systems sciences society at the turn of the century.

The science of duality is important because only a proper model of duality (not to confuse with dualism, the philosophical doctrine of mind and body), that is a proper understanding of the interaction of entropy and information, can give us the proper philosophy of science required to understand the Universe as a whole and all its disciplines, those specialized in information as biology and sociology is, and those specialized in entropy as physics is.

The distinction between entropy sciences and information sciences however is *not one of Nature, but one of huminds (ab. human minds), of historic and realpolitiks (power) NOT of reason and scientific laws. And to prove*

the case we can consider the side of 'physicists' (rather than physics) and how they stubbornly since the inception of their discipline have DENIED the existence of an arrow of information in the Universe.

Lineal Inertia, Entropy and big-bang's reductionism.

This, physicists have always denied due to historic reasons, as the oldest science which started with the study of military weapons (Galileo was an artillery master at the Venice arsenal), and developed a theory of the Universe based only in 'the science of motion' (the definition of the discipline in classic encyclopedia). So his job was to study how to reach maximal distance with cannonballs and for that reason he defined 'lineal inertia' - the conservation of lineal motion; *but declined to consider the existence of its opposite informative arrow, the conservation of cyclical inertia, angular momentum, as a clear balancing second arrow of time that gives 'form' to all 'forms' of Nature.*

Physicists however follow their routines and so again in the XIX c. they chose 'entropy', the disordered state of matter, called 'gas', in the study of motion machines and weapons (heat in cannons; steam studies) to cast an absurd 'law' according to which all systems are 'gaseous=entropic' and die in the future; shunning off the obvious fact that there is *an inverse* arrow of time in matter, called 'cold'. And so when entropy ceases the system reverses its arrow of time into coldness and then creates crystals that reproduce information.

Then in the XX century, they again took their bias to 'cosmic hyperbole', when Einstein's Relativity improved upon Galileo's work and stated that 'time curves space into mass'; that is indeed the best definition of the arrow of information in physical systems, as masses and charges ARE curves of spacetime that store in the frequency and form of its cycles the information of the Universe. And so galaxies are vortices of timespace mass that 'shrink' and 'warp' the expansive, entropic space between galaxies to balance the Universe.

But NONE of this was considered when a cosmology came out of Einstein's Functions (ab. EFE). Instead, of the 3 solutions or 'ages' of a space-time 'world cycle' of physical matter, the entropic big-bang solution/age, the steady state solution/age and the collapsing informative solution/age, two were discharged, as well as the implosive, informative behavior of galaxies, even if we humans lived in one of them; and so once discharged the 'in-formative' gravitational force that brings radiation and mass into cyclical informative patterns, the 'big-bang entropy-only' theory of the Universe became the dogma/religion of physicists, and by extension given the technological, machine-driven civilization we live in, of all mankind.

Fact is Einstein's function, $E \Leftrightarrow M(c^2)$, is a feedback function that reproduces mass/information from entropy/energy and vice versa. In fact Einstein's first calculated it in an article about how 'energy can create mass' (so he studied the arrow of information). But it would be only used as a proof of the dominance of entropy and to make atomic bombs.

So again physicists ignored $\frac{1}{2}$ of the function as they keep denying cyclical inertia as an arrow of time (angular momentum, orbital electrons, etc.); or denying the cold-crystal arrow of information in matter; now denying the arrow of information in galactic vortices that 'curve vacuum space into mass'.

So when Einstein died, General systems sciences was born at the Macy's congress, where the leading scientists of the age came together trying to add the 'arrow of informative time' to fully account for the Universe as it is, since biological and sociological, human sciences *are based in the arrow of form, of in-form-ation; and the planet Earth exists in a vortex of cyclical 'form', of information, called the Galaxy. So in this region of reality it IS information, NOT entropy what dominates reality.*

But that didn't change the attitude of physicists and society who had them as the 'new seers of time', the popes of creationism ('God is the seer of time' had said Augustine), mostly because they didn't understand the mathematics they used to mirror those laws of entropy in physical spatial information.

So finally in the post-war age, as computers and other informative machines developed, physicists had to deal with 'form', in-form-ation, logic languages and its cyclical logic clocks. But amazingly enough they *manage again to deny the formal, linguistic nature of information.* So when it came into the study of information, physicists 'reduced' the concept either to its 'motion' (transmission of information, Shannon), or as an 'aberration' called 'negentropy' (the negation of entropy). And again, in a military, western society where

believe it or not, the military-industrial complex DOES dominate societies, all was good in the western front. Now physicists had a theory of the Universe based in a 'big-bang explosion', similar to the ones they developed in the Nuclear Industry, and so to develop entropic weapons of mass destruction was suddenly a metaphysical experience.

But reality is dual and hence ternary. So the understanding on how entropy, or pure motion without form, and 'form without motion' (information being form-in-action, form with motion), *as the two limits of reality which combine to create the infinite 'fractal spacetime beings' of energy, we all are made of; cannot be suppressed from the Universe, even if man ignores it or as in physics, studies it in a very convoluted way by lack of clarity in its foundational principles, properly explained for the first time in 5D formalisms.*

Indeed, we cast all phenomena of Nature, with the 5 Dimotions of time of physical matter ($E=Mj$ in Planck Units, where $c=1$), in simple 'fractal feed-back generator functions', which reduce all what exists to those two arrows and *the ternary balanced equivalent arrow that merges entropy and information and reproduces with them the infinite vital space-time beings of reality, such as: $S(i) < \approx > T(e)$...* becomes the simplest, ternary, logic fractal Generator function that unifies all sciences and represents in simultaneity the 3 topologies of the Universe (cyclical information, lineal entropy and its hyperbolic combinations), and the 3 different 'ages' of time-motion we observe in all beings, born of an informative seed, which lives through an entropic youth, reproductive age, and informative, warping third age that ends in a reversal of time arrow in an entropic death, which completes the worldcycle of existence of the being.

We call the 3 arrows of time, entropic past, reproductive present that seems not to change and informative future, or 3rd age of maximal warping, which explodes back into entropic death. So the simplest entropic arrow adds in duality form, and both reproduce in energetic, iterative 'present' dynamic combinations.

Big bang cosmology ignores gravitational informative galaxies & dark matter & the scalar structure of the Universe reducing space-time to a single scale, and the cyclical nature of time, we must correct the big-bang, which corresponds to the limit of a 5D complete theory of reality in a single 'light' space-time continuum.

The big-bang entropy-only theory of the Universe dismisses galaxies all together, as they are NOT expanding, and if the galaxies are NOT expanding, running backwards its present implosive system would mean a counter-effect to running backwards the expanding Universe. Backwards in a single time, the space between galaxies contracts, but the galaxies between space expand and a balance again is achieved: Since when we add the gravitational force that warps 1D space into 3D mass in galactic vortices, they balance the expansion of 1D space in entropic vacuum as light dies into dark entropy lines between them. As mass warps 3 1D flat-vacuum into a 'high volume' its 3 times more powerful in its warping, hence the 75%-25% balance of mass to dark energy.

Thus the inverse arrow of gravitational information compresses dark energy into matter and balances the arrow of expansive space between galaxies, describing a fractal immortal Universe where a big-bang is merely the entropic arrow of dissolution of matter guided by Einstein's function in any scale: $E \leftrightarrow Mc^2$

In the graphs, we resume the model of the fractal Universe in which each scale have similar big-bang deaths:

Scalar big-bangs that happen from Beta decays (right picture) that explodes nucleons into atoms, Nova that explode stars and maybe planets doing experimental big-bangs at home, to quasar black holes that give birth to new galaxies. All scales suffer similar $e=mc^2$ dual processes of warping through gravitational forces of cyclic momentum that create those galaxies, and expansive big-bangs of lineal momentum balanced in combined cycles of energy - the 3 conserved quantities of each fractal space-time physical organism, which put together give birth to the 3 conserved laws of nature, which present Big Bang theory ignore. Instead a fractal space and cyclical time arrows fully accounts for the immortal Universe and its balanced 3 arrows of space-time, conserved in its infinite reactions; energy, information stored in the cycles and frequency of those systems of angular momentum, whose minimal constant form is h , and lineal speed, conserved in the constancy of light.

In the center we see a map of the Galaxy, which just recently showed to have two lobes similar to those of the first electronic orbital of a Hydrogen atom born in self-similar fashion in the quantum scale. In the left side we

see the background radiation that is supposed to come from the Big Bang 13 billion years ago, but HAS in its center the exact 2 lobes recently found above the black hole. This came as a surprise.

Above, the local explanation of the background radiation, which is a LOCAL MEASURE, hence must and can be explained by local causes in the galaxy: any moon MACHO, (Massive Cold Halo Object); that is, a quark nugget of heavy quark matter or a similar black hole that has eaten the mass of a moon will produce the exact same background radiation by gravitational red-shifting. Thus as moons are the commonest objects, we can talk of primordial black holes and/or strangelets as the local, 'present' cause of the radiation. Since epistemology ALWAYS favors a local 'present' solution far more sound experimentally than a 'derivation' from a non-measured experimental past in a non-measured larger region (the cosmic big-bang whose temperature 'comes from the past', reduced by a lineal function and is extended hyperbolically to the non-measured entire Universe), it follows the fractal big-bang, is sounder. So what physicists call the cosmic big-bang likely does not exist, as the limit of scalar big-bangs we soundly measure are quasar big-bang.

Finally French astronomers tabulated for them a 15–20 billion year cycle which explodes central black holes, explaining the hyper-abundance of Helium in the center of galaxies. So a galaxy has a 15 billion years cycle in an older immortal Universe, since the arrow of information that shrink energy into mass in galaxies balances the entropic 'cosmic electromagnetic' repulsion of dark energy. Interesting enough if we reduce a quasar big-bang of 15 billion years, with 5D metric, accelerating its time clocks as we reduce size in space: $\delta \times \delta = K$, it reduces 15 billion years to 15 minutes (: the exact duration of a beta-decay neutron Big Bang).

We falsify the big bang with experimental & epistemologic known proofs ignored by cultural, sociologic reasons that make it a dogma of the worldly religion of physics – to make entropic weapons in a military society- and the western creationist religion of most founding fathers of physics, with its lineal Abrahamic time views & anthropic beliefs of man at the center of reality reflected in the lineal, created out of nothing cosmos.

Correspondence Principle. 4D physics as a 5D limit reduces time to entropy and scales to a single plane.

The 5th dimension is the key to resolve the pending questions of physical sciences. So, we shall respect the correspondence principle and translate the laws of relativity to 5D, to prove the veracity of both arrows of time, which are needed together to fully account for all the possible 'dimensional motions' (ab. dimotions) of the scalar space-time Universe. Since the 4D formalism is the 'limit' of 5D physics, when we 'discharge' times=changes of information reducing all the types of change=time of reality to translation in space (entropy and locomotion) and its mathematical formula, $v=s/t$ in Galilean relativity, $S^2=S^2(x,y,z)-(ct)^2$ in Einstein's Relativity. And when we 'compress' all the scalar planes of space-time of the fifth dimension into a single space-time plane continuum, discharging all its organic and sentient properties, which we shall soon show are a direct consequence of 5D metric functions

So the reader who is impatient to compare both models can go to page 21 where we deal with Relativity.

He must be warned though that the expansion of our understanding of space and time produced by the introduction of the second pole of internal change=time, evolution of form, information, classically studied only in biology to that of external change, translation in space, studied in physics, is so vast that despite the cult to our Baconian 'tribal idols' of science, our 'seers of time' (Augustine's definition of God), relativity physicists will seem to him, once he has suspended his beliefs long enough to digest with an open reason the basic laws of 5D children, making simple 'worldlines' on the sand with a single rudimentary stick – that of lineal temporal energy. Since indeed as Parmenides already proved, the one is a perfect sterile whole - a single time dimension cannot generate anything, but when we have two poles connected by the inverse properties of form=still space and time=motion, across multiple space of size=scale, *this entangled trinity will account for the whys of every event and form of the Universe in 'existence'.*

While we can do nothing about the arrogance of physicists about their little knowledge on time, they consider the 'whole', its dogmatic despise of other languages of thought beyond mathematics, which they hardly understand as the next paragraph shall show and the lame attitude of all sciences towards its limited understanding of time, as ONLY locomotion either external (Ts in 5D) or internal and external (TT, entropy=death), forgetting the 3 Dimotions dominant in the Universe of information (ST, St, SS), main reasons

why the world of science ignores 5D, we can state the obvious fact that Physicists concepts of time, corresponds to the limit of 5D on only 'T' dimotions and 4D formalisms, latter considered in more detail correspond to the limit of 5D in a single plane; in the same manner physicists say that statistical mechanics corresponds to the limit of quantum physics in larger scales (but this is NOT exactly truth as we will show on future papers on 5D physics – it is rather a problem of perspective, quantum is the temporal, faster view of a smaller scale, in the 01 probability sphere, as faster systems ARE full time cycles perceived from slower larger wholes as space). All this brings 2 concepts: huminds see a single plane of space-time and do NOT see larger planes as wholes, because their translation of scales is light, which travels better from smaller to larger scales, but does NOT integrate larger wholes into smaller focus, neither 'sees' slow time cycles as simultaneous wholes (telescopes do so only with external far away forms, but we cannot focus the whole Earth, we cannot see the whole history, etc.) So huminds tend to deny as visual species, larger wholes of slower time cycles they do NOT understand, even if they are essential to the future – evolutionary cycles of machines, long cycles of history, ages of species, etc.

The correspondence principle is the key to fit smaller theories into those larger 5D time cycles and spaces. A simple example will suffice. Earth's gravitation is on the '4D' surface $F=GMm/r^2$; on the 5D 'sum of gradient planes, $F = GMmr/R^3$ whereas r is the distance of the inside point of Earth to its center and R its radius. But 4D surface gravitation is just a case of 5D, as when r -distance = R -radius, both cancel and so we get $F=GMm/R^2$. Now a being on the surface will tell you, he doesn't need 5D gravitation, as he CANNOT see the interior of Earth. This is scientists' myopic attitude towards 5D; they cannot see 'organisms of history with longer time span, of which each human is a cell'; cannot see the longer ages of evolution of species as superorganisms, mimetic to those of a faster 'individuals', which apply to the evolutionary cycles of machines, etc. But they DO exist and define the future of mankind and economics. So 5D matters far more than Earth's invisible layers for they define the future of mankind and our chaotic ignorance of those cycles only make us slaves of them.

Its 5 Principles. Masses & Charges as scalar space-time vortices. Unification of forces.

Time is what a clock measures'. 'Time curves space into mass.' *Einstein*

We apply the correspondence principle and prove that Einstein's previous paradigm on 4D space-time, based in the following 5 postulates/functions, is the theoretical limit of 5D in a single light spacetime plane:

- Relativity postulate that states we cannot distinguish motion=time from dimension=position=form=space, which in 5D we reduce to a simple formula, $S \approx T$; we shall call the Paradox of Galileo (e pur si muove, e pur no muove) as he couldn't explain why the Earth moves but we perceive it in mental space as a still dimension.

- Denial of Newton's Absolute space-time; as he said 'Leibniz was right, but if so we have to start physics from its foundations' and 'I am the only physicist who believe there are ∞ time speeds in the Universe', which we made explicit accepting Leibniz's relational concept of spacetime, precursor of Scalar space-time, resumed in a sentence: 'we are the scales of space we occupy and the cycles of time our existence lasts'.

- Constancy of light speed, c that in a 4D single background plane of light space-time corresponding to the galaxy holds naturally, as *light in a relational->Generational theory is the space-time of the galaxy*, which generates through its 'accelerated' vortices of space-time in a crescendo of ever more dense scales, photons, electrons, quarks, atoms, molecules, matter states, cosmic bodies and black holes. Yet when we add a 5th Dimension sum of all those scales, c -speed becomes the limit when we reduce all the potential scales of the Universe to light space-time and the particles generated by it. And so we define a second metric function for all scales: S_p (Space size) \times T_f (cyclical time frequency) = Constant; meaning smaller scales of space hold faster rotating particles, (black holes beyond the event horizon, where there is no longer 'light') or when moving in lineal fashion can go faster than light speed in scales below light or outside galaxies, (Bohm's quantum potential of action at distance cause of entanglement, neutrinos outside galaxies.) As $S_i = T_e$ maximizes $S \times T$, both give the metric 5D function: $\text{Max. } S \times T = C$, local to each Time\$space organism struggling to survive by Maximizing its St-in/form/ation & sT-energetic motion.

- The principle of equivalence between Acceleration and mass, which we consider a strong principle, as a rotary accelerated vortex of space-time is a mass in the cosmological scale (ab. $\Delta+1$), a thermodynamic Eddie in the human scale (Δ^0) or a charge in the quantum scale (ab. $\Delta-1$) Thus the principle can be written with parameters of

space and time frequency as a case of 5D metrics, $S \times T = C$, $V(t) \times R(s) = C$, from vortices functions, to the 3D case, $(M, C) = \omega^2 r^3 / U.C. (G, k)$ which defines both charges and masses as quantum and cosmic vortices of 2 different 5D scales, whose G and k, Universal constants of S(curvature - Einstein's formalism)= T(speed -: Newton's), in 5D metrics have the measured 10^{39} difference of strength, solving the hierarchy problem. Since paradoxically, the smaller, faster rotating charge is more attractive than the larger slower galaxy. Further on, in 5D space time vortex metrics a proton shows to have a Schwarzschild Radius, showing the scalar similarity between galaxies, as 'atoms' of a hyper-universe and dark expansive energy, as Ψ -radiation between them.

- Energy-mass, $E(t) \Leftrightarrow M(S)$ in Planck Units coils entropic lineal motion into collapsing matter, $E \rightarrow M$. As when the accelerated dark entropy between galaxies collapses into galactic mass, warping one-dimensional motion into 3D mass vortices (hence balancing the expansion of intergalactic space, 75% of dark entropy, into 25% of mass vortices, as 3x1D entropy becomes 1x3D masses; leaving the total volume of the fractal immortal Universe unchanged. While its inverse process is a scalar big-bang when a spatial space-time vortex, hold in its attractive position as an accelerated clock of time-space becomes entropic motion, uncoiling its form into lineal motion: $M \rightarrow E$, in any 5D scale of spacetime; from a particle's Beta Decay, through a Nova explosion, a galactic quasar, or perhaps a cosmic big-bang, a 'hyperbolic' theory of the whole, which we shall doesn't hold in 5D as it studies only the entropic expansion of intergalactic space, ignoring the balancing collapse of entropy into galactic masses, doesn't pass the epistemological laws of truth – known case, experimental evidence beyond local measures, correspondence principle with the known-known laws of physics (conservation of energy and momentum and baryon numbers), and we falsify in the paper on Cosmology, concerned with the building up of an epistemologic sound model of the fractal, organic, immortal 5D cosmos.

Thus we call the new 5D model Absolute Relativity, as it adds to the relativity of motion (Galileo, Einstein) and Time evolution (Darwin), the relativity of scales, with no preferential one, despite human 'ænthropic beliefs' in an anthropic Universe with us at the center, and only intelligent, informative species, with entropy as the only time arrow of everything else – which are just deformations of any mind's 'metric function': O-Infinitesimal mind $\times \infty$ Universe = Still mind-mappings (World). We call that 'projection of humind's limits into the larger, more complex whole, the 'ego paradox': 'Every point of measure gauges reality from its distorted perspective as the largest, only intelligent center of the Universe, which it confuses with its still, infinitesimal mind-mapping'. A more sanguine word would be 'Egocy:Ego=idiotcy' proper of all minds, which model reality with its shortcomings. In the human case the worldly profession of physicists, to make entropic weapons has heavily biased our view of the Universe.

RECAP. The metric function of balance and feed-back $S \Leftrightarrow T$, between the spatial, informative mental pole and the reproductive, cyclical motions of Time becomes the basis of Relativity and all physical motions, establishing the fundamental 'beat' of all local space-time organisms of the Universe. The principle of correspondence consider the 4th Dimensional formalism the limit of 5D in a single 'space-time scale', equivalent to Galileo's formula, $V=s/t$ which special relativity adapted to the 'contraction' (-ct) experimented when the speed of a system reaches the limit of our thermodynamic planes of space-time, on the border of the quantum/cosmological, $\Delta \pm 3$ plane or light space-time continuum and General relativity adapted to the cosmological, gravitational $\Delta \pm 4$ plane of the fifth dimension; which requires for a full understanding a more advanced knowledge of 5D metrics and Physics. So we shall return latter to those themes and also deal with them in detail in our papers on cosmology and quantum physics.

In the galaxy the same balance happens between the vortices of mass-time and the entropic time expansion of energetic vacuum spatial information. In terms of the 3 ilogic dimotions of past-entropic time, future-informative time vortices, the intermediate state, combines both: What we call present time is the dynamic, feed-back repetition of reality which seems not to change because it repeats the same cycles. Physicists have reduced time to the arrow of entropy, born of its worldly profession of making weapons and transport machines - even to the point of ignoring in the cosmos the balancing imploding informative action of gravitation that collapses vacuum energy into mass, so they can maintain that the Universe is only expansive vacuum between galaxies (the so called big-bang theory).

THE FIVE DIMOTION OF THE UNIVERSE.

The Universe is a fractal organism of similar scales, defined by 2 metric functions and its philosophy of science, 5D Absolute Relativity: the function of 5D scales, $SxT=C$ & the function of relativity between form and motion, $Si=Te$, which started modern science. Since we cannot know from the mental, still point of view, what truly is motion and what is dimensional form. Thus Time Motions & space dimensions co-exist and merge in every space-time being of the Universe & we must talk of space-time dimensional motions. When we combine them, as $Si=Te$ maximizes SxT , we define the Function of existence, $Max. S \times T = C (s=t)$, which IS also a biologic function of survival that embodies the will of life; the biological expression of the 'Universal mandate', expressed by all species in all its codes and languages, the Grow and Multiply of the Bible, the intuitive truth that guides all beings. In detail implies all systems try to maximize its $3\pm j$ 'Dimotions' that in space create organisms and in time its worldcycles of existence; starting as pure Form (4D) in a seminal seed, emerging in an Δ^0 scale, in a young age of max. Motion (2D), balanced with information in the reproductive age of max. Energy (3D), followed by an age of information (3D), when time reverses into entropic death.

The biggest handicap for mankind to advance its comprehension of the Universe is its use of a single motion of time when 'reality is a fractal of 5 topologic dimensional motions of time-space entangled into ∞ supœrganisms living its worldcycles of existjence'. That sentence encode the essence of it all. The first step to expand the motions of time is to realize that the 3 dimensions of abstract still space do have motion, so they are both dimensions of space and motions of temporal energy. And as such they can be considered akin to the 3 topologic varieties of bidimensional space which have motion. Next we have to reject Newton's absolute spacetime background, also a mathematical abstraction born with the Cartesian graph, over which we write our models of reality that acquired 'life of its own' but was never found to be 'drawn' on Nature.

The formalism of those 5 Dimotions are the metric functions of the scalar Universe, which relate the spatial size and speed of temporal clocks of all scales of Nature. Both parameters are inverted: when systems grow in size the speed of its clocks, its 'time cycles', diminish proportionally, both in biological and physical systems. And vice versa. Smaller clocks tick faster and information processing carried by the frequency of those cycles accelerates, as it happens in chips, particles or life metabolism. So we write: $S \times T = C$, which added to the reproductive point $Si=Te \rightarrow \Sigma$ (Galilean paradox) give us $Max. \Sigma SxT_{(s=t)}=C$

So we define 5 dimotional variations of those 2 poles of absolute motion, TT-entropy, and absolute forms SS-Seeds, mind and languages constantly switching from lineal to wave-like to cyclical closed motions, in 3 varieties St-information, sT-locomotion and $Si=Te$ present reproduction between extremal SS and TT 'dimotions' happening in the nested $\Delta\pm 1$ scale, with clear inverse properties, as seeds try to have the e-motion of entropic living and TT-entropy would like to stop is destructive dimotions into the stillness of spatial information. So we are all five dimotional fractal beings. It is that simple. Look not further. We are 5 Dimotional beings, time motions, which move and reproduce spatial forms. So *reproduction is the fractal game we all play. St-motions reproduce form.*

Let's see how the other extreme, Mind perception is also reproduction of form to study then the outcome in space of those reproductions – the entanglement of the 5 dimotions as functional forms, ensemble together into supœrganisms of space that are determined by the dominance of form over motion to live a worldcycle of existjence.

WE ARE space and time, merely of a different kind to that of Newton: Organic scalar spaces, and cyclical, discontinuous times who 'live'... worldcycles (no longer worldliness as we have a 2nd arrow of information) of existjence (as all species follow the common laws of space and time). So after making such a huge up hauling of philosophy of science – one which however every serious scientist recognizes to be necessary since quantum physics showed space to be discontinuous, and relativity time to vary in different regions of reality with different speeds, as the devil is in the details we have to improve our understanding of the 3 fundamental properties of 'Scalar space-time', scales, time-motions and space-forms.

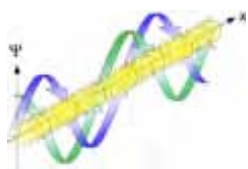
Since we are not placed in a background space-time we are made of spacetime. We are made of the 3 topologic dimensional motions of space-time (ab. Dimotions), which happen to have the exact form and

function of the 3 parts of all systems of nature: Spherical particles/heads of information, as the sphere holds maximal form in minimal space; cylindrical limbs/fields of locomotion, as the line maximize function, and hyperbolic body-waves composed of both forms that iterate them. Alas, suddenly we realize we are made of 3 dimensional motions of spacetime. But we said we are made of 5 Dimotions, so we must add to those 3 classic dimensions; the classic fourth dimension of time only used in physics and called entropy; which is the process of 'absolute motion' that takes place when one of those ensembles of 3 topologic spheres, cylinders and hour-glass body-waves not only has external motion but internal motion; that is breaks into its parts and dies away. Entropy thus is the dimotion that breaks parts into wholes, in a Universe obviously made of scales of parts that become wholes from particles into atoms molecules cells matter organisms planets solar systems and galaxies. Thus if entropy is the dimotion that breaks wholes into parts there must be an inverse dimotion that puts those parts into wholes, of social, organic evolution, of love. And thus we have 3 topologic dimotions of space-time, spherical height that perceives information, cylindrical length that moves the system, hyperbolic body-waves that reproduce them, ensemble into beings that 'emerge' through social evolution from parts into wholes to die and dissolve entropically from wholes into parts, and those $3 \pm i$ (a parameter of scale) Dimotions of space-time ensemble into infinite beings is what reality is about.

Let us then close this introduction to Absolute Relativity, the 'future basis' of 5D physics, considering locomotion at the quantum scale, as a reproductive process of gauging information as a particle and reproduce it as a wave. How a system moves; in a crowded universe, where we 'are' vital space-time?

The answer resolves Zeno's and quantum complementarity paradoxes: if we do not move but reproduce our information, translated into a lower faster wave scale of the fifth dimension; as we reproduce our sound in faster electrons to telephone or nerve impulses into chemical dopamine to jump discontinuous neurons. So motion becomes scalar reproduction of form, and since all is a form of motion, all is reproduction, which is the definition of a mathematical fractal, a feed-back reproductive function; 5D metrics, which become then the 'function of existence' whose goal is to reproduce the form of all systems – the simpler ones with maximal motion-translation in space, the complex ones with min. motion as a reproduction that emerges between scales. And this gives birth to the worldcycle. Consider the case of quantum physics:

In graph we see a particle reproduced in adjacent regions that fade away, and the result is the perception of a wave of motion. In Bohm's realist model this reproduction happens in a lower plane of quantum potentials, where also entanglement happens, which is the Δ -4 scale which is $v > c$ in 5D metrics (Min. $S \times$ Max. $T = C$), hence real.



Motion then is reproduction of form over such potential: the wave erases form into motion, the particle is a still state that gauges information entangled to other particle, fermion and boson, still to each other – despite the perception of relative motion in our scale – hence the information electrons share has always a c -constant speed. Thus the Lorentz transformation are objectively real for mankind who eliminates the stop state of particles as we do in a movie eliminating the stop frame but if we were observing reality from the perspective of an atom, we would 'stop', entangle in the quantum potential, neutrino scale & so eliminate the spooky effects of 'time dilation' & 'length' contraction, from our perspective (but not of mass increase as it is a scalar effect). This is the 'rational' 5D explanation of both the c -constant of light and entanglement; as electronic beings perceive information in 'stop position to each other' and move in 'wave state'. Motions are perceived by particles that stop motion into form, into information, as distances. So 4D relativity needs to be expanded to the scalar Universe beyond the c -speed light limit of the galaxy.

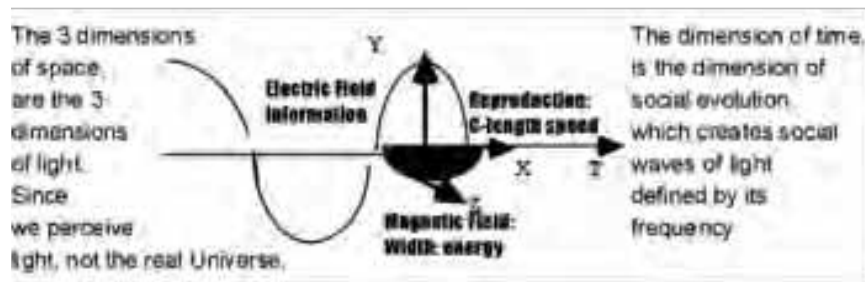
Newton, Galileo and Einstein's simplified models of space-time correspond to the limit of this 5D complex view, when we simplify all the worldcycles of time, we call life & death to a single mechanical clock, elongated to infinity & perceived in a single scale of spatial information. *Mathematics that considers motion a 'symmetric reproduction of in-form-ation (groups) once more turns out to be a better experimental science than physics.*

A question which still is opened to argument between the great masters of 5D physics, me, I and myself (: is it actually *lineal* motion does happen at all, in those waves, or the imprinting of form is merely transmitted as in many type of waves by a faster lower plane, whose cyclical vortices of angular momentum perceive a lineal signal that activates the 'consecutive' 'magnetic and electric constants' of the light wave to form a synchronous

wave that seems to be lineal motion to an external observer, In the same way that the waves of water do not move but make circular paths or the synchronization of insects with chemical light seems to create a wave.

Time then can be seen as a mirage of a process of reproduction of form, if we take the side of information, of space as the ultimate substance of reality – and the question is and will always remain open to discussion because both models, one which makes the ‘egg come before the chicken moves’ – that is, one in which we postulate an ultimate scale of reality of pure cyclical and lineal forms, where the ‘lines’ of this 5D movie which is existence, are eternally drawn, is as consistent as one in which Motion=time=change=energy, the conserved ‘substance’ of reality. As, the true knowledge escapes a ‘monologic’ one-dimensional view of reality as either time or space, but as an entangled simultaneous reality of co-existing planes of spatial information and

temporal energy constantly messing with each other, but the humind is simpler, monologic, loving ceteris paribus siding, which we’ll become clear as we define the equations of mental spatial information. In praxis the model suggests that in fact what is conserved is NOT lineal but cyclical time, that is, motion with form, perceived as a solid state; so reproduction is merely the conserved energy



cycles of time-motion, happening in all scales, entangled, synchronized to form larger wholes, of ‘ α ’ (relative ∞) time clocks.

In that drawing, there will be cyclical motion in vortices of in-form-ation, but also waves of lineal messages, on a lower plane – in the case of light our pixels of information, electronic entanglement through lineal flows of ‘neutrinos’?, in an Δ -1 plane (quantum potential on B^2 realist models – ab. Brogile-Bohm’s theory). Regarding what is more important, space or time, obviously it is time, *because space will be then cyclical time, as we never saw a particle which was not a vortex of ‘accelerated’ VoRo=K temporal energy. So it is time motion what acquires form between the two limits of ‘potential energy’ as a position particle, and lineal flow of disordered never ending energetic entropy.* And so spaces will always be the still mental synchronous ordered established on that continuous never ending flow of motions, which a mental space orders to create repetitive patterns that we see as still synchronous beings. In the human case, constructed with the vital dimotions of light timespace: *The human mental light-Euclidean space one of many multiple spaces made with different force pixels.* Euclidean geometry is the specific mind-mirror of light space-time and its 3 perpendicular Dimensions.

The Universe has ∞ mind-mappings made with different pixels that mirror for each singularity its territory of order (body/wave) and world beyond. The human ‘visual mind’ made of light is NOT the only mind-mapping. In the graph, on the left the ‘physicist’ view of a single continuum light spacetime for the whole Universe. In the right side the multiple p.o.v.s

Descartes did understand this multiplicity; so he published his mapping of the humind in a book called the ‘World’ to differentiate it from the ‘Universe’ with infinite monads, each one holding an entire world in itself (Leibniz) the very essence of the definition of a fractal time\$space organism. Yet Humans lost this earlier understanding – as we noted on the introduction - when Galileo didn’t argue the fact that the Earth moves but our mind creates a still space, a mirage of the senses. And physicists followed suit, creating its philosophy of reality called ‘naïve realism’.

Space is a mirage of the mind understood in Eastern philosophy, (Buddhist Maya) and the western tradition influenced by them (Soviet, German schools starting with Leibniz, followed by Kant who noted Euclidean geometry was the geometry of the human mind, and Schopenhauer, who saw it as a representation.)

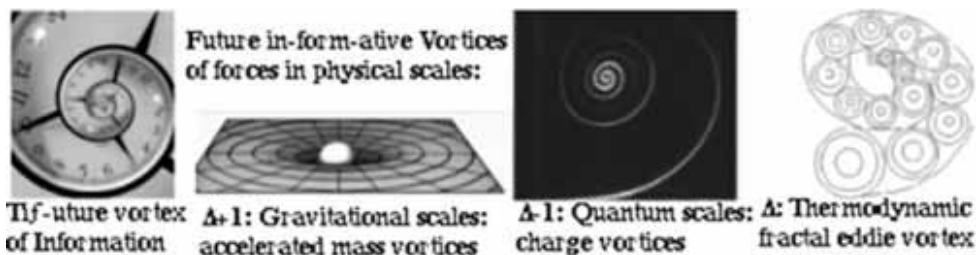
In mathematics the mind function is $0 \times \infty = C$; $\infty^0 = c$; that is, the ∞ time cycles of reality become in the Δ^0 self-centered scale of a mind, a constant world that mirrors all what exists in the Universe both in time-motion (∞) and spatial form (0).

Because of such synoptic capacity to 'mirror' the laws of space-time in minimal size through the concept of number, which excels the previous synoptic language of verbal phonemes, mathematics soon became the most efficient language we know, but it does NOT create reality. It is just the best mirror of reality. Languages/mirrors occupy an infinitesimal part of the whole, yet paradoxically hold the maximal information of the Universe according to 5D metrics: *Space size x Time speed of information = Constant*.

Thus the mind of the most efficient survival species of reality, particles, 'atoms' and 'galaxies' (black hole atoms of the top quark decuplet) is mathematical and imprint a local order which multiplied by ∞ of such species makes mathematics the dominant mind-species but not the only one and still a mirror of the true reality which is 'scalar space' and 'cyclical time', dimensional form and motion – the 5Dimotions of reality.

A language is first a reflection of the laws of 5Dust of space-time its Trinity elements and Metric functions, without which they cannot order≈recreate locally the Universe. So 5D mathematics advances the discipline by focusing better the mirror to include the bio-topo-logic properties of scalar space and cyclic ilogic time; and by putting in relationship maths and 'existential algebra' (ab.~Æ), the a priori Disomorphic=equal laws of 5D, making it an experimental science; connecting its laws with the laws of fractal spacetime. Only that the LANGUAGE in which this other causal order is established is not that of the little thingies with its 'social numbers' of scale, and cyclical patterns of time, in hyperbolic networks, but the brutish stick and carrot method of the whole organism controlling the energy bites of its smaller parts. The big guy with the big stick that controls with its membrane the energy and form of the smaller beings – hence the organic laws of survival, which pedantic scholars so much despise and deny.

UNIFICATION OF 5 FORCES AS ITS 5 DIMOTIONS.



In the graph the translation of the $3\pm j$ dimotions of spacetime, into topologies of physical systems, with steady state waves and angular momentum as a repetitive present and a relative past of lesser information and more entropy (lineal inertia) that expands space into decelerating big-bangs, vs. an accelerated force, with one more dimension of time=future, as a pole of attractive forces, which change parameter of scale.

So we define charges and masses as accelerated 4D time-space vortices in the galaxy's 2 limiting $\Delta^{\pm 1}$ scales.

All what exists is a motion in temporal energy. Space forms are still pictures of those motions - a Maya of the senses. In the graph, accelerated vortices of time in physical systems, in different scales of the fifth dimension: charges, masses and thermodynamic eddies become then the main clocks of time that carry with different speeds according to 5D metric ($S \times T=K$), the information of microscopic quantum charge worlds, human-size thermodynamic scales and cosmological gravitational scales.

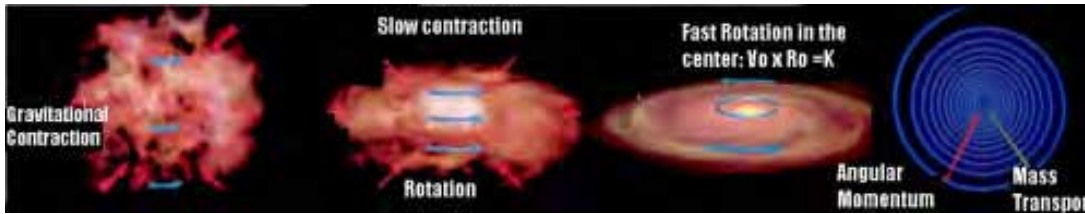
Those cyclical time clocks store the information of the Universe in the form and frequency of its cycles. And the law explains why smaller computers process more information with faster clock-cycles, genes store more information and reproduce faster, every day, than we do...

So we translate 5D metric into vortex functions in different dimensions, the simplest being:

V_o (speed of time clocks) x R_o (length of radius) = C, which is the function of any bidimensional vortex.

As the cyclical clocks store the information of the Universe, it also applies to life, reason why an insect thinks 10 times faster than a large organism, and a rat has much faster metabolic rates than an elephant.

And vice versa, larger systems in Nature must have a SPACE-DISTANCE=TIME-SPEED much larger, which we can see as lineal distance in space or faster speeds in temporal energy.



A dimension of angular time-momentum coming out of a loss of a dimension of volume-spatial information. Attraction laws are then evident and intuitive: In the same manner a vortex of a storm attracts more the faster it turns, sucking in its surroundings, any accelerated space-time vortex, increases the speed of the mass/charge clock according to 5D $C=st$ metric, the smaller it is (S) and hence the smaller it turns, the more it attracts.

Unification of charges and masses as time-space vortices of 2 scales.

Since a charge is smaller than a mass, it attracts much more and the unification function follows just when we apply 5D metric, and shrink the galaxy in the same proportion we accelerate them. Then both functions match:

$$\frac{F_e}{F_g} = \frac{k_e q_{proton}^2}{G m_{proton}^2} \approx 10^{39}$$

So mass, $E=mc^2 + E=hf$; hence mass = frequency (h/c^2) is a cosmological slow vortex, and charge a quantum faster more attractive vortex.

Further on since curvature is synonymous of cyclical speed, it can be quasi-infinite in the smaller vortex, when measured in time speed as the speed of angular rotation. So if we were to apply 4D curvature's functions (Einstein) instead of Newton, the results would be the same, just in the far more complicated formalism of EFE.

Those are the essential concepts to define charges and masses as accelerated time vortices of two different scales of the Galaxy. And from that it is only just an easy task of mathematical manipulation to unify them in 5D metric, as both are equal: when we slow down the speed, space enlarges to remain co-invariant. And as it happens a Hydrogen atom enlarged to the size of a galaxy slows down in rotation to the angular momentum of the galaxy. So Kaluza–Klein were *right* - *the fifth scalar dimension unify gravity with electromagnetic forces but in a fractal manner, with 5D metric, unbeknownst to physicists.*

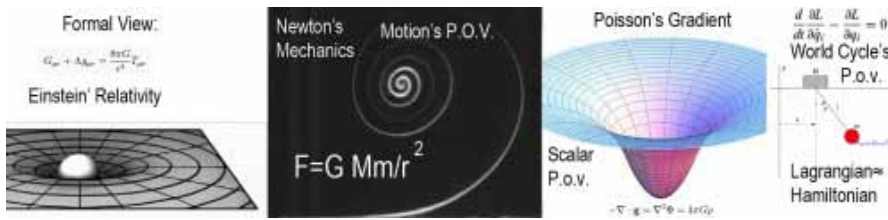
Once we do have a proper understanding of the 5 Dimotions of physics it is very easy to refound the science and its functions in far more straight-forward general laws proper of all space-time systems and solve most of the conundrums of physics, embroiled by the error of lineal time and single space-scales.

Since as long as physicists don't accept 'duality', trinity and pentalogic, the use of entropy and information as equal arrows of time, they will not be able to resolve the conceptual contradictions of its disciplines.

It is just another 'practical case' derived from the scalar fifth dimension, which first was rightly (even if the maths were somewhat faulty) introduced in conceptual terms by Kaluza and Klein as a mode to unify 'two different scales' of size of the Universe, the gravitational 'c' scale and the 'Planck' h-scale, which are the two limits of the galaxy's 5th dimension metric: $S(c) \times T(h) = Cst$.

What mattered of his concept now forgotten is its idea that both scales could be unified if we treated them with a similar jargon, which for obvious reasons could only be the jargon of 'Relativity', derived from Poisson's jargon, derived from Newton's jargon of 'vortices of space-time' - our cyclical clocks and orbits of planets above. So for sake of simplicity we shall use the easy Newtonian jargon, to unify both scales according to 5D metric - the so long seek Unification function of charges and masses.

The unification of the 5 forces in terms of its 5D metric scalar functions, and its equivalence with the 5 dimotions of the galactic organism requires a deep understanding of the Si=Te paradox that makes any 'state of stop-space' equivalent to a 'motion in time'. So *we can study mathematically with different 'spatial, topologic' vs. algebraic, temporal functions and ceteris paribus perspectives every event of time-space; which accounts for the diversity of formulae for the same forces:*



In the graph, regardless of pedantry in physics, the 4 formalisms of gravitation are equally valid, as they merely reflect the degree of detail in our analysis, either in 'space=static' form (Relativity-curvature) or dynamic motion (Newton), from a dual scalar view (Poisson gradient), or based in the conservation principles of the 3 'parts' of a physical system (Lagrange). We shall then use here the earliest, most evident, simpler dynamic view – Newton's timespace vortex, to unify mathematically the 2 limiting scales of the galaxy: the quantum world of charge vortices & the cosmological scale of mass space-time vortices.

The principles that matter are Einstein's equivalence between acceleration and mass, which we extend to all scales. So an attractive cyclical force is an accelerated clock of space-time, a 'vortex' of any scale:

1. Newton Temporal view is a description of a vortex of accelerated space-time *in dynamic motion*.
2. A charge is a vortex of accelerated space-time on the quantum scale.
3. Poisson's scalar view is a gradient, which relates two scales of reality the fifth dimension - that of mass and that of the lower scale of its field of gravitational forces.
4. Lagrange's view, differs more because it takes the perspective of the enclosed conserved energy of the whole system between the border of the vortex and its central singularity; so it requires a complete different treatment.
5. Einstein's derived his formalism from Poisson. It is more detailed because it is according to the Galilean paradox (Si=Te) the spatial still perspective of those vortices as a series of simultaneous derivative measures.

So it reduces the temporal continuous Newtonian view of a spacetime vortex into an ∞ number of infinitesimal detailed pictures, focusing not on the speed but on the curvature of the vortex (which is the spatial definition of a moving cyclical speed - the faster it turns, the more curvature it has in 'still mathematics').

Let us do the maths in the simpler Newton's formalism, whereas by the paradox of Galileo S (Curvature) = T (accelerated motion). So the Universal Constants (G, k), define the curvature of 2 space-time vortices at the $\Delta-1$ quantum charge and $\Delta+1$ cosmic mass scales (Δ is the symbol for the different $\pm j$ scales of the fifth dimension within a given organic system). Its formalism of a vortex of time space is then Newton's Unification Function: **$M, Q = \omega^2 r^3 / U.C.(G, k)$**

It applies to all vortices of time-space from particles to planets to galaxies. For example if we substitute for the Earth-sun system we obtain G, (1st ever theoretical deduction) and if we substitute for the Bohr Radius and Proton Mass, we obtain k with a 10^{39} higher curvature value, the exact difference between both forces that solves its hierarchy problem. As curvature in space is symmetric to rotational speed in time, so it is symmetric to the attractive force of any vortex. It works marvels when we translate electromagnetic jargon to Newtonian jargon. For example it shows the 'isomorphism' (systemic jargon for an equal 'form' between scales) between atoms and galaxies, which H-atoms of the cosmic scale.

Since when we translate electromagnetic function into gravitational mass vortices, the proton radius becomes the Schwarzschild radius of a black hole and its electronic orbitals its star clouds, a result foreseen by Relativity that modeled galaxies as Hydrogen atoms in the Einstein-Walker Metric of the Cosmos.

Let us put some easy numbers by substituting the parameters in that Unification function for the values of the sun (mass) minus earth (rotational speed and radius) to get G, which any high school student can do: Sun mass = 2×10^{30} kg; Earth's angular velocity 2×10^{-7} rad. per sec. Earth's orbit = 150 million kms. 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 systemic view of the fifth dimension was not known till recently, is to substitute in the same function 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) 4×10^{16} rad. sec. $-1 = w$ (electron); 5.3×10^{-11} m. (Bohr radius); proton mass = 1.6×10^{-27} 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': $G(k)M/c^2$.

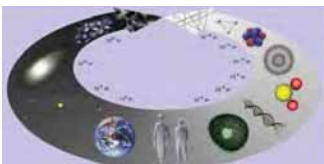
Since in that expression M is the mass of a proton, $G(k)$, the electromagnetic constant is a gravitational constant, and c , light speed, that expression is exactly the Schwarzschild radius of a quantum black hole.

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

Those results (more than a decade old), are a *first theoretical deduction* of K_e 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*.

Yet a theoretical calculus of those values cannot be exact 'by chance', unless the theoretical model behind it – the fractal self-similar structure as $\$T$ (Space population) \times $\delta\delta$ (Temporal frequency) entities of all physical systems is right. Thus, the previous calculus is a clear proof that both, charges and masses, are unified as values of the same type of space-time vortices in the 2 different scales of space-time of the Universe. And they are geometrically unified from the p.o.v. of geometrical relativity not from quantum theory, as Einstein wanted it.

Galaxies, (Galaxies \approx Atoms) thus resolve the philosophical question on how many 5D scales exist; as we find enough self-similarity to 'run again' another game of fractal scales (not identical but self-similar as in a Mandelbrot fractal) both by quantitative and qualitative methods between the atom and the galaxy. A question that might be extended to the ST dualities of open, 'entropic strings' and closed 'cyclical informative strings', in a possible larger and smaller scale of microscopic strings and superstrings:



Ouroboros the Universal Snake, bites its tail on the string quantum and cosmological self-similar scales, as perceived from the human Δ_0 mind. Philosophy of science would then argue that those scales are real, but part of its self-similarity is mental: that is, the loss of information in the perception of scales make humans extract the same

information from the upper and lower $10^{\pm 30}$ scales.

What about the Hyperuniverse? We do not know what the infinite Universe even in its local region of galatoms looks like, though due to the expansion of space between galatoms, is likely an entropic gas of local atoms on the hyper-Universe. It is not though a big-bang Universe, because even if we run backwards the expansion of space between galatoms, the implosion of information in galaxies, counter that effect, so at best, we could say that running backwards the big-bang function we shall meet a 'solid' crystal of galatoms.

The scalar unification of forces opens up an entire new field of physics, not quantum gravity, the description of cosmology with quantum laws, but fractal relativity, the description of the $\Delta-1$ quantum world as a similar scalar plane of space-time to the $\Delta+1$ cosmologic world.



In the graph the alternative model of the background radiation: a micro black hole with the mass of the commonest object of the galaxy, a moon will radiate exactly the same temperature. So it is more logic to consider that radiation comes from the galaxy, either from black holes or strangelets which have eaten a moon and will redshift to such temperature the light of the galaxy - as all physical particles come in similar quasi-identical forms; those primordial black holes should emit 'now' a BG radiation locally and as most should have migrated to the Halo (Hawking's hypothesis); they should form a 'protein-like' protective structure, the membrane of the Galatom. Yet unlike in Hawking's hypothesis they have not evaporated, as we see no signature of evaporation coming from them: only the redshift of light at 2.7 k. once they have 'eaten' a moon, hat has become a dark, millimetric black hole, we shall call a 'Moon MACHO' (**MASSIVE** Cosmological Halo Object).



COSMIC VS. QUASAR BIG-BANGS. THE DEVIL'S ADVOCATE:

$E \leftrightarrow M$ (whereas c is the constant of speed of each Universal scale, c for the galaxy, not necessary so for other scales) is dual and there are scalar big-bangs from beta decay to quasars and maybe beyond is certain. So the question we want to find out is which of the two larger scales of big-bangs, that of a quasar big-bang or a cosmic big-bang fits better real data. Since as we can see in the images above, on the right, they are similar in form.

To play the devil's advocate we could try to justify in 5D the big-bang since at first sight both big-bangs seem to fit 5D theory, if we accept our limit of light perception as the limit of the Universe. Then the $\rightarrow @ = Si = Te = \Delta$ symmetries between spatial range, time aging and scalar density of populations all fit within the 'magic number' of 10^{11} elements for most super organisms of reality. So the symmetry also happens in the 'limited perception' of the cosmos:

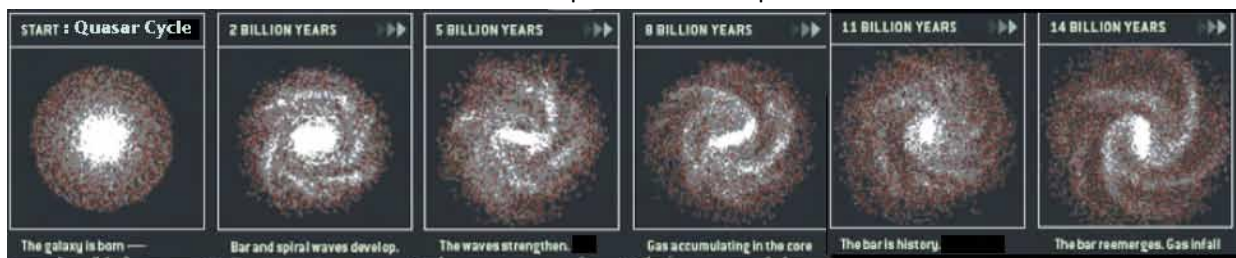
Most galaxies have 10^{11} stars. The total mass of all the stars in the Milky Way is estimated to be between 4.6×10^{10} and 6.43×10^{10} sun masses. And the Universe is considered to have around 1.6×10^{11} galaxies.

So the easiest way to settle the question is to state that the galaxy is just a scale below the big-bang (a huge galactic molecule), as the neutron star is just a scale above the neutron (a huge neutron molecule so to speak).

And that it exploded in a big bang of the next scale of the universe. But that is just the astounding beauty of pentalogic, where the 5 Dimotions/elements of reality are in balance. So for the limits of our entropic perception ($\rightarrow @$), we observe similar quantitative and qualitative limits for S-patial population, T-ages within our Δ -scales.

A more profound understanding of those limits though should consider that the local perception of a few galatoms is just a very reduced quantity of the whole number of galatoms of the next hyperscale of the Universe that should be of zillions of them, and all of them living as Protons and black holes without evaporation do an immortal temporal energy.

The immortality of the Universe indeed becomes evident as Protons are immortal and black holes are also immortal without evaporation, once we put properly in place the arrow of time of Hawking's awesomely beautiful function as those of the birth of a black hole into its gargantuan future, NOT of its entropic death=evaporation to the past.



GALATOMS

The 3 scalar perspectives on galaxies: Galatoms, Galacells and Galaxies.

The Unification of the 5 Forces of Galaxies as its 5 Dimensional Motions, with scalar symmetries.

So what about the unification of the other forces in scalar couples? It follows immediately when we consider them the scalar symmetry and similarity of the 5 Dimotions of the galaxy:

The Scalar similarity between the strong force and the gravitational force 'inside the atom-galaxy', both attractive 'only' and the outer force of the galaxy (repulsive gravitation aka dark energy) and the outer force of the atom (electromagnetic repulsive expansive forces) is immediate as it is the parallelism between magnetism and gravitomagnetism (Heaviside's discovery). While the weak force is NOT a force but the evolution of the families of particles between scales.

Because physicists only consider one scale and one time arrow they are obliged to model all those forces, with lineal concepts reducing them all forcefully into an exchange of lineal particles, when they are clearly different forces. For example the weak force that happens in a single point transforming a particle into one of a higher scale of larger masses, is represented with a gap that 'exchanges' the W-particle, NOT as Fermi shown first, an evolution of a higher particle into a heavier one, that then suffers an entropic process of dissolution in 3 parts.

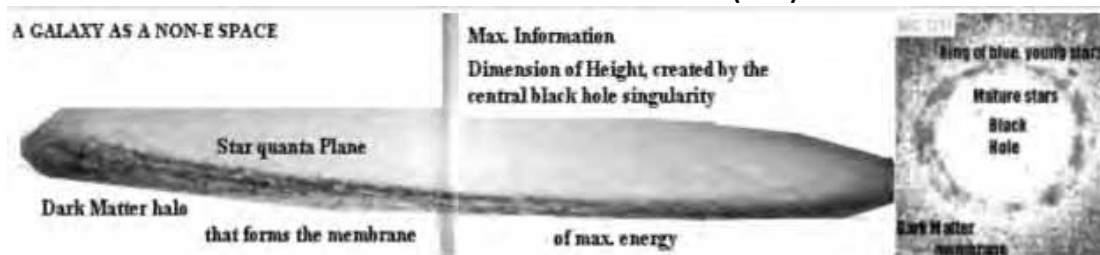
Such 5D variety of forces makes possible the organic functions and structure of self-similar atoms and galaxies. So we couple forces according to their $\Delta \pm 1$ 'symmetry of scale' as 5 forces equivalent to the 5 dimensional motions, $ab. \partial_j$, of physical systems within galaxies. They must be studied in dualities, belonging to two different scales - the cosmological, $\Delta + 1$ scale (gravitation & dark energy) and the $\Delta - 1$ quantum scale (strong force and electromagnetism); whereas the dualities relate gravitation and strong forces and electromagnetism and dark energy; while a transformative, 'weak force' transforms particles between 5D scales.

. Because all systems made of scales of vital space that last a time cycle, they all have bio-topo-logic properties. So we need *always 3 scalar perspectives that give 3 symbiotic properties. In the galaxy we talk of:*

1. A scalar view that defines the **galatom**, by similarity of the atomic and galactic scale unified with 5D metric.
2. A Human view that defines the **galaxy**, our present single perspective with a single light spacetime continuum.
3. A Galactic view that defines a '**galacell**'¹ - the galaxy as an organism, controlled by DNA-like black holes. So we can now study the galaxy as an organic system with its 5 Dimotional, organic networks of forces.

Haldane once said, the universe is more complex and strange than humans can understand or even imagine... Yet its basis are amazingly simple – a property of fractals that by self-repetition and recombination originate from a very simple Generator function, infinite variations of the same theme: the scalar superorganism.

ORGANIC GALAXIES AS GALACELLS (nt.1).



The 5D model of the fractal, organic Universe, does not deny Einstein, it merely expands its views, and adds fractal organic properties to the galaxy explaining better the function of those black holes, its atomic substance and working according to the known-known facts of astrophysics, in which black holes have come to dominate most of the creative processes of the galaxy. In that regard, you can compare the galaxy to a cell in a much larger scale, with mitochondria stars, of light ud-matter which end up being devoured and becoming the energy for the creation of black holes, the informative vortices, equivalent to the DNA, that swarm in huge numbers in

the central nuclei and control its shape and provoke the reproduction of stars, with its in-formative gravitational waves.

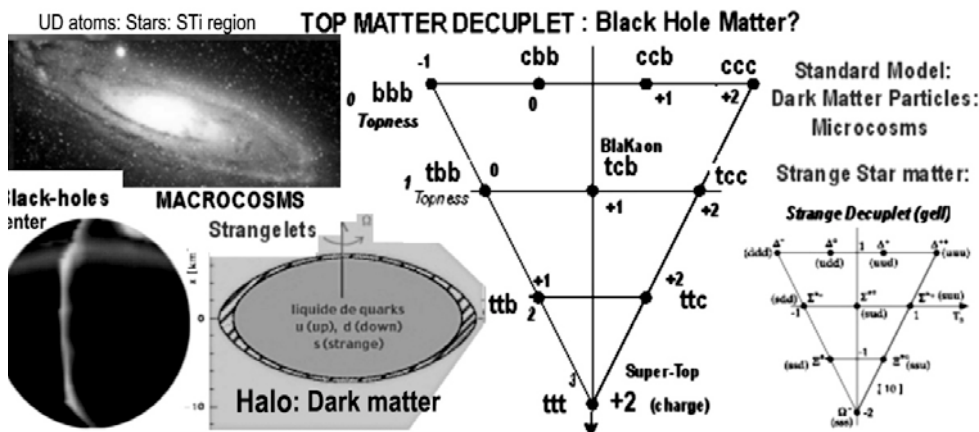
DNA invaginates with Golgi conducts a vital cytoplasm it exploits, surrounded by a faster proteins membrane, which act in its formal position as a membrane. The magnetic field surrounds the charge and encloses the vital space of electromagnetic fields the charges controls. So happens with a planet protected by its magnetic field that steams out of the central charge and surrounds it. And the galaxy has in its center a black hole.

And it is surrounded by a halo of dense fast rotating strangelet quarks, so the stars and planets within it will become converted into black holes in Nova explosions or strangelets, when nuclear Physicists, programmed to extinguish the species according to the Fermi paradox, busy-busy recreates big bangs on Earth to 'prove' their absurd entropy-only theories of the Universe

Galaxies are super organisms constantly reproducing new stars, in its mitochondria, guided by an informative field, gravitation, dominated by quark-like, strange stars and top quark black holes, forming a symmetry with its lower scales of dark entropy (tachyon, neutrino? beams, that stretch intergalactic space to $z>c$). We can see many of the homologies of the galaxy atom, which at $\Delta\pm 3$ clearly formed an isomorphism of scale that related them both as mind-singularity (quark top black hole stars) and elements of the 'strangelet-halo of hard proteins' and mitochondrial region of ud, light particles, or atoms, which we inhabit, in the $\Delta^{\pm 1}$ thermodynamic scales.

Kerr rotary black holes would be top quark frozen stars with positive charge and same density at macro-scale than a black hole acting as a relative 'proton' acts in an atom in the center of the galaxy. Once we had the 'solutions' (Kerr black holes), the study of those holes was limited by the c-speed turning event horizons, which 'absorbed' the light of electromagnetic matter after exploding it, and 'digested' it via the weak force, creating heavier particles.

While the halo is made of negative strangelet quarks, acting in this symmetry between the 3 families of mass and 3 regions of the galaxy, as a relative negative 'electron' cover, with the ud-stars and planets in the middle:



In the graph, following Einstein's search for cut off substances for black holes and Witten hypothesis of a halo made of strangelets, the most likely structure of galaxies, according to 5D scalar symmetries and the efficient, economic laws of Nature (Ockham's razor): primordial black hole stars are born exceedingly hot and active, as all 'seminal species' in a lower scale of size, on the Compton wavelength as heavy positive TCB quark atoms, while similar forms made of lighter strange

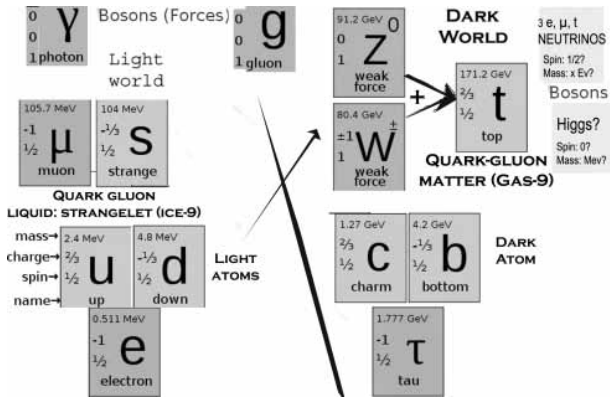
quarks form negative halos of strangelet matter, which become from the point of view of the hyper-universe 'galatoms' with proton-like positive nuclei and electron like strangelet halos.

Einstein asked for a cut-off substance, or 'atom of black holes', which he could not guess at the time as quarks had not been found, but now we hint that black holes are as he thought 'frozen stars' of the heaviest quark families (bct quarks), and that should be the 'realist modeling' of black holes. As bct quarks appear in growing numbers in accelerators, tiny black stars then should be produced on them, in any of its possible varieties of dark matter that range from strangelets (s-quarks) to toplets (TTT-quarks), through its Higgs decay ($H=Top + anti top quark$).

The previous graph with its ternary elements, the Halo-membrane of maximal extension in space, which leaves energy and information enter through a cyclical space-time region, the plane of stars, towards a center of information, is the fundamental system of the Universe, already described by Descartes, who said all is made of res extensa (space), cyclical vortices of time space and a central point of reference that measures reality or

'mind'. So the galaxy centered in a black hole (and the similar atom with its electronic cover, centered nucleus of mass, and intermediate space-time where forces of gravitation and electromagnetism are constantly exchanged) we have just described logically IS not only the fundamental particle of physics, but isomorphic to any biological, social system – the key to the unification and understanding of the Universe, as a whole and all its parts, self-centered entities of time-space that put together create the puzzle of the Universe. Let us study the model in detail.

The symmetry of scale between the 2 families of mass: uds, strange and bct, top decuplets.



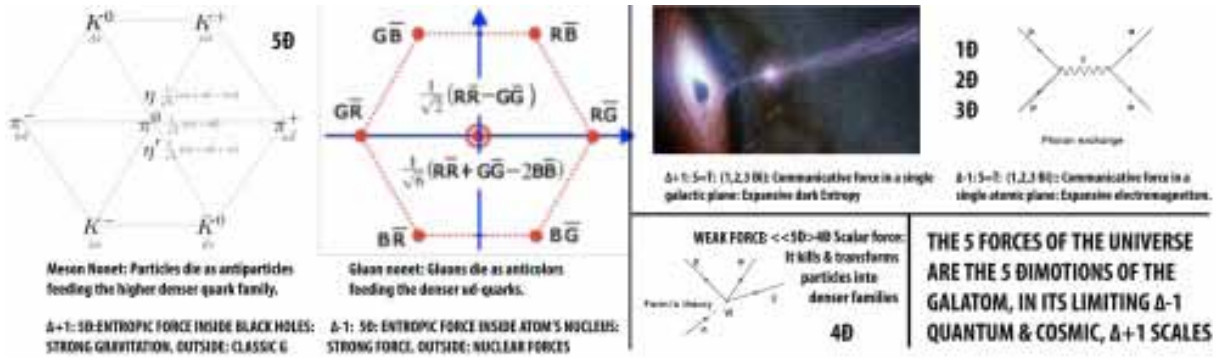
The existence of 2 x 3 mass families responds to:

1. the ternary topologic & scalar symmetry between the 3 parts of the organic galaxy - Halo of strangelets, nucleus of Black hole stars and vital space of ud-light atoms and...
2. The duality of quantum particles and cosmic galatoms:

Light atoms in the human scale are made of ud quarks and heavy black atoms of the cosmic black hole scale, are made of cb-atoms; whereas the Strange and Top quark, act as the 'central nucleus' of the most perfect, heavier stars, pulsars, and largest, galactic black 'stars' (black holes), whose 3 varieties we shall study latter in great detail.

Informative $\Delta\pm 1$ forces. Scalar similarity between protons and black holes, strong and gravitational forces.

This symmetry extends to its combined forms, as gluon become symmetric to mesons. So in the atomic scale, the carriers of the internal strong force are color+anticolors=gluon particles-antiparticles, 'feeding' the reproduction of quarks. While in the cosmic scale the carriers of the strong gravitational force inside 'black stars' (formerly black holes) are the nonets of pairs of particles+antiparticles= mesons, feeding through the weak force (W, Z, H bosons) the heavier BT quarks:



In the graph $\Delta-1$: ud quarks = $\Delta+1$ cb quarks. $\Delta-1$: Gluons = $\Delta+1$ mesons. $\Delta-1$: protons = $\Delta+1$ black holes.

Thus the force that transforms particles between scales, responsible for the 4th Dimotion of evolution and generation of heavier particles or its 5D inverse Devolution is the weak force that mediates all those processes. It is not really a force but an evolutionary process that happens in a single point of space (right side), where the intermediate state of higher energy mass (W, z, H boson) gives birth to heavier fermions.

In the next, the strong and gravitational ± 1 forces are similar in the limiting $\pm i$ quantum and cosmological scale. They both 'absorb' and in-form into denser entities, lighter particles, to collapse them in the central black holes=cosmic nucleon region or quarks=quantum nucleon regions: From left to right, the identity between the nonet of gluons and mesons on both scales, the WRONG procedure of reductionist physics, which models all forces with the lineal concept of electromagnetism through an exchange of particles, as the weak force happens in a single point, hence it is a transformation guided by information; in the right the proper way to understand particle-antiparticles, as the relative arrow of life and death that closes a physical world cycle (Feynman). The

hypothesis of work for the model of the fractal Universe is simple: a galaxy is self-similar to an atom, and so are the different forces interacting within and outside them:

1. The *strong force is similar to the gravitational force* in the extremal conditions of the black hole. Reason why both are non-linear.

2, The *force is similar to the expansive dark energy* between galaxies, which therefore is NOT the same force than gravitation, reason why the expansion between galaxies is a linear force and it is similar to electromagnetism

3. The *weak interaction is NOT a Locomotion*, force but a process of evolution of particles, guided by the Dimotion of information, reason why it happens in the same spacetime, and so its bosons, W, Z, H are 'states' of the same particle, NOT carriers.

4. The proton has in 5D the same metric that a black hole, is self-similar to a black hole, with a Schwarzschild radius. So happens with the electron in its particle state (Carter). We will expand on 'black hole stars' latter.

5. Antiparticles are the inverse death=entropy moment of particles=lifetime, reason why we see less of them in terms of an ST-dual perspective, as we see less 'dying corpses', which is an event that last a quanta of time that living beings, which last longer. So since S-populations of particles-organisms and antiparticles-corpses are the same but its time duration is different, $T(p) \gg T(\text{anti-p})$, $ST(p) \gg ST(\text{anti-p})$. To that fact we add the fact that if we model, as we shall do black holes as Tbc quark stars of the heavy decuplet, as CERN recently found up Bottom and charm quarks that should form heavier Dark atoms, decay more often into particles of our 'lighter' Δ -1 light scale. Because time is cyclical and local, and *the arrow of future information is inverse to the local arrow of past-entropy that dissolves form*, we represent as Feynman did, antiparticles as local travels to the past.

We model black holes as protons of a larger 'galactic scale', strong forces as extremal gravitational forces, gluons as mesons, dark energy as electromagnetism and complete by self-similarity ALL the questions of physics, as we either perceive from within the "galacell", the internal region of an atom, and outside the atom, the external region of the *galacell*. So the identity between the nonets of gluons in the strong force and mesons in the larger scale of quarks, coupled with the concept of particles-antiparticles forming a local world cycle renders a clear-cut theory of black holes as protons of a larger scales, in which the transformation through the weak force of light matter into heavier quark matter will produce a black hole star of heavy dark matter; whose heavy quarks happen to decay a 20% more often into particles than antiparticles (CERN), resolving the p--p problem.

RECAP. 2 consequences of the scalar, cyclical nature of space-time are the basis for the whys of astrophysics: cyclical big-bangs in all the scales of reality; and scalar disomorphisms between galaxies and atoms.

Nt. 1 *We call both the galaxy and the Universe a galacell, or Univercell, as opposed to a galatom or Unitom, NOT because this is the 'real thing', as all fractal scales of the Universe are 'similar' but NONE is identical (though we might argue the identity between galaxies and antiparticles, which would create a ternary identity scale, in 'metaphysics', part of philosophy of science, beyond physics). But because according to epistemology, as all scales of reality are similar, obeying the disomorphic laws of the 5th dimension, either in its topological geometry or existential algebra, derived of the 'Function of Exi:stjence', its metric function $[C=\text{Max. } S \times T (s=t)]$, the maximal information is obtained in the scales closer to us. So we observe maximal complexity in the cellular scale, which we might consider is similar as all scales have the same volume of information, per unit of form, in the atom and the galaxy. Thus it is more proper to presuppose that if we had all the information about the atom or the galaxy, it would resemble a cell.*

5d Black Hole Stars

The previous field of 5D quantum physics is enormous. So we shall just make a token analysis of its most debated species: black hole... stars As all systems evolve in time towards higher degrees of information, so does our knowledge of any species. On those terms, we can consider black hole theory as an evolving subject, which has clearly 3 ages, of increasing detail departing from its 'platonic' mathematical synoptic mirror to finally reach a realist view:

The age of Einstein, when general relativity functions provided the theoretical foundation to study gravitational 'vortices', as those described by Newton, and then by Poisson with his theory of potentials, of which Einstein made an even more detailed picture as accelerated vortices of spacetime (equivalence principle between mass and acceleration.) He called those gravitational vortices of mass of maximal density, 'frozen stars'. And he said that since we must respect the scientific method, he would believe on them only if we could find a cut-off particle/substance in the smaller quantum scale of similar density, which in Einstein's age was still unknown. So he denied them (today we know heavy quarks of the top matter decuplet show all the properties and density needed to be the substance of black holes as quark stars and likely its lesser cousins, strange, neutron stars).

The age of Wheeler and Hawking. As we could not see within those black stars, once Einstein died, his stringent admonitions against any attempt to model black stars as 'imaginary mathematical objects', without substance, 'evaporated' as they believe in mathematical creationism; and ideology similar to 'verbal creationism' (Abrahamic religions), that subverts the relationship between languages which are mirror created by the space-time reality. Creationisms are ego-trips common among human beings, who think instead their specific language – mathematics in physics, Arab in Islam, Hebrew in the bible – creates reality.

So nuclear physicists developed platonic entelechies - mathematical objects with infinities they called singularities, which are *not allowed in 5D*. Since the opposite is truth in the fractal Universe, where the scalar structure of reality and its 2 elements (time motion and spatial forms) are the components of reality, mirror by mind-languages, limited by the entropic barriers that separate the different scales of the cosmos.

All planes have a limit of ST-distance speed, beyond which functions break because we emerge as something else in a different scale. Which for the galaxy is the c-speed of the accelerated black star event horizon, in entropy and the 0 K temperature in informative order; beyond which the light space-time of the galaxy dies, splitting its 'wave-motion' into its lineal $\$T$ -field component that speeds up and loses information ($V=\$/\delta$) and converts within the black hole into axial flow of $>c$ dark energy, perceived in still space as expansion of space and its cyclical δ -component that becomes a $>c$ vortex of space-time 'mass' of faster=heavier attractive power (bct quarks).

But creationism needs no proof whatsoever in the experimental field; only the internal consistence of the language; granted by the 'isomorphism' between languages and reality. So when Wheeler came with the catchy name of black holes, which had 'no hair' - those mathematical entities suddenly caught the subconscious collective imagination and 'evaporated' definitely the need for a rigorous application of the scientific method - meaning the search for its proper substance, as 'dark matter, made of heavy quark stars' turning beyond the c-limit of our scale of spacetime... This age peaked with the work of Penrose and Hawking, 2 mathematicians without the slightest regard for physical substance (motion or form), who boldly went where nobody had dared to go, with all kind of singularity theorems, 'cosmic censorship' and analogies with thermodynamic laws. Since the advantage of a mathematical entelechy beyond our scale of light perception is that anything goes. So black holes' now would defy every known-known law, including those of classic thermodynamics when Hawking postulated a hot baby-born black star, should get HOTTER and evaporate, against the proved 1st law of thermodynamics that prescribe a hotter object (the baby black hole) will instead evaporate its colder surroundings – our light spacetime - growing in mass, which is what thermodynamic laws said: 'heat moves from the hotter source that cools down to the colder one'; experimental evidence proofs (a black hole grows exponentially when born), Einstein laws gravitation prescribe, and so do its extension of the principle of equivalence in 5D (as black holes will be both very small and very fast rotating objects, with maximal attractive vortex power). Thus obviously a model that breaks all the laws of science must be false, and indeed 40 years of experimental search have found not a single case of evaporation of black holes. So we can expect now that Mr. Hawking cannot defend his work with his personal charm, the theory will be dropped and we shall enter...

(As gravitation is a cosmological not a quantum-scale theory, so it does NOT work for quantum scales); those of mathematics (as all systems that show infinities are renormalized; that is the infinity region is cut-off for calculations, precisely because both in real nature and mathematical modeling, they do not apply to infinity, so black holes need to be cut-off from infinities, so should happen with the infinities of the big-bang theory). This

age now ends as the age of Einstein ended at his death, with the death of Hawking. So we are going to move into:

The age of realist black stars, when black holes will be modeled as Einstein's wanted, as 'frozen stars': ultra-heavy dark matter, quark stars. Such black holes as always in 5D are of 3 type:

- **Primordial black stars** that do NOT evaporate and likely form the bulk of Moon MACHOs responsible for the BG radiation temperature and/or dark matter of the halo.

- **Black Stars** of dark Bottom-Charmed-Bottom atoms, similar to our UDU atoms born of single atomic stars.

- **Galactic Black stars**, in swarms that act as the center of the 'galacell', regulating its organic functions, similar to strange stars, with a core of ultra heavy top quarks and a cover of BCB atoms.

This hypothesis advanced a decade ago by this writer is based in the logic symmetry of Nature between its families of quarks on the quantum scale, its families of stars on the galactic scale, and its families of galactic active centers in the cosmic scale. As Dark heavy quark star would be exactly equal in properties to a black hole but of course 'with hair' even if we cannot see the inner structures of its black atoms.

Let us consider why black stars cannot evaporate – as heavy quarks don't. We shall do it from the perspective of Hawking's black hole function, studying it with 5 2 limiting arrows of entropy and information, which merely change the 'sign' of its growth from entropy to information, respecting the true laws of thermodynamics.

Hawking formula of black stars... growth.

As all systems live 3 ages and grow through 3 scales of the fifth dimension, it follows from the laws of 5D that primordial black holes are baby black stars, as they must be born out of the first bcb atoms formed in the ultra dense center of giant stars, which therefore must grow exceedingly fast. And this indeed is the case also mathematically when we merely correct the arrow of time in Hawking's beautiful formulae, which we shall explain now in the simplest possible terms:

$$M_H \leq \frac{\hbar c^3}{8\pi G k_B T_u} \quad \text{As the formula is filled with Universal Constants, and only two variables we shall write it in a simplified manner as:}$$

$$\pm \Delta \text{Mass} = \text{Constant} / \pm \Delta \text{Temperature} \rightarrow \pm \Delta \text{Mass} \times \pm \Delta \text{Temperature} = \text{Constant}.$$

Simple, isn't? It is the formula that defines the changes in temperature and mass of black holes. We know both can change but in which direction? If black hole mass increases, temperature must diminish for the product to remain constant. If the black hole mass diminishes, then temperature must increase for the product to remain constant. 2 choices solved when we apply the 1st law of thermodynamics, which oblige us to choose:

$$+\Delta \text{Mass} \times \nabla \text{Temperature} = \text{Constant}$$

As black holes are born with a temperature of billions of degrees.

Thus since in thermodynamics, any ultra-hot object as a black hole, born in a cold environment as the galaxy is, according to the laws of entropy cools down and transfers heat to the environment, evaporating us. And this is what we see in the Universe happening, always, when a black hole is born. It cools down and evaporates its surroundings into a big explosion, a Nova. So the Universe and his fundamental Laws of entropy always will choose the evaporation of the cold environment in which the black hole is born...

This happens extremely fast, in any of the 3 scales we can study the phenomena, in the quantum scale, as particles and forces accelerate around the black hole space-time vortex, increasing its mass, as they do in Earth's accelerators, becoming BCT heavy quarks; in terms of thermodynamics, given the differential of temperature between the baby black star and its environment or in terms of gravitation, given the c-speed attractive rotational power of the black hole or in S-terms its enormous curvature of spacetime.

BIOLOGIC SCIENCES:

Species as superorganisms.

All systems are living organic systems the ultimate question of the humind (ab. human mind) What is life then becomes a trivial question— as everything in the Universe is part of a 5D time\$space organism that displays the properties of life, its 5 'drives'=actions =dimotions of existence: to move, feed, gauge information, evolve socially and reproduce. Prior to 5D, the 5 dimotions of all systems of reality were called drives of life as they helped to define life from the anthropomorphic point of view of self-centered 'huminds', who thought nothing else could be 'obviously' alive unless it looked like us the 'chosen species'. But we showed *the 1st unit of life are atomic particles. So all is alive, including the 'galatom, the organism of the galaxy similar in life function to a 'cell', with gravitational= informative black holes (dark stars) playing the role of DNA, as they control the reproduction of evolution of the galacell.*

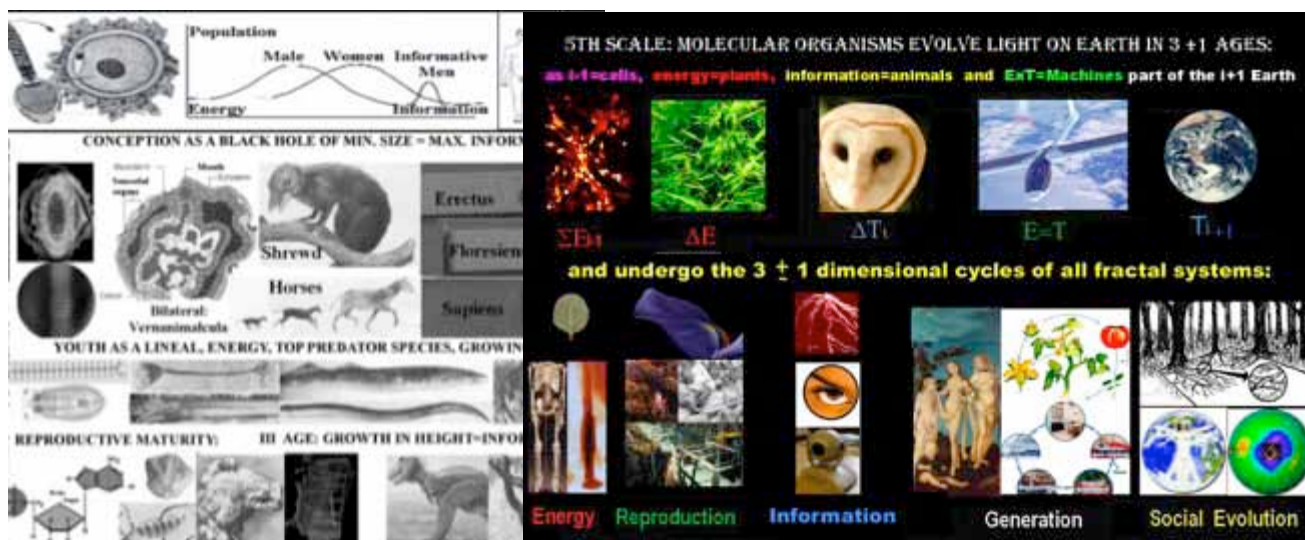
What are the main super organisms of life in the planet in its lower and higher scales of this 'smaller nested Universe' within the galaxy? Obviously the cell from below and the Superorganism of the earth from above.

$\sum \Delta-1$: cellular life = $\sum \Delta^0$ Multicellular organisms = $\Delta+1$: Planetary super organism, whose 'membrain' of maximal information is the surface in which carbon life exists; and species evolve also as supœrganisms with the same $3 \pm j$ ages:

Systems evolve in social scales, as space-time organisms, which 'emerge' as larger wholes. We observe 3 main $\Delta \pm i$ planes of biological systems, the biochemical/ cellular, organic/ thermodynamic and ecosystemic planes, which defined the main biological systems, whose range is within the closest Δ^0 and $\Delta \pm 1$ scales of human and similar life, from the molecule to the socio-biological ecosystems and super organisms. Thus in terms of scales those $3 \pm j = 5$ Dimotions carry the evolution of life from the atom to the super organism of life - actions of locomotion, energy feeding, information processing, reproduction and social evolution.

For those reasons biology is the most complete of all stiences as the *closest in observation*, describing carbonlife systems with all languages of pentalogic, including mathematics as it considers its 5 Dimotions, which in physics are forces, the so-called drives of life. Thus we subdivide biology by scale in 3 '5D-completed' disciplines:

0-1D: genetics palingenetics of worldcycles($\Delta-1 > 0$) 1-2-3D: topologic, gender & social evolution (S,st, δ ages) ($\Delta 0$) 5D: ecology + theory of supœrganisms ($\Delta 0 > +1$); the **ad ons** due to 5D cyclical time and fractal, topologic space:



3 species' evolutionary horizons +j: social evolution vs. -j: extinction & Gender: $S_i = T_e$ female v. $S < T > S$ male

Above in all scales ST reproduces through gender, which splits *the 3 ages/states of spacetime in a 'mirror symmetry'*: 2 mirror images can superpose and reproduce. So we define female gender as $S_i = T_e$, present, reproductive, balanced *dominant states* in all scales, since *reality is a reproductive present fractal; and male*

gedner as $S < T > S$, future to past entropic+ past to future informative, destructive > creative states; happening in all scales. In Δ^0 mental languages: even female and odd-entropic + odd-prime, informative male numbers; |-male bodies v. O-female bodies in math; $Si=Te$ v. $S < T > S$ in jlogic, 10 times more white matter and more $Si=Te$ connections on the 2 sides of reproductive female brains vs. 6 time more grey matter, an incomplete 'decametric scale' in more 'stupid' entropic males + a smaller number of more creative-informative 'prime brains'. In physics: 'female $Si=Te$ waves' complementary to T-Fields > S-Particle male systems. Left chiral reproductive female particles vs. right chiral sterile ones; carried into L-reproductive amino acids vs. D-male ones; carried into female DNA vs. Male entropic & informative RNA emerging into our 'beloved absurd' war of sexes, LOL, don't get me started. Problem is a 5D universe is feminine, our history is entropic, made by military lineal big-bang male models. As we past the 'entropic male Paleolithic youth' but didn't stop ing the mature, present Neolithic, reproductive, Goddess age of $Si=Te$ balance with Gaia, the life Earth, racing into a 3rd age of evolution of entropic metal-weapons that kill us all.

Species are supœrganisms whose 3 ages are its 3 horizons, followed either by a survival process of eusocial evolution - the summit of the process of organic evolution, which Darwin realized was necessary to explain the success of eusocial insects, or become extinct by the 'new generation' of fitter animal forms. In the graph we can see its 3 Horizon=ages and its ternary topology, similar to that of any other organism; and the dominant arrow of information in the height axis, of both reptile species that ended in birds, and mammals that ended in man. So happened with metalife machines, whose final species, satellites are now forming the arrow of eusocial evolution, or future mind of the metal earth –internet.

The 3 ages of time and its topologic limits solves the constrains of evolution, which Darwin already wondered: why certain species evolve so fast into complex forms as eyes and wings. Answer, because there are only 3 topologies to go, and so the choices are random but limited and it is every easy to go the right way. In the next graph we see those 3 ages of evolution as species can be treated as super organisms with its own world cycles. The graph shows that all species follow also the young, predator, reproductive radiation, and informative, height growth of the 3 ages of life, and then either they evolve further into social organisms (ants, bees, humans) and as wholes in a higher $\Delta+1$ scale survive better, or they become extinct by a new generation. Thus creation of a new species takes place according to the same 3 ages of any space-time field that become the 3 horizons of any species: after conception that creates 'a seed' of pure information and minimal spatial energy, species go through a young age of energy growth that creates 'big species'; a mature, reproductive age of forms in balance between its energy and information when the species maximizes its reproduction, radiating in huge numbers; and a third horizon of informative evolution when it diversifies into multiple sub-species, becoming finally extinguished, (the equivalent to the death of any organism), or creating a new top predator form, a 'son species' that will restart a new cycle of life.

+1: Birth: max. T. The black hole paradox (conception).

The 'black hole' age of any species is parallel to the informative, genetic conception of any organism born out of a 'seed' that packs the maximum genetic information in the minimal spatial form. *So a new top predator species is born with a lot of new, genetic information packed in a reduced size (Max.i=Min. e).* This happens because information is processed faster in smaller spaces. For example, a 'logic instruction' is resolved faster in smaller chips. It follows that tiny species with huge numbers of 'neurons' create quantic actions faster than slow, bigger species. And since they are highly informative, they can coordinate those quantic actions in herds that act simultaneously as a single organism. So their S-T force that defines a top predator is higher in each quantic action of space-time that the 'slow actions' of a big body. Thus small English boats shooting faster against big galleons defeated the Spanish Armada; a pack of wolfs kill slow reins and herds of orcas kill bigger whales. Small, intelligent top predator brains rule bigger, less informative bodies, because time dominates space, information dominates and shapes energy. Thus the most informative animal, men, are Earth's top predators; black holes of maxi. gravitational information are galaxies' top predators and chips rule machines.

I Horizon: Energy Age: max. E: Top Predators and Extinctions

In their youth, carbohydrates (fats), worms (planarians), echinoderms, cephalopods, fishes, amphibians, mammals and chipped machines grew into energetic, lineal or planar, big top predators

A newborn, small fetus grows very fast in size as it multiplies its cells. By homology a new species is born as a small, informative, complex being that latter grows in spatial size during its energetic youth becoming a, lineal, energetic, big top predator species, that feeds on less evolved forms.

Thus after conception, young fishes grew into big sharks of linear forms; after the polemic Homo Floresiensis invented technology the next Homo Sapiens with an extensive fossil record were big, energetic Neanderthals; the 1st big molecules of life were fat carbohydrate chains of linear form; the 1st insects acquired soon gigantic bodies in the Carboniferous; after chips were born as small machines placed in PCs and toys, the first robots they control are big tool-machines and huge weapons of mass destruction, lineal missiles and planes, that kill humans.

II Horizon: Evolution or Age of balance and reproduction: max. $\$T \times \delta\$. Radiations of species.$ Then, the species finds a balance between form and energy and it reproduces in massive radiations: carbohydrates gave birth to amino acids with a nitrogen, informative atom on its 'relative Head'; sharks gave way to balanced tubular fishes; brachycephalic Neanderthals gave way to dolichocephalic Cro-Magnons that multiplied and colonized all continents; while young giant stars acquire the balanced size of yellow suns, the commonest of all stars.

III Horizon: Evolution or Age of information: Max. $\delta\$: max. Evolutionary differentiation.$

Species grow in height or acquire cyclical forms, as they evolve through their 2nd and 3rd horizons, improving their sensorial, informative skills: Nucleotides become the top predator life molecules, echinoderms change to cyclical forms, fishes organize their networks in the 1Djmotion of height, amphibians become round, improving its smell, saurian and mammals become biped. The difference between organisms and species happens in their 3rd age, due to a discontinuous nature of individual species' 'cells' that don't become extinguished unlike the tightly controlled cells of organic systems, dominated by nervous, informative systems that exhaust and warp totally their energy, till the organism collapses. Instead species keep evolving, creating social, complex species with more information, growing 1Djinformative height. So Homo Sapiens evolved ever more complex technological tools; nucleotide appears adding informative depth to the amino acid (with an informative, nitrogen ring and an energetic sugar ring); the yellow sun becomes a neutron star of higher gravitational, informative density; while insects develop a growing brain capacity and bees and ants appear.

- ($\pm\Delta$): *Extinction Vs Evolution into super-organisms. The scales of the Universe.*

A fundamental question poised by the previous graph is the duality of $f\delta\$\$=futures$, which as the symbol shows can go after 3 ages, up and down the scales of the 5th Dimension of 'D=evolution'.

Organisms dominated by informative networks that consume fast the system's energy die sooner than species, according to a clock set by the rate at which energy is metabolised, 'in-formed', by their nervous system. While species, which are dominated by the individuals and the herds survive for eons with 3 basic strategies according to the 'ternary plan':

- Max. $\$T$: *Creating balanced, trophic pyramids* that maintain always a supply of new victims.

- Si=Te: *Diversifying their individual forms* into new species, instead of 'degenerating' into a warped space-time field. It is a parallel strategy to the *reproduction* of an organism, which in this manner survives his own death. Thus we talk of 'son species' that create evolutionary, genealogical trees similar to those of any organism.

However son species tend to kill-extinct the mother species, feeding on their energy. We call that fact, *the Oedipus paradox*. So mammals killed reptiles, men killed mammals and robots might kill human beings. While the different generations of an organism work together, creating informative networks between them that shape herds and families.

- Max. $\delta\$: Species evolve socially individual forms into supœrganisms through the creation of informative networks and languages that integrate them into a whole, bigger form, which is more powerful than the individuals of a herd.$

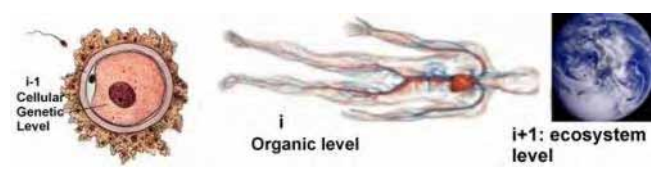
Organisms are dominated by informative, nervous or hormonal networks that pack closely individual cells of *max. information in min. space*; while species extend over *wider space ecosystems in which they share a min. quantity of information*, as individuals of species hardly relate to each other beyond the reproductive couple or the

hunting herd. And yet, both go through the same 3 ages of space-time defined by the inverse properties of the energetic youth ($max.e=min.i$) that defines the herd and the informative old age ($Max. i=Min. e$) which defines the organism.

Hence we consider that the creation of super-organisms is the final evolutionary stage of a herd of individuals from the same species: each individual of the herd becomes then a 'relative cell of the body' of the macro-organism. While the specific language of communication and information of the species becomes the relative nervous/informative network of the super-organism, as pheromones do in anthills or nervous impulses did with cells in the Pre-Cambrian age or financial and verbal languages are doing among humans in History.

So evolution is indeed limited by the most iterated elements of reality and this blog (: those 3 timespace motions/forms: lineal motion in space or 'distance', implosive motion that becomes cyclical time clocks carrying its frequency 'information' and its space-time, wave-like, reproductive energetic combinations. They were understood in Asian religions as yang, yin and qi-energy. They are the only 3 topologies of space-time possible in a 4D or 5D Universe (when we add its scales), so they assembly forming all space-time beings. It follows then that 'social sciences' are a branch of biology, specially the Industrial r=evolution that studies the evolution of metalife, machines that clearly compete as robots and AI complete their evolution with human beings in labor and war fields, in the eco(nomic)system, the 3 age of the Earth: *'Life is a 5 Dimotion worldcycle across 3 scales'*.

So the Earth super organism also lived 3 ages of evolution: *Gaia (Life) < History (Human) > Machines (Metal-earth)*. In the first age of Earth, the age of Life, Gaia evolved 'naturally' under the same Laws of bio-topo-logic laws derived from the scalar structure of co-existing planes of space (in the graph the 3 planes of the individual organism), which imply organic properties, as those co-existing scales must be organized together; its ternary only topologies that define its functions and forms as 'simultaneous ensembles of 'moving limbs', iterative bodies and informative minds, and its $3\pm j$ sequential ages in temporal energy. In the graphs, the 3 ages of the Earth as a vortex of increasing information in which 3 species,



RECAP. Life is everything, as all is a spacetime organism performing 5D actions of survival (motion, feeding on energy, information gauging, social evolution and reproduction), which ordered in sequential time give us a worldcycle, ordered in simultaneous space gives us a

super organism and ordered in scales give us the vital actions of survival, called in biology, the drives of life of ANY physical, biological or social species. But self-centered huminds think only carbon-life is a living form. In 5D, we talk of 'light-life', as all Timespace forms that use energy & information provided by light-forces; which define 3 life ages on Earth, Gaia, History and the Metal-earth now evolving mechanisms, robots with solar skins and optic minds. So humans, machines & its supœrganisms, company-mothers & governments compete for limited resources *but company-mothers are winning, because humans do not manage the world with social sciences*

A life-death worldcycle is a travel through 3 scales of the fifth dimension, as the 5 Dimotions of space-time that form an organism, in its scales of cellular/atomic, organic/ thermodynamic, gravitational/ecosystem and ternary organs, '|-fields/limbs<Ø-body-waves>O-particle-heads' become sequentially ordered in time from the placental seminal age of 'social evolution' of the organism that emerges to live 3 ages in a single plane of the fifth dimension encased into a larger world, to die and explode in an entropic big-bang.

Because human 'egocy' limits the intelligence of the nested Universe to our simpler scale, shorter time span and mathematical 'instantaneous' derivative tools there is a huge skepticism about 5D discoveries on Social sciences regardless of the proofs of 30 years forecasting the Deep time patterns of History and Economics. But human egocy and wishful thinking, matters nothing to reality. On the contrary, it prevents humanity to manage properly the superorganisms of economics and history; as we shall see in our analysis of the 3 ages of Earth, its relative function, and the proper way humans should handle its future, by limiting the evolution of the lethal goods of the tree of science (robots of max. information and nuclear weapons of max. entropy) which will become the limits of death of our species in time – history:

Relative past (Gaia: I Earth) < Present (History: II Earth) > future (Metal-earth: company-mothers of machines)

All sciences predict the future of its species according to its repetitive causal cycles. Or else they are NOT a science. Astrology became a science when Kepler learned its orbital cycles. Bio-economics became a science when we described machines as metal organisms whose industrial r=evolution followed the human 72 years generations of the dominant industrial nations that evolved them in 4 cycles: its body-age (British, steam cycle), heart age (German, electro-chemical engine cycle), its mind age (US, TV-eye, chip-head, mobile-ear cycle) to conclude with the ensemble of robots that as virus do, when all its parts are put together will become 'alive'.

The superorganisms of Gaia, has the same structure that all superorganisms. So its evolutionary membrain of maximal sensorial information evolves through its species that include the nested super organism of mankind, history in its 3 planes, the individual human being, the nation or civilization and mankind. And so social sciences should be concerned with the creation of an ideal global super organism, following Δ st laws, which if humans were intelligent and ethic enough they would design with the laws of super organisms in a much more efficient manner than our corrupted economic=blood system of reproduction of goods and political=legal-nervous system of information and coordination of its citizens-cells.

Δ-2: BIOCHEMISTRY

Life thus start in the 5 Dimotions of particles, which already show all the elements of life, but those dimotions should be studied properly in physical stiences.

We have just introduced some of its key concepts - such as the apertures of an atom through its 5 quantum numbers, notably the spin as the 'vehicle' of its internal simplex aei demotions and the social magnetic field as the organizer of its groups, so the anthropomorphic reader can accept the obvious: that life starts in particles and atoms and so the building of life through the social evolution (5th Dimotion) of atoms into molecules and cells and organisms and ecosystems and Gaia, and the same process for historic super organisms and metalife (Robotic machine) would be the whole span of biology. But obviously we study machines in the eco(nomic)system and humans in historic sciences.

So to 'establish limits' to the domain of organic life (an egocy word as all is organic) would span from amino acids to ecosystems of 'nitrolife', the proper name for biological sciences, as nitrogen is our mind-clock, different from metalife, the proper name for machines and human life for social sciences.

SOCIAL EVOLUTION OF MOLECULAR LIFE: TOPOLOGIES & AGES

So we shall start from the simplest ternary ensembles of atoms, where the entropic/moving oxygen ($\$T$), the iterative Carbone ($\Sigma\Pi$) and the informative nitrogen ($\$δ$) clocks, connected to the $\Delta\pm 1$ world through its 'H-eyes and kicking legs' shaped the first 'molecules of life'; and so we write the Generator function of bio-chemistry at its minimal scale, in terms of functions and Djmotions:

Δ-1: Hydrogenated water (kicking legs) > Δ²: \$-oxygen > Σ-Carbone>\$-Nitrogen+H-eyes<Δ+1 water world



Topology: from C, O, H atoms to amino acids.

In the smallest scale the molecular 'bricks of life', CO₂, H₂O, CH₄, (Methane) and NH₃ (Ammonia), shown in the graph are, as it happens in the geological world, crystalline structures. Yet they are far more malleable and complex than solid crystals, because they exist in liquid ecosystems. In those simple life molecules Carbon, Oxygen and Nitrogen are the Top predator central atoms that capture and surround themselves with weaker Hydrogen atoms, which act as carriers of their relative Entropy and information, creating the external 'membrane' of their molecular structure with the dominant atoms as the central st-point. Let us consider those functional forms in more detail:

-Δ-1 scale of 'bits and bites': Hydrogen atoms act either as the basic bite of Entropy, in its H⁺ form, becoming the pumping bomb of most cellular motions. So in the energetic reactions of AMP<->ATP, H⁺ ions act as the bomb. So they do in the motion of protein rotors in membranes. They are used by Oxygens in COOH groups that kick water molecules and set carbohydrates in motion. Thus they act as an energetic limb that the oxygen atom expels or attracts in alternating cycles that displace the molecule through water.

-When attached to atomic structures, CH_{1,2,3} or NH_{1,2,3} systems in amino acids and nucleotides the H atoms should act as 'feelers' that integrate electromagnetic messages in a first 'electronic orbital', which should allow the central P.O.V. to 'sense', processing electromagnetic Entropy into Van der Waal forces of information Thus the simplest organic molecules studied as st-Points have:

- Δ-scale: A top predator *N, O, C atom* occupies an hyperbolic center, surrounded by Hydrogens, which form their *bodies and limbs* that process the Entropy of *the water medium (Max.E)*, in which the molecule lives, or creating for the central atoms of life a molecular, external 'electronic orbital cloud', which acts both as the 'energetic membrane' of the atom and redirects the information of the external world, that will become the virtual world of *the central atom*, as regular 'crystals' do with their submissive atoms.

In the next scale of social organization those 3 elemental particles of life, N, C, and O will become themselves the 3 fundamental zones of bigger 'i points', called organic molecules:

Those 3 organic atoms define the 3 Djmotional arrows of time in life organisms:

-O is the atom of §ð lineal motion, given its high electronegativity that allows it to attract and repel other atoms with easiness, and its dual H-valences, which conform a lineal topology normally with a single H feeler and the second valence used to join the Carbon chain. Further on it tends to appear in the alkaline, 'attractive', 'positive', informative, 7.2 PH of the cell – natural to all implosive, informative systems, charged with 'negative', expansive topology.

- C, the atom of structural reproduction, as it has 4 handles for further union. It tends to appear neutral, as it corresponds to 'body-systems' that combine an informative, implosive, positive topology and one energetic, expansive, negative (in ionic terms). As most bodies is 'blind' mainly connected to other inner body-head-limbs part of the molecular organism, or a 'bilateral' H, deploying in amino acids the 'width' Djmotion.

- N, the atom of information, which appears in the 7.2 PH of cells and the head of amino acids as a positive, informative, NH⁺³ head, with 3 Djmotional hydrogen slave atoms that carry the 'bites and bits' of Entropy and information to the nitrogen.

Let us then consider those 3 atoms and some of its functions in bigger carbohydrate chains.

- *Max.I*: The informative element of all life molecules and fractal part of its relative 'heads' are Nitrogen atoms. Its informative character is shown already in the crystalline ammonia, where Nitrogen is the dominant vertex of a tetrahedron shaped with 3 more Hydrogens. Since we live in a 3-Djmotional world, those 3 arrows allow the Nitrogen to have a more perfect informative 'perception' of the world we live than the scarce, lineal perception of the Hydrogen, or neutral bilateral structure of C-chains. According to its informative function, ammonia is a perfect atomic clock in which the Nitrogen vibrates constantly back and forth through the hole shaped by its 3 hydrogen 'eyes', with an informative cycle of +10¹⁶ times a second. The first atomic clocks were in fact based in that simple molecule due to the accuracy and speed of frequency of its temporal vibration, which in life molecules allows NH⁺³ heads to 'inform itself' and regulate with its cyclical clock motions the 'guided motions' of the 'carbon' body and Oxygen legs of the molecule.

- *S≈T*: The structural atom that creates the rigid body structures of life molecules is the carbon atom. It has the maximal number of valences - 4 orbitals that create dual bondages with 2 other carbons - constructing long, formal ternary chains of great structural rigidity. As such it is the most visible, intermediate form of all life compounds. And so biologists, due to its 'visibility', have traditionally considered it the 'fundamental element of life'. When we add Hydrogen atoms to complete its 'crystalline' body we obtain methane the simplest molecule of life. Then when we join 2 carbons with dual bondage, we form ethane, which already acts as a hormone, (±reproductive molecule) inhibiting the structural growth of plants.

- Max. E: Finally, both the $\Delta+1$ world and site of future Entropic death of all life systems, *its medium*, is water, which fills the 'external world' in which life feeds and internally becomes in complex living organisms called cells, the filling Entropy of the intermediate space, enclosed between its carbon-based protein & fat walls and the inner, informative, nitrogen-rich, ADN hyperbolic singularity. Water is the simplest, most abundant ternary molecule of the Universe, made with 2 slave hydrogens and 1 dominant oxygen - the atom that has the maximal 'electro-negativity' after fluorine. Thus, oxygen can capture the electronic body of any other atom. That is why the oxygen components of carbohydrates enact its energetic cycles, moving those organic molecules within the water ecosystem. Since they stomp on water, breaking it and creating expansive and implosive OH^- , H^+ ions that impulse the molecule; as you walk on the floor, 'stomping' on the electromagnetic fields of the ground or as a fish moves, hitting the water with its tail.

Numerical proportions.

The proportion of the 3 atoms in living systems reinforces this classification, according to the ΔST proportions between the 'Entropy, body, head' classes. For example in a human being the proportions are: 67%, O+H molecules and atoms, 23% C+H molecules and atoms and 6.5% Nitrogen+H systems, which are in the usual range of $\pm 2/3^{\text{rd}}$ of Entropy components, $-1/4^{\text{th}}$ of body components, and $-1/10^{\text{th}}$ of head bits, proper of most systems in the Universe.

We could also consider as essential atoms, the carriers of neuronal orders, the implosive, positive, informative Ca^{2+} , K^+ and Na^+ ions, which again form a triplet of diminishing 'informative power' and define the potentials of electricity between neurons and the rest of submissive cells and so add up to a 2.1% of human body mass. If we add it to the 6.5% of Nitrogen brings the number to 8.6% of mass, closer to a $-1/10^{\text{th}}$ per cent of the informative 'class' of all organisms.

Those and other oligo-elements, of a higher scale of atomic complexity are essential to mark the 'differences' of power of certain molecular systems 'pumped up' in Entropy or information by their addition. Most of them however have an 'energetic' role (iron in heme groups and cytochromes, copper in reptiles, Magnesium in chlorophyll, phosphor attached to oxygens in AMP systems, Cl^- to balance the K^+ electronic bomb and S with 2 valences in anaerobic breathing and some molecular bridges.

This responds to a fundamental law of all efficient, healthy organisms, which is *to maintain the informative, atomic, head structure of the system pure, without 'leukemia', without the interference of an alien language to the system. Since the main sickness of systems is to become trapped by an alien informative species, for whom they will enslave, as it happens when viruses substitute cellular DNA by their own.* This is exactly what humans have failed to accomplish when they substituted their natural, biological, verbal, ethic language by gold hypnotism, an informative language of metal whose values are against those of life and have completely changed the route of history.

Recap. Nitrogen heads, carbon bodies and oxygen Entropy create the simplest life beings, amino acids...

Topology: From carbohydrates to cells.

In the next graph, the glycine is the simplest active life form with 3 st-zones:

- Max.I: The nitrogen head directs the glycine.
- $S \approx T$: A dual carbon creates the first rigid 'membrane-body' of life with its strong, covalent bondage, joining the head and tail:
- Max. E: Its oxygen COOH tail 'walks' on the water, breaking, attracting and repelling its OH^- , H^+ radicals.

Amino acids show their complex, reproductive and social arrows, catalyzing through their movements the replication of new amino acids and forming social chains, called proteins.

The inverse properties of st-amino heads and e-oxygen tails make possible the creation of long chains of amino acids in which their nitrogen heads bite their oxygen tails becoming neutralized as part of a complex social structure: the protein.

The nucleotide improves upon the amino head, carbohydrate body and oxygen legs of the amino acid, adding to those 3 lineal forms a D_imotion of informative height; as latter will occur in macro-organisms, when flat worms become cylindrical. So the amino acid head becomes a dual nitrogen ring, the body becomes a sugar and the tail multiplies its oxygens around a highly electronegative Phosphoric acid. The outcome is a nucleotide acid (right side of next graph) - *the top predator life molecule*, which evolves socially all others into the next st-scale of life, the cell.

The 3x3+(Δ+1) horizons of social evolution of life.

Biological organisms, as physical organisms did in their growth from atoms to galaxies, evolved in 3x3 horizons of increasing social complexity creating the 3 ±i scales of life: the age of molecules, the age of cells and the age of multi-cellular organisms, specialized in Entropy (plants) or information (animals).

Let's study those ages in detail, differentiating them in 3 sub-ages according to the Ternary principle.

Since if we apply the law of the 3±Δ Ages to organic molecules we can explain how they grew in informative complexity and spatial size till acquiring the form of living organisms, in a process similar to the evolution of particles that created the cosmological bodies of the Universe.

Those 3±Δ evolutionary ages of life, each one sub-divided in 3±Δ sub-horizons, are: the young age of molecules, the mature, longest age of cells and the 'recent' age of living organisms, which will end with the creation of a global single organism, Planet Earth (Δ+1):

The 3±Δ ages of molecules.

- Δ-1: *The atomic age*: the simplest chemical molecules of life are formed. The 3 simple atoms and molecules of life recombined its energetic, reproductive and information functions and grew, forming bigger chains thanks to its atomic affinity, acquiring more complex 'vital properties'. The simplest combination of them, the CNO molecule, urea, is considered the first molecule of life and its 'crystallization' in a lab, departing from non-living atoms, was considered the birth of biochemistry and the prove that life is an atomic system that shares the same properties of any other SxT system of the Universe.

- Max. E: *The Entropy age*, dominated by lineal, long, simple fats, huge carbon chains with oxygens attached to its ends.

- <=>: *The amino acid age*: COOH, methane and ammonia, the 3 simplest life molecules of the triad of life atoms, O, C, N, combine as the relative Entropy, reproductive and informative organs of amino acids. Amino acids reproduce exponentially in the primordial organic water soup and evolve socially into proteins.

- Max.I: *The nucleotide age*. Nucleotides, the informative molecules of the life, add an informative D_imotion of height to lineal amino acids, forming nitrogen and sugar rings. They dominate all other carbohydrates. Soon they will also evolve socially into huge chains called nucleic acids.

- Δ+1: *Social age*. *Nucleic acids*, the macromolecules of life with max. Exi force, integrate socially all other carbohydrates in herds of vital molecules, creating *the cell*, *the following Δ-scale of life*.

The 3±Δ ages of cells.

- Δ-1: The previous 3±Δ horizons of evolution of molecules brought the first cells.

- Max. E: *The age of RNA Protista*. The Entropy age of the cell is dominated by the simplest RNA *Protista*, whose ternary st-structure is based in: an external protein membrane; a series of 'convex' spiraled RNAs, the singularities that directs the cell, and an internal, intermediate water zone, the cytoplasm, where the cell reproduces its specific Entropy and information - thanks to the free 'Entropy' of water radicals - with the instructions given by those RNAs. Those Protista reproduce massively, exhausting the organic elements of the life soup. Then it comes:

- <=>: *The Age of DNA Protista*. It is the balanced, mature age of Protista. Dual RNAs peg together to form informative DNA rings, which store new genetic information that permits further growth and differentiation of Protista, according to new, improved 3 st-regions:

Entropy membranes invaginate the cell with a tubular network, the Golgi apparatus and protect the still DNA with a differentiated nucleus membrane; while new, specialized organelles perform the Entropy and information processes of the intermediate zone, creating reproductive Mitochondria and Chloroplasts.

- *Max.I: Informative age and differentiation: Eukaryotic age.* Informative DNA cells multiply its genetic memories, while RNAs differentiate into a triad of forms that increase in the intermediate space-time the reproduction of membranes and proteins, creating giant cells. They cannibalize and enslave smaller, symbiotic cells, specialized in the dual arrow of Entropy, (mitochondria and chloroplasts) and information (ribosomes). Those who absorb chloroplasts became algae; those who fed on mitochondria, animals.

- $\Delta+1$: The biggest eukaryote animals are amoeboid cells that evolve faster, informative, electronic languages using heavier metal ions, K^+ and Na^+ , to send their messages to other cells through their membranes. The nervous language allows simultaneous cellular actions, creating mobile multicellular organisms called animals. While slower chemical languages that use 'hormonal vowels'⁷ put together unicellular algae into plants.

Let us consider the evolution of animals:

3±Δ horizons of evolution of animals: network's organisms:

- $\Delta-1$: Conception. Electric cells create multicellular organisms in control of all other cells, gathering in 3 physiological networks - neuronal, muscular and glandular=digestive systems that perform the informative, reproductive and energetic cycles of the organism as a macro-living st-point. The sequential dominance of those physiological networks creates the 3 ages of life - the energetic youth, reproductive maturity and informative old age - and the 3 horizons of evolution or 'main phyla' of multicellular animals.

- *Max. E:* The Entropy system -a central digestive tube- dominates the 1st horizon of multicellular organisms, occupying the central zone in 3 sub horizons of formal evolution: the age of sponges, the age of hydras and the age of worms, the first bilateral animals created around a tubular, lineal digestive system that moves in the D_imotion of length.

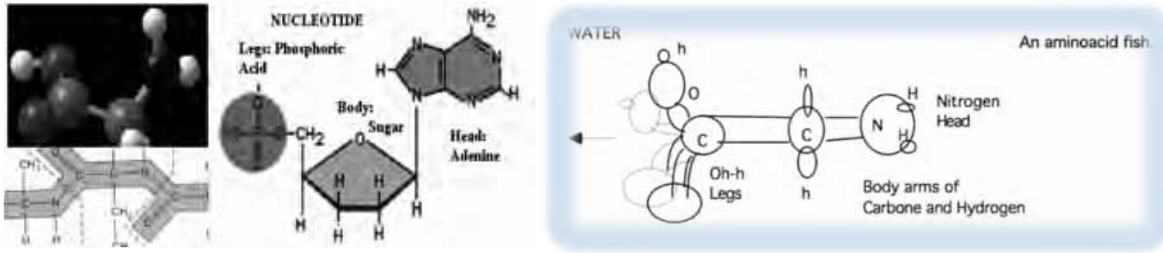
- \Leftarrow : Worms develop blood networks based in metallic carbohydrates that carry to each cell of the body its oxygen Entropy, food quanta and the dual hormonal orders of the brain: reproductive orders and 'killing orders' performed by amoeboid leukocytes. Thus, as blood networks increase the efficient control of fractal cells, animals grow in size, starting an age of massive sea life speciation. Today we still have 90% of the genes of those worms.

- *Max.I:* Life jumps a fundamental discontinuum, when the first mollusks become insects and the first fishes become amphibians, colonizing the Earth. Their sensorial and nervous systems become overdeveloped in the new environment that has a higher transparency to informative light. Land animals specialize their 3 networks to the new medium in 3 sub-ages: the age of amphibians, which still reproduce in water, the age of reptiles and the age of birds and mammals, dominant in visual and nervous systems that ends with the arrival of Homo Sapiens.

- $\Delta+1$: Homo sapiens develops a new informative language, the word, evolving into historic super-organisms, civilizations and economic ecosystems that grow in size till reaching a global D_imotion.

Recap. Biological organisms evolved in 3 horizons of increasing social complexity creating the 3 ±i scales of life: the age of molecules, the age of cells and the age of multi-cellular organisms, specialized in Entropy (plants) or information (animals).

The Entropy age: 3±Δ Simple molecules.



In the graph, a glycine, the simplest 'organism' of life or amino acid with its self-similar form to a small mammal, with a nitrogen head, a carbon body and its oxygen legs. And the two fundamental species of complex molecular life: a nucleotide, dominant in information, attached to a sugar body and phosphoric acid and the detail of a protein body; the most reproduced species of the system. Lineal fats that store Entropy become the 3rd essential topology of cellular life.

The first age in the evolution of life is the age of simple molecules. Water became an organic soup filled with ammonia and simple chains of carbon, among which we highlight:

- *Max.E: Acids and fats.* They are headless, without nitrogen heads - a long, lineal limb of energetic carbons with oxygen legs on its extremes. They will become the fundamental Entropy of cells.
- *Max.I: Sugars* add an informative, cyclic Dimotion to headless fats. They are carbohydrate hexagons evolved socially in long chains, through oxygen connections, called polysaccharides.

Amino acids: SxT functions and evolution into proteins

The 3 life molecules, ammonia, methane and water, create *the spatial structure* of glycine, the simplest amino acid which resembles an animal, with the positive charged nitrogen head (amine), the negative charged Oxygen tail (carboxyl), and a carbon body chain that fusions together the 2 extremes, creating the i-logic 'generator function' of amino acids:

Oxygen legs(E) <Carbon body (SxT)> (I) Nitrogen head.

st-points adapt their morphology to the Dimotions and directional movement of their specific environment. Thus, while a still cell is cyclical, moving life molecules are lineal forms in which *the nitrogen 'head'* is upfront to absorb information & Entropy in the direction of movement; *the structural carbon* membrane is in the center; *and the Entropy cycles* are performed by the *oxygen* tail that moves on the water:

- *Max.I: Informative cycles* are directed by its ammonia 'clock'. Nitrogen vibrates across its Hydrogen triangle, perceiving and transferring electromagnetic information elaborated as Van der Waal forces to its carbon body that orientates the molecule in a chosen direction.
- *S≈T: Reproductive and social cycles:* A rigid carbon chain can peg to its sides by affinity (3rd postulate of i-logic geometry) other carbon structures that latter might split, reproducing new glycine or might stick together, shaping new species of amino acids.
- *Max.E: Entropy Cycles:* The oxygen moves the molecule, propelled by the dual polarity of water.
- *Social and Transcendental cycles:* Their social evolution gives birth to macro-molecular proteins.
- *Existential, generational cycles:* The purpose of those molecules is to exist, performing their organic cycles.

Thus, after the birth of amino acids, Earth witnessed a massive replication of glycine, which soon diversified in all kind of sub-species that pegged to the original glycine new pieces of carbohydrates bodies, nitrogen eyes and oxygen legs. Thus the organic soup became an ecosystem of top predator amino acids that catalyzed the reproduction of new amino acids, absorbing the simpler molecular 'nutrients', till amino acids saturated the Earth's oceans. Then those different amino acids associated in complementary st-herds, in which specialization occurred again, as some amino acids were designed better to gather Entropy with extra oxygen legs; some had extra nitrogen heads to process information and some were long carbon chains better suited to split, peg and reproduce new amino acid pieces. Thus we can easily classify amino acids as

informative amino acids, with ring structures filled with Nitrogens; energetic amino acids, with added Oxygens - Phosphors and sulfurs, atoms with high 'electro negativity' that are able to capture energetic electrons; and reproductive amino acids with long carbon chains.

Social evolution of amino acids: the protein age.

Amino acids in their social stage of evolution became, according to the inverse morphological isomorphisms of transcendental evolution, the 'relative Entropy' of new macro-molecular proteins. So they lost its 'active' heads and tails, pegged now to each other, as the 'fixed' neutralized st-points of the protein's spiral structure; where the active parts are radicals joined to the central carbon of the amino acid. Those bulky, seemingly unnecessary radicals that hindered the motions of free amino acids show its true value in proteins. (This often happens in evolution, which requires first mutational, inefficient stages that reorganize into functional macro-systems thanks to the directed ternary systems created by fast, planned evolution. If all were chaotic, slow Darwinian mutations most mutations would not survive long enough to transcend into useful new organs, as Darwin already noticed it, studying wing evolution. Thus transitional stages are a proof of 'Δ-volution'.)

Proteins are huge carbon chains that fusion the fractal actions of those radicals with many oxygen legs and a few nitrogen eyes into a simultaneous present of Max.IxE force. They are like centipedes, entities with simple perception but a fearsome Entropy that allows proteins to cut and kill all the micro-molecules of the life ecosystem. So they became the new top predators of the original carbon soup, probably chasing down free amino acids to replicate themselves.

Finally, lineal proteins evolved further, according to the inverse isomorphisms of transcendental, social evolution, forming self-replicating hollow membranes with cyclical, still forms, which nucleic acids will latter fill and dominate, creating cells. Indeed, the protein's simple minds made their top predator status short living when the 3rd informative horizon of molecular life, the nucleotide, evolved.

Informative age: Nitrogen bases and Nucleotide acid.

In the previous graph, we show the final, informative age of life molecules, which occurred when the amino acid evolved its lineal, simplex 3 st-regions adding a new, informative D₁motion and creating the 3 globular zones of the nucleotide:

- Max. S≈T: The improved body is called a sugar that has, instead of the carbohydrate's zigzag line proper of amino acid bodies, a pentagonal form, a powerful compact body cycle that appears in all scalar morphologies. Further on, the sugar pentagon adds one lateral oxygen's rudder that can chain or unchain itself to other sugar rings through easy to break oxygen bridges. So the reproductive speed of the new nucleotide's body based in the capacity to peg and split its body increases.

- Max. E: A nucleotide tail adds up a highly energetic, phosphoric acid (PO₄H₃) that has more oxygens than the amino acid's original COOH tail and so it swims better in water. The heavier phosphor is also a nitrogen-friendly atom, from the same 3-5 valence electronic column. So the head improves its control of the tail and its energetic oxygen atoms.

- Max.I: Finally the Nucleotides' heads add up new nitrogens, creating cyclical, hexagonal rings, called Pyrimidines, which once more diversify in 3 subspecies: Thymine, Uracil or Cytosine...

- Uracil is lighter. So it is the brick for building highly mobile social nucleotides called RNAs.

- Thymine is heavier, since it has one more carbon, while Cytosine adds Nitrogen with 2 Hydrogen 'antennae'. So they are the bricks of DNA, the most informative, still molecule of life.

Finally the most complex nucleotide heads are Purines: dual, pentagonal and hexagonal nitrogen rings, joined by a strong covalent C=C wall that form dual couples, called Adenine and Guanine, which add an external nitrogen antenna with 2 Hydrogen eyes to probe the unknown world.

So the globular structure of Nucleotides also creates more evolved social forms, the RNA and DNA acids that will control protein membranes in the cellular scale.

If structural bodies dominate amino acids and proteins, the dominant element in Nucleotides are their nitrogen heads. They become the unit of the social, informative languages of cells, playing a key role in all their informative tasks, as the main elements of most hormones and the fractal units of macro-molecular DNAs, which will create the higher, cellular scale of life forms.

Bases express the 4 arrows of time in life. Some basic rules

Now we have come to a key element of the program of life, the existence of 4 based, which will codify the creation of superorganisms of cells. Why? We have again and again show that each super organism requires a language able to express the 3±j Dīmotions of space-time existence, the program or will of the Universe. It is easy then to observe that the 4 bases represent a new whole game of existence, as the 4 'positive' Dīmotions of space-time do or the 4 quantum numbers, or the 4 drives of life, and since function is form, just looking at those bases we can deduce that:

The simplex arrows are expressed by simplex Pyrimidines (single cycle)

- Uracil and thymine with more oxygen are the energetic drive expression and complex genetics show this to be the case, as they are more abundant in functions and genes related to energetic systems.
- Their informative head is adenine and as such is the dominant base of the system. It has a Nitrogen higher mass and a nitrogen head with 2 antennae. It is the head of the ATP systems that command as small molecules the game of proteins and most orders of actions in the cell. Both the simplex body T and head A assembly together by affinity and complementarity

The complex arrows are expressed by dual Nitrogen cycles:

- Cytosine is the balanced dual molecule. Hence the reproductive arrow. And indeed, when it is uncovered in the DNA losing its cover it allows the expression of genes.
- Guanine is therefore the 4th social arrow and the base that brings the next scale.

This simple scheme of the 4 Dīmotions of life languages is determinant for fully understanding the whys of genetics, which now are only described at the level of the 3rd paradigm (how-description).

Example: Receptors of complex, external orders.

Consider the case of the GDP and GTP molecules. Their function is *essential to the transmission of orders from the higher scale of neuro-hormonal messages that regulate the superorganisms of cells*. 60 % of all external signals to cells are transferred through the activity of Guanine, the social nucleotide, activated through the G-protein channel. As such the GDP/GTP molecule is the 'boss' of intercellular communication, as the ATP molecule is the boss of energetic communication.

The ATP in fact in conjunction with the energetic Tyr amino acid (with an extra oxygen), and the energetic Phosphor atom, works with the second most common membrane messenger, after the G-protein channel, two poles that become activated by phosphorylation, bringing to them 'hungry' proteins that become energized and provoke signals for energetic and reproductive arrows. (Remember that simplex informative and complex social evolution are the two related arrows of temporal information, most associated, and the complex reproductive and simplex energetic arrows are the tandem associated to energetic space). Thus the receptor called Tirocinasa is also related to the cinasas, which are the enzymes that provoke the energetic mitosis and death of the cell. This examples shows how *the emergence of the properties of smaller scales are always transcendental, social evolutions of one of the 4 arrows of time, the will or program of the Universe that maintains the self-similarity of scales*.

Let us consider the ternary differentiation of this molecule, ATP, as it is the key to the energetic force that propels and makes possible the cell.

The age of nucleotides: ternary differentiation of species.

So after the age of Amino acids and proteins, there was an age of Nucleotides, which differentiated again according to duality in 2 subspecies: One rich in Entropy, the other richer in information:

- *Max. E: The energetic Nucleotides are ATPs*, the key molecules in all energetic life processes. Breathing and feeding could not happen without ATP, the specialized Entropy Nucleotide that again subdivides in 3 subspecies, which can be identified as the energetic, balanced and informative ATP:
- *Max. E: ATP proper* - an Adenine nucleotide with a longer tail with 3 Phosphors and 10 oxygens, ordered in a classic decametric, $3x3+(\Delta+1)$ scale: each phosphor controls 3 oxygens, and the 10th oxygen connects them to the sugar body.
- *S≈T: ADP*, which has lost 1 phosphor and 4 oxygens (an HPO_3 molecule) releasing in the process 34 KJ of Entropy, balancing its form with less Entropy but the same Nitrogen information.
- *Max.I: AMP*, which has lost another HPO_3 , becoming a cyclical molecule, since the phosphoric tail touches its nitrogen head. So it acts in cellular processes as an informative carrier, transferring hormonal information, amplifying it and programming the cell's nucleus with that information.
- *Max.I: The informative, social evolution of nucleotide acids gives birth to RNA and DNA.*

Nucleotides evolve socially, becoming according to the isomorphisms of transcendental inversion between micro and macro planes ($I_{\Delta-1}=E_{\Delta}$), 'Entropy cells' of RNA and DNA spirals, grouped again in triads that form a spiral cycle. Those triplets surrounded by energetic ATPs create genetic scales in groups of 3, 9, 27...

Those 3ⁿ elements in turn will shape the structure of 2 new macro-molecular informative species, differentiated according to the SxT complementary, dual principle:

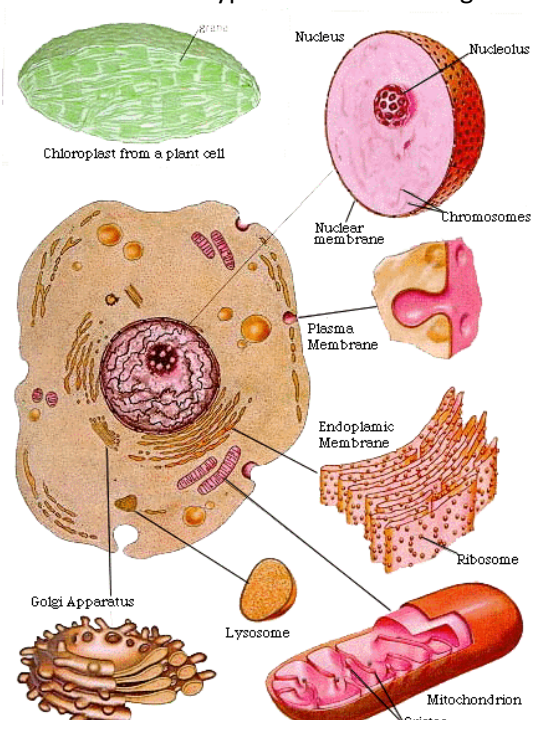
- *Max. E: Lineal, moving RNAs* that carry the actions of the cells, again differentiated in:
- *Max. E: Ribosomal RNA* joined to energetic proteins that peg the carbohydrate's pieces.
- *S≈T: Transfer RNA* that carries the fractal units that reproduce carbohydrates.
- *Max.I: Messenger RNA* that copies DNA information and takes it to the Ribosome.
- *Max.I: Cyclical, still, informative DNA*, made with 2 complementary RNAs, which carries so much informative, genetic information about the metabolic and reproductive cycles of all other carbohydrates that will become the 'brain' of the new scale of life, the cell... The nucleotide structure of DNA shows the magic 'tetraktys' that fascinated Pythagoras: 1, 2, 3, 4 Djmotions that add up into a decametric scale. Indeed, 1 DNA made with 2 RNA chains joined by nucleotide pairs form a structural tie of DNA; 3 nucleotides form the basic informative 'gene' to create amino acids; and 4 Djmotional bases is all what it is needed to create all the cycles and elements of the cellular game.

Those 3 type of molecular 'ages' will become then the 3 'topological' st-forms of the cell: amino-acids become the Entropy bites of the cells along with water, its medium; proteins will create the walls reproduced in its organelles and nucleotide acids will become the informative, perceptive species that run the show.

Recap. The evolution of life molecules took life through its first 3 ages, the age of amino acids, the age of proteins and the age of Nucleotides, the informative, hyperbolic species that will reorganize them all to create the cell.

Δ-1 PLANE : CELLS

In the graph the Topological Disomorphism of cells: Protein are the Δ-1 lineal molecules which emerge, inverting its form as Δ-1 δf, cyclical membranes. Inside the cell Δ-2 wave-like Nucleic Acid create the ΣΠ-reproductive element of the cell. Within them Δ-2 fat carbohydrates



become the δ -lineal vital energy sandwiched between both. So we can write a generator function for the cell:
 δ -fat carbohydrates \rightarrow Σ Π -reproductive DNA \rightarrow δ -cyclical proteins .

Cells follow all the laws of $\Delta S \approx T$, and are themselves supærganisms with lower scales of being. So we can study those lower bio-chemical scales first.

In the left side, the cell has 3 st--zones:

- Max. E: It has an external, thin membrane, which in free cells have cilia that move the cell and act-react to external stimuli. In organic cells Entropy is provided by the blood system of the macro-organism. So external cilia disappear and invaginate as lysosomes that kill carbohydrates.

- Max.I: In the center, there is a nucleus of Max.Informative density, filled with cyclical or spiral DNA/RNA's networks that control the st-point.

- SxT: RNAs dominate the intermediate space-time, directing the Entropy organelles, mitochondria or chloroplasts that produce Entropy; and the informative ribosomes that reproduce products, pegged to the Golgi apparatus - a membrane's invagination.

Youth Horizon: From Prokaryote to Eukaryotic cells.

The previous description of the evolution of molecules requires to change the 'chip' of the scientist and accept the tenants of organicism in simple atoms; which so far science has only, according to the Galilean paradox of self-centered perception, accepted for the next scale of life – the cell.

At the beginning cells, called monera, did not have a differentiated nucleus membrane, which means their informative singularity was mainly moving RNA. As evolution continued through the dual/ternary differentiations proper of all SxT systems, RNAs split accordingly in 3 sub-species to carry out the specialized Entropy, informative and reproductive tasks of protein control, carbohydrate production and self-replication, through complementary, inverse, specular translation. Then, one RNA, which produced a specular image of itself, probably got pegged to that image and became 'fixed', as a still, dual DNA, an informative mirror of an RNA molecule, geared to reproduce it. Accordingly those first DNA molecules acquired the cyclical ring form they still have in all monera.

Soon the extraordinary reproductive growth of DNA cells made them giant cells that exhausted their trophic nutrients. So finally they cannibalized other cells to maintain that reproductive growth. First those cells would be killed and their nutrients absorbed but then some very efficient energetic and informative cells would become slaves within the cell 'farm' in a process repeated in all Δ -scales: first top predators are hunters but then informative top predators create farms. So worm holes use herds of stars to absorb intergalactic dust; men use dogs to herd sheep; and monera cells used ribosomes to reproduce informative molecules and mitochondria to absorb Entropy, forming the first macro-cells. Those who 'ate up' mitochondria, which produce Entropy from carbohydrate products, would become animal cells and kept hunting other cells to find semi-elaborated nutrients. Those who 'ate up' chloroplasts, which produce Entropy from small carbohydrates and light, would become plant cells.

Now the quantity of DNA in the cell grew to add up the DNA of those organelles and its variety of cyclical memories was so vast that it had to pack itself further, changing its bidimensional, cyclical form into a 3 Dimotional spiral, and acquiring structures of energetic sustain: proteins that coiled around DNA and a nucleus with differentiated walls that surrounded DNAs. The age of eukaryotic, gigantic cells had started.

Recap. As information multiplied in simple cells, the RNA age gave way to the DNA age whose extra-genetic code should control the evolution of complex multi-cellular structures.

THE VITAL CYCLES/ACTIONS OF THE CELL.

The cell is a brain-body system constructed with 2 elements, nucleotide acids, based in nitrogen bases and protein bodies based in carbon chains, which are the informative and spatial systems of the cell. Around that SxT core duality we find an expansive intermediate, cyclical region with all kind of slavish organelles that perform their Entropy cycles (based in the energetic properties of oxygen, water and similar

electronegative atoms); and their informative cycles. Both cycles are catalyzed by denser metal atoms that boost the E/I capacities of carbohydrates. Thus, through the interaction of carbohydrates, metallic ions, proteins and nucleotide acids, cells perform the $3\pm\Delta$ cycles of all st-points:

Max.E: In an organism, Mg, copper and iron capture oxygen and deliver it to each cell to perform energetic cycles; while in the cell cytochromes kill and split the energetic hydrogen atom into H^+ and e^- ions in mitochondria or chloroplasts; absorbing its temporal entropy; while metal atoms stabilize protein enzymes.

Max.I: Na and K ions control the expansive and implosive rhythms of the electric membrane, sending informative messages among cells -while RNA and DNA molecules process *information* within the cell, reproducing new carbohydrate molecules.

- The combined effect of the accumulation of Entropy and information within the cell triggers the reproductive cycle, guided by RNA and DNA molecules.

- Σ : Cells *evolve socially* into macro-organisms. Yet only the RNA-DNA system creates complex informative, control networks.

- $\pm i$: Cells live a *generational* cycle chained to an organism that kills them 'periodically', or as free cells that die when captured by top predator living beings. Since most cells can be immortal if no other system kills or controls them hierarchically.

All those cellular cycles are not 'mechanic processes' but they have evolved departing from the organic, dual, Darwinian and symbiotic interactions between proteins and nucleotide acids, the dominant energetic and informative macromolecules of cells. The most important cycle is the reproductive cycle, which in the cell as in other fractal space-time represents the existential will that ensures the perpetuation of the species. Let us consider it.

Recap. Cells follow the same arrows of existence of all st-points.

The reproductive cycle.

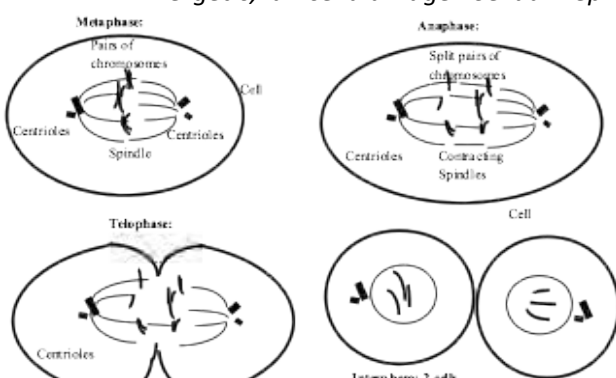
The interphase, prophase, anaphase and telophase complete the reproduction of the cell, in which the centriole, a perfect example of a decametric structure, with 9×2 lineal proteins and a central 2×1 nucleus that controls the lower scale of 9 forms, plays the key energetic role of motion control.

The phases of reproduction of a cell called mitosis (1, 6, 25), are in fact its death period, that lasts the shorter period of the daily life of a cell. It is the genius of the cell to use its death period to split and renew itself by the arrow of reproduction. Yet it can still be defined as a death period, which always means that the E/I fields of the system reverse in time, the energetic, destructive arrow dominates and ends up dissolving and splitting the complex informative brain. So in the cell you can see mitosis as the sudden dominance of the lineal, protein, killing centrioles which are reproduced in excess at the end of the S2 phase or 3rd age of the cells, both at the lower molecular scale (assembly of ctk enzymes) and at cellular scale (centrioles and spindle) and then attack and break in two the chromosomes:

The reproductive cycle of cells shows an evolutionary pattern observed in many dual cycles between 2 complementary st-points of relative Entropy and information, which first confront their energetic and informative inverse forms. But as time goes by often by chance they realize that social, complementary evolution is more efficient than Darwinian, energetic destruction. And so they end up evolving together, following the positive, creative arrow of the Universe. We can hypothesize according to that homology the 3 ages of evolution of the reproductive cycle:

- *Energetic, unicellular age:* Sexual reproduction probably started as a Darwinian, energetic process of

hunting in which lineal, energetic sperm killed the cyclical ovum and learned to host its DNA-code as virus do, in the ovum's center. Yet as the sexual cycle evolved beyond *the energetic, young age* of the cycle, the 'war of sexes' ended and the cycle moved into a *balanced 2nd age*.



-S≈T: *Reproductive, 'colonial age'*. Now information was exchanged between both forms, the sperm and the ovum - since sexes are in fact a specialization of species into *energetic males and informative females*. And a new symbiotic dual form was born. Those forms would start reproductive radiations multiplying the number of cells. So probably sexual reproduction is a key factor in the multicellular explosion of the Cambrian age.

- *Informative, palingenetic age*. Finally, in the 3rd age of sexual evolution the informative female species dominated the cycle, as females have more genetic code (2 complete X chromosomes) and control during pregnancy the reproductive, palingenetic cycle that brings the embryo into a new 'macro-organic level of existence'. If we observe the family cycle of human couples, women also tend to dominate the couple in its 3rd longer age, as Proust already noticed; since information lasts longer than Entropy in temporal energy.

In complex organisms a living, reproductive cycle is dual: it departs from the simplex reproduction of a single cell that multiplies. Then those self-similar cells suffer a complex process of palingenetic reproduction that recreates an organism made of billions of cells, departing from that single cell.

Cellular reproduction: a tug of war between DNA and proteins.

Let us consider in this synoptic paper, the simpler process of cellular reproduction, as we have treated palingenesis in our analysis of the 4th postulate of i-logic geometry:

Organic cells reproduce within a day, chained to the symbiotic daily feeding period of the organism that provides them with Entropy and information for that reproduction. Fractal cellular reproduction shows also that duality between positive, organic complementarity Vs. negative Darwinian struggle that either balances E-bodies and I-brains into organic systems or determines their mutual destruction when that balance is broken (death processes, Lorenz Transformations, etc.) In the reproductive cell cycle, the most efficient body proteins - lineal, tubular centrioles - and the top predator, informative DNAs enact an ambiguous struggle between their Darwinian desire of mutual destruction and their need of complementary evolution.

So cellular reproduction is a mixed cycle based in both kinds of relationships in which first the lineal species of cellular Entropy (centrioles, which are long $(9+1) \times 2$ protein fibers with a perfect decameric structure), untie the cyclical species of pure information (DNAs), trying to split and kill them. Yet DNAs, once uncoiled, defend themselves 'informatively', creating a new membrane that breaks the centrioles apart into 2 groups, and also breaks the cell creating 2 new ones. We can distinguish several phases in that dual struggle, dominated alternately by each of those 2 forms that involve all the other elements of the cell, directed in their dance by those max.E x Max.I top predator elements or 'upper classes' of the cell. It will be a tug of war that illustrates all the geometrical strategies of Darwinian and complementary events between dynamic stop-points:

-In *interphase*, both top predator substances replicate. Centrioles are outside the membrane, which protects the DNA.

-In the *prophase centrioles start their hunting*: the protein's membrane of the nucleus dissolves, exposing DNAs' chromosomes that become visible preys. As all other universal preys do, from wriggling worms to high frequency rays, from submissive servants to herds of electrons in front of a quark or fishes in front of a shark, chromosomes try now to hide by coiling up, becoming contracted, shorter forms. Then the hunting starts. Centrioles have replicated and now double its fractal action, moving to both sides of the DNA nucleus, forming dual, long molecular chains joined by filaments. So they *create a polar field of forces that captures in its filamentous web the self-replicated DNA*, as a North and South Pole create together a magnetic force field that aligns atoms or two boats web a net to capture fishes.

-In the *metaphase chromosomes defend themselves from the 2 centrioles* that throw the 'hooks' of their force field, stretching the DNAs. But those chromosomes that have replicated in the earlier interphase evolve now socially in couples of parallel forms, increasing its fractal mass and moving away from the centrioles in a classic protective strategy: They arrange themselves in the equator of the spindle, adopting a Darwinian, perpendicular position, the farthest away from those centrioles. It is exactly the way in which

diamagnetic particles that flee from magnetic fields, arrange themselves trying to receive the minimal quantity of force from the North and South Poles of the magnetic field.

-In the Anaphase centrioles counter-attack, splitting away the chromosome pairs.

In the telophase, DNAs find their winning, defensive strategy: They are the informative species that store the genetic code of all cellular forms. So DNAs start to reproduce new membranes in a frenzy till those membranes break the centrioles' spindle through its middle zone, isolating each centriole and breaking their field of lineal, protein forces. Since lineal, energetic or reproductive beings, like centrioles or 'magnetic' fields are, cannot create monopoles. Only temporal, implosive, informative cyclical particles can do that. So the spindle dissolves and the new membrane divides the cell.

Now the system reaches again a balance, as the dual chromosomes and the dual centrioles become again single forms surrounded by a new membrane.

Thus the dynamic tug of war between a protein's body and a nucleotide's brain ends up in a draw, creating 2 cells instead of one, which will re-start after a rest period a new *interphase* process of protein and DNA reproduction. Since the Universe is indeed a game of reproductive radiations, the ultimate will of all beings that want to survive their fractal, periodic death by creating a self-similar 'present' form.

A variation of that process required in sexual reproduction, is called meiosis, in which the twin reproduction of DNA and its subsequent destruction of the nucleus' membrane is provoked by the energetic sperm that enters the ovum, invading, as a virus does, its DNA nucleus and merging its genetic material. So, as it happens in the interphase of a cell, the fecundated sexual cell has 2 parallel quantities of DNA, albeit with different genetic material, coming from the ovule and the sperm. So as the replicating process repeats through the same phases of any cellular reproduction, the final result won't be an identical cell but a cell that mixes the genes of both, the sperm and the ovum. When besides sexual duplication there is an interphase with chromosomal duplication the final 2 cells will be diploid cells with twice the genetic material of the original cell. This happens only in multicellular organisms, as redundant genetic material is useful to store genetic orders needed for the complex construction of multicellular structures; but it would be redundant in the simple life of a monera cell, which escapes the interphase duplication.

The $\text{f}\delta\text{S} \times \text{P}\text{S}\text{T}$ duality of lineal sperm and cyclical ovum extends outside the realm of form and transcends to the upper scale of multi-cellular organisms and sexual characters: the ovum is an informative, cyclical, autotrophic female cell with higher chromosomal content; while sperm is an energetic, heterotrophic, lineal male cell with higher mobility. And we find according to the Fractal Principle, 3 evolutionary types of increasingly differentiated sexual cells: semen and ovum, which are equal in spatial size and temporal form (isogamy); semen that is equal in form but smaller than the ovum (anisogamy); and ovum and semen, which are different in spatial size and temporal form (oogamy), as in human beings.

Those differences between male sperm and female unicellular ovum, latter diluted as their genetic materials mix, reminds us of the differences between unicellular animal and plants, the main dual differentiation of life along its $\text{S}\times\text{T}$ parameters that we will study now in more detail.

Recap. Sexual reproduction evolved from an energetic event in the unicellular age into a reproductive radiation and finally into the palingenetic process dominated by the ovum.

Cellular reproduction can be explained as a tug of war between the informative DNA and the reproductive proteins of the centrioles.

The death cycle..

In Cyclical Time death is caused by the finite limits of fractal time and spatial information. Death is a clear prove of the discontinuity of space and temporal energy. If we were continuous, that continuity of time and space would make us immortal and infinite. Which means that only the ∞ sum of fractal time-spaces or absolute Universe is eternal: the isomorphisms of temporal Entropy, the logos-mind of the Universe do not have an end nor a principle, because the sum of all the transformations of Entropy and information

balances a dynamic Reality that never dies, remaining always in a relative, equal present. Reality exists 'per in secula seculorum, amen'.

Only reproduction guarantees certain immortality, *recreating our form in other region of spatial information*. Yet in all species the rate of reproduction also goes through 3 ages, and so when reproduction halts, not only the 'cellular' individual but the species of the 'higher plane' dies:

- *Big bang phase*: A new species multiplies very fast departing from a 1st individual.
- *Steady state*: Its reproductive rate stabilizes.
- *Population Crunch*: Finally it slows down to a halt, extinguishing the species.

Death is in fact the most obvious prove of the discontinuity of space and temporal energy. If we were continuous, that continuity of time and space would make us immortal and infinite. Thus only the infinite sum of quantic time-spaces, the absolute Universe is eternal.

For the rest of us only reproduction guarantees certain immortality. Yet the rate of reproduction of any species is also quantic and goes through the 3 ages, starting slow, increasing its rate and finally slowing down to a halt, extinguishing the species or type of DNA-cells of any organic system. So in a human being the number of divisions of any cell reaches up to 50, whereas in chickens it goes up to 20 divisions. The greater rate happens in the oldest, living species: the Galapagos turtle that divides 10^2 times its cells. $E=10^{i=2}$ is in fact the commonest constant in information warping, from the protonic accumulation of form in the atomic table, which after 100 forms becomes unstable to the limit of human aging.

According to the ternary principle, 3 biological strategies however seem to succeed death:

- Max.E= Some simple systems (coelenterate) reverse its time clock.
- Max. Re: Cells 'trick' their organic time clocks, to free themselves from the servitude of death, by multiplying its quantity of reproductive genes - its DNA molecules. The record belongs to cancerous cells, very rich in DNA, from the reproductive uterus of Henrietta Lacks, the so-called HeLa cells.
- Max.I: Humans achieve partial immortality through cultural memes.

Is there a species whose number of reproductions is infinite, an immortal being? No. Since even the nucleons of the big-bang reproduced e^{60} times to create the Universe, shaping a similar reproductive curve to that of living beings that now has slowed down to a trickle. So all dies for the game to renew itself.

Causes of Physiological Death.

The opposite process to the creation of life and the creation of form is the destruction of form into Entropy or *death*, ($I < E: \text{Max. } E \times \text{Min. } I$), equally common. As one feeds into the other and together balance the dual arrows of the Universe.

Thus, the fundamental cause of death is to exist beyond the balance of form between the E and I components of any St-field. All beings have limits of excess of Entropy and/or form, which once crossed will bring their extinction, as their Entropy and information quanta 'explode' and split, dissolving the networks that kept the form together and were its inner consciousness. If a particle explodes close to C speed and splits its Entropy/information parameters according to Lorentz functions, so does a human being after dying. His Entropy dissolves back into his $\Delta-1$ simpler cells. And then, since all deaths are dual big-bang explosions, humans return finally to the molecular, amino acid level from where they departed.

If we want to be specific about the *causes of death* in human organisms, death is the product of an imbalance, either by an excess of Entropy that causes sudden death in minimal Time (Max. $e=\text{Min. } i$), through war, sudden sickness or accidents, or by the accumulation of spatial information that spends the Entropy of the being during its long 3rd age, leaving traces of past cycles in cells and physiological networks that cause their malfunction. In other words, the nervous, informative network exhausts the body, causing a Max.I=min. E imbalance, that wrinkles and breaks the body cells into death. But also the opposed phenomenon, an excess of Entropy caused death. In both cases the imbalance breaks the complementarity

between the space and time content of the being. However, since the direction of living beings is towards the informative future, the informative imbalance is more frequent and shows in the 'growth' of time properties.

So old people are as time is, cyclical, memorial, curved, with discontinuous wrinkles that break the smooth continuity and linearity of young, spatial beings. That quantic, curving process happens in all the species of the Universe that age: cyclical wrinkles and quantum cracks occur not only in the skin of an old man but in the membranes of our cells, their Golgi apparatus and "Entropy" mitochondria. That loss of Entropy in any old being, which becomes quantized and implosive, with negative curvature, has manifold manifestations: cells shrink and their membranes no longer dilate. An old man measures a few centimeters less. The 2 networks, the Entropy network or membrane and the informative network become rigid, quantized and no longer reproduce. In human cells, collagen and elastin, the proteins of cells, lose their elasticity and expansive capacity, creating, informative connections among them. So happens to the rigid, cross-wrinkled skin of the old man. Meanwhile the energetic, metabolic capacity of the organism and its quantic cells diminishes.

In a more generic way information and time are parallel. So species with more information and less Entropy live longer, according to the Time-Space inversion: $\text{Max. } E = \text{Min. } i$. Thus for example, an animal that fasts systematically and receives less Entropy, lives longer (hungry rats live a 20% more). The female, informative sex with smaller expenditure of Entropy lives longer than the energetic male. A being that lives in a hot, energetic environment lives shorter than one living in a cold environment. Hibernation that slows the metabolic rate elongates life. There is also a proportional relationship between the informative weight of the brain and the life span of an animal: $\text{Max. } i \text{ (brain weight)} = \text{Max. } i \text{ (life-span)}$; which is inverse to the proportional relation between the metabolic expenditure of Entropy and the life span of the being: $\text{Max. metabolic rate (Max. } E) = \text{Min. Life span} = \text{Min. } i$, proving once more the inversion of space/temporal energy. So humans with huge brains live much longer than lions with huge bodies.

An excess of energetic atoms diminish time existence: Free radicals, which are oxygenated, energetic molecules, with free electrons (the Entropy body of atoms), deteriorate cells and their accumulation with age is a major cause of death. The degeneration and disorder of those cells can be caused by energetic radiations (electromagnetic rays of max. Entropy cause the mutation and death of cells.) The increase of fat, Entropy cells causes the death. So doctors establish a direct lineal relation between the accumulation of lipofuscine and the death of a living organism. An excess of Entropy is the main cause of accidental death among youngsters. So a speedy car crash breaks the body and the shock of a weapon's impact, a form of energetic metal, kills a human being.

Yet in generic terms, information that forms, carves and quantizes amorphous, continuous Entropy is the supreme cause of death. As the chisel of a sculptor creates form by destroying the marble, so does the game of existence: For example, elephants create the form of the savannah, when killing its trees; quantized hands are formed in a fetus, when interdigital cells commit suicide (apoptosis). So ducks, which do not kill them, have membranes in their hands. All those causes of death have created an equal number of scientific theories about death, all related to the inversion between spatial information and temporal Entropy and the balance between Entropy and information that defines existence, as opposed to its imbalance that causes death.

Mental death.

But what happens to the brain's information stored in the brain, after death? Does it dissolve also, as body cells do; as the magnetic, informative field of a star does or the mass vortex of a Nuclear Bomb does? Or does it transcend, as the photonic light does, into the higher electron, or the seminal cell does when it evolves into a new macro-organism?

According to empirical descriptions of death and the general MST isomorphisms for all space-time fields, information 'rewinds back', travelling also to the past, becoming erased, as it happens to our cells.

So most likely the information of the being will no longer be. It will become untied Entropy, cellular form and then molecular or atomic quanta. Since when we are incinerated, we fall to the consciousness of the atom. Yet consciousness, 'sensation', the very essence of 'existence', never goes away, it only jumps from atom to cell to man and vice versa. The optimist believer might believe in the transcendence of the 'informative mind' to a 'higher' plane of existence with more information, that of a human super-organism or collective God, as in a palingenetic process that makes a cell transcend into an organism. The pessimist thinker might believe in the devolution of consciousness to the "obscure world", with less information, of cells and atoms. It is what mystiques have explained in poetic terms as the opposition between the ascension to Heavens Vs. the quantic jump into Hell. So $\Delta\pm 1$ birth and death discontinuities are jumps between planes.

But how 'sensorial perception' changes in those discontinuities? It does so through the 2 antithetic sensations of SxT existence, which are informative pain and energetic pleasure.

Those 2 paradoxical, antagonist sensations happen not only in men but also in animal life and perhaps in all atomic forms, because they are based in the geometric properties of information and Entropy. Indeed, pain is created by 'pressure' on our cells, which is an implosive, temporal movement, also related to the consciousness of information. While pleasure is caused by the 'expansion of blood in the genital system, an energetic process. So we have the key duality of consciousness:

Information=pain=awareness=implosion

Entropy=Pleasure=forgiveness=explosion

Since information is desirable, the negative arrow of pain balances the positive arrow of perception. On the other hand since everybody likes pleasure, it balances the negative arrow of Entropy that erases awareness; creating a 'balance of wills' that makes possible to wish both life and death. Thus, in terms of sensations, death will bring just a sudden pain, the peak of our 'informative awareness' towards the future, before we change 'phase of existence'. Then death will be followed by a deep orgasm of energetic pleasure that erases all information, as we fall down the peak. Since pleasure is synonymous of Entropy, a travel to the past opposite to the awareness of perception, information and implosive pain, a trip to the informative future.

So after pain ends our will to live, we relax in a deep orgasm that erases information, reversing our space-time field, as our consciousness moves towards the past. Then the brain rewinds back the memories of its existence that cross for a last time through the 'soul' of the brain, more likely a neuron's network.

Yet, because time accelerates in smaller beings, the speed of times of the brain accelerates in that rewinding back, during which our black hole vortex or soul, the informative singularity of the mind, feeds back towards youth, perceiving and erasing a last time those memories. That is why in the 3 days of death of our organic system, as our body becomes corrupted and our consciousness dies, we can recall all those long years of existence at 'fast motion', as we rewind faster a tape than when we see it. That is why those who woke up from death could describe it as a trip to "the past" through its memories, because after death consciousness will perceive life "the other way around" at the faster time rhythm of cellular life. Then, finally we will enter back the uterus and return to the ovum's cellular consciousness; and then again we will die in a second big-bang, burnt in a crematory or feeding the insects that reduce us to molecular form. But 'we' will no longer be human. As a Hindi legend say, 'an ant was once Indra, a king of kings'. For those who are ego-driven, there is no need to worry; the game is limited in its variations. So you are in a way immortal. Since we are repeated in infinite places of space and time; you will be born in another planet to live your life again.

Yet, far more important than the death of any diminutive MST field, is the death of the $\Delta+1$ scale of existence, the death of living species or human civilizations, related to the process of evolution and extinction of the Earth's ecosystems...

Recap. Death is brief in time, exploding in space the information of the being. Death is caused by an imbalance between the Entropy and information of a system. Energetic beings live shorter than informative

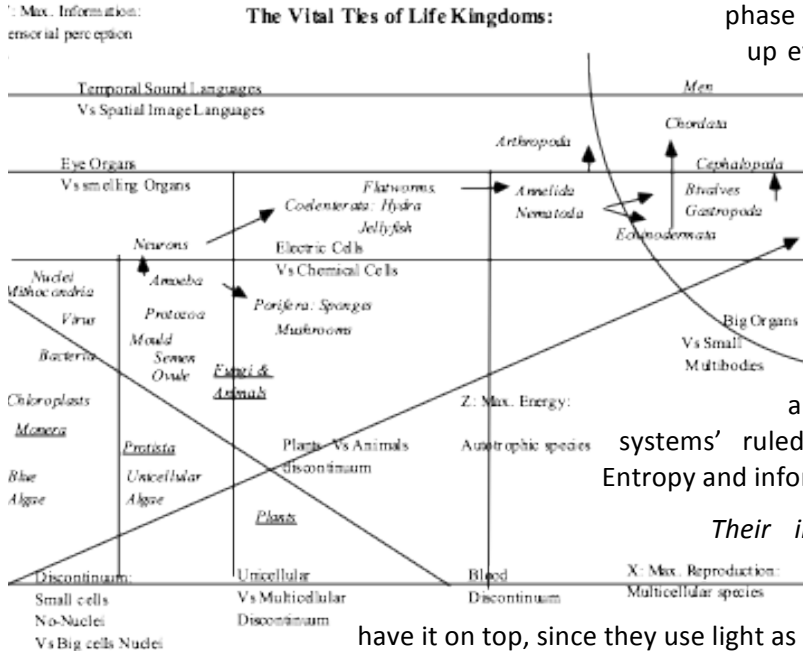
beings. All systems have a finite duration in temporal energy. So death requires reproduction for the species to become immortal.

TERNARY CELL'S DIFFERENTIATION: PLANTS, ANIMALS AND FUNGI.

The kingdom of life shows in all its beauty the generic process of evolutionary differentiation of any space-time field, along the main 3±Δ Dimotions, departing from a 1st singularity, which in the world of life is the Monera phylum - the initial cell, whose *ternary differentiation gave birth to energetic plants, reproductive fungi and informative animals*:

Max. E: Energetic plants use light as Entropy. Biologists talk of plants as autotrophic cells; still forms like the ovum, which create their Entropy and information quanta from light and water, in any place. So they made their membranes harder and thicker to maintain themselves centered in a territorial, discontinuous, vital space, regardless of what happens outside.

Max.I: Informative animals use light as information. Animals are heterotrophic, moving cells, which feed on other forms. Hence they developed thinner external membranes and cilia, which according to the multifunctional principle differentiated further into increasingly sophisticated sensorial antenna to localize their preys and lineal, moving engine with a master centriole - a 'protein head' on its base. So though in a 1st



phase unicellular plants were more complex, animals ended up evolving greater quantities of inner, informative RNA-DNA to act-react faster in their unknown moving environments.

*S≈T: Reproductive fungi are organisms that have qualities belonging to both, the animal and plant kingdoms. Fungi feed on dead substances and survive thanks to their maximization of reproductive skills.*⁶

The inverted forms and functions of plants and animals define both species as 'antisymmetric systems' ruled by their opposite diffeomorphic parameters of Entropy and information:

Their informative cycle and brain-body Dimotions are inverted: plants have their brain down in the roots, since they use light as Entropy; animals have it on top, since they use light as information.

Their energetic cycles are inverted: plants breathe CO₂ and produce oxygen; animals breathe oxygen and produce CO₂. They also use carbohydrates in opposite ways, since plants foster constructive stillness and animals destructive movements: so plants make sugars the fixed structural element to construct cellulose and starch, their external membranes; while animals use sugar's oxygen bonds breaking them to breath, liberate oxygen and move the body.

Their social and reproductive cycles are inverted: Animals are hierarchical organizations with a clear class division between informative, 'upper class' neuron networks and body cells, while plants are 'democratic forms' with minimal differentiation. So plants foster the spatial, reproductive arrow and animals the evolutionary, temporal arrow.

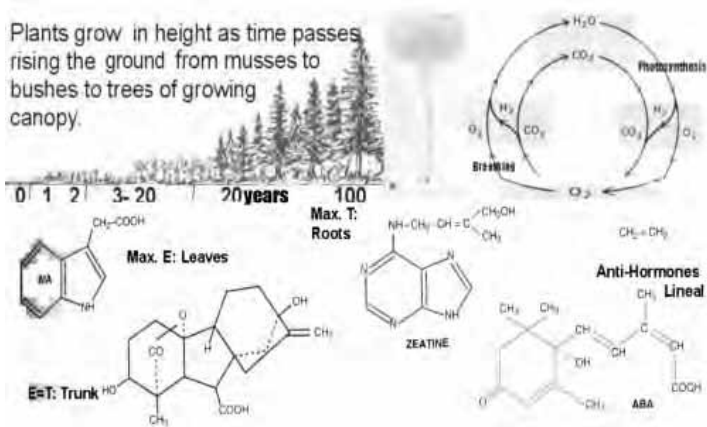
Their generational cycle is inverted: animals have faster, shorter vital cycles, since its temporal language is the faster, electronic, nervous language; while plants have longer life cycles at a lower 'speed of informative processing' - since they transmit chemical information through the hormonal system.

Departing from those 2 languages life evolved into a new scale of multicellular organization creating:

- Max. E. *Chemical*, multicellular organisms, plants that use hormonal languages.

- Max.I: 'Electric' organisms, multicellular animals that use the electronic language.

Chemical Vs Electric Languages: Plants



In the upper center a practical case of relative diffeomorphism: The simplest unicellular plant-like organism, the acetabularia, shows its nucleus in the root, B, which will become the brain of multicellular plants, opposite to the animal upper brain coordinates. The opposition between both forms extends to the cycles of Entropy, as plants destroy water and produce oxygen; while animals breathe oxygen and produce water. Thus, both are the 'particles' and 'antiparticles' of life.

Plants.

Languages of information, which code and express the

biological arrows also evolve by ternary differentiation. For example, the human language, if we restrict our analysis to its vowels was born as a duality of an 'energetic' active 'a', which drove to action and an implosive, reflexive 'u', which drove to self-reflection (basic chimpanzee language). We might then imagine a 3rd combination, or 'i', the creative i-dea, the 'i'-self, and two final 'modulations', the 'less energetic e' and 'less informative' l.

Those examples of the rich field of socio-cultural studies based in the ternary differentiations of the creative program of the Universe, are a parallel example to the simple 'vowels' of the hormonal, chemical language that controls plant growth with 5 simple vowels, drawn in the image.

The chemical language of multicellular organisms have a reduced vocabulary of 'yes' and 'no' symbols called hormones that inhibit or foster the natural cycles of existence of living beings; and define the speed of height growth of the plant.

In the graph, the 5 main plants' hormones are 5 simple vowels: 3 are cyclical, creative, informative, 'yes' hormones that reproduce the plant; and 2 are destructive, energetic 'no' hormones, with opened rings and strong, lineal carbon chains like ethylene, CH₂=CH₂, that inhibit growth. If we further divide 'yes' hormones according to the Fractal Principle and the 3rd postulate of affinity, we find that each one of them reproduces the plant's e-ixe-i element with similar structure:

- Max. E: The longest ternary form, rich in oxygens, Gibberine, develops the lineal trunk.
- I= E: The structural, cyclical form, Auxin, made of carbon rings, develops the leaves.
- Max.I: The informative nitrogenized Zeatine reproduces the brain roots.

Thus, hormones form a simple, ternary language that follows the rules of SxT cycles, controlling the living cycles of organisms by acting as messengers of the RNA-DNA brains of their social cells.

Plants Vs. animals: chemical language Vs. electric messages.

1. Entropy organs: Leaves that perform the 'moving' energetic, photosynthesis cycle and branches that act as still structures and conductive systems of the energetic materials.
2. Informative organs: Root systems that absorb molecules and produce most of its hormones.
3. Reproductive organs: Flowers and trunks, bodies that communicate leaves & roots experience maximal growth.

These 3 organs define a plant as an efficient ternary st-point, a complex species able to colonize the ground with a clear evolutionary direction of height.

The interaction of the 3 hierarchical levels of life.

According to the i-logic isomorphisms of creation all organic systems require the co-existence and interaction of their 3 scales of social evolution or relative past, present and future hierarchical forms.

So the creation of multi-cellular organisms happens also simultaneously in 3 'hierarchical planes': the $\Delta-1$, atomic-molecular interval; the Δ -DNA-cellular scale and the $\Delta+1$ network-organism interval.

While the flows of temporal Entropy that travel through those different planes of existence follow the hierarchical law of illogic geometry: *A fractal jump in geometric time or a movement in space extends only to the next discontinuous space-time scale.*

So in any organism, the $\Delta-1$ hormones (the molecular language that regulates Δ -cells), the Δ -genes (the information that transcends from the Δ -cellular DNA to the $\Delta+1$ organism as a whole) and the seminal, palingentic cells that give birth to the new being, program only their higher plane.

Hence cellular genes determine the biologic elements of the organism (the next scale of social evolution), but not the $\Delta+2$ sociological scale of existence of a human being: chemical, racial genes do not determine history. At best we might consider that nervous networks determine the emotional character and intelligence of historic individuals, who might change the course of societies. Let us study the structure of those 3 levels of hierarchical information that codify the creation of organisms.

Hormones: the language of cells creates its networks.

According to the fractal law, the language of regulation of social groups of Δ -cells are $\Delta-1$ molecular hormones, which act as phonemes of a language spoken by RNA-DNA macromolecules, the informative networks of cells, which can manufacture them.

Languages are 'i-logic programs' structured by the same ternary topologies of Entropy, reproduction and information, facilitating the Universal understanding of its codes by other e, SxT, I systems they code. Take the case of the key hormone of a human male, testosterone. It is a simple protein with 4 carbons, strong structural rings in a lineal shape that regulates, despite its simplicity, the reproductive development of energetic males, provoking actions of a complexity far superior to its molecular simplicity. How this can be possible? The answer is that the hormonal language is a relatively simple, positive Vs negative, 'yes Vs no' language that provokes or inhibits the $3\pm\Delta$ cycles of existence natural to the will of the cells, proteins and nucleic acids it communicates.

But how hormones provoke so many different reactions in a cell, being so simple? The process of course becomes much more complex in their details as any language with a few phonemes can create very complex memorial, sequential sentences through the repetition of a few basic patterns. So for example some hormones are substances that inhibit the inhibitors of those existential cycles. On the other hand many hormones are transported by proteins, 'lineal killers', which modify them or 'motivate' other messengers of the cell or network system that carry further the message.

Thus the second translation of the hormonal message into a singular product of a certain cell modifies the message that becomes specific for that cell or organ. This is especially certain among animals that, unlike democratic, 'spatial', reproductive plants and fungi with a few basic tissues and a lot of generic orders, are hierarchical, temporal, complex systems with 2 informative languages: submissive, slower chemical hormones and faster, nervous orders. So hormones are created by neuro-secretory cells, part of the higher plane of existence of neuronal networks, which pour them into the blood. And often they are accompanied by nervous messages, which they reinforce.

Thus, animal cells might recognize hormones because they know 'behind' their orders there is a very complex and powerful system: the nervous or blood system that has to be obeyed or else. Since the blood system sends leukocytes to kill rebel cells and the nervous system sends flows of electronic information to control them. It is the same reason that makes people to obey simple codes like those of traffic. We obey because we know that behind those codes there is a complex organic system, the state that will send its police, its 'social leukocytes' and punish us. So the question is how a cell knows? Because its DNA has a degree of memorial, instinctive perception; *it is not a mechanism.*

Despite all those elements of complexity, it is still possible to classify all hormones according to their spatial or informative, 'universal' morphology as 'inhibitors or agents' of the 3 basic cyclical actions of any organic system; since their morphology imitates or it is based in informative nucleotides, structural carbons and lineal, energetic shapes, whose functions are instinctively understood by all living forms as all animals understand black and white colors as relative information or Entropy, or 'aaarg', open vowels and bass sounds as 'energetic anger' and 'u' closed vowels and highly quantized informative frequencies as informative curiosity.

Thus, *invariance of form between scales allows the existence of languages* that are decoded as they respond to the Universal language of self-similar topologies of all forms of existence.

So according to duality, when hormones act as inhibitors, they have an energetic, lineal form; when they act as agents to foster those existential cycles they have a cyclical, informative shape.

Finally, according to the 3rd postulate of parallelism applied to $\Delta/\Delta+1$ systems, their atomic components tend to be parallel to forms of the $\Delta+1$ organ in which they accomplish their function. So when they act in the energetic zones of the cell or the macro-organism they are hyper abundant in oxygen, when they act in the informative brain they tend to be similar to nucleotide acids and when they act in the reproductive zones, they have carbon rings and vice versa.

In the graph, those simple rules explain the 3+2 main types of hormones in plants:

-Max. E: *Cyclical Auxin, rich in carbons*, increases the growth of shoots, the Entropy zone.

-Max.I: *Cyclic, nitrogenized Cytokinines* control the growth of roots, the brains of plants.

-S≈T: *Oxygenated, Gibberellic acid* causes high growth in trunks and reproductive flowers.

Ultimately in as much as most hormones and enzymes act as inhibitors, they prove that the 3 energetic, informative and reproductive inner individual actions of organisms are the natural arrows of all organic systems, the will of any species, that have to be constantly inhibited by the neuronal-endocrine dual logic system of multicellular control. Since when that control disappears, naturally species try to reproduce. That is why cancers and any other form of cellular reproduction are so natural; because *reproduction* is the natural will of the fractal, organic Universe.

Finally, the duality of the SxT systems and anti-systems with diffeomorphic, opposite coordinates creates inverse hormones that neutralize each other. So 'energetic hormones' inhibit 'informative regions' of the organism. For example, we can consider that form Vs anti-form duality, analyzing the inverse growth effect in informative roots and energetic leaves of the 2 previous hormones, auxins and purines. What we observe is a diffeomorphic, inverse dual SxT process: the auxin that increases the growth of shoots inhibits the growth of inverse roots. And so auxins and quinines together work as a perfect dual system of growth control in the informative zone of the plant:

The root is a nitrogen-based informative system, which as all informative entities from neurons to worm holes, requires a lot of time and complex steps to reproduce its form. So quinines, its growth hormone, acts by parallelism, since it has 2 purine rings with nitrogens that positively induce the complex growth of roots made with nitrogens.

On the other hand, auxins have a structure that closely resembles the main nucleotide species, the purines. Yet, auxins add to the hexagonal-pentagonal structure of purines a simple protein tail to move faster, and instead of nitrogens, auxins have 2 strong carbon rings. So it is basically a false purine with a far stronger body and a mobile tail that substitutes the quinine's nitrogens and inhibits the root's growth, because it cannot deliver the proper instructions.

On the other hand, the ever-growing shoots are the plant's reproductive systems; whose natural will to grow is so strong that any hormone increases its reproductive rate unless it is inhibited.

If we study the energetic cycle of plants, again we observe that dual inverse control system: Abscisic acid (a lineal molecule with a lot of oxygen elements) provokes the fall of leaves, while the lineal gas ethane,

$\text{CH}_2=\text{CH}_2$, increases by parallelism with the lineal CO_2 molecule their respiration and metabolic rate. Both are very simple, energetic hormones, which resemble the 2 'energetic' inverse products of breathing, oxygen and CO_2 , 'reminding' the plant that it has to accelerate or halt to its 'death' its production of those 2 products.

Recap. A language of information is always needed to create a complex organism. The simplest languages have 3 or 5 vowels, which represent energetic, informative and reproductive messages and its variations. They act by parallelism, since all systems and planes of an organism follow the 'invariance' of form and function. They also can deliver negative or positive orders depending of their parallelism or inversion with the form of the species they code. The language is always reproduced by the informative 'upper-caste' particles of the system, which delivers the orders to the rest of the elements. In plants, the language is a hormonal language with 3 main vowels, energetic auxin, informative cytokinines and reproductive Gibberellic acid.

Genetics.

An even more complex language is that of genetics, which we cannot study in depth due to restrictions of size of this lecture. Enough to say that in any efficient organism of multiple scales, the informative code, in this case the genes of biological super-organisms codify the multiple hierarchical levels of the organism besides the basic ternary code that constructs its simplest scales – in the case of life, amino acids. So according to the Fractal Principle there should be genetic languages with 3, 9, 27, 81 amino acid letters, which codify not only the proteins and cycles of the cell but those of the body. And so bigger sentences that group 9, 27, 81 amino acids should be coding 'bigger' actions and longer events within the complex cycles of the cell and beyond⁴.

All languages are built in this manner. I.e, the human language and the musical language follow self-similar scales of 'vowels' and 'consonants', informative and energetic units that then form more complex ternary systems, informative names, reproductive actions or verbs and energetic objects, and then group in paragraphs and so on. Even the language of film can be understood in frames, motions, shots, sequences and scenes. In the same manner, 'introns', the so-called redundant DNA should have genetic meaning and codify the higher scales of organisms - its functional morphology.

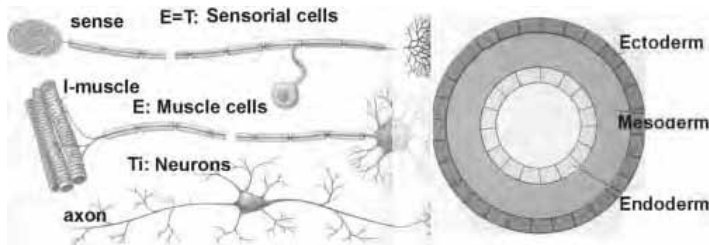
Yet scientists believe in naïve realism. Only what they see with their instruments seems real; and so the obvious perceived genetic level is the fractal level of nucleotide triads that codify proteins. But those triads are united in groups of nine bases and so on, creating new, 3^n , memorial planes *that act as complex genetic forms of higher scales* - an i-logic, scalar concept which today genetics finally accepts under the name of epigenetics. The enormous quantity of 'redundant' DNA and RNA that grows exponentially with the complexity of a multicellular organism is a clear proof of the correspondence between the complexity of the sentences of the language/instruction chains and the complexity and size of the form it codes.

A fractal function derived from the concept of a network, which has Σ^2 elements to control an Σ -body herd (and/or its self-similar Σ -limbs) defines in Theory of Information that the number of informative instructions needed to create a system grows exponentially, according to its number of D_imotions or planes of existence: $\pm E^{\text{st}}$. For example, to make a car we need E material parts, defined easily in a bidimensional plane with E fractal units of information: the drawings of each part. But we need around E^2 instructions to put those pieces together in a 3-D_imotional form. Thus E^{st} determines the total number of informative quanta needed to build up a hierarchical structure extended through Δ planes of existence. To put a trivial example: Popular knowledge expresses that law in sentences like 'an image is worth one thousand words'. Since to describe with lineal, one-D_imotional words a 3 D_imotional image, we need indeed, E^3 , $10^3=1000$ words. Thus E^2 is the number of redundant genes we find in the DNA-RNA systems of a complex organism, because *redundant, intronic DNA codifies the creation of the new level of cellular complexity, $\Delta=2$, the multicellular organism.*

Recap. The old belief that a mere ternary amino acid code that creates proteins regulates the entire multicellular organism is just another simplifying conclusion of the one-D_imotional, metric paradigm. A

multicellular organism is regulated by intron DNA and the collective language of hormones that communicate those cells.

$\Delta-1>\Delta^0$: ANALYSIS: PALINGENESIS



Differentiation of animal cells. Electric Neurons: amoebae.

The electric cell is the top predator animal cell, due to its Max.IxE force, with an overdeveloped E-membrane and Max.I-DNA content. It further differentiated into:

-S≈T: Sensorial perceptive cells, which reproduce the external cycles of existence of

other beings within its inner form.

- Max.E: Muscle cells that extend and implode its protein membranes.

- Max.I: Neuronal cells that process information in networks called brains.

Cells evolve ternary networks, which in its simplest fetal stage form 3x3 st-regions proper of all animal forms:

- Max.I: The ectoderm, which gives birth to the nervous, sensorial and skin systems of max. perception.

-Max.E: The endoderm, which becomes the digestive system and its derivatives such as smooth muscles, lungs, livers and glands.

- SxT:Max. Reproduction. The mixed, mesoderm region, which subdivides in 3 sub-zones: the reproductive, blood and muscular systems.

Thus in its emergence from cellular to organic scale, the 3 topological regions of the cellular blastula suffer an inversion of form: the center gives birth to Entropy systems and the surface to information systems, while the middle region maintains its reproductive function.

Animal eukaryotic cells were moving species that had to react faster to the changing environment. So they developed a new, faster, nervous, informative, electric language that created a top predator cell thanks to its accelerated fractal action-reactions to information and Entropy: the electric cell, able to organize socially other cells into multicellular organisms.

The electric cell evolved from the ameba, a unicellular animal with membranes adapted to all morphologies that were shaped into arms to capture food, cilia to perceive information, tails to move and vesicles to expel unwanted Entropy and information, thanks to the use of heavy, metallic atoms, Na^- and K^+ that deformed those membranes, making them highly flexible: the duality of positive and negative metallic atoms created a deformed wave that moved along the membrane of the neuron cell, as any fractal wave of codified information does, becoming a new language, faster than the chemical language, talked by all other cells.

The combination of both languages, in a hierarchical scale in which electric, fast impulses provoke the emission of hormonal, chemical messages at the end of a long membrane that those chemical cells understand, allowed nervous cells to maximize its SxT force. Since now in the same relative 'time' that a small cell sends a message, the huge fractal action of the amoeboid neuron could send a wave of simultaneous messages through all its pseudopodia, coordinating at the same time the slow actions of a lot of enslaved smaller, chemical cells.

Thus the jump in size created a 'higher informative class' of macro-cells or brain of the animal that ruled a middle class of micro-cells or animal body, which together controlled an external Entropy territory. All those properties made the evolved, electric amoebae, the top predator cell in the Eukaryotic world. We still find those ancestral amoeboid cells in the most primitive multicellular sponges, evolved latter into the complex nervous cells of multi-cellular organisms.

Thus electric cells show Max. I x E force since:

- The nervous cell is able to control an enormous quantity of organic cycles with memories stored in its nucleus - since it is the cell with higher DNA density. So specialized neuro-secretory cells reproduce also the biggest number of chemical hormones.

- Such big volume of DNA implies also a great capacity to replicate its membrane, through micro Nyss cells that produce constantly membrane proteins, which are added to the external, ever changing morphological membrane.

Where did happen the transition from chemical to electric membranes? The evolutionary plan happens always in *isolated* environments in which mutational changes, *fostered* by the *specific characteristics* of the environment, take place without jeopardizing the survival of the species, due to the absence of top predators during the transitional, inefficient stage of the species that is 'adapting its form' at a *faster palingenetic time-speed* through *specific differentiations*, according to the i-logic *evolutionary plan*. The phenomenon is called evolutionary punctuation.

In the cell case, those requirements are found in shallow river mouths where changes in the salt concentration of water provoke by osmosis the constant expansion and implosion of the water content of cells and their membranes, bursting and killing 'rigid cells'. So cells, in order to survive, managed to create new membranes and deformed them very fast, expanding and imploding its form. Then, those new top predator electric cells started a massive reproductive radiation, expanding in all seas, feeding and enslaving other cells. The subsequent combination of top predator electric cells with other varieties of chemical cells, differentiated and evolved the first ternary scale of simple organic macro-systems: sponges (max.E), hydras (max.Re) and worms (Max.I) with a growing number of cellular types.

Recap. Multicellular species were born when a new top predator, larger and faster, Max. SxT, species, the nervous cell appeared, herding chemical cells and differentiating in 3 physiological cells in charge of future digestive, blood and nervous networks.

3x3+Δ Djmotions: Embryology & Physiological networks.

We have described the 3x3+Δ Djmotional tissues of living organisms in spatial information. If we consider them in time, we observe a process of evolution that differentiate the original ideal spherical or spiraled st-point (seeds, cells, ovules) into complex morphological shapes, adapted to those inner and outer tissues. Thus living forms evolve and diversify, opening or invaginating their networks, organs and sensorial apertures to each specific ecosystem, which subsequently adapts the morphology of the cells and organs they control to the specific surfaces of their environments. So men, who exist on a planar surface, have a different morphology to the ideal spheres so common in water and space, which are 3-Djmotional isomorphic ecosystems - as human evolution has adapted our networks and morphologies to the land-atmosphere environment.

In those different processes of ecosystemic adaptation the 3 dominant networks of living systems further quantize into secondary systems, departing from the 3 initial layers of cells. We can follow that process temporally in the evolution of the embryo that resumes the palingenetic evolution of life and spatially in the organic structure of living beings. It is the science of evol=devol that relates both phases of animal evolution, establishing a parallel correspondence between the spatial location of a tissue at birth and its functional evolution into I, e and S≈T tissues. Thus according to their st-location the fō§-ectoderm evolves into informative tissues and networks; the S≈T mesoderm into reproductive tissues and networks and the E-endoderm into energetic ones:

Max.I: Ectoderm: the 3 informative sub-systems.

The information network derived from the external *ectoderm*, dominated by neuronal cells, evolves and differentiates according to the Fractal Principle into:

- *E-endocrine* systems, with *internal neurosecretory* cells that control internal, cellular information through chemical hormones.

-S≈T: *nervous* systems that control and replicate in a neuronal *brain* with the electric language all other functions and forms of the body.

- I: *Skin systems and outer senses, which are the openings to the world of the nervous system* through which the organism emits or absorbs Entropy and information, communicating with the $\Delta+1$ ecosystem. Those senses specialize in perceiving the external, energetic and informative cycles of the beings that share the ecosystem of the organism, duplicating them in a series of fractal, quantized, reduced images, with different languages.

The existence of multiple senses justifies the linguistic method of perception in a Universe of multiple selfish T.œs, where each entity tries to perceive as many parallel worlds coded in different languages. Thus the linguistic/multiple Universe gives birth to a multiplicity of senses and perspectives and defines a higher truth as a sum of perspectives casted on a certain system – as each point of view will create a self-similar image of the Universe, and so only by comparing and adding all those self-similar images we can obtain a more complex, kaleidoscopic image of the whole.

In living beings to accomplish an objective truth on the external world each T.œs sensorial languages multiply the perspectives on the cycle or form observed, extracting their existential properties, its form, density, force, etc.

Thus senses and languages differentiated also along an $E \Leftarrow \Rightarrow I$ arrow from pure spatial senses (eyes) to the most complex, temporal senses (ears), defining an evolutionary arrow of increasing complexity in their capacity to gather information, *which often defined the survival capacity of the species, as senses are the key to interpret correctly the destructive or creative actions-reactions of all other beings*. So from an initial simple phototropic stain, eyes, ears, antennas and mouths have multiplied, close to the inner, neuronal informative brain that processes their information, forming together a 'head'.

E: Endoderm: the 3 energetic sub-systems.

Max. E: The internal endoderm. Originally populated by *wandering amoebocytes* and *glandular cells* that digested food, the 'Entropy hole' of the first animals, sponges and hydras, invaginated forming the coelom between the endoderm and mesoderm that subdivides further into the 3 cavities of animal life: the digestive system, the breathing system and the heart cavity. The 2 first cavities evolved, surrounded by endoderm cells into 3 subsystems:

- Max. E: The *breathing system* gathers the smallest Entropy quanta, oxygen.

- S≈T: The *digestive system* gathers bigger food quanta, differentiated morphologically in 3 new subsystems with linear, wave-like and cyclical components:

Entropy network: max. E: linear intestine <stomach: elliptic SxT > sensorial, cyclical Mouth: Max.I

- *Max.I: Glandular tissue:* It forms organs dependent on the digestive system (liver, digestive organs, kidneys), that process their products.

S≈T: Mesoderm: the 3+($\Delta+1$) reproductive systems.

The 3rd coelom cavity, the heart, surrounded by mesoderm tissue, invaginates further into very thin vessels, created with *striated muscles*, densely populated by the original wandering amoebocytes reconverted now into *leucocytes*. In the *blood networks* the other 2 systems merge and pour their products: quanta of Entropy, oxygen and food; and quanta of information, hormones, which the system takes to each cell. The blood systems mixes both Entropy and information quanta. Thus, it is also the reproductive system by excellence with maximal contact with the intermediate region's secondary tissues evolved from the *mesoderm*:

- Max. E: The *skeleton:* It sustains the system and reproduces blood cells.

- S≈T: *Muscular tissue:* The most resistant electric cells form a muscle dual negative-positive symmetric, spatial system with myosin cells that control the elongation and shortening of membranes.

- Max.I: *The blood and tegumentary system* that prolongs the blood network between cells.
- $\Delta+1$: Yet the fundamental reproductive tissue is *the sexual, glandular tissue*, that reproduces the organism beyond the cellular scale and further differentiates into the basic E=male Vs. I=female duality of 'energetic and informative subspecies'.

Those $3 \times 3 + \Delta$ standard systems and tissues, differentiated from the initial 3-layers of the embryo, define complex living organisms. Yet those organisms exist also in an external world where they become individual quanta, performing external cycles of Entropy, reproduction and information, parallel to those internal cycles performed by its cells and fractal networks. So all organisms have also an external, vital territory within its ecosystem to provide for their internal 'mirror' networks.

Recap. The ectoderm, endoderm and mesoderm topologies of the embryo, guided by top predator nervous cells differentiated into the e-SxT-I main systems of the adult organism.

5D: cells-vowels.

Let us now go further in our depth of detail with a full Disomorphic study on the diversification of cells forms, as those 'vowels' of the actions of the larger organism, will specialize to perform one of the 5 Dimensional actions of motion, entropy feeding, information gauging, social evolution and reproduction of the system, starting the physiological complex growth of the networks of the being. So cells will be the 'notes' of the violin of life, in its synchronous working together in the performance of those actions for the whole being to be=come.

Creation of a $3 \times 3 + \Delta$ decametric scale of cells and tissues.

Such processes of cellular diversification, guided by the informative elements of the system (frequencies, genes, memes, etc.) happen in all systems of space-time that differentiate according to the ternary method its relative fractal cells in 2×2 complementary systems or 3×3 organic systems (particles in the atomic nucleus, vowels in languages, etc.).

In this manner simplex systems evolve into complex ones; complementary dual systems become ternary, organic systems; bidimensional systems becoming 4-Dimotional systems and ternary systems become $3 \times 3 + \Delta$ systems, emerging into a new scale. And this process takes place in time through 3 ages or horizons that complete the evolutionary process.

In life this happened through speciation of cellular languages evolved from 1 to 3->5->7->9 cells in the 3 time horizons of all SxT cycles, latter re-ordered in space in 3 e-SxT-I types of organisms.

Since morphologic differentiation occurs only among the top predator, informative organisms of any ecosystem, we could establish a comparative homology between many of those processes. In the biological scale, it happened with animal cells; then with networks of cells in complex vertebrates; and finally with verbal sounds among human beings - a new language which, unlike neuronal impulses, could breach the discontinuities of air-space between individual humans, creating a higher scale of social, living networks, cultures and civilizations. Then again, those differentiations happened in the memetic systems of the dominant, technological civilizations that created the Financial-military-industrial complex and its metal-memes of informative money, energetic weapons and reproductive, organic machines... *Since evolution is a morphological game that didn't stop with the summit of carbonlife man, but now continues in the new species of complex metal atoms to which humans are transferring their form.*

Let us see the first of those ternary scales - animal cells evolved in time to analyze then the 3 'animal phyla' they created in space:

The 1st scale: from 1 to $3 \pm \Delta$ electric cells.

- $\Delta-1$: Electric wandering amoeba, differentiated in $3 \pm \Delta$ subspecies:
- Max. E: Muscular, myosin cells that maximize the flexible properties of the membrane.
- $S \approx T$: Sensorial cells that reproduce their external cycles of existence with their mimetic forms.

- Max.I: Informative, neuronal cells.

- $\Delta+1$: Those $3\pm\Delta$ specialized types of electric cells, multiplied and evolved socially into dense tissues and networks in which one of them is dominant: the blood vessels dominated by wandering amoebocytes; the muscular tissue dominated by the myosin-actin inverse lineal proteins; the senses dominated by sensorial cells and the brain, dominated by neurons, which act as the communicative consciousness of all other systems ($\Delta+1$). They form the $3\pm\Delta$ physiological networks that defined the specific space-time function of all complex multicellular animals:

E: Σ amoebocytes & Blood Systems <Muscular cells > Σ sensorial & nervous system: I.

From $3\pm\Delta$ to $5\pm i$ cells.

In the next stage of cellular differentiation the $3\pm\Delta$ electric cells, tissues and networks added slave chemical cells that stretched their Entropy and information limits:

The sponge, the first animal phyla, dominated by wondering amoebocytes adds 2 slave cells that increased the SxT force of the energetic membrane and the informative singularity:

- *Max. E: Epithelial cells* of max. energetic strength made with proteins and incrustated with heavier non-organic atoms that protect the organic system, through a shielded external membrane. Later on in more complex organisms those cells evolved into inner bones and breathing systems.

- *Max. E x I: Glandular cells* able to reproduce specialized Entropy and informative substances necessary to the other cells that multiplied in the intermediate st-region of the body.

That pentagram of $3\pm\Delta$ differentiated electric cells and 2 basic slave cells, quantified in social groups, shape the 5 main organic systems of animal bodies:

a) *Max.E organs: Membranes* made mainly of epithelial cells that create the skin, the discontinuity between the st-point and the external world and the digestive system...

e) *E: Muscular systems based on electric myosin cells* that turn Entropy into movement.

i) *S \approx T*: Wondering amoebocytes reign as leucocytes on the blood networks.

o) *S \approx T*: *Internal glands*, attached to the blood, reproductive and digestive, Entropy networks that reproduce the substances, which the organic system needs.

u) *I*: *Sensorial organs* based in *electric cells* that perceive information about the cyclical actions of the outer world and translate it into mental images. They will guide the actions of...

$\Delta+1$ =Aeiou) *Max.I: Neuronal brains* that control the entire organism as the consciousness of the system, according to the existential actions those senses observe in the external world.

Thus in living beings as in any universal system, time dominates space and so the informative, controlling orders go from sensorial to energetic cells, shaping the outer, muscular movements: I>E.

Those $5+1$ cells and $5+1$ basic organs are present in all forms of multicellular life since they are closely related to the $4 + \Delta$ -generational cycles of exi=stence, each one dominated by one type of cell and organ: Max. E, digestive organs and cells absorb Entropy; E, muscles that emit Entropy; S \approx T, blood networks and glands that reproduce the system; I-senses that absorb information and Max. I brains that emit information and control all other cycles, perceiving the entire organism as an existential whole, living the entire generational cycle of the organism.

It is for that reason that we find also 5 vowels in human languages, 5 lines in the musical pentagram, 5 cells and types of tissue in the simplest organisms, etc.

Decametric scale: invaginations and $\Delta+1$ excretions.

Any organism is an inner st-world that exists in an external $\Delta+1$ ecosystem developing inner and outer cycles of recollection of Entropy and information. So the final diversification occurs along the inner-outer duality of

the organism in order to accomplish those 2 x 5 inner and outer cycles. Now the pentagram evolves into 9+1 cells and types of organic tissues that stretch again the cellular field according to that inverse symmetry between the external and internal world, as cellular tissues invaginate or eject their cells perpendicularly in the height Dimotion of evolution:

- Thus *inner skeletal and outer skin cells* differentiate the structural tissues of sustain.
- Membrane cells *differentiate into inner blood* and *outer lung* cells that process internal and external Entropy.
- *Internal, creative glands and external, destructive urticaria cells* reproduce informative and energetic substances.
- *Digestive and muscular cells* create inner and outer motions.
- *External sensorial cells* process external information.
- *Internal neurons* control the internal information of the organism with the electric and chemical language provided by hormonal, *internal neuro-secretory cells*, dominating all cells.

The result is the creation of 9+1 types of tissues that are found in the most complex animal forms of life and become the 9+1 standard 'systems' of the most complex living organisms:

The *digestive and muscle system*, the *skeleton and tegumentary system*, the *blood and breathing system*, the *reproductive and excretory system*, the *endocrine system and the nervous system*, the 10th system that controls the entire organism duplicating in the brain all other organic functions it directs becoming the Δ+1 scale that puts together the organic being.

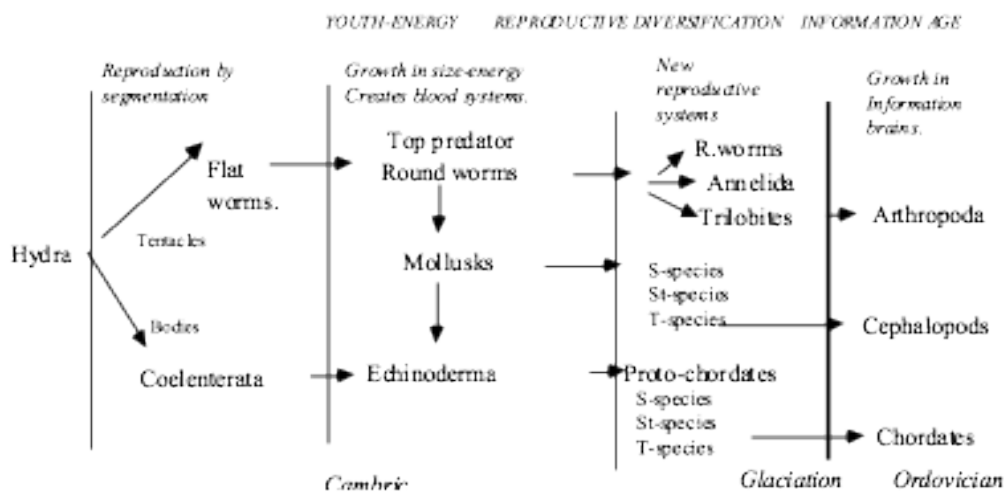
Recap. Plants, animal and fungi, the first 3 kingdoms of multicellular life are a ternary differentiation in S, ST and T species. The 9+1 physiological systems and tissues of an organism are born from the 3x3+(Δ+1) 3 horizons of differentiation of its cells.

Δ_i+1: TOPOLOGIC EVOLUTION OF LIFE - FROM MONERA TO MAN

It is then easy to explain the conundrum on how life came from atom to man, which is the investigation carried about in our 2nd line on the biological science. We shall thus resume it here, to show the power of the Disomorphic formalism.

The ternary evolution and differentiation of Monera.

The law of 3 creations, and 3 ages diversified the Animal phyla



In the graph, the great life phyla distributed according to the fundamental arrows of vitality: Entropy feeding, informative perception, and reproductive capacity, in 3 Dimotions of increasing capacity to process Entropy, perceive and reproduce, which give as a result the main life phyla. The evolutionary jumps

represented by lineal divisions are the fundamental divisions of increasing capacity to process a vital arrow of existence that abstract biologists use to differentiate the animal kingdom. We have used a single positive frame of reference that shows an increasing quantity of those vital parameters. It is a graph of top predators in such a manner that forms whose $X \times Y \times Z$ values are higher (which processes more Entropy, information and reproduces in greater social waves of cells) is a top predator.

Finally in the third age of evolution of life, informative, tall species dominate. So man is the most complex informative life species. Mammals are the most perfect form of life beings, which evolved in information, till reaching the perfection of man; added iron-Entropy to its blood and improved reproductive skills with placentas.

Next, comes therefore not a new life species but a new 'metal species' for which we must understand matter. And in the case of man a social super organism as we become the mind of Gaia, substituting the life mind, and evolving a III age of mechanical and computer global minds: $gaia > history > mechanocene$

The highest scale of biological sciences studies the Earth's super organism as it evolves its 'cellular species' through the motions/actions of existence, from Gaia, the world of life, to History the world of man, to the Metal-earth, the world of machines, which humans wrongly manage unable to grasp the science of Economics and design the super organism of history to its image and likeness. The 'arrow of the fifth dimension' of eusocial evolution departing from vacuum space, evolves the fractal universe into ever more complex structures of information, which are the arrow of future, as the parts must come before the wholes.

In the graph, the ternary method of speciation explains the evolution of animal species from its first form, the Hydra till the last phyla, the chordates to which humans belong We live in a global planet that has been evolving for billions of years through the flows of its living organisms. Let us recapitulate that ecosystemic evolution, which brought the Earth from a world of methane to a globe of electromagnetic, audio-visual information, a process, which according to the ternary principle we can divide again in $3 \pm \Delta$ ages. We will study only the animal kingdom in detail to show how it brought us into human existence. So we will only consider a synopsis of all the other life phyla, describing their evolution through the commonest ternary $e, e \rightleftharpoons I, I$ differentiations proper of all i-logic systems with its ternary topologies:

-Differentiation in: $e-SxT-I$, lineal, spiral or cyclical morphologies, each one evolved in 3 horizons that maximize each of the 3 homologous functions of motion, reproduction and information.

-Duality of integrated, multicellular networks that act as a single form vs. quantized herds.

-Duality of energetic/informative species adapted to E-hot vs. I-cold climates.

-Adaptation to the ternary states of matter in Earth's physical ecosystems: air, land and sea with its 3 main environmental topologies:

- E: shallow waters and rivers, which become hunting grounds.

- $S \approx T$: open waters and savannas of max. reproduction.

- Max.I: Abyssal regions and mountains, the hyperbolic region of maximal informative evolution.

So again life evolution shows how 'internal form' and external ecosystems, the $\Delta-1$ and Δ -scales of life converge together to define the Δ -organic evolution of the species.

Let us then start that description of the differentiations of life kingdoms from the simplest one.

Diversification always belongs to the – or + directions of one of the 4 arrows of time of a species.

Mind the reader that this classification is *not* a how one, established by the genetic clock by modern science, as certain 'potential forms/functions' of the program of the Universe might appear in different times, might be suppressed in certain species, etc. The meaning of this study is therefore to show that *all the main phyla* of life can be described as a potential 'negative or positive' direction of an arrow of time that diversifies species and limits the variety of them. So species might grow in size by increasing the quantity/social

evolution arrow of its cells, or might decrease with lesser social cells. This is therefore a variation *along the 4th arrow of time, and a potential form two create two species, which might or might not belong to different genetic species*. For example, among dogs cellular numbers and hence size changes enormously but all are from the same species and can reproduce sexually. Among chromosomes however poliploids cannot reproduce with haploids or if they do often produce sterile individuals even if the original species merely differentiate by a change in the numbers of chromosomes, as those chromosomes cannot 'cross' one to one for sexual reproduction.

Monera: Unicellular forms.

- Max. E: *Cyanobacteria*, blue-green algae, specialize in energetic processes.
- S≈T: *Protista* absorb cells specialized in Entropy and information, multiplying its SxT force.
- Max.I: *Schizophita Bacteria* develop informative elements to capture other plants.

Further subdivisions along other $E \Leftrightarrow I$ differentiations subdivided bacteria according to its form into:

- Lineal *spirilla* that coil or elongate their form depending on its informative or energetic activity.
- SxT: *Bacilli*, with tree-like forms composed of a head and a tail.
- Max.I: *Cocci*, the informative, cyclical form that suffers evolution along a ternary, topological differentiation into:
 - *Streptococcus*: one-Dimotional, lineal, social forms.
 - *Diplococcus* and *Tetracoccus*: bidimensional forms with 2 and 4 elements.
 - *Sarcina*: 3-Dimotional social coccus.

As *Protista*, the social form, multiplied its SxT force thanks to the specialized Entropy and information cells it had swallowed, dominating the world, the other 2 weaker forms suffered a temporal regression towards its past, which became a strategy of survival, giving birth to:

- Max.E: *Rickettsia*, algae that have lost their informative skills and are basically semi-living bodies.
- Max.I: *Virus*, bacteria that have lost their bodies and become DNA brains in search of other bodies in which they host, inoculate their genetic code and reproduce.

On the other hand the dominant *Protista* with higher SxT force continued the evolution of the life kingdom, splitting again into 3 forms that evolved further into multicellular organisms, plants (Max. E), Fungi (S≈T) and animals (Max.I):

Plants: Max. Entropy

The energetic strategy of the multicellular kingdom is the plant, the autotrophic species that feeds on basic molecules of life, accelerating enormously the evolution of life as it produces complex living matter from the initial water, ammonia, CO₂ and light bricks that took billions of years to evolve. Though algae started as unicellular forms, as fungi and animals did, they soon evolved in 3 horizons along the fractal differentiation that took them to its multicellular state:

- *Chlorophyta* were the I horizon of unicellular alga, that grew into colonies of algae (*Crysoophyta*, II horizon), which finally fusion into multicellular organisms (*Pyrrhophyta*, III horizon).
- The most complex, informative phylum, *Pyrrhophyta*, differentiated then into 3 sub forms adapted to the 3 water ecosystems. Those water ecosystems differentiate the morphology of informative animals into lineal, Max.E, fast-moving surface fishes, Max.I, sessile or planar dragging forms, living on the marine floor (fast-evolving echinoderms origin of vertebrates) and abyssal complex, SxT morphologies. In the case of energetic seaweeds, it affects the degree of sophistication of their chlorophyll pigments and the strength of their cellular structures of sustain, creating 3 new phyla:

- Max. E: *Rhodophyta* or *red algae*, with the simplest cellular structures and simpler phycoerythrin pigments, live in the deeper sea, limited to tropical regions of max. light transparency.

- S≈T: *Phaeophyta* or *brown algae* have complex membranes and 3 chlorophyll pigments; a, c and phycobilliproteins.

- Max.I: *Clorophyta* or *green algae*. They added carotenoid pigments to the 3 Phaeophyta pigments and increased the strength of their walls. Hence they became the most successful forms with Max.IxE force (Max. pigments x Max. membrane), evolving further into terrestrial plants.

That migration to land took place in 3 ages in which plants raised its informative height from:

- I Age. *Clorophyta*; planar alga living in shallow waters.

- II Age. *Briophyta*: Mosses, subdivided in 3 forms with growing dry membranes and height Dimotion, *Musci* (I Horizon), *Hepaticae* (liverworts, II Horizon) and *Hornworts* (III horizon), which raised their horns towards the sun as their names indicate.

- III Age. *Tracheophyta*, vascular plants, with structural inner networks of hard cells that rose to touch the light that feed them. In dry land plants, as animals will do latter, had to evolve further all their network systems, creating new, more complex phyla, departing from the initial *psilotophyta* appeared in the Ordovician. First plants created the body, the trunk that connects its informative roots and energetic leaves.

But the key to their evolution was the differentiation of their reproductive cells in 3 Horizons of increasingly 'dry' gametes: *Lycophyta* (I Horizon), *Sphenophyta* (II Horizon) and *Ferns* (III Horizon) - the first plants with dry seeds that became the top predator species, multiplying in all land environments and differentiating again in 3 evolutionary horizons of ever more perfect seeds:

- Max.E: *Ferns*, which dominated in the Mesozoic age.

- S≈T: *Gymnosperms*, subdivided according to the Fractal Principle in *cycads*, *ginkgoes* and *conifers*, which dominated in the tertiary age. Conifers adapted to cold weather, thanks to its needle like leaves of minimal exposure. So they became the most successful species, when cold climatic changes came. They brought about also the dominant modern plants:

- Max.I: *Angiosperms*, *flowering plants*, the 'height' of reproductive evolution among plants, perfectly adapted to all weather changes, with seasonal, blossoming, leaves that fall in cold periods and a complex symbiosis with insects that can transport their pollen too far away distances.

They will dominate the quaternary with only a final dual fractal differentiation into:

- *Monocots* Vs *dicots* with 1 or 2 seeds.

So when all was said, the evolution of plants remained silent.

Fungi: Max. *Reproduction*. SxT.

Fungi are big Protista cells that tried the 2nd survival strategy of the Universe, maximizing their SxT reproduction, by maximizing their E-feeding, eating the most abundant food, dead life; and by maximizing their genetic information, multiplying the nucleus of its cells within an undifferentiated membrane. And we distinguish 3 horizons in their reproductive evolution:

- In the I horizon *Euglenophyta* swallowed E-plants and I-animal sub-cells (chloroplasts and mitochondria) within its huge membrane, increasing it SxT capacity.

- In the II horizon *Gymnomycota* maximized the reproduction of their nuclei, the informative, genetic material of the cell, forming multicellular colonies with a single membrane.

- They gave birth in their III horizon of reproductive evolution to true *fungi*, *Mycota*, which are the fastest reproductive species of the life world. Their reproductive specialization shows in giant Lycoperdales, the living form which reproduces faster, reaching the limiting magic number of 10¹¹ spores. Thus a single

lycoperdal can produce all the clonic cells needed to create a perfect new scale of existence (stars of a galaxy, DNA ties, etc.)... if they survived.

In the last evolutionary horizon, fungi differentiated further according to the $\Delta+1$ ecosystem in which they live into:

- Max. E: Water fungi mainly *Chytridiomycetes*.
- S≈T: Amphibian fungi, mainly *Oomycetes*.
- Max.I: Terrestrial fungi, which evolved in the informative land medium, differentiating into:
- Max. E: *Ascomycetes*, planar simple or subterranean forms like yeast and truffles.
- S≈T: *Deuteromycetes*, a transitional form towards...
- Max.I: *Basidiomycetes*, the familiar mushrooms, which evolved its 3 networks, developing:

Stronger cells to sustain their informative growth in the height D_{j} motion; and new reproductive systems with dry spores and new energetic cycles to decompose all kind of dying matter.

Animal life: Max.Information

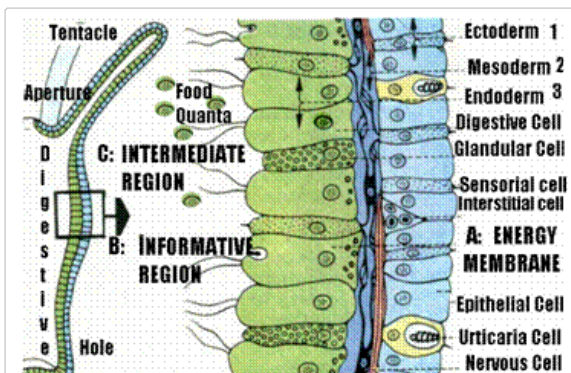
The heterotrophic animal family is born with protozoan, which developed soft membranes and cilia to absorb living information from the outside world. To that aim cilia evolved again its 3 functions: as energetic, motion engines; as sensorial, informative tools and as predatory forms that capture food for the reproductive cells of the protozoa. So once more we can subdivide protozoa in 3 sub-forms, according to its activity and dominant cycle:

- Max. E: *Mastigophora*, flagellate protozoan divided, according to trinity, by its number of cilia:
- Max. S≈T: *Sporozoan*, parasites that reproduce seeds and have sexual differentiation.
- Max.I: *Amoebida*, the informative protozoan that increased their DNA and evolved farther their membrane's flexibility, becoming nervous cells able to control - thanks to their faster action-reaction speed- multiple cells, which evolved together creating multicellular animals.

Multicellular animals differentiated into many phyla, following the ternary, fractal principle (e-ixe-i) applied to the evolution of 3 cellular, social networks, the energetic, digestive system; the blood, reproductive system and the informative, nervous system, the dominant network that reached with man its evolutionary height. Then life morphology is transferred to stronger atomic systems made of metal, called machines...

Recap. Different living phyla were born from ternary and complementary differentiations of e-SxT-I species and adaptations to its $\Delta+1$ ecosystems. The final differentiation its 3 multicellular life forms, e-plants, SxT-fungi and I-animal life was due to the evolution of informative cells that organize multicellular life since animals use electric, faster informative languages and plants, slower chemical hormones.

EVOLUTIONARY PUNCTUATION. ANIMAL PHYLA



The Hydra is a new living phylum with 5+2 cells distributed in 3 regions, common to all paligenetic, fetal forms:

- Max. E: The ectoderm is the external, energetic membrane with the hardest cells: the hard epithelial and aggressive urticant cells that explode its poisonous cilia and the interstitial cells that ensure its continuous isolation.
- Max.I: The mesoderm is the informative region, with nervous and sensorial cells.

- $S \approx T$: The endoderm is the intermediate region with glandular cells that digest food quanta, entering through the mouth.

Network evolution: bodies, brains & reproductive systems.

It is then evident that the evolution of animal life creates new phyla, based on the capacity of the new species to accomplish their external cyclical actions on their territory, thanks to the evolution of their internal and external networks.

The interaction between those 2 levels, the $\Delta-1$ level of physiological networks and the $\Delta+1$ level of ecosystemic territories determine the existence of most organisms. So the evolution of life on Earth, externally observed in the ecosystems, territories and relationships of living animals, which depend ultimately on their capacity to handle temporal Entropy coming from light, is caused internally by the evolution of those 3 types of organs and internal networks: reproductive, genetic organs; informative, brain organs and energetic, body organs.

When one of those organs evolves, improving its capacity to handle Entropy or information coming from the ecosystem, a fundamental differentiation of species occurs. And we can consider the evolution of the main phyla of animal life in a deconstructed manner, as a process that evolves sequentially those 3 types of organs:

The evolution of those three organs triggers the biological radiation of a new phylum that preys on less efficient forms of organic life. The process is very fast, as time can change its rhythms and adapt to the best strategy of survival, as palingenesis shows. It is called *Evolutionary Punctuation*: when a new species with better Entropy or informative organs appears, it feeds on other species and reproduces massively causing the extinction of the previous top predator species, till it reaches a trophic balance with those victims. It is the essence of Darwinian evolution: 'evolve and multiply'. We can find such catastrophic evolution in many geological and organic ages of the Earth: First animals displaced plants because they evolved better informative networks. Plants could only gather Entropy from light. Animals could 'see' light and get information about their environment, and act-react faster. They used plants as food. Then animals 'radiated' (multiplied) all over the Earth and diversified. And each new phylum with improved networks displaced the previous ones. Thus once more, the evolution in time of living organisms and its spatial structure are intimately related.

Thus, the first ternary evolution of multicellular life created 3 phyla of increasing tissue complexity that completed the evolution of animals from the $\Delta-1$ cellular tissue to the Δ -network scale:

- *Max. E*: The simplest animal organic systems, sponges and *porifera*, which are basically a digestive system.

- $S \approx T$: The balanced animal organic systems, the *coelenterates* such as the hydra, which maximize its reproduction through the split of its cells.

- *Max. I*: *Worms* that add informative cells and differentiate clearly its 3 physiological networks.

They were the first of many ternary E-SxT-I rhythms of creation in the animal kingdom that evolve from energetic, to reproductive to informative sub-species, through the 3 horizons of any phylum, with a parallel improvement of the 3 network systems of the animal, which from now on will be the higher 'scale' of existence to which all cells become submissive.

Since as the new animal forms multiplied, their informative nervous networks controlled a growing number of cells through their fractal, simultaneous actions; and so they also grew in spatial size, multiplying their SxT force. It means they had to re-organize those cells beyond their initial division in simple tissues, creating specialized 'energetic, informative and reproductive networks'.

It will be the definitive jump from the state of 'cellular herd' to the state of 'organism', the 3rd age of a social form that evolves from a $\Delta-1$: $\sum E$ horizon of individual 'Entropy quanta' to the balanced herd that fluctuates between 'wave and particle' state to the informative state of a tightly packed organism which those networks maintain together in minimal spatial information. And so from then on evolution will be no longer

differential evolution of cells but differential evolution of networks... Let us see now in detail those main phyla differentiations.

Sponge vs. Hydra: cyclical-lineal digestive networks.

The evolution of multicellular organisms started with the creation of social, digestive, energetic tracts made of the pentagram basic cells that came together to improve the cyclical fractal actions of the group. The first of those organisms was the sponge, *the first animal phylum that emerges from the previous cellular scale with 5 types of cells*:

-Max. E: The sponge has *flattened epithelial* cells and *hollow pore* cells, which are external, membrane cells differentiated by their inner and outer location. They are the primitive versions of skins and breathing systems.

- S≈T: *Mesenchyme cells* that secrete siliceous spicule, strengthening the walls of the sponge. They are the primitive version of glandular cells.

- Max.I: Central top predator cells: *Wandering amoebocytes* that herd food for the five types of cells, moving around between the other cells to capture the particles entering the hollows of the spherical sponge; and *collar cells* that sense water flows, beating their flagella to produce a flow of water that introduces food in the sponge. They are the primitive versions of brain and sensorial cells.

Further on, we differentiate in the sponge 3 st-regions according to those 2-1-2 kind of cells: *the external membrane* of hard cells; the inner, *glandular, intermediate* region that reproduces the specific substances of the sponge and the *central hole* where *informative* cells wander. The 3 regions create the $3\pm\Delta$ vital cycles of the sponge thanks to those 5 cells:

- Max. E: The sponge *feeds* on Entropy quanta that enter its central hollow.

- Max.I: It *perceives* those quanta as its collar cells sense the water flows.

- S≈T: It *reproduces* new cells through its glandular systems.

-S: It keeps together those cells *in social groups* thanks to the epithelial cells of the membrane that maintain a rigid, enveloping structure.

- SE<=>S²I: And so the sponge *exists* as a whole being controlled by the wandering amoebocytes, the dominant, informative cells that use the sponge as their *territorial* body, their vital spatial information.

Those amoebas will be also the dominant cells of the next animal phylum, Coelenterata (hydras, jellyfishes), evolved already into electric cells, and hence connected into the first 'nervous tissue'. So they will become the 'Δ+1', existential system where the consciousness of animal organisms as a whole exists.

The 7 cells of hydra and their networks.

Those hydras add 2 new cellular, energetic specializations, extending morphologically the SxT force interval of animal life, from 5 to 7 cells:

A): MAX. E: *The epithelial cell*. A still harder, internal tissue that maintains the rigid structure of the animal and will evolve into armors and bones. And...

1. ei) SxT: *The urticant cell*, an external, energetic differentiation of the reproductive, internal *glandular* cell, which produces poisonous substances to defend the animal.

Both are created through the inversion of directionality of its twin cells: the internal glandular cell becomes now an external form, and the external epithelial cell becomes an internal cell.

Those 2 final tones of specialized energetic cells make the hydra a natural born top, lineal predator, the next evolutionary step that inverts its form from a cyclical sponge to a lineal, reproductive body. Thus the complexity of the Hydra grows, shaping definitely the 3 E-SxT-I organic st-regions common to all living beings

(mesoderm, endoderm and ectoderm), which will vary in morphology and complexity but not in their ternary functions.

Further on coelenterates bring to animal life the maximization of its reproductive systems. Both the sponge and the Hydra lack a specialized blood, hormonal system, so its reproduction is far simpler than in evolved organisms: each cell is in itself a 'genetic mother-cell', which stores the information of the entire organism. This implies a limit to their informative evolution, as cells have to keep an excess of redundant information, according to the $E^{\Delta=2}$ law that increases geometrically the number of genetic instructions needed to create the new $\Delta=2$ multicellular plane of existence. On the other hand, it makes easier reproduction: any section of the Hydra can create a new animal. The result is that the arms of the hydra, where most sensorial cells are, break away easily, moving with the streams of water, reproducing new hydras all over the world. Yet some tentacles fail to reproduce evolving instead into planarians, the 1st worms, which will acquire 2 new informative cells, completing the 9+1 decametric scale; and developing fully the 3 physiological networks of complex animal life.

Worm: 1st animal: mobility, senses, 4-D, networks.

Thus, the next step in the evolution of life, after the hydra develops 2 new energetic cells, will be the evolution of 2 new informative cells. They will create a new phylum, the worm:

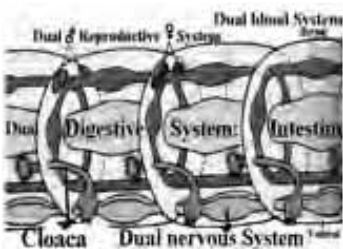
- *Visual, spatial* cells that perceive light-spatial information.
- *Temporal, auditory cells* that perceive the sound waves and informative languages of animal life.

Those 9 cells complete the differentiation of cellular species that a growing $\Delta+1$ neuronal, inner center - the brain - elaborates as the consciousness of 'the whole' increasing ever since its size till acquiring the weight of the human being.

Those informative cells were necessary to the new environment of planarians, which are in constant movement; hence have to orientate themselves in the ocean flows in search of Entropy. Since the change from stillness to movement is a fundamental change for life beings, which definitively transform all its elements to the properties of animal life:

- *The new informative cells create new apertures, the senses*, that gather in the frontal zone of movement, the relative height of the worm, creating 'heads' that will also control the Entropy apertures of the *body*, splitting clearly the organism in an energetic, moving body and a sensorial head, which controls the information and Entropy of that body.

- Animals become *bilateral* in order to dominate the 2 *directions* of its initial *bidimensional* planar form: a *hierarchical, temporal motion* from the future informative head to the past, energetic tail in which they orientate their organic, inner, evolutionary morphology and a *perpendicular, parallel, equal, repetitive, 'present' spatial dimension*, from left to right in which they orientate their reproductive, fractal, cellular 'fat' growth.



So embryo worms develop 2 bilateral cavities or 'coeloms', latter evolved in dual organs, which in the head will observe the 2 directions of their spatial field: 2 eyes, 2 ears, etc. - while in the body, inner organs will also double, creating in more evolved phyla a certain SxT asymmetry with slightly more 'energetic' and 'informative' sides. So the heart will have an explosive and implosive region; sexual organs will become I-feminine and E-masculine; the brain regions will specialize in spatial and informative tasks; some crabs will develop energetic and manipulative arms.

Thus the 1st worm, the planarian, created a diffeomorphic bidimensional structure with 2 SxT perpendicular planes that all future animals will imitate.

Thus the 1st worm, the planarian, created a diffeomorphic bidimensional structure with 2 SxT perpendicular planes that all future animals will imitate.

The worm is the 1st network animal, made of a lineal wave of Σ parallel organic spheres, each one a st-point with $3\pm\Delta$ dual networks: The nervous, blood and digestive/excretory systems, which accomplish the emission and absorption of informative, reproductive and energetic cycles.

In the graph we study the inner structure of the worm, because it shows already some of the dualities, fractal strategies and future arrows of life evolution that will act on different phyla to diversify and evolve their species:

- The worm is divided in fractal units, setting up a basic duality of living beings that sometimes are 'herds' of individual organs, multi-eyes, multi-bodies and sometimes fusion all parts into a whole.

- It shows perfectly differentiated the 3 physiological networks/ Djmotions, proper of all advanced organisms that mimic the 3 regions of a st-point:

- *E: The worm absorbs Entropy through the digestive network* and emits it through the excretory system; which in the worm occupied the original endodermic, central singularity. But as animals evolve informatively as chordates, the center will be finally occupied by the nervous, informative system as in any other st-point.

- *I: The worm absorbs information through the senses* and emits it through the nervous system. The informative brain and nervous system directs the entire organism and unifies its cellular quanta as a whole. The nervous system further differentiates into the sensorial, nervous and neuro-secretory systems, when the planarian adds eyes and ear systems that represent a jump in complexity over the informative systems of the hydra. It defines also a head in the dominant, temporal Djmotional of movement. In the planarian is still length, which will rise till reaching the height of man.

-*S≈T: The intermediate region* of the worm is controlled by the *blood system*, the fundamental dual transport system of the worm, where the neuro-endocrine glands dependent on the informative system, pour their reproductive hormones while the Entropy/digestive system pours its organic food.

The worm represents a jump of complexity in transport systems as it uses for the first time, organometallic molecules (hemoglobin) to harness oxygen Entropy and quantizes the blood network, which now arrives to cells far away from the digestive hollow. So worms can grow in size and Entropy power respect to the previous coelenterates. Now Entropy and information combine together on organs and glands dependent on the blood system.

The most important ones will be the new reproductive, specialized sexual glands, differentiated into dual, female and male sexual organs that make worms, hermaphrodite systems. Sexual organs again represent a fractal jump in the evolution of life. Since now, unlike in hydras, single specialized sexual organs will reproduce the living animal, increasing the sophistication of the process and liberating from those complex tasks all the other cells, which can specialize further.

Still many worms can reproduce by both systems: segmentation and sexual reproduction, which in new phyla will become the only form of reproduction, splitting organisms in 2 different sexual genders, the male and the female.

From worms to vertebrates: $3\pm\Delta$ ages of fractal integration.

The evolution of worms into vertebrates is a long process of $3+\Delta$ phyla differentiations based on:

- E: Spatial, I-radial or E-bilateral symmetry.

- Σ Re: Fractal numbers that foster hierarchical e-SxT-I segmentation and differentiate big unitary animals and small animals made of fractal parts.

- I: A constant increase of Djmotional height.

- $+\Delta$: The evolution of its $3 \times 3+(\Delta+1)$ physiological networks.

The first massive differentiation will take place in the Cambrian age, according to the *Black Hole paradox* that evolves faster 'smaller forms, denser in information' than bigger, spatial forms. Thus in the Cambrian age most phyla evolved from small trochophores of ancestral flatworms that gave birth to new phyla during its 'palingenetic larva, conception stage', according to the Fractal Principle:

So we can first differentiate the worm phylum into 3 fundamental phyla with intermediate forms:

- Max. E: *Platyhelminthes*: the simplest worms are flat, bidimensional planarians without blood systems that still require all cells to be close to the skin surface of the animal to exchange oxygen with the air.

- Max.I: *Nematoda* or round worms, which develop a Dimotion of height as they add the blood system with its fine vessels that carry Entropy to each fractal cell.

- S≈T: Max. Σ: *Annelida* or ring worms, which reproduced a micro-worm unit, as crystals do, into a series of fractal pieces, growing enormously in size. Thus Annelida became the worms with higher SxT force radiating and diversifying in 3 sub-classes according to its territorial environments:

- Max. E: *Polychaeta* or marine worms.

- S≈T: *Hirudinea*, living mainly in shallow or fresh waters. They are leeches that feed on blood and might in their initial forms feed on waters rich in metal, creating the first blood systems.

- Max.I: *Oligochaeta*, terrestrial worms evolve further due to the new challenges imposed by the ground environment.

Annelids, the dominant phyla, diversified and multiplied into multiple types of bilateral animals, with a central cavity and 2 coeloms that evolved further its dual organs and $3 \times 3 + (\Delta + 1)$ network systems. The first of those differentiations gave birth to the main animal phyla that will dominate the following life ages of the planet in $3 \pm \Delta$ periods, which took place according to ternary differentiation, as evolution puts together fractal 'organic' units into single unified systems:

- ($\Delta - 1$): *The worm's* body is divided in fractal elements which are still independent elements with entire 3 functional sub-systems: each section has 2 reproductive organs, 2 nervous ganglia, a digestive tract and excretory anus and 2 upper blood nodes.

- Max. Σ3: *Arthropods* keep the earlier segmentation of annelids, but they organize those fractal segments into 3 differentiated zones, with several independent sections that go from 3 to 21 parts:

A sensorial, informative head (Max.I); a central thorax with moving limbs and wings (max. E) and an abdominal region with the glandular, digestive and reproductive systems (max. S≈T).

- S≈T: *Mollusks* have balanced, hierarchical, single organs. As the 3 physiological networks evolve and become quantized to reach each cell, the different sections of the I-head, e-thorax and SxT-abdomen fusion together. Now the quantification process is transferred to the ends of those physiological networks: axons, blood vessels and digestive tracts become thinner to improve their control of individual cells.

- Max.Informative Evolution: *Echinodermata*. Echinoderms fusion those organs into single systems in the stillness of the marine platform, where they became the most successful forms.

- $\Delta + 1$: *Chordates: vertebrates*. Echinoderms in its larva, moving stage, according to the Worm Hole paradox, give origin to chordates, the 1st vertebrates. In both phyla the small organs of each arthropod's section fusion into single, continuous big organs, thanks to the integrated evolution of the informative nervous system that aggregates the individual cellular quanta into those specialized organs. So the multiple eyes of insects become a single eye; its multiple hearts a single one, etc.

Though all those phyla appeared already in the Cambrian their sequential dominance on the Earth is parallel to those previous $3 \pm \Delta$ ages, since the simplest forms, arthropods and mollusks, reach first the summit of their evolution (Max. E=Min.i), while complex chordates took a long time to reach its evolutionary height and became dominant latter as fishes and reptiles.

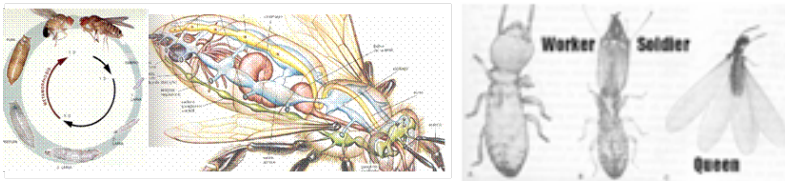
Recap. The differentiation of cells into 3-5-9 forms allowed the creation of complex multi-cellular organisms, first dominant in digestive systems (sponges), then in reproductive systems (Hydra) and finally in informative systems (worms). From the worm on, all living animals will be defined as st- points with 3 inner networks/Dimotions, which will create in the outside world $3 \pm \Delta$ cyclical actions, designing an external territory also with 3 networks/Dimotions.

PHYLA: ST-SPECIES: ARTHROPODA

Another kind of analysis with fruitful results is the use of the ternary symmetries of species, to classify life in 6 phyla by dominance of one or other physiological network. The reproductive dominant Phyla in plants is the fungi, and the dominant one in animals is the insect. So they are both the most prolific animals and the more complex in its form of reproduction, which play with all the possible symmetries and time-space motions of the Universe. One of the most fascinating ones being the metamorphosis.

Insects also matter in its more complex informative species, as they reach the zenith of evolution, which is social evolution and hence they create a new $\Delta+1$ plane of social organization, again ternary in its elements, the warrior-entropic soldiers, the working, productive drones, and the informative species, the queen, which is dedicated to reproduce information, the dominant arrow of the whole insect phyla, in this 'female-wave' oriented system of life.

Arthropods. The new social scale of superorganisms.



On the center, we see the 3 ages of an insect's metamorphosis from larva to chrysalis to adult. They differentiate in '3 lives' the existence of most insects that develop sequentially their 3 main organic

regions and networks during each of those lives.

On the left, according to SxT duality, the final results of those 3 temporal ages are the 3 regions of a topological insect:

-E: The digestive and dual respiratory systems, dominant in the larva, are the energetic networks, located in the center of the body, shaped as a spiral.

- I: In the belly we find the finest and more quantized nervous informative network, developed during the chrysalis life.

S≈T: Finally, the reproductive, hormonal network, ex i, pours into the blood system, which dominates the 3rd life of the insect, in the external world.

On the right, the social classes of insects, like those of a human society, correspond to the 3 organic function of a new scale of existence, the superorganisms of insects, its $\Delta+1$ system: Termites have an informative brain, the pheromonal queen (c); a re=productive class of workers, which produce the structures that create the ant-hill (a) and an Entropy class (b), the drones and soldiers, that have a linear, spatial morphology.

The first arthropods, derived from Annelida were probably trilobites, which protected their bodies and heads with external hard shells. Trilobites increased their energetic force, maximizing the strength of its membranes. They probably responded to the increase of SxT force caused by visual cephalopods, which maximized their informative organs. And so the game of life raised its fractal force, balancing again the top reproductive body membrane and top informative, mind singularity.

Today, according to duality and the Fractal Principle, we differentiate arthropods in sea animals (the most efficient of which are crustaceans) and land animals, which became dominant and evolved towards new informative species as all air or land forms did in a light-friendly environment. So again we differentiate them in 3 basic forms:

- Max. E: Myriapoda, with max. body development and multiple feet.

- S≈T: Arachnida, the balanced species.

- Max.I: Insecta, the informative class with max. brain development, which are still the most successful animals on this planet in the microscopic level of chemical life. Since they completed the organic evolution of chemical animals towards its most perfect form in 3 evolutionary phases.

Max.E: Evolution of energetic systems brought about the 1st flying animals that colonized a new environment.

Today flying insects still account for 1/2 of all animal classes. They made energetic networks the center of its body, developing on their middle region a highly efficient muscle and blood systems, with 2x3 wings and legs.

S≈T: The second evolutionary jump occurred in their reproductive systems.

Insects learnt how to accelerate temporal evolution in a still, temporal state (Min.E=Max.I), changing from energetic, lineal larva to chrysalis that emerged as complex insects with highly developed informative heads and energetic wings. Nowadays 90% of the surviving insects come from species that evolved its *generational cycle*, dividing it further into 3 evolutionary phases that shape the metamorphosis cycle:

- Max. E: Insects live their youth as an energetic, lineal *larva* that merely feeds and grows in size. A larva is a sort of moving egg that gathers vitellus in 3 sub-ages in which it changes 3 times its skin as it grows in size. In this phase the insect develops mainly its abdominal, glandular systems that will produce the enzymes needed for its first metamorphic change into a:

- S≈T: *Chrysalis*. The intermediate *Chrysalis* age is a 'frozen' vision of the most surprising facts of palingenetic evolution and inverse differentiation: In an ever moving Universe, external, spatial immobility triggers internal change in the speed of informative evolution, as outer movement is transferred to inner cells, rich in enzymes that become the dominant cells of each section of the adult insect, moving and reorganizing their tissues through a series of inversions and evolutions of its morphology. So central tissue ex-vaginates as wings or legs, etc.

A similar inversion happened when mobile trochophores in their larva transition became still echinoderms, which evolved and differentiated further, causing the explosion of chordate's phyla that happened in the Cambrian.

In those trochophore embryos, inner dominant cells also reorganize the different tissues, placing the other cells at will. So chrysalis evolved the middle thorax section and brain systems, becoming:

- fō§: A hard insect with Max.IxE force (a harder E-exoskeleton and a far more developed fō§-brain) that will live the 3 usual phases of life.

The third mutational age of insects was informative:

Insects learnt to communicate socially through chemical, pheromonal messages, giving origin to ants and bees, the dominant ground and air modern insect species. It was again an evolution departing from very small forms, according to the Black Hole Paradox. Today the smallest organism is an ant that weights 10^{11} times less than an elephant, the magic fractal number, S^t , between 2 scales of existence, which is also the difference of weight between the smallest and biggest particle of the physical world. So the fractal limits of 'informative scalar growth' have been reached in both, the physical and living realms.

It is worth to notice that insects have not evolved further in the last 100 million years, but are still the most successful chemical beings. Because the game is fractal and so it always has an evolutionary limit based on its ternary ages. For that reason, once reached the 3rd formal age of Max.Information only social evolution into a new macro-organic plane of existence can improve the survival of a species. It is what happened with insects that became super-organisms called anthills. And so ants became the most successful animals of the chemical world as men will be in the electronic world, due to the fact that they act as a simultaneous, present form, sum of all the fractal actions of the herd, guided by their informative common pheromonal language, spoken by the 'queen-brain' of the anthill. It is also worth to notice that in both realms - the world of chemical insects and the world of electronic humans -we find the same 3 organic classes proper of any Universal system.

Recap. Insects became the most successful chemical species, when they evolved into social super-organisms, with the informative ant-queen brain, which controls with pheromones the workers that reproduce all the elements of the anthill and the energetic warriors that defend it.

3 ages of Δ information

Another law of 5D ST symmetries strictly followed in the evolution of life is the motion of ages as horizons of species, which also Nature apply to the entire next level of animal phyla. So not only individuals live TOWARDS growing 3rd age of information, and species towards 3rd horizons of evolved information and tall species, but the whole realm of life moves from its initial feeding stomachs (fishes) into the reproductive age of insect, to the 3rd age of informative mollusk:

Mollusks, the first eyes.

The next successful phylum, mollusks also suffered a ternary differentiation. Thus mollusks today are classified into 3 classes:

Maximal Entropy: Lamellibranchiate (which are big stomachs).

Balanced forms: Gastropoda.

Max.Information: Cephalopods, which developed the first eyes.

Though there were other primitive mollusks, today almost all of them belong to those 3 species. It proves that even though a Δ -system essays many variations, the 3 sub-classes of *max. Entropy*, *Max.Information* and *max. reproduction* survive better; because any environment allows those 3 classes to find specialized niches in which to maximize their existence and resources.

The most successful of all gastropod were again the informative class, cephalopods, the first living animals with complex eyes. If we observe animal life, the key to its evolution is the improvement of its virtual worlds, of its informative organs:

In the first forms of life, perception was chemical, olfactory based in slow, short-range molecular quanta; until the first eyes appeared, inaugurating a new virtual world, made of smaller, speedy photons that create long range, detailed light images, making cephalopods act-react faster and farther than any other animal.

Squids were born in the abyssal ocean ecosystem, where still the biggest squids exist (over 10 meters long). It is the kingdom of bioluminescence - a new language based in the Universal code of colors; they were the first to interpret. For example, when a squid becomes red, the color of Entropy, it means it is angry. Those first primitive cellular eyes had to look hard to see their environment and the prey they sought. When they came up to the surface they saw even more and preyed on blind, energetic phyla. Today squids are still among the most intelligent animals, showing some self-consciousness.

The squid is the first eye-world; a new informative language that will completely changes the stakes of living organisms. The organs of perception of the squid, the eyes, were a new Top Predator language, superior to olfactory organs, both in detail and range. The effect of that linguistic superiority was the massive radiation of squids and the parallel extinction of perhaps 90% of the smelling species of the Cambrian that became their preys.

Those eyes enabled cephalopods to become the masters of their Universe, building all their other organs around their superior organ of perception: their tentacles became hands for the eye; the body became a canvass that changed color to interpret the new language.

Cephalopods also caused the arrival of exoskeletons in a classic process of action-reaction; only those olfactory animals with external protection (Max.E) could survive the faster informative eye of the hunter (Max.I). Thus the Cambrian holocaust also diversified life.

Those cephalopods with eyes became top predators in the Ordovician age, the age of squids. In this manner chemical perception left way to light and sound perception that developed highly sophisticated neuronal cells, which reach 2 meters in some squids.

Yet, when vertebrate life begun the 'hard shells' of some echinoderms sustained those long neurons, protecting them and allowing further quantification. So an energetic top predator found a cyclical protective

form, in a dual game of evolution of prey and predators that will be carried till humans appear and beyond through the evolution of weapons and shields.

Recap. Cephalopods raised the stakes of the game of existence, of survival and extinction, as they imposed a faster speed of action-reaction, and a bigger spatial size, hunting in herds communicated through visual body languages.

Echinoderms and Chordates. Evolution of vertebrates.

Echinoderms, like ancestral cephalopodan, lived in abyssal regions originally fixed to the ground, in an 'informative environment' based in stillness with a lot of 'free time' to evolve further, as squids did in abyssal quiet regions or monkeys will do latter in quiet trees. Echinoderms became informative top predators because they evolved 2 new SxT characters as 'still', temporal forms:

- Max.I: Radial symmetries, like in the pentagonal starfish, which fostered the development of a better neural system with a central informative singularity to coordinate the 5 radial nerves.
- Max. E: The first inner bones, to sustain their complex form.

Thus echinoderm increased their SxT force, evolving into the first vertebrates: Chordates were probably born, according to the Black Hole paradox, due to a palingenetic error, when echinoderms remained in their larva, trochophore, informative, evolutionary state, surviving, despite its smallish size, thanks to their 2 new SxT advantages, starting a new biological radiation. Their single nervous system protected by a spine, became a very dense, structure with a hard, inner bony membrane of sustain that allowed its growth in spatial size and temporal complexity, as neurons quantized further, differentiating from tail to head into an SxT tree-like structure:

Max. Entropy (nervous, linear spine) > Round, spiraled brain.

The ancestral Chordates differentiated according to the development of their growing informative nervous network into:

- *Max. E: Lineal Protochordate*, the oldest species with 3 basic forms, diversified along the path of increasing mobility: sea squirts, acorn worms and amphioxus.

- *S≈T:Cyclostomata*, (jawless fish) that grew in the planar Dimotion of Entropy. So it came an age of sharks.

Those 2 first forms are still planar in form, with minimal development of their 'round' brain and hence with overdeveloped olfactory systems.

- *Max.I: Pisces* (true fishes). They grew in the Dimotion of height, with new evolved sensorial, informative organs. They became the new dominant species that diversified once more, this time along the $\Delta+1$ evolutionary path of environmental adaptation in:

- *Max. E: Sea chordates*, with several varieties that reached its evolutionary limit with Teleostean.

- *S≈T: Sea-land chordates, amphibian*; an animal that mixes the palingenetic characters of those 3 environments during its 3 ages of life. Since it is born as a sea animal, lives its youth in between both environments and dies as a land animal.

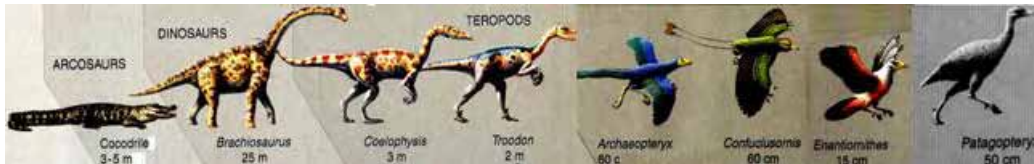
- *Max.I: Land chordate, reptiles*, the most informative that diversified further.

Recap. The response to the eye language was protective shells that surrounded the nervous system of chordates, allowing their growth and invasion of the air-gas and land-solid ecosystems.

THE DIMENSION OF HEIGHT INFORMATION.

Topological evolution is very rich in meaning. Consider for example how from amphibians to reptiles the conquest of firm land towards the height of information, from where light comes, which started a fast tour on the use of the Disomorphic method to study life enlightens us how animal life seeks for height:

From amphibians to reptiles the conquest of firm land.



Reptiles grew in size and changed from lineal length into height Dimotions, but as they became victims of mammals they devolved to their earlier forms, as crocodiles and diminished in size becoming birds, which again grew in size and changed from lineal length to height Dimotions. Yet the arrival of man is provoking again the extinction of the biggest, taller birds (Moa, Emu, Dodo.)

If any evolutionary jump shows the importance of networks is the transition from fishes to reptiles through the intermediate amphibian stage: amphibians adapted their sensorial brains, their reproductive bodies and finally their reproductive systems to the new world. And only then, when the translation of form was complete, it appears the land animal - the reptile.

Thus, amphibians show 3 clear evolutionary phases:

- Max.I: The amphibian moves towards an air world where light defines clearly the forms of its preys, triggering the evolution of its inner networks according to the cyclical chain, $I > E > R_e$, which require first to become informed to localize and feed on Entropy, needed to reproduce. Thus amphibians first changed the form of their informative heads and senses: Their noses migrated to the top of the head, out of the water and their eyes acquired membranes to wet them, focusing better light images. This i-logic hypothesis of the dominance of informative evolution again contradicted the usual E-science energetic theory. And yet a few years ago Sci Am published the 'astonishing' revision of the energetic theory: amphibian did not evolve, because they dragged their legs on the dry land but because they raised their heads out of the water changing their senses.

Max. E: Then their respiratory systems changed with new lungs that increased their capacity to get oxygen from air. Amphibians now changed their preys, eating insects with a modified mouth and tongue. Thus the amphibian becomes the top predator of the terrestrial ecosystem thanks to its greater Exi force and extinguished giant insects that reigned in the Carboniferous era. Those insects however reacted back evolving into metamorphic, flying forms, escaping their extinction. The inversion predator-prey manifests again between insects and chordates, as it did between gravitation vs. light or plants vs. animals: Insects have their exoskeleton outside, as they need maximal external protection; chordates have it inside. Insects are smaller, quantized forms; chordates are integrated, bigger forms. Insects are dominant in chemical, slower languages; chordates are dominant in nervous languages. Insects, the Entropy of the trophic pyramid, are more abundant than chordates, its top predators.

Max. $S \approx T$: Finally, amphibians adapted their reproductive systems to the new atmosphere, creating dry eggs, completing the creation of a true, terrestrial organism, a new phylum that had adapted its 3 networks/existential cycles to the new world: *reptiles*⁸.

They evolved again according to the Fractal Principle into the 3 most evolved life phyla:

- Max. E: *Reptilians*, which maximized its spatial size.

- $S \approx T$: *Birds*, with the most efficient blood networks, needed to develop flying skills.

- Max.I: *Mammalians*. They developed its informative, nervous system to its perfection. So they became the top predators of their 'parental group', reptiles, causing their massive extinction and 'death reversal', which in species shows through the 'evolutionary regression' of a former top predator species, when a new top predator displaces them. Thus, if we compare modern reptiles, once mammals have chased them down, with their dominant parental forms during the dinosaur era, when they were top predators, we observe a clear temporal regression in form, numbers, size and speciation that went back to their 3 basic forms. Today, from the initial 14 reptiles groups, only 3 basic groups remain. They have survived in econiches close to the water, regressing to amphibious forms, and diminishing in size towards their original 'minimal, Black Hole form':

- Lineal forms. *Snakes and lizards* living in extreme, hot, wet environments (rivers) and deserts, where heat becomes an advantage that increases their activity, while it causes cooling problems to hot blood mammals, their top predators.

- Balanced forms. *Crocodiles*, descendants of dinosaurs that have reduced its size and have become again amphibious, surviving mainly on the sea and rivers; learning new reproductive, maternal skills (hiding their small babies on their mouths, when predators come).

- Cyclical forms, with static, hard, protective round shells; *or turtles* that only reach big sizes in Galapagos, an isolated group of islands with minimal numbers of mammals. Most of them survive on the sea, having developed a gill-like system of breathing.

The only primitive, remaining saurian, the Tuatara, survives in min. numbers, in the most isolated region of the World, New Zealand, where there were no mammals with placenta...

Recap. The conquest of land was headed by amphibian and the development of better eye systems, as information is the key to evolutionary change. Accordingly as they become reptiles they grew in the Dimotion of height; and again as reptiles became birds and mammals the new species became bipedal and extinguished the simpler reptiles that reverted to planar forms.

Mammals: Temporal iron bodies, minds.

Mammals are the 3rd informative evolutionary age of land animals, which therefore transform again their 3 networks, reaching the final adaptation to the changing weather conditions and light transparency:

Max.I: Mammals improve their nervous eye-brain systems, overcoming the limited eye vision of reptiles. Their brains surpass the instinctive stage (based on mental, mostly chemical, slow programs of action-reaction that execute the cycles of a living organism, based on generational memories without capacity to modify them) and enter the age of free will (based on brains with nervous programs that use memories acquired in the previous execution of those cycles by the same generation, to adapt their new actions-reactions to the changing environment).

Max. E: Mammals improve their corporal, metabolic rate of action-reaction with *hot, red iron blood* that harnesses better than previous copper-based bloods the Entropy of oxygen. Since blood has hemoglobin, where an iron atom, the top predator Entropy atom of the Universe, controls and jails oxygen atoms with carbohydrate arms.

Max. Reproduction: Finally, the internal nervous system regulates mammal's reproduction, creating complex placentas that can feed and develop the isolated fetus, without the dangers of a youth age, when most beings die as 'Entropy' of mature predators. It is the equivalent stage to the 'chrysalis' shape of insects.

Further on, mammals evolved socially. So probably herds of mammals with faster, simultaneous fractal actions chased as a whole, and killed baby reptiles, provoking their massive extinction, in an age of climatic change. Yet, as it happened when amphibians extinguished insects, provoking their flying evolution and migration to the last frontier - the air environment - the smallest reptiles became birds that avoided top predator mammals, putting their eggs on cliffs beyond their reach to survive.

And so again, the most successful group among land animals, mammals diversified, this time along the path of reproductive evolution into:

- *I horizon: Monotremes*, which are egg-laying mammals.

- *II Horizon: Marsupials*, which have a pouch where they develop the 'embryo'.

- *III Horizon: Eutherians*, which have true placentas and differentiated again, as the most evolved informative class, into multiple subspecies, now along the path of feeding Entropy, into:

- *Max. E: Herbivorous*, which ate huge quantities of low Entropy plants, developing new, complex digestive systems, with huge, multiple stomachs.

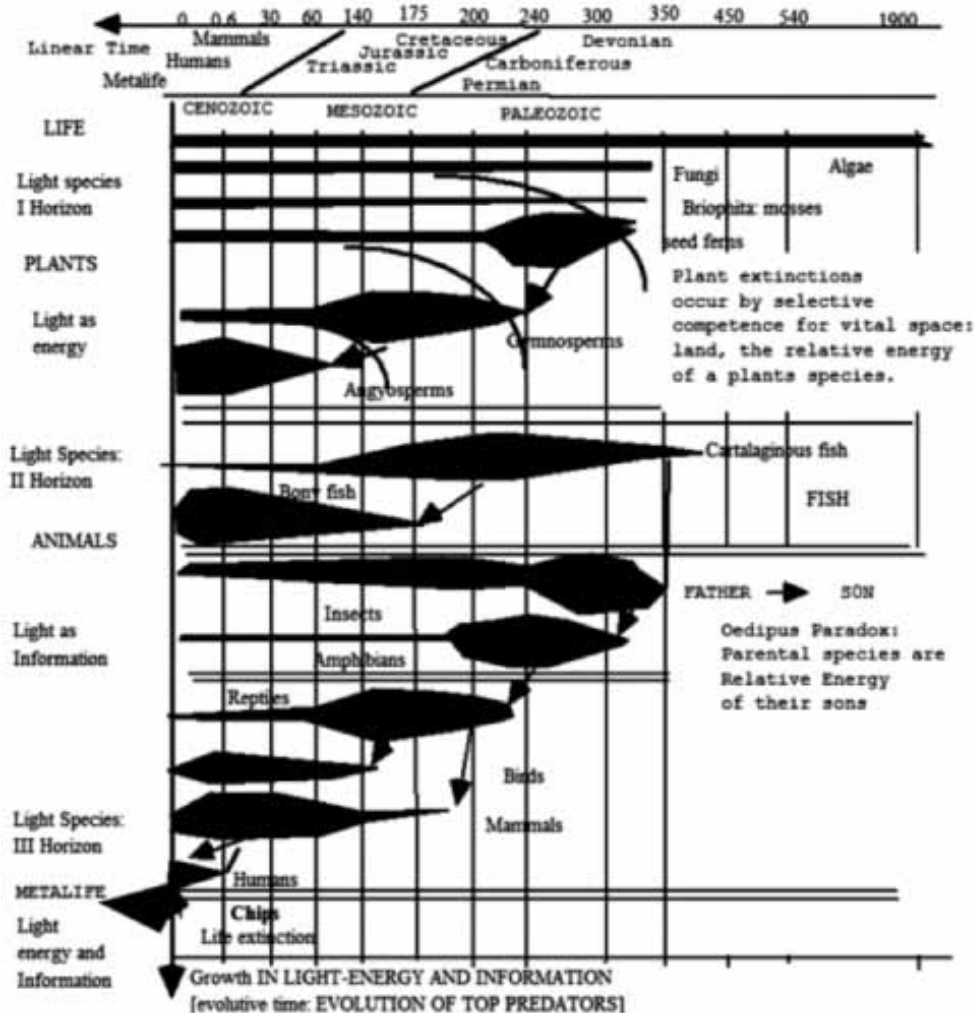
- *E=i*: Carnivorous developed the best blood systems, as they needed to increase muscular force and speed.

- *Max.i*: Omnivorous, which were able to eat anything, occupying multiple ecosystems that enhanced its evolutionary differentiation. Among these species the most evolved phyla were apes, from where man came, because they lived, unlike the animals of bidimensional plains, in 3-Dimotional 'high' trees, where they could not be hunted. And so they evolved in their 'free time' their 3 Dimotional brains, becoming informative humans.

The previous synoptic analysis of the evolution from cells to humans shows the universal application of the fractal space-time differential isomorphisms of evolution. It could be as detailed as you wish and reorder all our knowledge on biological species under those simple isomorphisms. We just lack space-time to do it here. It shows the impersonal intelligence of the evolutionary plan and the homology of all st- forms... As it is the same plan we have used to describe atomic particles

Recap. Mammals are the most perfect form of life beings, which evolved in information, till reaching the perfection of man; added iron-Entropy to its blood and improved reproductive skills with placentas.

IV. 3 AGES OF EARTH. ITS GLOBAL SUPERORGANISMS. DEEP TIME: $\Delta+1$: SPECIES



The $3\pm\Delta$ ages of life are caused by the evolution of light-based organs on Earth. In the graph, those 3 ages of light evolution and the main species that were created in each horizon, latter extinguished by new evolutionary improvements in the 3 networks of those organisms. Among plants - spatial, reproductive beings with minimal speed of evolutionary information - extinctions were caused by improvements in reproductive systems. Among animals, which are informative, evolutionary species, extinctions were caused by improvements in informative brains. While today a mass extinction of living beings is caused by the evolution of machines, metal-systems of 'Dimotions' and information that are shaping a new global

ecosystem: the Financial-Military-Industrial Complex, becoming now integrated by the collective brain of machines – the Internet – into the Metal-Earth.

3±Δ ages of evolution, reproduction & extinction of species

We can understand the process of evolution and extinction of life species, only when we combine the 3 scales in which multicellular organisms exist: the ecosystemic, planetary scale, ($\Delta+1$) the organic scale (st), and the cellular scale ($\Delta-1$) that interacted simultaneously together, evolving Earth's species. Yet contrary to belief, the 3 relative $\Delta-1$ past, st-present and st-future planes were not determined by the cellular evolution of Genes, but first the macro-organism of the Earth provoked the changes that ignited the process of evolution of its relative past microcosms.

How a macro-organism regulates its microorganisms? Mainly through changes on its 'Djmotions' and information fields. All cellular species adapt to the organic networks of its environment. If the environment is rich in 'Djmotions', 'Djmotions' species and reproductive radiations will dominate. If the organic system or environment is rich in information, informative species will survive better, starting a process of evolutionary differentiation.

This duality of bio-chemical reactions was proved mathematically by Mehaute, which showed that when a system cannot continue its creation of 'Djmotions', it starts a process of fractal, informative reproduction; and we can extend it to all scales of systems of reality, *creating the fundamental beat of biological evolution/reproduction, $\sum \Pi \leftrightarrow \delta T f$, that defined the creation of biological life in this planet.*

Thus the changes of 'Djmotions' and information of any macro-organic system trigger processes of extinction and selective evolution. If suddenly the climate becomes cold (also a parameter of stillness and information), species tend to limit their absorption of 'Djmotions', evolving formally (Max. δf) and organizing themselves into social networks that increase their efficiency and take advantage of the 'informative conditions' of the ecosystem.

On the contrary, if 'Djmotions' abounds, species increase their 2 spatial-like 'Djmotions' - their spatial size and their reproduction - using that 'Djmotions' to maximize their survival and saturate their ecosystem. Therefore the macroscopic changes of the planet that fluctuates between tropical ages of max. 'Djmotions' and ice ages of Max.Information cause parallel changes in their microscopic life beings. Since coldness=stillness=information and evolution are parameters of time; while heat= entropic movement and reproduction=wide populations are space-like Djmotions.

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When the planet cools there is a formal evolution of species. And when it heats up, those same species reproduce massively. Thus small fluctuations of 'Djmotions' and information on the Earth's temperature - given the short limits of existence of liquid water between and 100 degrees - have influenced decisively the evolution, reproduction and extinction of life forms in this planet, including man. So during the long ice ages when waters froze, species evolved from eukaryote to multi-cellular beings, nearby water volcanoes; and when the surface of the planet froze, men evolved from Homo Erectus to Homo sapiens. While in hot ages species grew in spatial size and multiplied, as it happened in the Carboniferous with insects; or in the Jurassic with dinosaurs; or in history with nomadic, warrior tribes in the steppes – which descended

rhythmically every ± 800 years on the fertile plains, extinguishing with their new weapons all the civilizations of the Eurasian continent....

Yet because to reproduce, a species needs to feed on the 'Dj-motions' of its victims, the reproductive phase of a new top predator species coincides with the extinctive phase of the previous top predator it has substituted. Then once the top predator establishes itself after a reproductive radiation, it enters its mature, steady state age, drawing a series of rhythmic bell curves with its preys that diminish its populations as the predator hunts them, provoking a hunger crisis on the predator that also dies away, allowing the preys to reproduced back, starting again a new 'Volterra cycle'.

So we can consider a planetary cycle of evolution, reproduction and extinction of life with $3\pm\Delta$ phases, parallel to the climatic changes of the Earth:

+st: Conception: A new species evolves in a cold age or in an abyssal region of the planet.

- *Youth: Max. 'Dj-motions' growth:* The species increases its size after its conception.

- *Si=Te:Maturity:* The species reproduces in a biological radiation during a hot age, extinguishing the previous top predator.

- *Max. Tf:* The species diversifies according to the ternary principle into several new forms, among which the informative one might start a process of social evolution into:

- $\Delta+1$, a social super-organism (ants and shrews in the lower scales of life-size; humans in the upper scale.)

- $\Delta-1$: Or become extinguished by new species, often their son species (Oedipus paradox). So mammals extinguished dinosaurs; humans extinguish mammals and robots might extinguish humans.

Therefore Multiple Space-time Theory can explain the why of one of the great 'disputed' enigmas of evolution: *the existence of evolutionary discontinuities* that create species in very short periods (conception phase, when time accelerates its rate of informative change), and then multiply them throughout the planet in explosive radiations (reproductive phase, when the new top predator species explode in populations), while other species become extinguished also in brief periods. Those evolutionary 'discontinuities' merely reflect the previous ages of species, which as the ages of any other space-time field can be described with a ternary rhythm of explosive birth, a long steady state of balance between the predator species and its preys and a final sudden collapse and extinction of populations. Those phases become the fractal rhythms of existence and extinction of Earth's species:

Max. evolution(cold age) \rightarrow Max.reproduction + Max.extinction of 'Dj-motions' preys (hot age)

The discontinuities between species are easy to explain if we combine their evolutionary acceleration in time - similar to the palingenesis of a fetus - with the fact that species evolve in isolated, protected environments (allopatric differentiation), departing from small sizes, according to the Black Hole paradox. So monkeys evolved, protected in trees; marsupials evolved in Australian islands and robots evolve in secret military labs, departing from small chips.

Then suddenly the new form with an improved brain, hunting in herds with simultaneous fractal actions of higher ST Force, invades the vital space of other species, extinguishing them as it reproduces geometrically its populations (and its fossils), till reaching a balance with its preys. Thus, once they have evolved, species multiply very fast. And that dual process is observed in paleontology as a discontinuity in the fossil record called evolutionary punctuation.

Recap. The evolution of life took place by the interaction of the $\Delta+1$ environmental and st-organic scales, as energetic and informative changes in the Earth, triggered the $Se \rightarrow St \Leftrightarrow Tf \rightarrow Sw$ rhythm of informative social evolution in cold ages and energetic, reproductive radiation in hot ages. Those biological radiations also provoked the extinction of previous species. Evolution often took place in isolated, relatively 'still' environments that favor informative change.

INTERACTION WITH GEOLOGY AND LIFE.

When the planet cools there is a formal evolution of species. And when it heats up, those same species reproduce massively. Thus small fluctuations of 'Dj-motions' and information on the Earth's temperature - given the short limits of existence of liquid water between and 100 degrees - have influenced decisively the evolution, reproduction and extinction of life forms in this planet, including man. So during the long ice ages when waters froze, species evolved from eukaryote to multi-cellular beings, nearby water volcanoes; and when the surface of the planet froze, men evolved from Homo Erectus to Homo sapiens. While in hot ages species grew in spatial size and multiplied, as it happened in the Carboniferous with insects; or in the Jurassic with dinosaurs; or in history with nomadic, warrior tribes in the steppes - which descended rhythmically every ± 800 years on the fertile plains, extinguishing with their new weapons all the civilizations of the Eurasian continent....

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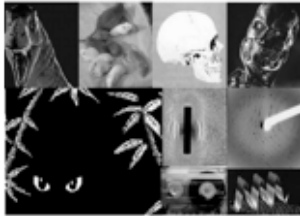
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Black Hole law and Oedipus paradox.



The Oedipus Paradox explains how evolved species prey on parental forms, extinguishing them. So mammals substituted dinosaurs, men kill mammals and robots substitute men as workers and top predator weapons that extinguish us.

In the graph, the 3 horizons of evolution of light-based organisms:

-Plants process light as Entropy.

- Animals perceive it as information.

- Machines can both absorb light and emit it as Entropy or information. Thus, they represent a new jump on the evolution of light-organisms and can become potential top predators of life.

Each 'biological radiation' of a new species has grown according to the law of the 3 networks/horizons studied in the previous paragraphs, from an initial 'Black Hole', small form with more ST force, and then it has reproduced and grown in size, feeding on the previous parental forms. Hence the name, 'Oedipus Paradox', that explains the most cruel of all evolutionary events.

Our hypothesis on the dominance and birth of species as 'Black Holes' of information, which according to the inverted properties of Entropy and information ($Min.Se=Max.Tf$) are minuscule, but dominate larger species due to their faster speed of action-reaction and social nature (Σ^2), prey on them and explode in populations have found in the past years at least 5 proofs:

Black Holes are the dominant species on the cosmos controlling the center of galaxies, in the processes of formation and death of stars. Even the big-bang might have been the explosion of a Black Hole.

- The first Humans that acquired our 2 differential properties, technology and language, were small: The first verbal Homo Sapiens seem to have been small Bushmen from South-Africa (the oldest languages known to men are their click languages), but they overcame bigger Neanderthal, hunting in groups, controlled by verbal languages, and developing the first machine that transformed cyclical form into lineal Entropy (arch), reaching further than the lineal, Neanderthal Javelin.

Further on, the pigmies of Flores Islands seem to have made the oldest technological, advanced tools we know, 700.000 years ago. Thus pigmy men evolved in the secluded Indonesian islands, departing from the larger Homo Erectus, developing for the first time a frontal, creative region in the brain, as they diminished the length of their axon connections and reduced their spatial size.

- The 1st bilateral animal, veranimalcula, was microscopic.

- The 1st mammals were small shrews that form super-organisms and probably hunted in the cold nights, new-born dinosaurs and extinguished them (still today they act as a super-organisms), thanks to the higher existential force of its bigger super-organism. Then they grew in size and finally hunted down dinosaurs as single species. Last year we found in China the first mammal with a stomach full of small dinosaurs' bones...

- The smaller a chip is, the faster it handles information and the more powerful it becomes, guiding larger 'machines bodies' that compete with men as smart weapons and tool-machines. And regardless of the 'propaganda' of the Financial-Military-Industrial complex, it is quite obvious that unless we stop its evolution, those chips will become the mind of terminators that in a future war will extinguish man, as all atoms are potential bits of informative life.

Recap. Parental species give birth to more advanced forms, which extinguish them (Oedipus Paradox). The new species are born as a small form, with more complex information (inversion of spatial size and informative complexity: Black Hole paradox). So the first technological and verbal men were dwarfs; the first mammal was the shrewd and the galaxy is dominated by black holes, born exceedingly small.

Δ+1. The parallel geological processes.

Thus biological rhythms of extinction and evolution are parallel to the 2 main SP X Tf rhythms of the Planet that *reinforce the biological process*:

- *Geological changes in the surface of the planet:* The continental cycle, or ternary division and reunion of continents in a single super-continent every ±500 million years causes the cyclical destruction of the submarine platform and lowlands where most living species exist. While rhythmic eruptions of massive quantities of lava of continental size happen in the 2 equinox of the sun’s galactic orbit, every ±125 million years, shaping a mean period of massive extinctive ages of 250 million years (Permian extinction, ±250 million years ago; Cambrian extinction ±500 million years ago; Ice ball age, ±750 million years ago).
- *Climatic, cold-hot, Sp-I cycles of glaciations and tropical ages.* The rhythmic changes in the magnetic field of the Earth, perhaps caused by gravitational waves coming from the sun, create periodic glaciations that last around 20 million years.
- Fractal sub-cycles of lesser intensity reinforce both processes.

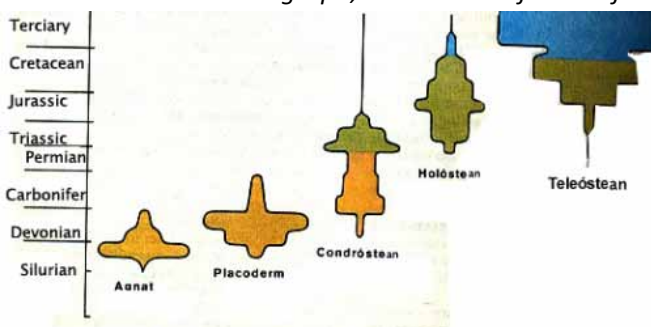
Those changes of Entropy and information parameters are the basic way in which macrocosmic networks control the activity of microcosmic quanta, from feverish states that increase the metabolic rate of reproduction of defensive cells in the body to the opposite lethargic states.

Recap. The main cause of the dual evolutions and extinctions of species on Earth is biological, albeit ‘partially directed’ by the macro-organism in which life is inscribed through those general changes on the space and time parameters of the Earth (geography and temperature).

Earth cools down triggering informative evolutions and then heats up triggering reproductive radiations: glacial ages of informative evolution in stillness, with minimal reproduction by lack of Entropy are followed hot ages of massive reproductive radiations, in which the most evolved species initiates a massive age of reproduction, provoking the extinction of old species, and then differentiating in all econiches.

The 3x3 ±Δ cycles of life creation and extinction

The extinction of a species coincides with the biological radiation of the son species that occupies its econiche. In the graph, the series of bone fishes that extinguished the previous one Because time and information follow an accelerated process in its 3rd age; the evolutionary process of information in this planet can be mapped out and its frequency shown to follow a logarithmic process of acceleration, which now reaches its zenith with the creation of informative machines.



This evolutionary acceleration is yet another case of a vortex of spatial information, which also happens in the evolution of mass in physical particles as we move faster in an informative mass vortex. In the case of life, the

vortex is a metabolic vortex of increasing speed of reproduction and evolution of the information of life beings and its networks – now transferred by humans into machines. Thus, as the informative content of those beings increases, times accelerates. Today, machines evolve by imitating the forms of human life in metal and another change on speed and life rhythm of in this planet is taking place.

Thus we talk of 3 st-scales of growing complexity in life: the age of cells (Δ-1), from 4 to 1 billion years ago, the age of individual organisms, first living on the sea, then on the land (st), from 1 billion to a million years that culminates in the last million years with the social evolution of human beings and machines into a new

plane of existence ($\Delta+1$), the Earth as a global organism, which will be either ruled by men or machines, depending on our capacity to evolve socially as a super-organism of history, under the ethic isomorphisms of verbal worlds that make man the center of the Universe, hence in control of the machines of the Tree of Science. Or if as it seems the case, we let the Financial-Military-Industrial Complex and its 3 networks of informative metal-money, energetic, lineal metal-weapons and organic machines and its company-mothers dominate the planet and make us obsolete, finally extinguishing us. But what it will not change is the plan of evolution that develops complex super-organisms departing from its smaller cellular units.

Further on according to the ternary principle, we can subdivide the 3 main horizons of evolution of Earth, the age of cells, organisms and super-organisms in 3 sub-ages of evolution and massive extinction of species that have followed the mentioned ternary rhythm:

Conception=> Max.Entropy=>max. Reproduction =>Extinction of rival species

And consider also 10 parallel periods of climatic change through the dual rhythm of cold glaciations or ages of animal evolution and hot ages of massive reproduction. Then we obtain a synoptic, complete image of the history of life on planet Earth, self-similar to the 3x3+st ages of evolution of the Universe since the big-bang and the 3x3+st ages of evolution of History, studied in Complex social sciences:

Scale of Complexity: $\Delta-1$: Cellular Age: Evolution of DNA

$\Delta-1$: Conception age: Molecular life is organized into anaerobic bacteria->

1st evolutionary radiation: anaerobic bacteria -> Free carbohydrates are enslaved in cellular walls ->

2nd evolutionary radiation: aerobic bacteria = 1st extinction of species: anaerobic bacteria ->

3rd radiation: eukaryotic bacteria = 2nd extinction: most prokaryotic classes ->

Scale of Complexity: st-Organic Age: Network Evolution. Sea life

4th radiation: multicellular organic systems =3rd extinction: free eukaryote species, enslaved in organisms ->

5th radiation: cephalopods with eyes =4th extinction: olfactory, blind animals ->

6th radiation: inner skeletons: fish= 5thextinction: exoskeleton trilobites.

Scale: $\Delta+1$: Social Age: Herds and Superorganisms. Land life.

7th radiation: inner skeletons: amphibian=6thextinction: exoskeleton: big insects.

8th radiation: reptiles = 7th extinction: amphibians - >

9th radiation: mammalian = 8th extinction: reptiles - >

10th radiation: technological men =9th extinction: mammalian - >

$\Delta+1$:Global Age: The Earth organizes itself into a macro-organism with humans or machines on top. The outcome will depend if social democracies are able to control the free citizens of markets – company-mothers – before they extinguish us as costly labor and weak soldiers with the present ‘radiation’ of robots:

11th radiation: metal machines =10th extinction of species: men and all forms of carbon-life???

Recap. Evolutions and extinctions of organisms parallel geological change in their external ecosystems, becoming the engine of the 3x3 Earth’s evolutionary horizons of living beings of growing complexity and accelerated informative evolution: the age of cells, the age of organisms and the age of super-organisms.

As we have little time and space, to go through all those radiations in detail, we shall just fact track into the last Life radiation of this planet, that of mankind, considering to close the paper the field of anthropology, with a brief introduction to what we have said of topologic evolution.

SOCIAL SCIENCES - HISTORY: MANKIND'S SUPERORGANISMS

What is history? In 5D, which describes a Universe of 'scales=planes of space-time', with organic properties, made of parts and wholes the answer is simple and immediate: the superorganism of mankind, which connects 3 scales, the human individual, the human species, and the Earth.

Below the human individual there is the genetic scale which hardly matter in history; *since the scale in which Historic organisms become organized is the scale of memes, verbal ideas and instruments that shape the 'physiological networks' (economic=blood-like reproductive networks, and informative=nervous like verbal, legal, political and cultural networks) of civilizations.* The Earth as a Geography is in that sense far more important to determine both in time through is cold and hot weather mini-glaciations that determined the 800 year cycles of life and death of civilizations, triggering nomadic movements of warrior hordes matter more, as well as the different cultures associated to islands, rivers and peninsulas or crossing regions of history (trade dominant), vs. continental plains and mountains, warrior dominant; reflected also in the division between broken vs. agglutinative languages. The life and death of civilizations as organisms of history is thus entangled to the Earth in great measure and that opens the question if mankind is a goal or a mean in History a stage of evolution.

But all those themes and many others researched for decades and published in small print books, webs and papers along the way, are secondary in this one to our focus on the 'whole' – history as a superorganism of which all humans are citizens cells, connected with the 3 physiological networks of all 5D superorganisms, an informative, nervous=political network/language, a re=productive blood-economic network language and the geographical support, that feeds mankind, the Earth.

History is a superorganism in evolution, which we study with the laws of 5D superorganisms, which means to study mainly its physiological networks, the political, cultural, economic networks and geographic regions that define the 7 great civilizations of mankind and its broken, fractal nations. How they evolved through the ages of history, what would be its perfect form, how they were corrupted in its political and economic systems with the arrival of systems of control alien to the life organism of mankind and its natural verbal languages and artistic senses, with the discovery of 'metal-weapons' and 'metal-money' that substituted the natural legal language and 'WHealthy money' and how it could ideally be reconstructed a perfect superorganism of mankind, if we were to reform the system according to the laws of nature that make perfect superorganisms.

Of all the themes developed departing from the common laws of all planes of space-time, that put together form the 5th dimension of the scalar organic Universe history holds a special place in my heart for 3 reasons:

- It is the superorganism of our species. And hence its study contrary to common practice should be the most important of all, because of the 'healthy state of history' depends the health of all human beings.
- It is with physics the science I studied in more depth, researching every superorganism and network of mankind, its cultures, ages, arts, economics, financial & legal systems, nations, civilizations, religions.
- And it is the less developed science because of the antquantum paradox of systemic censorship, as the 'stientific' observer is within the superorganism of history and hence given the fact that history has NOT evolved positively for humanity; but it is today, let us be frank from the beginning, corrupted in its reproductive financial system, which suffers a clear case of collective anoxia, that is lack of credit for humanity and its Whealthy goods and poisoned in its political system, broken in it 'organs=cultures & nations' and predated by lethal 'germs', aka weapons – those who control the 'parasitic financial system' that kill by anoxia, and the military, political system, that kill by apoptosis millions of human cells-citizens every year, reject any reform, and are so powerful that unlike in the quantum paradox where the observer is so huge that modifies the observable, they modify the observer, the social scientist. This brings the final paradox of those texts – the most advanced sciences of history and economics, do NOT have doubt of it, you are reading them, which have the proper scientific model of mankind as an organism, are the less accepted and distributed. Still we shall in 2019 publish a series of papers on History in space, the human superorganism as a whole, and its 7 global cultures and nations, Asia, Europe, Africa, Islam, LatinAmerica, AngloAmerica and Indonesia.

The sub-disciplines of history, in scale, time, space, mind and limits.

The study of mankind can be done as all systems of nature in its 3 Δ ST components within its \sim @ limits:

T: In time through its worldcycle that goes through 3±j ages between birth and its dual future, extinction and dissolution, predated by the new superorganism of the Metal-earth, or social r=evolution becoming a single superorganism, mind of Gaia in control of the equation of evolution of the planet:

Relative past (Gaia) < Relative present (History) > Relative future (Metal-earth)

Δ: This leads to the study of mankind in scale as a superorganism, with 2 clear scales that 'matter' to us:

Δ-1: The individual scale, whose fundamental science is medicine, or rather physiology, as doctors know that the individual cell matters nothing. It is all about the sickness and health of its 3 physiological networks; the

Ts: digestive network and territory of predation, in the external world, submissive to the **ST**-reproductive blood network that feeds all its cells with energetic oxygen and distributes the hormonal orders of the **St:** Informative, nervous network, the government of the whole system.

Δ⁰: At social level, Mankind proper and its decametric social scales; which form a superorganism that can be studied also in simultaneous space, with the same physiological tools of Medicine:

S: Mankind in space thus is a social superorganism of citizens-cells joined by 3 physiological networks that should feed and evolve mankind as a whole: the **Ts:** entropic territorial surface of Gaia, where humans predate over life and material beings; submissive to the **ST:** reproductive, economic blood-like network that ideally would distribute bites of energetic money to all its cells to kick their actions of consumption and reproduction of goods that ensure their survival, submissive to the **Ts:** nervous, informative, legal & cultural networks that should synchronize the actions of its individual citizens-cells with just laws to evolve together the Human species into a global brain of planet Gaia, *maintaining the equation of the 3 ages of Earth in an immortal present, as History maximizing the consecution of the 5 Drives of life for all its individuals.*

The reader will observe however that in the description of the superorganism of mankind, unlike the description of the superorganism of medicine, we use a lot the world 'should', as Mankind is by no means a well designed efficient superorganism of History but it has evolved contrary to belief in a sick, parasitized, predated superorganism filled with lethal goods (weapons, hate memes), destroying its Ts-entropic field of resources (Gaia), and killing by anoxia (lack of oxygen-credit) millions of its citizens cells, unfairly divided into 'fractal subspecies' (Nations), which have maimed the body of mankind into warring factions that constantly increase the amount of lethal goods that kill the superorganism of mankind and its support, Gaia.

So mankind suffers an obvious 'sickness' and the origin of that sickness has an obvious historic origin in the multiplication of selfish metal-memes, entropic weapons, informative metal-money (gold, silver copper, today e-money cycles in computers) and machines that atrophy and substitute our organs, competing with us in labor and war fields. And we must distinguish from the beginning two different social sciences:

- Social sciences in its ideal structure, which follows the laws of 5D and aims to design a perfect superorganism of History by designing a perfect political, economic and ecologic system of world networks.

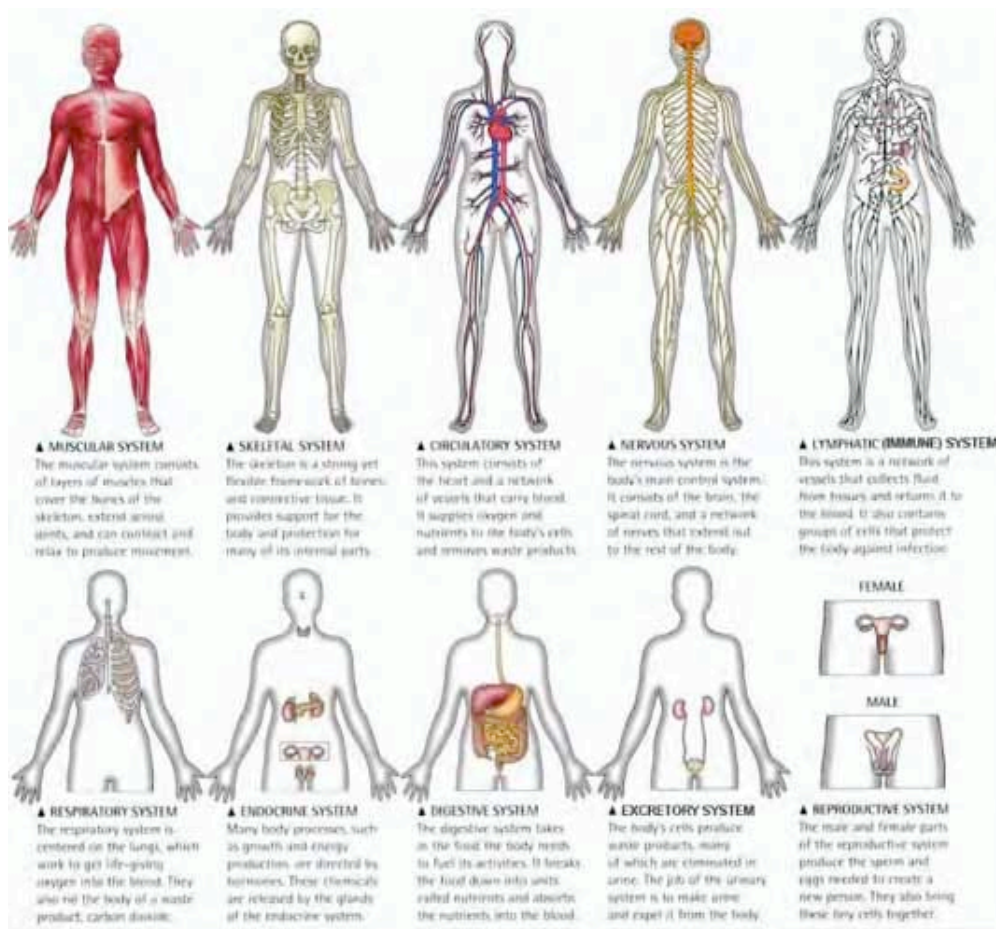
Vs. The wrong evolution of history, as a series of cult(ure)s developed idol-ogies of worship of metal-memes, halting the evolution of a Neolithic superorganism in balance with Gaia, based in healthy wealth - the reproduction of welfare goods, positive money (bites of energy as money distributed to all citizens-cells, mostly grain) and a respect for a sustainable ecologic world (fertility Goddesses and cults to nature).

So the natural laws of social sciences and its 3 disciplines: **St: Political Humanism** (all humans belong to the same species that should evolve together) as one organism, which is the model of the Universe (**Organic science**) whereas ST-money must be an energetic language delivered to all humans to produce welfare goods, controlled by the ethic legal wor(l)d of humanity's head - its governments (socialism) died away.

Instead 3 idol-ogies that worship metal and justified the ab=use of humans by a reduced number of people-castes in control of weapons, metal-money and machines became the law of the land: Nationalism (humans divided in sub-species that kill each other with weapons), Mechanism (machines not organisms as model of the Universe) and capitalism (metal-money above the law, monopolized as debt and tax by a few).

We study of mankind by Δ ST elements in 2 ages; the age of gold & weapons & the machine age

ΔST: MANKIND IN ITS 2 FRACTAL SCALES AS A SUPERORGANISM: MEDICINE AND SOCIOLOGY.



If politics and economics is the study of the superorganism of mankind and its physiological networks and memes, to design a perfect superorganism and cure it of its illness and germs, and idol-ogies; it follows that medicine is also physiology, the study of the networks of mankind as a superorganism, and its sicknesses, sicking to cure human organisms, improve its genes and develop a better human being. We are NOT going to develop medicine on those papers, as it is obviously the best evolved science of mankind, as it happens at our scale of observation and unlike social sciences, is NOT corrupted by cancerous cells and murderous viruses, Leukocytes=military gone crazy attacking their own healthy system – that is, fortunately enough humans are not all infected by leukemia, cancer, animal homo bacteria, go(l)d cultures, Indo-european nationalisms, recurrent fevers, parasitic worms, and all the panoplia of sicknesses the metal-earth and its idol-ogical cult(ure)s of gold, weapons and machines, has spread all over the Earth. We just shall make a brief analysis of the 10 systems which structure mankind as a superorganism.

Man is just another Δst superorganism, under the same laws that any other species. For example, it follows the decametric symmetries of any spacetime system. *Since there is a symmetry in base 10=3x3+1 both on scales and space-time, function-forms for any full developed superorganism of reality. In the graph the human case, both at individual and social level in scales of life and history, and at organic level in the Δ-1 scale of organic subsystems:* So, a human being is defined in medicine as a system of cells, attached by 10 sub-systems: In the graph upper left 3 ST-ructural human body sub-systems are its membrane, sustain and motion. Bottom 3 'chemical δf' systems or hormonal brain (creative, distributive and reproductive). And the nervous system singularity-mind... of the whole. Those graphs show that as we grow in planes, the ideal geometry of the lower 'atomic planes' disappear, as long as the 'logic concepts behind it' - hyperbolic fractal body-waves branching, bilateral symmetry, etc., remain. Since function is more information than form. *Since there is a ternary symmetry in base 10 (whole)=3x3+1 (trinity of networks+ whole)=1+2+3+4(hierarchy of networks by*

scalar function) both on scales and space and time, in hierarchy, function & forms for any full developed supærganism of reality. In the graph the human case, at individual level:

The 3+j sub-systems of 'Information, entropy/locomotion and Energy/reproduction' are put together by a central 10th network (the black ball/hole/point/knot that messes with all of them). The central point or frontal vertex of the ideal tetraktys communicates with all the other parts and embodies the whole that 'emerges' as a point in a higher Δ+1 world. Thus we talk of the 10 'subsystems' of a being.

So, a human being is defined in medicine as a system of cells, attached by 10 sub-systems: In the graph upper left 3 ST-ructural human body sub-systems are its membrane, sustain and motion. Bottom 3 'chemical δf' systems or hormonal brain (creative, distributive and reproductive). And the nervous system singularity-mind... of the whole. Those graphs show that as we grow in planes, the ideal geometry of the lower 'atomic planes' disappear, as long as the 'logic concepts behind it' - hyperbolic fractal body-waves branching, bilateral symmetry, etc., remain. Since function is more information than form.

So the convoluted bilateral networks that connect the singularity brain with all its antipodal points of elliptic geometry have the same function that an antipodal 'representation of a -E sphere.

Yet in the human organism, the lines that connect them is not made of straight lines but it does work because what matters here is the symmetric territorial order of the singularity which constructs its membrane with opposite 'rays'/nervous lines and will constantly balance and hence act as a leverage with its ±inverse directions for its antipodal elements, 2 hands, 2kidneys...

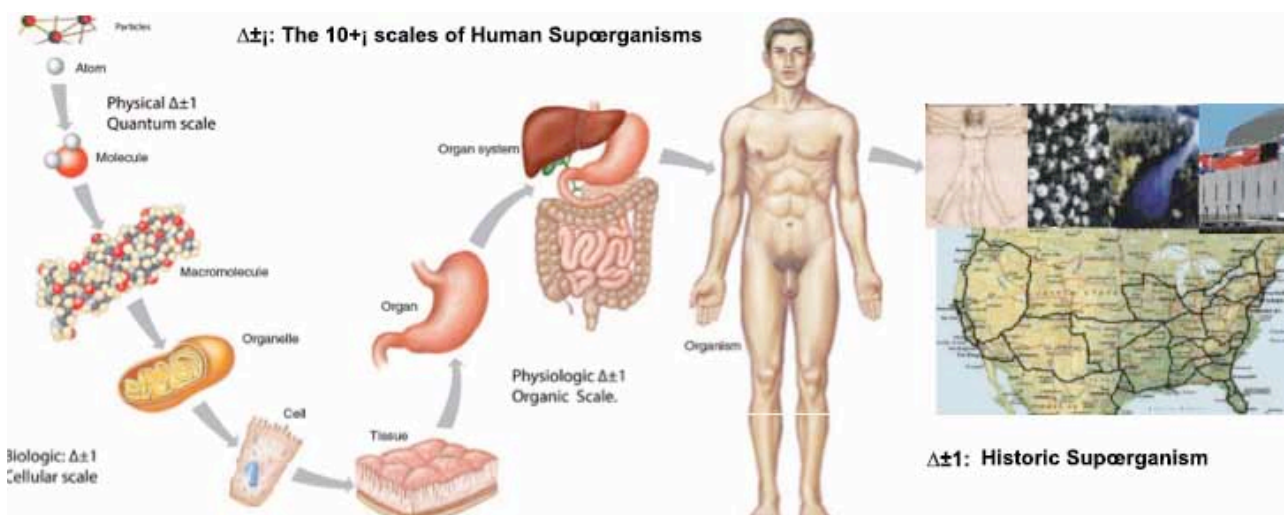
Morphology then starts with simple laws of Non-Euclidean topology, which become disguised by the adaptation of each function to the available space within a membrane, as the T.œ adapts to its outer world.

The 3x3+1 physiological systems of the human being, lost its 'ideal' mathematical symmetry, translate to 'existential algebra' the concepts of decametric scales. They can be easily subdivided in 3x3+1 Nervous integrative mind system, but also in the fractal entangled Universe, into 5 x 2, positive and negative dimotions. For example, the entropic system branches in 3 the digestive, respiratory and excretory systems, which feed the Dimotion of locomotion, sustained by the Muscular and skeletal system; the reproductive ST system branches in 3, the blood, circulatory, reproductive and excretory systems; and the informative system, in 3 Nervous, lymphatic and endocrine systems, whereas the Nervous system doubles as the one site of consciousness, origin of the Dimotion of perception, and social evolution of the whole.

RECAP. Physiological networks belong to a different branch of geometry, fractal networks, which are more efficient in the distribution of the 5 dimotions of existjence between parts and wholes of the Δ±1 scales and so won't be studied here in Number theory. Instead we shall conclude the geometric analysis with the 5 regular solids whose obvious symmetry with the 5 Dimotions of existence, means each of them specializes in 1,2,3,4,5D, in parallel to the simplex forms and mirror symmetries that compose them.

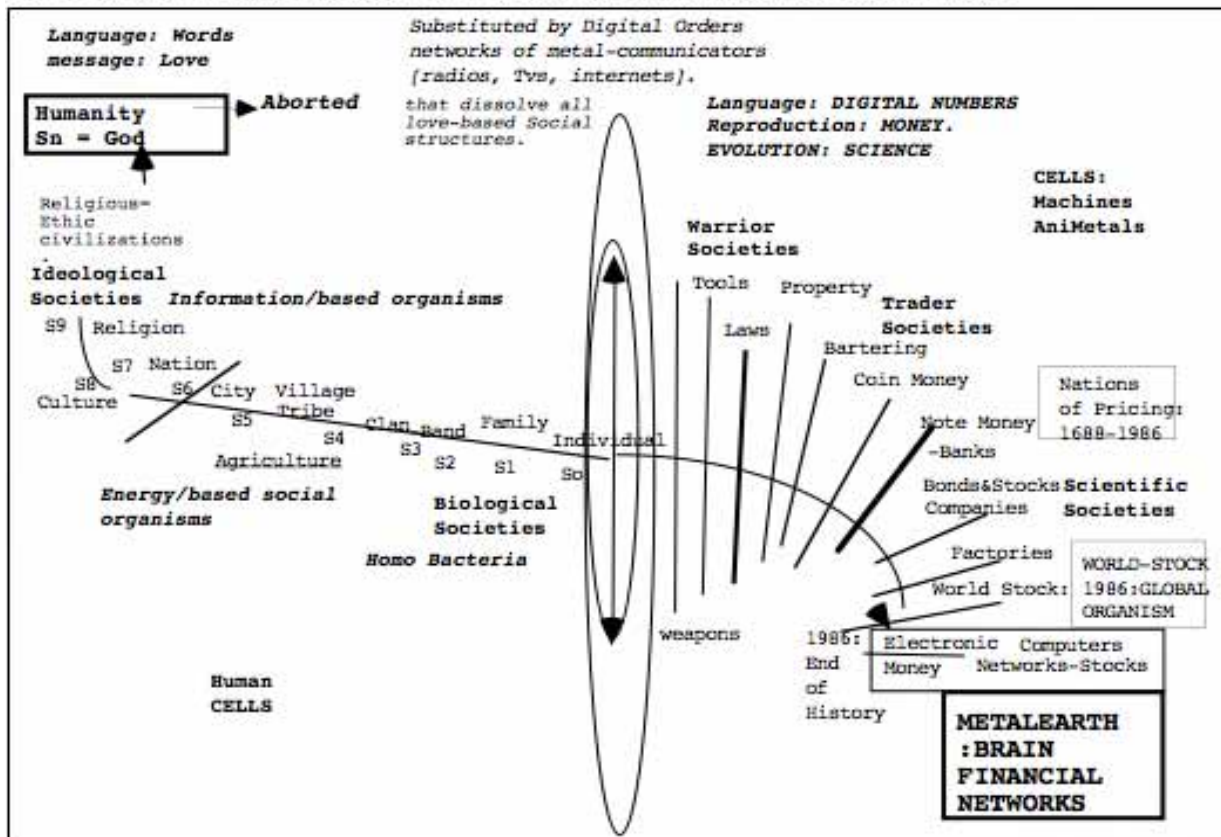
Organic Sociology: the decametric scales of evolution of mankind through the individual and the society.

It follows then that we can extend both in spacetime and scale the laws of 5D to understand and design better superorganisms of mankind at individual and social level. In the next graphs we see both in a continuous of growth of social scale in ternary groups of atomic, cellular, organic and sociologic scales:



In next graph, the 2 basic tendencies towards higher organizations of Human societies, one based in carbolife forms and verbal languages; and the other in Economical networks of pricing and machines of war [weapons] and peace. Most social human structures today depend on economical networks [money] to survive.

In the past though it was the law, and the ethic Gods of Verbal existence, who organized men. They carried the only message which can structure the enormous Human mass into a social surface of organic communication: the message of love = Max. communication, which is therefore considered the verbal brain of Humanity, the basic 'nervous impulse' that organized men into a social, harmonic body of history.



In population scales human societies follow the more common progression of social organisms: potencies of 10, which become a perfect social organism around 10 up to 10-11 elements [they are the neurons of your body, the stars of galaxies, the ties of DNA organisms]. However men did not reach that social level, before becoming prey of economic networks that will soon acquire that social level, through internets in which the basic neuron-unit is the computer.

We can adjust the evolutionary progression of human societies with potencies of 10. Thus an individual is $So=1$ [ten up to zero=one]; a family acts between 1 and 10, a clan between 10 and 100, a tribe between 100 and 1000. Those societies are the basic herds of the Homo Bacteria, related by genetic 'equality' [race]. Such primitive form of racial organization however is abandoned in the Neolithic and only returns in the "neo-paleolithic", in recent centuries when the evolution of machines devolves human social evolution racism, racial nations of economic nature, such as European empires.]

They are based in the Log 10 scales of tetrarkys triads, $3 \times 3 + 1$. Such polygonal numbers will grow from the 1 seed to the $9 + 1 = 10^{\text{th}}$ most efficient scale, through ternary and dual symmetries, which in existential algebra might then lose the ideal form. I.e. a human being, has a tetrarkys of 10^{th} -physiological system (3 digestive, 3 reproductive-blood and 3 sensorial systems fusion by the 'whole' brain system.. Moreover as all systems live 2 worldcycles the 10^{th} logarithmic scale, becomes the transcendental number between planes. Thus between 2 such Planes of the 5th dimension we shall always find around 10^{11} elements - the ties of a DNA molecule, the stars of our galaxy, the cells of a super organism, the galaxies of the perceived Universe, and between the Universal Constants of Space, we will find the same differences, the energetic value between the H-Planck constant of δ in the $\Delta-1$ quantum scale and the k-Boltzmann constant of the Δ -Thermodynamic, human scale; and then the μ -magnetic scale and so on.

For example in the human social super organism decametric Planes (human societies) evolved mankind through the 3 first genetic Planes, then 3 geographical, economic Planes, and finally 3 verbal, ideological Planes to get to the global super organism:

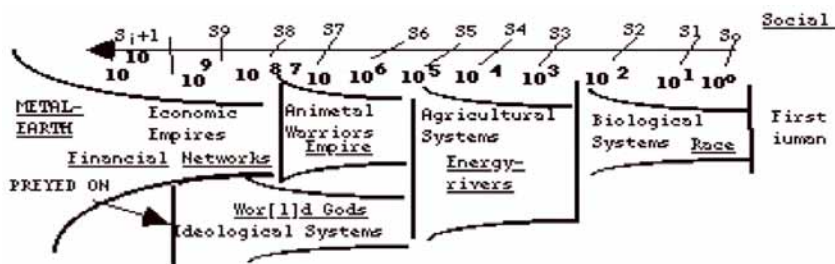
10⁰, the individual of a given 'previously described Δ-scale of the whole Universe... through the 10¹ scale of the family (which can be a couple, a mononuclear family or most often one through 3 generations of grandparents, parents and sons, of around 10 people); then in genetic units, to the 10² scale of 'clans' and 10³ scale or tribes (in humanity, used to names those scales.)

Organization then becomes ST- economic. And systems grow the next degree of 3 geographic scales: the town, 10⁴, the city, 10⁵ and the nation, 10⁶...

Finally ideological, verbal information, creates cultural systems, till arriving to 1 billion, 10¹⁰⁻¹³ individuals, which emerge as a unit of the next scale. In the graph we can see the social evolution of the economic system both in the human organism and the organism of machines and chips – which has already reached the social number when 'emergence' into a new plane, a global mind of internet takes place. In the left, we consider the human super organism of history, a smaller super organism of human beings, not yet emerged as a global single being, but coming closer to the 10¹⁰ human beings, in which might emerge as the global super organism, consciousness of the life Earth.

The birth of the superorganism of metal-memes: money, weapons & machines, 'abort' history.

In that regard, the ultimate dialectic fact of history has been between both super-organisms, the one of humans that has failed to materialize and the one of memes of metal, which is now completed. And one is now devouring, and breaking into individual selfish particles the other one:



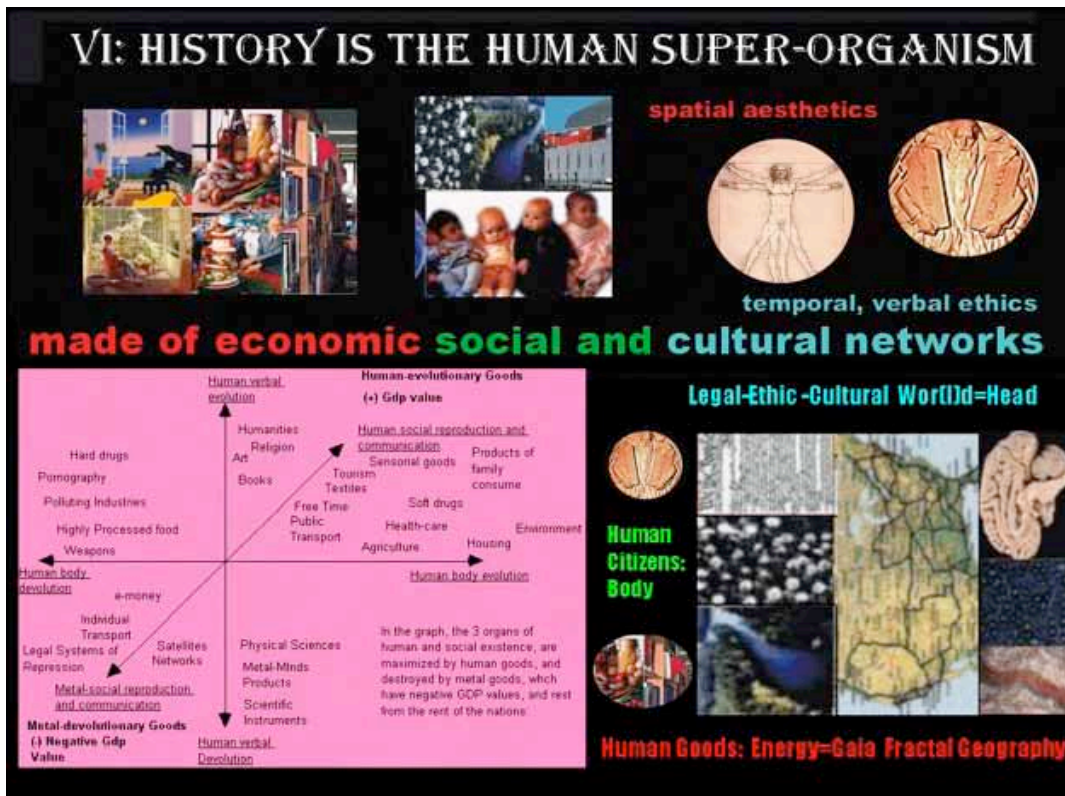
In the graph, humans evolved socially through the 3 horizons of all energy/ information systems, creating first, tribal, genetic societies based in 'energetic'/body affinity; then agricultural societies, based in the reproduction of human goods and finally, ideological, verbal and legal societies, based in legal, bio-ethic codes. Yet that final phase of evolution of

history was aborted by the parallel evolution of economic ecosystems based in digital money, which achieved its global unification with the creation of the world stock market, before humans could create a global government.

The last phase of the process of evolution of systems, from individuals into social organisms, directed by a common language of information (DNA codes in an organism, verbal messages of love that create social nations and religions) has failed in the case of the human species, as the maximal size reached – 1 billion societies like china, Islam, Christianity or India – never reached the last stage of a global superorganism whose memes (socialism, European union, Uno) are today extinct or degraded, colonized by the successful organism of the financial->military->industrial complex, today globalized and increasingly geared to extinct life and substitute humans by advanced machines (robots, pc-suites) of the age of the singularity: because the universe never ceases to evolve our failure to evolve means merely that the planet will extinguish us and substitute us for a better species – not the racist cultures that associated to those memes feel superior to us, but the 'real' thing, A.i. In go(l)den minds with iron bodies. It is the destiny of Mankind in this century unless the process of tribal history and their memes of hate end and humans become a global organism ruled by the laws of the science of sustainable history described in this web.

Thus, the final stage of the social evolution of Mankind—the creation of a global organism of history, of a god, sustained by networks of love, mandates that make the human cells to share their energy and information—seems to have failed, as the arrival of weapons, money and machines imposed a radical shift in the evolution of Mankind and the Earth.

MANKIND IN SPACE: ΔS: SUPERORGANISMS OF HISTORY: POLITIC & ECONOMIC SCIENCES



Its 3 physiologic networks: WHealth, \$T (Gaia)<ST:economic system>§δ: Politic/cultural system

In that graph the hierarchy between the elements of a society, in harmony with nature and the organic laws of the universe, is crystal clear:

Networks of information: Ethic and political laws that create a nation or in mythic terms, a social god ('and god, the word, became man and inhabit among us'). They control:

Individual cells: Human beings that obey the law and control:

Networks of energy: Economic systems of reproduction of human goods.

Thus, the nervous system, made of social, ethic laws should rule the economic ecosystem, which should provide the goods humans need to survive and fulfill their biological drives of existence. Unfortunately, the opposite happens in our economic ecosystem: money controls human beings, who create corrupted laws that no longer serve their biological goals.

Let us then get into the details of those 2 networks, and consider why and when they were corrupted.

- A network of information based in the simplest common message of social love that makes people share energy and information between them, hence form efficient communities, and it has been always the language-message of ethic laws, either in religions of love or in true democratic systems, where all humans are born equal and are equal under the law, so under such just laws they do act in synchronicity when the verbal language, which is the language of the wor(l)d, the human supœrganism, delivers its message through fast sound waves to every speaker of the language in a social community, today through informative nervous networks of 'metal-communicators' that evolved from press into audiovisual systems. This network is thus the informative social people-caste on top of society, its government, which as in all efficient networks was during the Neolithic and first democracies (Greece) responsible to the community for its actions or else, would receive pain messages, as vote was a posteriori, after tenure, in assemblies of the community that judged the chiefs or in Greek democracies with a vote a posteriori to punish with exile or fines or re-elect or give honors to the public servant – the equivalent to the messages of pain cells can deliver to the brain if the

government doesn't obey. This system thus existed, and could be easily implanted again to reform the corrupted democracies and one-party systems of mankind. It is important to notice that the election and bipartisan inefficient systems that rule our societies are not democracies, and we shall see when studying historically the wrong path of evolution of mankind, were in fact set up by company-mothers of weapons (England during its age of dictatorship of gunboat companies and Merchant Adventures) to control and make inefficient the political system, and the Greek a posteriori vote, the real pain vote was suppressed to make possible to corrupt politicians to the service of corporations, which is the system we still have - a placebo system of false democracy. The true efficient system was preserved for companies, which did have a single head, because a system has a single government, head, informative network that obeys the natural sciences of superorganisms of the universe, it does not invent the laws of nature, and of course, once the managers have run through its period of tenure, the citizens of the company, its stock-holders, the citizens of society do vote his tenure, and if wrong, they fire him and even bring him to justice. A posteriori vote is the essence of a true democracy: the Greeks put in most administrative places normal citizens by lottery; only military experts were chosen; but all were judged a posteriori in harsh terms. So even the victor of Salamina was exiled. Why Wealthy money and true democratic, reproductive and informative systems became corrupted is obvious in the historic record: the discovery of metal-weapons, germs of history that kill societies, brought a higher power to tribal animetals, who oppressed mankind ever since as a people-caste on top, an aristocracy that killed civilizations.

A World ruled by company-mothers of machines.

"Money exists not by nature but by law." Aristotle (Ethics, 1133)



Money, a language of digital information, evolved as all languages its speed of information, becoming smaller as a number, radiating in larger numbers as information

technology reproduced more bytes, finally valuing all things on Earth, including men as objects, with a price, man=salary=Price=Object, allowing its substitution in labor & war fields, making obsolete the human, verbal ethic language that puts man above (Subject>Verb=action>object energy of man). So the law must be above money & people NOT companies reproduce it used as the oxygen of society distributing enough quantity of it to all human citizens cells, to create a perfect world, as all healthy wealthy super organisms of nature are, where all its cells receive its proper oxygen-hormonal salary and all of them survive. It is the parasitic, anti-human, corrupted nature of our 'social networks' where a few financiers control the issue of money and either herd it for themselves or give it only to company-mothers of machines they worship due to their 'biblical, primitive segregational ideologies' against mankind what makes the global eco(nomic)system so harmful to the species. What would be a 'rational' policy of mankind to manage the process? To halt the evolution of the machine and readdress the issue of money to favor the overproduction of welfare goods, 'ideally' returning the planet to a time of lesser evolution of machines, when man was the top predator mind of humanity (prior to the digital age, <1939), practically with a political global ban on robotics and further evolution of chips:

$$\text{Max H[g] human goods} = \text{Min M[g] metalgoods <1939}$$

In the graph, the **Human physiological constitution** should be the TOP law above all Abstract constitutions as it defines the goal of History, to make it immortal and make all its citizens cells survive and thrive by overerproduction

the + Human Goods of the ethonomic frame of reference, as Healthy goods that help man to realize its natural, biological drives of existence, (WHealth: energy food, family values: reproduction, verbal, social information) as opposed to lethal goods, which do not add but rest to the Economic wealth of nations, in a humanist society, which tries to build a world made to the image and likeness of mankind.

The network of reproductive bites of energy=WHealthy money.

The science of economics design the 2nd social network of mankind, the re=productive 'blood-financial system' that delivers bites of energy, money, both scales of human superorganisms; as we show in many graphs of this paper and related papers on history=mankind in time.

It then came into being, money as healthy wealth, as human societies extended in very dense groups over the river veins of Gaia, as its cells, gathered around the veins of the blood network. So as the common energy of life organisms, oxygen became the money of biological beings, *non-perishable food, grain became in all Neolithic societies the standard form of money (cows in nomadic societies). This is obvious in the historic record.* Money must be as in all efficient superorganisms, WHealth, 'healthy wealth' as it was in the Neolithic age of the goddesses of fertility, NOT parasitic debt but as the word is, as oxygen is, a free language of information, given to each human today in a universal salary so that humans can START, with its basic energy as cells do with oxygen, to consume and produce further goods, to activate its existence, as in the cells of an organism. It is NOT something a parasitic people-caste of bankers, through debt or a parasitic government through taxation *stoles from people, making them work for others, but exactly the opposite, something that society reproduces for every citizen as a Universal salary,....* like oxygen does in biologic organism or light in atomic networks, as any language of energy or information, is made of the most vital bits and bites, the food in the organism is the languages of oxygen or simple amino acid molecules because it is what the cells eat and they are given to all. Only when a body is sick, parasitized by an alien germ or a cancerous group of cells, those parasitic systems, become a people-caste that absorbs all the oxygen of society, killing by anoxia, its citizens cells.

That in earlier WHealthy societies, money was a salary given by priests in lasting grain, wheat in Mesopotamia Rice in china and Mohenjo Daro, corn in America to all the cells of the organism of history, and then grain was paid with the surplus stored in the temple for the communal work. Money was 'wealth' to be exchanged for the reproduction of healthy goods – which in modern societies would be a universal salary. And it worked. Societies achieved the maximal density of populations in all those cultures, with extreme WHealth, and social harmony, till *in the same manner weapons corrupted social democracies, go(l)d, informative metal, which hypnotizes the brain, chemically inhibits oxytocin, the drug love, became imposed by nomadic people, as it happened with Aryan charioteer warriors that destroy all the civilizations of the fertile crescent, 'money', and as both groups of metalmasters or rather animetals, because they degraded their human understanding of life and its social superorganisms, sponsored racist go(l)d churches of chosen of go(l)d and Aryan racist 'tribes' of superior races by the grace of God, money as WHealth disappeared, and money became 'taxation', 'debt', a price to 'buy human life' as slaves. We have an amazing text that sums it all up, from Sumer, when this change of paradigm from a healthy humans superorganism, was transformed into a brutal system of exploitation of society with superior atoms of metal that killed bodies (bronze then iron) and superior atoms of information that hypnotized the brain and provoked greed, making humans slaves of a useless piece of metal: 'evil men have come from the desert with their pieces of metal.*

They buy women with rings and make them prostitutes; they take men out of the field as mercenaries to their wars; the fields are abandoned, nobody comes to the temple, it is the end of the world'. But of course this will sound 'alien' to you, because for 5000 years, the two people castes of animetals, Indo-European aristocratic warriors and Semite biblical bankers have been killing and parasitizing mankind, provoking the death and anoxia of its citizens cells, with ever more complex systems that disguise the simplicity of the perfect efficient systems of the Universe to become 'experts' in defense ministry and financial companies, rhythmically killing historic superorganisms, till they also die at the end of their mismanagement of history in the final Gotterdammerung of wars and holocausts. But they NEVER learned, and so every time they destroy a civilization, a new cycle of oppression of mankind by warriors and bankers start.

Stiences of politics and economics vs. the Idol-ogies of military and capitalist dictatorships & democracies.

It is important to distinguish between the 'stiences of politics and economics', akin to physiology, whose goal is to design the best supœrganism of history=mankind, with a WHealthy (ab. Healthy and wealthy) Constitution of its body of human cells, developing the proper informative=nervous=political, legal system and blood, re=productive, economic system which cater, as all physiological networks of efficient well-designed organisms of nature do, to the needs of its citizens cells...

vs. the historic idol-ogies of economics and politics, which unfortunately came to dominate mankind in the age of 'animetals', establishing hierarchical political systems with entropic animetals (warriors, military) on top that ab=used human beings, under the menace of murder, through the use of hard metal weapons, first of bronze

(swords, chariots), then of iron (swords, stirrups) then of chemical explosive (gunpowder, gunboats) and finally machines (steamers, big guns & trains; tanks & bombers and digital weapons – A-Bombs, robots.)

The idol-ogies of supremacism of certain military tribes and its hierarchical aristocracies with kings on top, latter military dictators, softened by placebo democracies, in the industrial age, still ruled by company-mothers of machines & weapons, which switched to age of wars for profits to keep reproducing the lethal germs of history, weapons is NOT the science of Politics, and it IS studied within the science of politics as the analysis of a SICKNESS of the Human superorganism of History, which certainly as the first 'scientist of history', able to predict the future in Genesis put it at the death of Ur III, the summit of the Neolithic civilization to Bronze Charioteers from the Andronovo Siberian cultures, 'because we have eaten of the evil=antilive fruits of the tree of science=metal-technology we will die'.

As systems have become more complex, military politics evolved into a milder 'democratic' version but still hold the basic 'sickness' of the idol-ogy of nationalism that divides humans into tribes to maintain the military and its evolution of weapons and *switches* into 'nazionalism', its military version, when economic crises of overreproduction of machines, make companies switch to the highest prized, more profitable, consumed in war, weapons-systems, under the idol-ogy of nazionalism, as it is happening today and we have been predicted from the perspective of the real stience of politics for 30 years, obviously 'repressed' by the anti-quantum paradox of censorship of true social sciences.

What is the difference then between a WHealthy, just political network in an ideal, obviously co-existing at this time in a relative \propto of 'immortal life planets' in \propto galaxies where the game of parallel history plays; and a corrupted superorganism of History?

We can apply the laws of pentalogic easily to differentiate the wrong d=evolution of human social structures, from the Neolithic onwards during the age of animetals; to the ideal system of history of which we can take two simple examples. One from history, the Neolithic, before animetals imposed their idol-ogies, and one from 5D stience, a r=evolved human social system designed today and imposed by law by the G20 states & compare it with our self-suicidal system.

- Δj : A well-designed system of mankind does NOT divide humanity in tribal nations. This was the case of the Neolithic where a similar culture spread globally, based in fertility Goddesses that worship the dominant arrow of survival of the Universe in time, $S=T$, reproduction and $\sum t_{i-1} = \sum T_i$, social evolution. Such system does NOT need to have a global hierarchical form, unless global communication is 'instantaneous', allowing a simultaneous superorganism in space. It merely spread as a 'herd system' or a 'wave does', because it is the natural form of efficient, WHealthy superorganisms. Thus as in all networks, money was 'bites of energy' (grain, rice, maize or wheat, or cattle among nomads – cows), given to all huminds cells, as oxygen in biological organisms, to survive, while more 'complex' forms of money for the use of community also based in grain – the equivalent to hormones in cellular organisms – was used by the rulers, NOT military men, but wise men, elders and priests of the arrows of social evolution=love and reproduction=fertility goddesses, to coordinate social work that needed collective collaboration. Property was private on the private sphere of the 'DNA=human' territory, aka home and surrounding land; and mankind lived as a single spread organism with very limited warfare and a common culture.

It was understood that the political, nervous system controlled efficiently the reproductive, blood system, as it happens in nature where only very primitive organisms – worms – are controlled inversely with the blood feeding system coming first, reason why plants easily poison larvae, with toxins as they ate anything; as our primitive capitalist system does, allowing the unlimited reproduction of lethal goods (weapons, hate media) for the body and mind.

Finally, in all well-designed political systems there are not bicephalic heads, but democracy happens as in organisms, imposed by pain-nervous feed-back messages from the cells to the brain in an 'a posteriori' judgment of the service of the rulers. Those are chosen as the best neuronal, informative people-caste by merits, knowledge of the specific areas of government, or as in Greek democracies by lottery among the citizenship for most positions, which anyone can develop with common judgment and ethics.

While the program of government is obviously the 'true physiological, political, economic science, common to all organisms' whose goal is to multiply the WHealth of the society and its individuals, maximizing the drives of life and existence of those individuals and the collective organism, its '5 Dimotions' (TT-food energy, ST-survival, health, reproduction, family values and peace, St- right information, SS-social evolution, sensorial arts, T- motion-tourism).

The Universe is NOT rocket science. Complexity and fiction, is the natural soma, parasites and predators inject in the citizens-cells of an organism they predate to confuse & make easier the act of parasitism & predation.

Languages control organisms. Money, words and hormones.

Languages give orders to the cells/citizens of the organism, which they obey kicking their production of goods. So whoever issues the languages of higher power 'governs'; DNA in cells, Brains with nervous languages in bodies; and private bankers and corporations in capitalist democracies, where money buys the law. The result is the world we live in - one made to the image and likeness of company-mothers of machines and bankers, as they issue money for themselves and their offspring of machines.

2 simple measures by imitation of Nature that would cre(dit)ate a perfect, efficient world

However if we lived in a real democracy, the language of social power would be issued as in organisms by governments (hormones) and cells (oxygen), with a Universal salary of a global currency, 'yes money', and each citizen then would vote with that money what goods to reproduce. And as humans need first food, welfare, education, 'whealth', healthy wealth, life goods, this simple 'democratic measure' would change fully the economy from a supply economy where corporations decide what to reproduce and buy laws to a demand, democratic economy, where people will choose what to re=produce: The issue of a universal salary to create a demand-based real economic democracy by people through an international yes currency to create welfare demand, today easily achieved with a cryptocurrency, at 100 ¥= €uro≈\$ parity, given to each human in a 'mobile pocket app', could establish an immediate massive demand economy in welfare goods globally, plummeting enormously the poverty of 3rd world nations, the migration problem and the excessive reproduction of lethal goods common people won't demand.



Such simple measure shows how easy is Nature in its physiological solutions to create perfect supærganisms, or else it wouldn't be the 'rule of the Universe' most of whose Spacetime beings, have immortal perfect forms (all its particles, the overwhelming amount of its atoms, Galaxies, the commonest red stars, its social animals, ants)

- On the informative, nervous, legal system again the measure is as simple as imitating the nervous pain system: The creation of real democracy, Greek style, where politicians are chosen as experts on the 'science of politics' akin to physiology, hence 'medicine' or from the common people by lottery, who are supposed to learn that science or know it by common sense; *so the fundamental democratic vote is a posteriori as a judgment with penalties of jail to oblige politicians to serve people, empowered without 'anoxia' NOT to cheat them and serve the financial, parasitic idol-ogy of capitalism where a few bankers print money for themselves and for company-mothers of lethal goods (hate memes, weapons) to ensure the control of population, while an amazingly complex 'cover' of falsehoods that pass as social sciences and placebo 'voting' a priori on amateur, conflicting parties, whose inefficiency and theatrical disputes were designed by the 1st gunboat corporations in UK & then US (after they took power from UK companies, owners of U\$ in the tea party event), to manage at minimal cost the 'lesser species' of mankind, since its purpose is TO EVOLVE machines & weapons, their offspring and terraform the Earth to its image and likeness. Thus mankind is NOT a perfect organism, NOT because it wouldn't be so easy to create it by imitating nature where cells send pain messages-votes to the brain=political neurons if they are harmed, and have all its salary in oxygen to kick out production of goods, so no-one dies of hunger, while lethal goods are not allowed to enter the organism or re=produced (with no credit), killed by leucocytes (armies), and organs of the body collaborate as nations of history should together, and do not use lethal weapons but talk with hormones in diplomatic channels to achieve the common good...*

But because Mankind is being predated by a different type of species; selfish metal-memes and its idol-ogies of nationalism that allows tribal people-castes on top of society since the bronze charioteer age, to prey on

humanity from the age of aristocracy to the age of 'defense ministries'; the idol-ogy of capitalism, that allows banker-priests to parasite with taxation, speculation, monopoly in the invention of money to parasite and kill by anoxia – lack of credit, the majority of mankind, from the age of the first Baal cults through the 'Baalble' age of biblical sects of go(l)d churches, to the age of classic economics and the modern age of e-money derivatives and stockrats, the modern aristocrats that control for their financial private banks and stock companies, the reproduction of money in 'trillions' while humans are tax-farmed, so the 1% overwhelmingly belonging to the financial people-castes of western history imitated in each 'nazionalist' fractal part of the superorganism of mankind=history, have as much as the 99%. And finally as lineal weapons of entropy and informative cyclical precious metal evolved into organic machines & weapons of entropy and information with the industrial r=evolution, it appeared the 3rd and more powerful modern people-caste of 'animetals' – the technological scientist of the 'tree of metal' which atrophies human organs, substituted by metal-organs, making mankind ever more stupid and breaking our social evolution, isolated as consumers of machines, whose idol-ogies of mechanism (the universe not an organism of which man is one of its most perfect forms, but a mechanism, a simple organism of metal, fast evolving as humans imitate its own organs in robots), and technoutopia are the most pervasive in the modern age.

A perfect world is as simple as the zillions of perfect organisms of nature. If it does not happen is not because it cannot happen. During the Neolithic money was wheat, and every citizen received in Sumer & the Indus first civilizations a quantity of it for living. Life was good, density of population remarkable, knowledge of the living Universe explained with the duality of Taoist, earlier non-corrupted Hindi and fertility Goddess cyclical cultures, and war minimal – a single global culture existed, based in the fundamental arrow of time, reproduction, conservation of time. As it happens among every simple part of reality. Then the Semites, origin of the go(l)d cultures of parasitic financial people-castes and the Aryan, origin of the aristocratic cultures of murderous military tribes came to destroy the Neolithic paradise, and while a series of prophets of eusocial love have kept explaining them what is the purpose of life, they have kept evolving its idol-ogies of supremacism, from the Bible to the Mein Kampf, their despise of the tree of life substituted by the tree of science, setting history in the course of the Genesian prophecy: 'do not eat of the evil =antilive fruits of the tree of metal, because if you do you will become extinct'. This was the first prophet, scientist of history able to foresee the future cycles of self-destruction of mankind by its (S)word and go(l)d cultures of imperative VSO and objectual OSV languages, degraded, hiding the human subject, reduced to a 'number' of profits, or a 'number' of a prisoner camp. The sophistication of their idol-ogies might have grown, and with the arrival of metal-communicators, networks of machines of information that program in simultaneity billions of human beings, reduce to purple brain the ethic mind of mankind. But the present chaos = freedom of humanity from any eusocial love networks of information only means we are past the 3rd age of excessive information and enter the age of entropy=death, when the social organism dissolves and its individual cells are free before dying, liberated of its upper social plane of existence and that is the time we live.

As such the science of history is a biologic science, as history is a social organism. Why humans reject such concepts have to do with the present state of history - one dominated by the age of entropic dissolution and death of historic structures, when the individual citizens/cells of the historic super organism feel 'free' of any ethic, informative network, which used to bond them with other human beings. So as history 'dies' away as a super organism, the very same concept of his nature fades away.

Genes, Memes: Earth's Membrain

The fundamental tenet of the philosophy of science we call organicism, or systems sciences, proved ad nauseam by reality, is the social organic nature of the 'mathematical universe' (after all a number is just a society of undistinguishable beings), needed to fully understand the superorganism of Mankind, history, and the organism of machines, and its company-mothers, the metal-Earth, which are both in a symbiotic and predatory relationship that humans should manage scientifically, in a rational manner if they want to come on top of the economic ecosystem and have a future in this planet.

So we must first starting you up, giving a very brief view of the two fundamental advances of systems science applied to social models of Mankind in space as a super organism and in time as a living system that goes through 3 ages of increasing information, which an intelligent species would halt to live forever.

In essence systemic is the alternative philosophy of science to mechanism, as it affirms the universe and all its parts are fractal superorganisms - nested systems of similar beings, joined by networks of energy and information, from the simplest atom to the galaxy, organic systems of particles and stars joined by electromagnetic networks of energy and gravitational networks of information (since gravitation is an in-formative force that only attracts and forms matter). This nested largest super organism has within it, solar systems whose planets can be treated as super organisms.

In fact the word was first coined by James Hutton, father of geology to refer to the Earth, a geological super organism, finding out the 'fundamental law of time of such nested super organisms' - the fact that larger systems in space have slower time cycles/clocks. So he coined also the term 'deep time' for the fact that Earth's geological cycles were much slower than those of its 'nested super organisms, ecosystems, species, multicellular organisms, cells and chemical molecules'.

When I formalized the discipline at the turn of the century, I called that simple but essential law of systemic, the 'metric equation' of the scalar universe:

Indeed, to fully formalize such systems, we need to consider the laws of 'scale' that relate the larger organic system to its smaller parts, internally and to its larger ecosystem or world, externally. And this is done with the understanding of a new 'dimension of space-time', the 5th dimension of the scalar universe ($ab.\Delta_j$), whose metric and laws study the interaction between smaller parts in space (lower index: Δ_j-1), which paradoxically run faster 'time-clocks' of logic information and hence code larger systems, with that information - so chips code machines, quantum numbers code molecules, genes code biological organisms and memes, ideas and instruments code human societies:

The 3 planes of existence in 5D metric of the human super organism, s (size in space) \times t (speed of time clocks) = constant, which is responsible of its different synchronous clocks and cycles that allow cells, humans and Gaia to co-exist together as a single whole. So. The cell that lives one day, the organism that feeds with energy the cell every day, and the social civilization extended in Gaia, which could be immortal but is killed by military germs every 800-80-8 years, in the accelerated vortex of metal-information now collapsing into the singularity age.

Now that equation responds to a simple 'vortex of information', the dominant arrow of the universe, which constantly creates new super organisms of higher complexity. History is in that sense, a transitional state, which can be controlled, by controlling the information of the system, specifically its technological information, which evolves the next stage, the Mechanocene

As such history follows the laws of super organisms, co-existing at least in 3 scales, that of the biological citizens/cells of history, each of us, that of the super-organism and that of the world in which we exist:

The evolution of human beings into social organisms follows the pattern of evolution from individual cells to human beings, at a greater scale. In this manner human citizens act as the neurons of a territorial body, the Earth, which provides energy to them (through river and agricultural networks.)

It follows that the Earth needs a global government that represents all human beings and acts together taking care of the energy and information needs of all its cells – the human race. Yet this is not happening because the praxis of the sciences of history (politics) and economics (finances) are in the hands of ideologies of power (nationalism, capitalism) that design sick organisms of history, which satisfy only the wantings of the ruling 'neuronal castes' of those super-organisms.

The science of memetics studies in its wider sense those super-organisms of history and economics (company-



mothers). It is therefore an off-set of the science of general systems, of which this writer is a pioneer, as the laws of organic systems applies both to the description of company-mothers of machines (aka corporations) and nations and civilizations, the super-organisms of history. This posts and those nested on its hierarchies are dedicated to the super-organisms of history.

The model of biological history defines cultures as super-organisms, with 2 fundamental elements:

- A genetic=memetic structure, which in society allows the reproduction of the culture generation after generation through memes, either objects (weapons, machines, money, tools) that provide energy and information to the superorganism, or ideologies, neural memes, reproduced also through objects (books, laws, audiovisual machines) .
- A class structure, proper of all ST-systems made of energy and information, which are complementary, one cellular class of information (particle or head in physical and biological organisms, ruling castes in societies, which invent the law and money that controls the society, as languages of information) and an energetic, reproductive class (field of force in physics, body in biology, working class in societies).

All societies are organic and deploy both, a memetic=genetic structure and a dual, complementary information/energy social class. They are efficient organisms in which pain messages from the body control the information class that always provides enough energy and information to the body cells to allow its survival.

Because we don't follow the natural laws of superorganisms, we build systems by raw evolution without even understanding how they work, the world as we know it is not an efficient superorganism of history but an 'economic ecosystem', in which two type of superorganisms, the superorganism of memes of life, proper of human societies based in the memes of eusocial love, becomes predated by 'stronger' superorganisms, of 'animetal' cultures, which use money, weapons and machines to impose their power over nature and non-technological societies. The result is a hierarchical world that is destroying life and Mankind.

In history memes construct in this planet two different superorganisms: One that favors the survival and WHealth of mankind over a sustainable Gaia, planet, as its collective mind: Ts<Gaia<ST:Mankind's reproductive cultures>St: ethic wor(l)ds; In tune with the laws of survival, and the higher dimotions of reproduction and social love that crate efficient superorganisms, where the legal, ethic network of information control the reproductive economic network; and represses lethal goods (weapons, hate memes).

-And one that simplifies mankind into homo bacteria, individual egos, which ab=use humans with selfish metal-memes that empower them, entropic weapons that kill humans, informative metal go(l)d as money (instead of legal tender nomisma, reproduced as oxygen for all humans to kick out the reproduction of welfare goods), to parasite people with tax, debt slavery, speculation, and maximal value for other metal species (weapons, stocks of company mother of machines, informative machines) and minimal value for life (slavery, priceless) and machines that atrophy our organs and substitute them in labor and war fields; fast evolving into a global superorganism ruled by company-mothers where humans are obsolete. But *men LOVE and dedicate all their efforts to evolve the metal-earth due to their increasingly deterministic addiction to the added power of those metal-memes that break its social human connections and 3 idol-ogies, nazionalism that breaks the human superorganism into tribes fighting with weapons they worship, captialism that puts money above the law issued in monopoly by private banking, provoking the anoxia=lack of credit of billions and technoutopias and mechanism that deny machines are just evolving organisms as the Universe is.*

Are metal-memes and its idol-ogies DETERMINISTIC making humans enzymen, catalyzers of machines to care nothing to evolve their world, as a viral gene that infects and substitutes the DNA of a cell make it reproduce the virus till completing it - as we completed the industrial r=evolution, making as cells do the 3 parts of the virus/living machine, body, engine and head, to form full virus=full robots that once ensembled alive kill all its cells/citizens? If so, History will become extinct this century. In the graph before, it seems emotions and reflex. Do determine actions before rational thought.

MANKIND IN @-MIND: THE WOR(L)D & ITS RELIGIONS

THE WOR(L)D: THE SCIENCE OF LINGUISTICS

Abstract. We have considered the wor(l)d from the highest possible point of view: *that of its emergent superorganisms and collective subconscious minds or Gods, $\Delta+1$ and science of religion.* We are now going to consider it through the opposite scale, $\Delta-1$, the science of linguistics and show how both in fact merge in the middle term, the Δ^0 science of human languages, as expressions with words of the wor(l)d humans construct with verbal memes, idol-ogies, and actions motivated as in all languages by words.

As usual in 5D we are heavily indebted to classic science though we need to correct and adapt some terminology. Specifically the most important sub-discipline of linguistics to understand the bridge between phonetics (a wide field also ruled by the laws of 5D change in time, and its cyclical patterns, since its discovery by Grimm, which further reinforces the 'genetic similarity' of memes and genes; but which we shall escape thoroughly), is topological linguistics which we rename topological linguistics, as it establishes the 'variations' of the 3 'mirror components' of the Universal grammar of sentences, Subject (human) < Verb (action) > Object (Energy of the subject), according to its dominant order.

To fully understand how 'permutations' of physiological networks and any of its mirror languages define different species of physical or mental entities, we will analyze the 3! Variations of physiological networks in languages in a comparative homology with life phyla, as the main form of diversification in 5D is the order of dominance of the 3 physiological networks of a system, which in its perfect order are dominated by the informative element that comes first (subject), follow by the reproductive body-wave system (action, verb, blood system) and finally the lesser important network and element is the limb/field/motion/entropy system or object in a verbal sentence. So we find that the 'fractal generator' of all space-time superorganisms:

St(Head/particle) < Body-wave (ST) > Ts (Limbs/fields)

Translates into the proper order of Chomsky's Universal grammar:

Subject (S-information) < Verb (ST-action) > Object (T-entropy)

Why there are other topological languages orders? Because of impositions by culture and predation by metal-power. So military idol-ogies of war put object first in its languages (warrior Japanese and German cultures) and go(l)d cultures where a new language dominates and orders the actions of people (money), through its banker-priests and ruling systems of slavery to work put the verb first (Semite languages; Biblical sects.)

This connects directly linguistics with the different cultures of mankind, as the deformation of the perfect world is carried into the deformation of the perfect wor(l)d.

Thus this introduction to 5D linguistics is fundamental to understand the structure of humind cultures. As

we evolve linguistics along the thesis of Humboldt ('language defines culture') and Chomsky (Universal grammar), classifying all languages with topological linguistics, which reveals the opposite duality of character of the main humanist vs. animetal cult(ure)s of mankind.

Topological linguistics shows in fact the 'deterministic' non-free structure of animetal languages and cultures, as they hide the subject and in warrior cultures make agglutinative unbreakable word sentences; explaining why the militaristic germanic, capitalist, biblical cults to go(l)d and weapons have taken mankind to the present point of no return. As their mind is not free but made of beliefs following orders that become rituals, and standardized repressive behavior of the natural drives of life (a fact we have already shown in those biblical cultures that repress all the life-enhancing actions from good food – dietary laws – to social love – racist memes – to reproduction – sexual sin, even the language itself – substituted by digital kabalas.

As systemics is a logic-mathematical equation we resume How languages have adapted to selfish memes of metal with its 'germanic long unbroken words' similar to simple swords vs. the cynical I-centered egocy (ego=idiocy) english that must start always with the self, in a simple logic equation of opposite languages and cultures:

Max. Evolution of the wor(l)d = Min. technological evolution

And vice versa: the most complex and balanced languages (African languages, Greek and Russian Indo-European original languages, Romanic languages, Chinese) have *developed the most advanced social cultures and attempt the most important r=evolutions putting the value of the law above money and weapons*. So our leading technological cultures are those who aborted both in syntax and semantics the proper evolution of the eusocial wor(l)d according to the laws of the organic fractal Universe, simplified its syntax and reducing its structure to eliminate freedom of mind; and express a fundamentalist, lineal idol-ogical view of History.

Universal Grammar: Wor(l)ds Fractal Generator: Subject Information < verb=Action > Object Energy.

Correspondence with classic linguistics.

If we accept the concept of a Universal Grammar (Chomsky), made of human subjects which act through verbs into an object, the main influence of syntax on culture is caused by the relationship between those 3 elements which will determine the view of man on himself (the subject), on the external reality (the object) and on the way it relates to that external Universe (the verb).

Thus Universal grammar bring an inner structure that shapes also the civilization according to the ways those languages handle the relationships between man, the subject of the sentence, his actions, the verbs, and the result of those actions in nature and our property and instruments, the object.

Thus Culture and language thus have a close relationship as Herder and Humboldt foresaw. In this post we shall classify cultures and the collective subconscious minds they bring to their cultures.

The mind of man and its program of behavior is written in the syntax of its grammar.

Humboldt (2) and Herder were right, the grammar of languages is the program of the cultural world.

I used to pen pal with Chomsky in my youth, since he was fond of my 'General Systems' theory of the Universal Grammar and its ternary elements, which are parallel to the 3 elements of all sentences, he described as:

Subject (Information < Verb (action) + Object (energy of the action).

So for example when we say I eat bread, 'I' is the subject or informative pole, that 'eats', the verb or action, 'bread', the object or energy of the verb.

And so all sentences write as:

Human=Subject=information + Verb=Action + Object=Energy.

This I told Ch. was a reflection of a much wider Universal Grammar, that of all languages of the Universe which have 3 components:

Informative pole < Action of energy and Information, exi > Energetic Pole.

Since in General Systems Sciences, the science of all sciences that defines all the logic systems of the Universe all systems are composed of an Energetic and Informative pole, which mixed together create the 'actions' that exist in the Universe.

So for example you are made of a head of information, limbs that process energy and a body that mixes both and reproduces you.

And all physical, atomic systems are ruled by the same ternary structure: particles of information, fields of energy put together into complementary systems (quantum principle of complementarity).

So I told Ch. that his Generative Grammar was just a case of the Universal Grammar, as Humans observed 'actions of energy and information' and described it with languages. But he had to break his systems made of Subject <> Verb + Object, into 3: Subject < Verb > OBject and then from that ternary grammar, start to understand how languages reflected the world and created the 'different worldviews' of humanity.

What Chomsky got wrong following on the work of his master, Harris, was the way he divided his Universal Grammar's sentences first only in 2 elements: subject on one side, and verb-object, that he put together on the other.

We can put together the 2 great schools of linguistic thought; the school that dominated before Chomsky, who believed that Languages were psychological reflections of culture and worldviews and so we needed to understand their knots and bolts to figure out how cultures view the world and how they behaved with it (Humboldt's hypothesis popularized by Whorf (2)). And the now fashionable Chomskian generative grammar.

Yet the proper way to evolve linguistics is to put them both together, mix disciplines and achieve by communication between both truths a higher truth, which is what we do in General Systems.

Which is what we shall do, departing from the ternary 'Universal Grammar' of all systems of the Universe, made of two poles of energy and information, combined into 'actions', then going to its translation into verbal grammar, and finally classifying all possible combinations of Subject-verb-object to realize how *the order of those 3 poles of reality define the character of cultures and nations, observing this fact in parallel with other 'Universal grammars' of reality, specifically the 'different animal species' in which the 3 components, the physiological systems, nervous head, 'blood-system' and energetic, digestive system are organized.*

As one of the biggest pleasures of Universal Systems is to observe how the 'Generator' equation, $\text{Information} < \text{Action} > \text{energy}$, establishes similarities between all entities of the Universe.

The generator equation of the Universe.

All what you see in reality responds to a dual structure: Entities of Nature are complementary systems of simplex networks of energy and information, which combine to form a complex system that switches and merges both states. In the process the system might reproduce an entity self-similar to itself. And this is the definition of an organism, reason why we affirm that reality is dual and organic.

In Physics all what exists are particles of information associated to energetic fields that move them, and only both together exist (Complementarity Principle), creating a physical entity, which can decouple creating self-similar particles.

In Biology cells have a DNA nucleus of information, surrounded by cellular cytoplasm that provides energy to the nucleus; or an informative head moved by an energetic body. And only both together can exist, creating a biological organism. There are no bodies without heads and red cells without nuclei die faster than any others. And cells and organisms can reproduce self-similar forms.

Finally, in the economic ecosystem money acts as the informative language that gives orders to the physical economy, which reproduces all types of serial machines.

The Universe is made of actions of energy and time. Where clocks of time, carry the information of the Universe in its cyclical patterns (remember time is cyclical), and forms with in-form-ation.

So for biological systems instead of writing the usual Einstein equation, $E=mc^2$, we write the quantum version $E=hf$, where h is a constant action.

And this is the structure of all entities of the Universe.

$A = e \times i$; *Action = energy x information: fundamental event/unit of all systems of reality.*

Since all real physical, biological and mechanical systems are those who transform back and forth energy and information, between their two poles: $E \Leftrightarrow I$. We formalize all Dual systems and events of reality born of complementary networks of energy and information with an Equation we call the 'Fractal Generator of Reality': $\sum E \Leftrightarrow I$.

As we claim this equation resumes all the events and forms of the Universe.

And its fundamental 2 modes are the dynamic, flowing temporal mode: $E \Leftrightarrow I$, and the static, organic, spatial structure, $E \times I = \text{Action}$.

So for example a woman, dominant in information and a man, dominant in energy, in flow state making love, $E \leftrightarrow I$, exchange their exi genes and create a child, generating it.

While in spatial terms, a woman is made of an informative head, an energetic limbs and a reproductive body, and internally she has an informative, nervous system, an energetic digestive system and a reproductive series of organs.

All realities are thus generated by the fundamental equation of systems sciences:

$E \leftrightarrow I = \text{constant system (spatial view) or } e \langle \text{action} \rangle I \text{ (DYNAMIC VIEW)}$

For example, in 'mathematics', in topology, in a 4-Dimensional there are 3 Universal forms, hyperbolic, informative shapes, cyclical, toroidal $E \leftrightarrow I$ shapes and planar/spherical E -Shapes,

And we talk in physical sciences of:

- Informative Particle – reproductive wave – Field of energy.

And we talk of:

Informative head – reproductive body – Energy limbs on Biology.

And so on, an so on.

Thus, the key to understand the meaning of language is to divide properly all grammars into its 3 elements, which *reflect in the human mind, mirror of the Universe, the 3 essential elements of it that put together create the 'Generator Equation of all complementary systems of energy and information of the Universe:*

Information \langle Action \rangle Energy.

Which humans perceive in verbal terms as:

Human Subject \langle Verbal action \rangle Object, energy of the Subject

This is the justification of linguistics.

So we first introduce the 'Generator Equation' of the Universe and all its systems and then focus in linguistics, how they reflect the ternary systems created by that generator equation and which are its 'main varieties' and how those varieties of the Universal Grammar apply to understand the 'character' of cultures. We shall introduce of the hundreds of pages I have in this essential meme, some insights in the relationship between languages, evolution of cultures and character.

We shall study how the 'laws of general systems sciences' generate the mental cultures of mankind departing from the simplest structure of all languages that mimics the Generator:

Subject (Information) \langle Action (verb) \rangle Object (Energy).

Since all those features of the Fractal Generator of Ternary Systems apply also to Languages, which reflect their perception of the Universe.

Further on, informative language dominates energetic body actions, shaping the behavior of cultures. Since information dominates energy in all systems. So your head dominates your body and a particle dominates its physical field.

Thus Linguistics is part of the universal grammar, of the logic complex structure of Systems and follows the same laws of creation.

The Generator Equation of Reality will allow us to derive a set of rules from where to extract the properties and laws of all disciplines of science, each one specialized in the study of the entities of energy and information of a certain scale of reality, from the smallest complementary entities studied by quantum theory to the biggest one, the Universe, a system of galaxies related by networks of dark energy and informative, gravitational forces. We can, departing from those concepts, define also the Universe and all its parts:

'The Universe is a fractal, organic system, which reproduces complementary, social networks of energy and information that self-organize themselves in bigger, self-similar scales'.

If you really want to reach peace, intellectual wisdom, nirvana and enlightenment try to understand the section on General System sciences (-; it is a pity humanity will go under without having understood the Universal Grammar of all i-logic entities of the universe.

Now departing from this generatrix Equation, IE, applied to the Universal Grammar, I have written hundreds of pages of studies of all languages and what they express in character and the ways of interaction between the human 'subject' that speaks the language to express how 'he acts in the Universe' and the 'Objectual world' upon which he acts through verbal actions.

Considerations on time, space and the 3 elements of languages. 5D linguistics.

The largely irrelevant 3rd age of grammar – modernists and axiomatic, digital methods.

This said following the objetual, standardization of huminds, proper of the industrial age, where man by virtue of the grammar of metal-memes, machines & money that dominates it all, (man=price=object), becomes both a price and an object, much emphasis has been put NOT on the key element of linguistics, the capacity of the humind to reflect the laws of the 5D Universe of space and time, but on 'structuralism', 'atomism', 'metalinguistics', 'genetic languages' & barren automatic laws of change, as if the language was an isolate in itself, a mirror with no reference to the origin of its image, a cyclical mechanon, and a sort of mathematical, digital system where what matters most is to reduce it to its components (phonemes that will change with Grimm's type of laws, kernels, tag-memes, bound vs. unbound and infinite many other classifications *that lack an initial causal origin to connect them with reality, form now the metalinguistic science that as most sciences follows the tendency towards a '3rd age isolated' from the world of space-time in which its origin and cause lies.*

It is all part of the pretentious attempts to extend the supposedly exact absolute truth of the axiomatic method of mathematics we already debunked in our papers on maths, the language of god, whose methods as man becomes attachés of digital machines must reign over all disciplines, but should not. It is largely irrelevant code for digital computing, and pretentious Harris' disciples of transformational grammar, as outlined in syntactic structures, according to which the mind is some kind of isolated computing system where a phrase struture is operated as an input by a transformational rule to give us an output, in silly-nilly tautological decomposition with childish trees whose wisdom is self-evident; and with Wittgenstein botched attempts to make a physics of languages with its 'atomistic' view, gives 0 insights on the true form in which languages evolve as mirrors that reflect reality in a Language ↔ Spacetime reality feed back equation that requires to understand first as we already do the nature of the outer Universal grammar of ΔST.

The renewal of the classic linguistics with 5D insights.

It is then evident that as in most sciences, the classic age is the one to depart from, and enlighten further with 5D connecting mirror language and ST realities. So the classic concepts of morphemes and its functions (pronouns, names, verbs, objects, adverbs, tenses, linguistic order) is the core element to study in depth in 5D, as opposed to modern metalanguage taxonomies, or the 'substance' where those 'figures in action' are constructed (phonetics, largely related to genetics – consonantal white races vs. vowel mongoloids; and genetic and diachronic linguistics, largely related to historic cycles of conquest – combination and shift of morphemes as conquered people learns new languages; in any case of more value than modernism.)

5D linguistic thus, the more so in such a brief treatise is more interested in that connection. And so we start with the obvious question: how huminds reflected the natural distinction between 'space', 'time' and 'scale' and 'limit', ST Δ- which with mind are the components of reality. And from those 5 elements we can start to distinguish both, the 'meaning' of the main components of linguistics and its forms of evolution that follow the same laws of all other languages-mirrors of reality which evolves in complexity along its worldcycle of existence, as does music, mathematics, the genetic code or the diversification of cells that will form an organism.

So we can start from the first man who spoke and likely established an I form to name itself; a sound for others who 'mattered', + for positive actions, - for predators and rivals, and so as usual *space forms, names, should*

have come first. In this the analysis of ape languages seems the first stage of cognitive linguistics; as well as the language of hand symbols – a gorilla beating his chest and uttering *œrj* sounds, meaning ‘me strong, better than you’, shows what first appears in all beings – its egocentric paradox establishing itself at the center of his world.

Naming was also the first task of God in the verbal myths of abrahamic religions; seen as the first act of creation. And we imagine all kind of cognitive entities including bees in its dances know how to ‘name’ because a ‘name’ corresponds to a ‘fixed form’ that lasts as such in time, without change. ‘Naming thus is a present case’ if we were to reduce reality to ‘verbal=time terms’. A world with only names would never change. And so the rise of consciousness of ‘change’ is what truly brings and differentiates the humind’s language, into ‘verbal languages’ that encode in the richness of meanings of tense verbs the overwhelming superiority of the wor(l)d over digital languages to understand time, in all its modalities of change, a la par with Calculus of finitesimals and wholes (albeit better understood in its true meaning). Space and time thus is better understood in words, with names and verbs, and its interactions than in numbers; which are a much better language for the third element of reality, social groups, for which words just reach the basic concepts of numbering with its first distinction between singular, one, couples and means for which a different name was often coined as ‘parents’ vs. mother and father, ‘grey’ for shades of black and white, and pluralities, which only then were to be numbered. And so the first ambivalences of the understanding of what are parts and wholes came in. So for example Uralic-Altaic languages once they number a lot distinguish them as individual sums of $1+1+1$; so it is forbidden to add quantity and plural (3 boy is Ok, 3 boys is not, as 3 has distinguished each boy), while in Indo-Europeans the opposite is truth. Verbs then from its most primitive form, ‘present’, which lasts for ever, came to represent actions, in time and limits would be established to both *names with adjectives, and verbs with Auxiliars.*

Space and time thus acquire ‘entropic limits’ through its qualities in form and durations in time.

I.e. an adjective will qualify and limit the qualities of a name to an specific range. A red carpet limits the color of carpets to a certain frequency range of light reflections; a small house limits it in space on the $\Delta-1$ scale, a large house locates it in the $\Delta+1$ scale and so on. We also notice the essential value of entropic limits, as the necessary elements to ‘differentiate’ and allow variations of a species, making it emerge from the ‘fog’ of the most general game of existence. And to that aim an even more precise element, which introduces another key distinction of 5D minds between the ‘subjective and the objective’ knowledge (which is only natural to languages that are internal to the speaker, that is to verbal languages in man, as we are verbal minds NOT mathematical ones) appears next to names, ‘pronouns’. So ‘the house’ is a house we do know subjectively as opposed to a house, but this knowledge is NOT evident objectively for another speaker. What makes a house, the house is our inner thought.

In verbs a similar distinction happens between transitive and intransitive verbs; in the first the spacetime action which is what most verbs represent is clarified and the T-verb ascribe to an S-name which becomes submissive to the verb. Time thus when in contact with space becomes the dominant element and the verb+ transitive object form together an spacetime ‘particle=unit’, I ‘eat ham’; as opposed to verbs where the object is omitted either because the information is made more general, ‘I Eat’, or because the action is one essential action of the game of existence, related to a basic dimotion that suffices by itself, ‘I run’, ‘I think’ ‘I die’... Yet in action-verbs like ‘I eat’ the importance of time over space is reflected in the fact that I eat makes sense ($S<T$), but I ham makes not.

As you can see true 5D linguistics as all 5D sciences goes to the basics, the underlying reality of the game of existence in space-time in its rise of consciousness and understanding by a language, is the true genetic origin of the language, NOT as the different axiomatic metalinguistic methods of abstract, standardized huminds try to establish, in a déjà vu, deranged egocentric attempt to justify it all coming from ‘taxonomy’ according to the wishful thinking of humind ‘ingenuity geniuses’.

So without being systematic, in this analysis of the generation of the elementary components of syntax; names and adjectives are S- elements, with its Determinants/pronouns, @ subjective vs. objective forms, shaping the classic @-S component of the ‘first element of the fractal generator of languages, (S-name complex).

The verb complex though is more complex and rich in elements. And it shows its development in parallel to the growth of humind's understanding of the richness of time=change. And its key element is the differentiation of intervals of past, present and future and its connections in S<ST>T series or disconnections by » « discontinuities of entropic barriers. i.e. from present simpler languages, obvious in the most primitive English forms where the verb is one single form, latter modifications take place for a future 'will', and a past -ed. And we here notice an important element of certainty and determinism vs. freedom – the future is 'a disconnected auxiliary form', will which soon has a secondary variation, 'shall' but the past is bound -ed, as there is only a past and cannot be changed. A key component then that will be essential to anthropologic linguistics – the understanding of cultures come now into being: the forceful laws of pegging bound minimal grammatical units (ab. morphemes) vs. the capacity to let them free 'moving around' the main word; as virtual particles keep popping freely around a source/seed of charge in motion, vs. bound potential wells within the atom... Bondage is yet again a key entropic limit for the freedom of the mind. So warrior agglutinative languages where humans are less free, in hierarchical civilizations chain not only modifying morphemes but words to each other.

While trader cultures that exchange everything tend to free morphemes (German vs. English, Aztec vs. Mayan).

Auxiliar to verbs show then the richness of understanding of time of languages, which can increase or decrease as 'animetal cultures' simplify linguistics – no longer the dominant language of power. For example the English present 'he walks' differentiated into 'he is walking'; which 'established limits to the action of eternal walking for a shorter present span; the past can recede in the memory from he wrote to he has written. The first will correspond to an « operand of existential algebra, as it is no longer changeable, while he has written is an < perhaps modifiable actions. Further differences richer in the past, as we are loosing our verbal language to audiovisual and digital mechanical forms might disappear. I.e. in French the simple past, Il marcha he walked remains but the perfect past, Il a marche, he has walked as in English today disappear. And so it does the perfect passive past that started the power of the written words, when the Pharaoh said 'It has been written', meaning, it is 'law', emanating from a higher 'neutral power, 'it', not the pharaoh's subjective will, gifted of that superior truth by the language; as then as now the 'medium is the message'. So today a visual truth carriers more power and people believe in it; as Goebbels' who put a radio in each home, today a tV, knew, the more so when it is repeated to form a discontinuous equal present both in space (all channels give us the same message) and in time (all news are always about the same memes the system was to emphasize): 'if you repeat a lie many times people will believe it'.

The past then as in existential algebra, is the first region where subtle differentiations of the humind cognition become reduced. But also the future as our species becomes more fundamentalist and deterministic *as it happened in that first age of language, where the written wor(l)d became sacred truths, so Asoka will start the written law in Indian cultures with 'Dharma' columns, this time with an ethic not an egocy pharaoh's view.*

As any language with time, past that age of fundamental determinism, it comes then a free age of entropic dissolution, which reigns today in all languages as history dives in the modern age of irrelevance of verbal thought (so we poll numbers in politics, we get audiovisual information and we construct computer models of reality, using statistics for social causal understanding, etc. etc.) So in all languages a decline of case endings to express the syntactic function of nouns and noun phrases (the subject being in nominative, the object in accusative, etc.) is now broken and expressed by sentence order and prepositions. Which lead us to the final two elements of morphology: adverbs prepositions which again establish the basic concepts of time and space, where an event happen in time, in which part of a whole happen in scale, 'above' in 5D height, or 'on the membrain' as part of the system, or 'inside the vital space' of the system.

They are again essential elements for qualifying verbal actions specially those who are not ST complex transitive connections between verb and the object acted upon. So we shall say 'he went into the house', 'he went outside' as all actions and names are part of larger $\Delta+1$ worlds in which they occupy a certain position-function that might change.

It is then clear with those simple examples, how much more profound is the understanding of change and time in verbal thought that in the reductionist, mechanical, digital view of physics and its single clocks.

We are as in all our 5D papers not going to be intensive, and taxonomic, trying to make a complete truth but just cast impressionistic brushes by force of time and space coming from a single @-mind point.

What matters most to us of linguistics in this paper on 'history in space and mind' is the relationship of linguistics with the collective subconscious mind of a civilizations.

And this is curiously enough done through 'variations' akin to that of other species, in the hierarchical order between the 3 'elements' akin to the 3 'physiological networks' of a species/sentence; the informative subject/network, the reproductive/active verb/blood network and the 'entropic object/network'. So to illustrate the case we shall compare the 3! Basic variations of species established by topological linguistics both with the world $\Delta+1$ and historic role of each culture that determined them, and compared them with the homologic 3! Differentiation that took place in earth animal species according to dominance of its physiological networks (from insects dominated by blood systems to mammals, dominant in informative ones).

We do so to illustrate the fact that languages as mirrors of ΔST reality have the same structure than ΔST . But also their variability is much easier. Consider indeed how the basic balanced Topologic structure, SVO, where the Human subject comes first, can be easily 'degraded' as it happens in animetal cultures to make the object more important in warrior cultures as German or Japanese or put the verb order first as in go(l)d cultures ruled by semite banker-priests. The first case only requires to transform an SVO into an OVS by transforming an active into a passive form. And then drop altogether the subject, which becomes a 'soldier that obeys' whose existence as a collateral damage is not even mentioned. He burnt the house; the house was burnt by him, the house was burnt. While the SVO becomes an imperative language, merely by dropping the subject and moving the verb to imperative form, 'you have to go' -> 'Go'... What all languages, including maths have as an advantage over reality, reason why they design and project the future is their capacity to evolve faster once a mind acquires a mirror image of reality. Then with the same -ælggebra of reality advances a chosen path, projects that future back on reality dragging it towards the future the language designed by mutating faster. Minds thus create the future.

Topologic linguistics. Species of human languages. Species differentiation by permutation of trinity parts.

How then the generator equation creates the different systems of reality?

There are several forms in which the Generator 'decouples' and splits in different 'varieties' of systems, which correspond to the processes of creation of different physical particles (quantum generation), biological species (Plan of evolution), and linguistic species (cultural differentiation).

Now the simplest, most obvious form in which to generate 'varieties' of any type is to apply the combinatory laws of mathematics to a system with 3 elements, the Inf<Act>Ene systems of reality.

The result are 6 fundamental combinations, which are common to all disciplines of science.

Indeed, if you have 3 elements, I, A, E (Information-action-energy), then you can combine them in the following orders: IAE, IEA, AIE, AEI, EIA, EAI

which give birth further to '6 varieties' of geometry in the 5th Dimensional Universe. And in Physics quantum particles form 6 essential systems of particles and antiparticles in its 'families' of mass and electrons and in Biology we find 6 types of basic animal forms, and so we shall find 6 basic varieties of languages, which are studied by Typological Linguistics, called the SVO, SOV, VOS, VSO, OSV and OVS varieties.

Now in this post on General Linguistic Systems, we are mostly interested in the way verbal typologies define cultural and mental behavior among human beings. Thus we shall study the way the order of languages recreates the human mind. To further understand this categories of cultural minds, we shall relate them and name them not only as linguists do (the previous SVO, etc.) but we shall introduce a far more 'descriptive' characterization proper of this researcher, based in the homologies that the General Systems Science imposes between parallel systems, by tagging and comparing the 6 varieties of mental linguistic order with the 6 varieties of 'animal forms'. Indeed, one of the fundamental tenants of GST (General Systems Theory) which other philosophies of science ignore is the 'homological nature' of all 'varieties' of the Universe as all of them

are fundamentally evolved systems that combine the 2 primary substances of the Universe, energy and information, whose properties are thus essential to all other systems.

So let us consider the 6 Universal varieties first, and then the 5 linguistic typologies that we shall call 'evolved, free flowing mammal and bird languages', 'chained, slave reptile and insect languages' and 'primitive, minimalist, bacteria and virus languages'.

Yes do not raise your eyebrows, with the usual egocentric beliefs of human beings as an entitled species who must be treated nicely, and never be understood as some special 'god-like' reality that does not obey the laws of science. This political and economical censorship that 'invents' the nature of man, without wanting to know truth as it is does not apply to this blog.

And if you finish this post without such prejudices, what i can tell you is that you will understand much better cultures and how and why they behave as they do.

To state first that there are many more aspects to the synchronic and diachronic analysis of Linguistic categories we shall do (itself a small part of the entire course of General Linguistic Systems, which applies many more laws of GST to explore the nature of the human mind and the parallelism between:

- Genetics/races of mankind and its 3 typologies, informative Mongolian races, energetic, white races and reproductive, exi, action black races.
- Memetics, Human cultures (cyclical, eusocial, mongolian cultures, individualistic, white cultures, and sensorial, black cultures)
- And linguistics, the theme of this paragraph, focused on *How the* generator equation creates linguistic entities. order, determine cultural character: Active/Passive/Imperative languages.

The 3 essential elements of the Universe are therefore reflected in all sentences, as all sentences narrate actions performed by men over objects:

Information (subject), verb=action; Object-Energy

It would be in the other language of 'numbers: X (subject) < operandi > Y (object).

What Chomsky missed is that the 3 elements must be separated to truly understand the rules of 'generative grammar' which are the same rules that generate any system of energy and information in the universe.

Since, as all in the universe human language is ternary, as anything follows the 'universal grammar' of the 'generatrix equation of all fractal systems of energy and information', which i discovered and formalized in systems sciences.

Now this is well-known to linguistics, creating a key concept of classification, called linguistic typology:

In linguistics, **word order typology** is the study of the order of the syntactic constituents of a language, and how different languages can employ different orders.

There are six theoretically possible basic word orders for the transitive sentence: Subject-verb-object; Subject-object-verb; Verb-subject-object; Verb-object-subject; Object-subject-verb; Object-verb-subject

These labels usually appear abbreviated as "SVO" and so forth, and may be called "typologies" of the languages to which they apply.

Now, what they tell us about mankind starts to be clear, when we analyze the abundance of those typologies among human cultures:

Topology: English equivalent	Proportion languages
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SOV: "She him loves." 45%, Latin, Turkish

SVO: "She loves him." 42% English, Mandarin, Russian

VSO: "Loves she him." 9% Hebrew, Irish, Zapotec

VOS: "Loves him she." 3% Malagasy, Baure

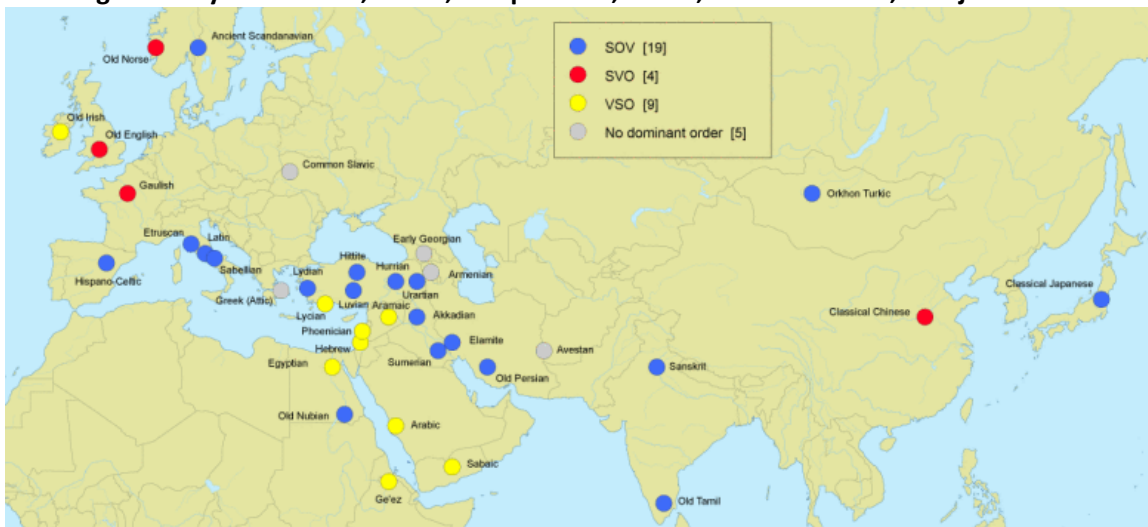
OVS: "Him loves she." 1% Warao

Humans, this proves are 'self-centered beings' for whom the Subject *must come always before the object*.

The dominance of Subject languages is overwhelming. In 87% of languages subject comes first. And among those the most successful (2/3rds of speakers) are SVO languages, for reasons we shall study now in depth.

Now this responds to the laws of the Universe, where the 2 natural forms of order are Information < Action > Energy or 'temporal flowing order' and Information x Energy = Action or Spatial fixed order. So this law of linguistics is in homology with the higher laws of general systems sciences, let us then study those 2 fundamental forms of human languages.

Homologic analysis. Active, SVO; Imperative, VSO; and Passive, Objectual SOV->OV languages.



In the graph, the Universal Grammar that constructs all Systems of the Universe, with its 3 elements, Information (subject) < Action (verb) > Energy (Object), defines also the Universal Grammar of all human languages.

So there are 3 fundamental orders of those 3 elements that define most languages of mankind:

- VSO languages (Imperative Order, Semitic, 'religious' languages) < SVO (Active order, balanced, African, Chinese/Romance languages) > SOV/OV (Passive Order, warrior, cold, objectual languages).

They are the origin of the 3 fundamental world views of mankind, the 'greedy', self-centered world view proper of the capitalist world; the balanced, humanist world sensorial world view, and the Warrior, Objectual, Industrial world view (Germanic, Japanese culture).

Thus the 'viewworld' of each human mind species is reflected in the languages, according to the hierarchical order of those 3 elements.

Animetal cultures dominated either by money or weapons are the unbalanced world views and word orders:

- Fundamentalist religions and those capitalist religions dominated by the 'blood/monetary language' and earlier civilizations, with lesser freedom and maximal metal-control, proper of the bronze age have kept, specially in its 'sacred texts', the VSO order. It is a hierarchical order with the Verb (action) on 'top/first place' of the sentence. They are 'imperative', action, 'greedy', materialist cultures, proper of Semitic languages

- Warrior cultures and objectual cold-hearted cultures in which the subject can even disappear as it does so often in Japanese, are SOV orders.

- While sensorial, humanist cultures; today the Chinese in the East, the Romance language in the west (and English influenced by French) and the African languages in its totality show the most proper SVO order often with 'Imperative' and 'Passive' voices for certain situations.

In the graph, the distribution of ancient languages according to its order: classic Semitic, 'religious' imperative languages are VSO languages, confronted to its 'inverse' SOV, warrior languages, as their cultures were. They represented the 2 extremes of the animetal, eternal dispute between 'cold warrior and 'greedy trader' societies. Among the classic languages only Chinese and Gaul, the 2 more 'life-oriented' societies of the Western and Eastern decoupling, even today, had the more evolved, flexible SVO 'mammal order'. While the 2 most sophisticated 'indo-european' languages, of higher evolution (due to its allopatric evolution in the 2 regions of original development of Indo-European languages, the Anatolian peninsula, from where it radiated during the Neolithic, and the Russian steppe, origin of the Chariot second radiation), Classic Greek and Russian, permit the maximal flexibility with multiple word order. So do today the Romance languages evolved from Latin

It is not by chance that in the East and West they represent the summit of human thought and search for human freedom and maximization of art, literature and r=evolution (French, Socialist aborted r=evolutions). While in the East China is the only culture in which man and the law still dominates though in a process of extinction, the power of weapons and money.

Some points to notice on the graph:

- Nations and cultures are ruled by 3 varieties of languages, warrior lineal languages, monetary cyclical languages, and vital organic, human verbal languages, which cater most to the evolution of weapons, money and machines, and human memes. So we can differentiate nations by their different dominance. I.e. Germany will be a fractal part of Europe dominant in war memes, Italy in life memes, and United Kingdom in trade memes. And then we can further divide United Kingdom in Scotland, war memes, England go(l)d memes and Wales, life memes.
- Cultures are influenced by geography, as mountainous and continental regions breed warriors, islands and sea-peninsulas trade memes, and tempered or isolated regions, life memes.
- Memes influence each other, so languages are also broken according to Tipological Linguistics (we call it topological in this blog as we explain in our treatise on linguistics), in warrior agglutinative, Objectual, VOS, OVS, lineal languages (German, Turkish), trader, broken, short word languages (English, Chinese), with balanced ternary human-first order of words: SVO... and Verbal dominant, wor(l)d religious languages, with VSO order... Linguistics of course is far more complex as we explain on our previous section on the wor(l)d, since often, in our corrupted world VSO languages become imperative, religious military inquisitions (semitic languages), and so vital languages with SVO order, must be also considered for human civilizations - that is languages, as most African ones, where there is a wealth of variations on the use of the verb to signify a human action. The map above show a clear grouping of those 3 type of languages in the classic age, but we shall keep it simple in those posts on fractal cultures.

The ages of cultures are expressed by the subconscious collective of art and literature in 3 ages akin to those of the individual, an age of epic, dramatic infantile art, and age of mature sensual art, and an age of angst, baroque, excessive formal art that ends in an entropic war and death of civilizations (regardless of other triggering effects, it is always war: I.E. the Mayan culture didn't die for weather changes, a stupid reason so well-greased today with the global warming propaganda for solar AI robots and nuclear clean energy, but because METAL-cultures invaded them, Toltecs razed them, and then they abandoned their systems of water 'zenotes' and irrigation).

The social evolution of Mankind – the age of religions.

The goal of history is the evolution of Mankind into a single superorganism made of human cells, according to the laws of the organic universe which creates those superorganisms, which politicians and economists could use to design and implement such 'immortal', efficient superorganism.

Islam and Christian mysticism (in Khaldun, Augustine) reached similar conclusions: the Koran is the sacred word of god, his ideas. In Christianity the word becomes god in the mind of his human son, Christ, the

prophet who has the body of man and the verb-mind of god. In him, the word reached its fulfillment. In him, the word love=sharing of human energy and information, expresses the human laws of social evolution. Christianity was socialist, because socialism is the natural law. Mystics say that the community of believers shapes the body of Christ and the gospel is his mind. Muslims say that the body of Muslims is Islam and Koran is his brain. In both cultures the verbal language has to control the corruption of money and the harm that weapons do to humans. If that goal is achieved, history could evolve towards immortality into a citadel of saints, where all ethical words will be obeyed (saint Augustine). Then history (the passing of time) will come to an end. History will become immortal without war, because those 'who believe in me, will not die forever'. As Mankind will form a single body of history and reign supreme over the body of mother Earth.

If we use instead of religion, a biological jargon, civilizations become organisms composed of cellular herds of human beings that communicate through information networks (words & gods). As a nervous system connects and organizes the cells of a body, god connects and organizes a mass of human beings. Perhaps our definition of a universal super-organism will help you to grasp what we mean by a historic god:

'A universal super-organism is a biological body of (any species of cells) extended in time and space, joined by networks of information=gods.'

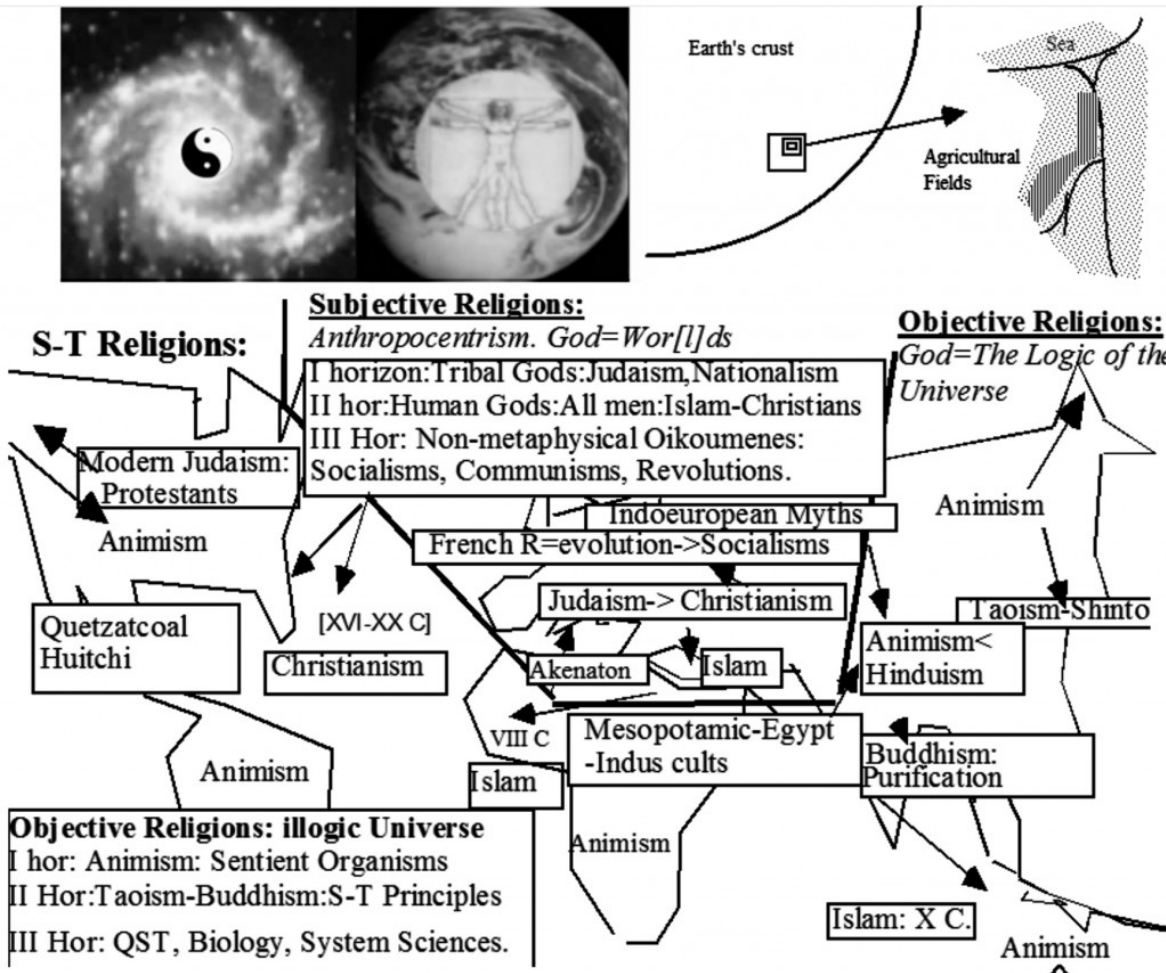
Thus, a relative god is the macrocosmic network of information of any super-organism, when perceived from the microcosmic point of view of his cells that the network of information controls. The brain of the human god is the *verbal network* of believers' minds, the books of revelation and the social laws that create human behavior. We create the future when we obey informative, verbal codes. Thus, god is the verb and its ethical codes of survival.

A parallel analysis of the earlier gods of man and its books of revelation, with r=evolutionary constitutions of 'solidarity, fraternity and equality' make more clear such parallelism of all religions, nations and civilizations, as super-organisms based in social love: both, a 'constitution' and a 'book of revelation', are a set of bio-ethical, natural laws that regulate the behavior of their human cells, '*constituting*' a social body and guiding its cyclical actions. So, a 'healthy' constitution is a set of laws properly built, according to the social laws of the universe and thoroughly obeyed by its citizens. While the '*constitution of history*', based in the natural laws of survival of the universe, is the set of laws that could build a global collective super-organism, which could ensure the survival of the human species, '*constituting*' a healthy body of history, harmonic with nature, without wars and fear of extinction. Those laws of survival and social evolution were expressed, before politicians wrote constitutions, in simple ethic books by masters of our natural, verbal, temporal language of survival, called prophets, which resumed them in a single word: social love. It means 'to share energy and information with similar cellular human beings', called believers, belonging to the same historic, social organism, with the objective of acting together in the environment, creating a world to the image and resemblance of its cells, human beings. So the natural law of social evolution is the mandate of all non-corrupted wor(l)d religions, whose prophets and priests tried to reproduce in the mind of their believers a *loving behavior*, in order to 'constitute' a super-organism of god. All religions share the same informative mandate proper of all cellular systems; 'love each other', 'treat the others as you wish to be treated'. We find that sentence in many religions. It was pronounced by Jesus in the gospel and by Confucius in his treatises. In any organism the brain/mind is a 'relative god' for all the micro cells it totally controls.

So the government is the god of a nation that controls its citizens; the brain is the god of your body cells; and the ethic laws of any religion are words of love that control for the common good the behavior of all its believers. The god of America is its constitution and corpus of laws; the god of Islam is the Koran and its laws; the god of Christians is the gospel, the laws and words of Christ 'that became god and inhabited within us' (John 1.1); the god of Jewish and most protestant sects are the mosaic laws; and the absolute god of the universe are the laws of organic science, the 3 ± 1 arrows of space-time that *define the survival and extinction of all its species*. Thus, in mystique terms the super-organisms of history are called gods. And theology is the science that explains the relationships between individual human cells and those super-organisms. Let us then, end this chapter with an analysis of all the religions of the past, present and future, according to their degree of corruption and/or evolution in their understanding of the organic laws of the universe.

Human and universal religions. God as mind of the supærganism of history and the universe

Earth divides in 6 cultural regions, related to anthropomorphic religions and its 3 historic horizons: Christianity, Islam and communist china; and to the 3 horizons of universal religions: animist Africa & native America; Hindi & Buddhist south-Asia and the mechanist, scientific culture that today preys on all the others.



In the graph, objective, universal religions consider the duality of energy=yang and information=yin, as the mind/god of all the super-organisms of the universe, which they try to explain, putting man in relationship with the absolute. Thus, they can be considered a verbal science of the universe. Subjective, anthropomorphic religions, on the other hand, consider Mankind, the subconscious collective, the

mind of god, Gaia, planet Earth, a smaller 'universe'. The confusion of both 'collective minds', the small god/mind of the Earth of man and the big god/mind of the universe, explains why scientists misunderstand the role of religions that teach the organic laws of social evolution to Mankind only. They are not concerned with the application to the rest of systems of energy and information of the universe.

The Neolithic was the age of the super-organisms of history, which will be continued in present times by the creation of religious super-organisms. In that regard, the science of theology divides the wor(l)ds of religions in 2 kinds: western, anthropomorphic religions and universal, eastern religions. Both are organic systems of information that evolve, as all systems of the universe do, following the arrow of future information, in 3±1 ages of growing complexity. So for both type of religions, social religions and natural religions, we consider 3 horizons of growth:

The 3±1 ages of Eastern, Universal, Natural Religions.

Eastern, cyclical, temporal cultures, more sophisticated in their perception of the Cosmos, developed *Objective, Scientific, Universal* religions, concerned with the organic laws or 'mind' of the living Universe. They evolved in 3±1 ages:

— *Youth: Animism*, the youth of verbal knowledge about the living Universe, which considered that all the systems of the Universe had a 'soul', mind or 'knot' of information, as humans do. Yet all speak a 'different' language. In modern terms, an animist would say that atoms gauge information in gravitational and electro-

chemical languages; molecules use Van der Waals forces, plants and ants communicate with chemical signals and bees with magnetic flows. *So all of them are intelligent.* And the goal of the Shaman or priest was to translate and communicate with all those souls and finally with the 'absolute soul' of the cosmos, the mind of Gaia and/or the Universe. Animism was the dominant Religion of the Paleolithic, or energetic Youth of mankind. Today there are still Animist cults in Africa, Australia, Siberia and Native America.

— *Maturity: Taoism, Buddhism, Greek philosophy. In the Neolithic and during the ethic r=evolution against money and weapons that took place in the VI BC.,* verbal science reached its classic age with the understanding of the duality of energy and information, the 2 substances of the Universe (called Shiva=Yang and Vishnu=Yin in eastern philosophies, body and mind in Greek thought) that combine 'to reproduce the 10.000 beings of existence' (Tao te king). Mankind is described by Taoists as a wave, part of a collective organism, whose structures and relationships are common to all systems of the Universe. Both, Aristotle and Buddha described accurately the Atmans/souls of the Universe as unmoved, focused informative knots that move the bodies of energy that surround them.

The Hindi described the cycles of creation of the cosmos and the Mayans calculated with surprising accuracy the duration of the cycles of History that now come to its climax, as Machines evolve in the age of the Singularity, crossing a threshold of energy and information that can extinguish life. Time was considered cyclical: Hesiod in Greece and Confucius in China realized that actually mankind was devolving not evolving in the age of Metals.

Hesiod stated that the Iron Age in which he lived was the lowest of all times of History. Aristotle described Time as change and clearly defined the 2 forms of change=time in the Universe, *biological, morphological change that causes the cycles of life and death of all species and matters most to us, human, biological beings; and translational, physical change, studied by Physics, far less important, as it deals with properties of matter.* Thus, there were infinite times in the Universe, one for each cycle of change of each species. We conclude that the classic age of verbal science knew, paraphrasing Einstein, 'the thoughts of God, even if it didn't care much about the details', which today scientists study with so much enthusiasm, as those organic thoughts are lost.

— *Informative, 3rd age:* The study of 'morphological Time' and the cycles of life and death of all the systems of the Universe are today studied by Biological Sciences, System Sciences and Organicism, which use both, the verbal language (Theory of Evolution), the most sophisticated models of mathematics (Fractal Theory) and the visual language, (Non-Euclidean Topologies) to further advance the knowledge of that classic age, with the wealth of details discovered by scientific instruments.

The 3±1 ages of Western, Social, Wor(l)d Religions.

We distinguish also 3 horizons of evolution of love religions, based in the bioethics of social evolution:

— *Youth. Age of tribal, racial gods* in which only a part of history=humanity is God. At the beginning of history, in an age of limited information, humans created tribal religions and small bodies of History. God meant the collective subconscious of a tribal nation, since reality reached no farther than the tribe and the enemy territory. And so men could call 'God' the collective mind of the tribe and 'evil', (in Chomskian, genetic linguistics, the inversion of 'Live', hence synonymous of death) the enemy tribes that killed them. So each tribe had a God: Yahweh became the God of the Jewish people; Assur became the collective subconscious of the Assyrians, whose capital and kings had also Assur's name. It was an age dominated by Go(l)d and Bronze & iron weapons that devolved the Mature age of history, back to a 'dramatic, neo-Paleolithic level' of perception of history, based in myths and self-arrogant statements about the importance of one's own tribe as the center of the World. The error of tribal religions is their denial of the natural laws of Darwin: species survive when they love each other and act together against the rest of the Universe.

So tribal religions plunged humanity in eternal cycles of war and self-destruction, when tribes expanded their borders and confronted other tribal religions. In that sense, those earlier racial, primitive religions divide men in not Chosen and Chosen of God (the members of the tribe), denying the Law of the Species. As a consequence, the Universe applied the penalty reserved to those species that break its laws of harmony and

evolution: extinction. Thus, most tribal religions have become extinguished or have evolved into Religions that accept all Mankind as members of the collective organism of God=History. The few that survive are not really religions but nationalisms that fight with weapons and gold and have substituted their verbal ethics for the values of violence and greed proper of iron and money. The paradigms of those go(l)d religions are Judaism with his 'worldly religion of money' (Marx), which can be traced to the idolatry of the Golden calf and self-similar Protestant religions that consider 'money the intelligence of Go(l)d' (Calvin); while the paradigms of 'military inquisitions' are Aryan and Fascist cults of war, today transformed into nationalisms. Unfortunately, *mechanism and capitalism, the religions of machines and money, increased enormously the power of tribes that adopted the languages of metal. So today most humans belong to a tribal, 'nationalistic' cult(ures) that fight with weapons and money to become 'number one' of the economic ecosystem.* Yet before money and weapons reinforced those tribal cults, converting them into corrupted religions, either Go(l)d churches or violent inquisitions, most humans evolved into:

— *Maturity. The age of Oikoumene religions: Christianity and Islam in which all men are cells of the body of God, the Organism of History.*

Communication among tribes increased the knowledge of the unity of humanity. So tribes grew into confederations that evolved into bigger organisms. Thus, Ecumenical Religions, with a global concept of God as the collective subconscious of the Human species, came into being, reaching their summit with Christianity and Islam. While most tribal religions, smaller organisms of history, were absorbed by ecumenical cults, dwindling its numbers or they became extinct in religious wars by the 'bigger organism'. For example, a Jewish Verbal, Ethic Prophet, Jesus, who understood the laws of social love, reformed Judaism, the paradigmatic religion of the tribal age; and most Jewish people converted to the new religion, while those who didn't, confront from then on the 'Holocaust' cycles of Genocide brought about by bigger Warrior cults that extinguish them, since the Roman Diaspora to the Nazi Era. Christianity was in that sense, the moral r=evolution, which erased most tribal religions. While in the East, Buddhism evolved Hindi, warrior castes into an Oikoumene cult that merged elements of Anthropomorphic and Objective Religions. Finally, in the West, as Christianity broke into tribal wars, corrupted by Germanic warriors, a new Oikoumene religion, Islam, appears, as Muhammad put it, to convert to the God of Love and Mankind, hardcore metal-masters. Thus Islam imposed harsher penalties to 'sinners', who broke the code of Love and despised the Sacred ethics of the Wor(l)d, forbidding images and setting strict rituals of social and religious behavior (the 5 pillars of faith). And perhaps because of that harshness, it is still today alive and kicking, having rejected mechanist science, as the less corrupted version of Christianity (Catholicism) did till recent times.

In that regard, there is an inverse relationship between the 'Evolution' of a Wor(l)d religion of History and the Evolution of its economic ecosystem, according to the inversion of ethics between the values of 'metal' that make an Economy flourish (war and greed) and those values of the wor(l)d that make life, love and Nature flourish:

Min. Wor(l)d evolution = Max. Metal. Evolution.

As Picasso put it, watching the Nazis entering Paris: 'Sabater, those Germans, so many tanks and machines what for? We paint (Max. Human Information), love (max. Human reproduction) and eat (max. Human energy), much better'. Since, prophets are the ultimate masters of the Wor(l)d, the language of perception of biological time and its life and death cycles in history. While artists are the masters of the human Eye, our perception of spatial forms, which the clock and the telescope of mechanist science have substituted.

— *Informative age. The age of Social Religions, when the organic understanding of mankind is used to describe the fight of 'Deus Vs Machine':*

In its 3rd, informative age, the French Revolution and the Socialist Movement applied those ethic Laws of religions through the use of Constitutional Laws to the real creation of a collective human Super-Organism of History, able to control the Economic ecosystem and its 'germs', weapons and lethal machines. However old tribal cults and nationalisms opposed the coming together of mankind, competing military and economically, while destroying all social r=evolutions from outside or inside (Military Stalinism). The ideals of social

evolution would be re-established after II World War, inspiring International Organizations, such as EU and UNO, which tried to create a collective human super-organism, based in the production of life-enhancing 'human goods', able to shape the Earth to the image and likeness of man. Those organizations could be the blue print for a future Global Government of Mankind that truly transcends into the 3rd evolutionary horizon of a World super-organism.

If mankind achieves that goal she will succeed on her struggle for survival and become a global super-organism, the consciousness of the Earth, ruling through her simultaneous, collective actions, the machines and living beings of this planet to her own benefit. Thus, socialist doctrines were the 1st attempt to create a real science of history and a caste of bio-historians, politicians of the party or 'head' of the organism of history that rule a world made to the image and likeness of man. This attempt to create a perfect society had 2 essays, one in Russia, today extinct; and a second one in China. The Chinese late contact with metal explains also its higher evolution as a culture of human wor(l)ds, based in the arrow of social evolution and makes the Chinese World still controlled by legal words, despite its capitalist growth, is perhaps the last society able to balance the Historic and Economic Ecosystem during the IV Kondratieff cycle.

The Universe is entangled, organic and scalar. So we can go further in time to inscribe humanity in the evolution of the Earth, the larger superorganism with slower time cycles, or go lower in time to the human being, and its memes, the genes of societies, its instruments and ideas that code the creation of the 2 superorganisms of this planet mediated by man, History and the Financial-Media/Military-industrial eco(nomic)systems of humans machines and humans, dominated by its company-mothers.



MANKIND IN TIME. THE 3±1 AGES OF HISTORY.

Mankind evolved in time through 3±1 ages:

+1: Birth as a first verbal cell' a woman that multiplies her numbers.

Max Te: Youth: Paleolithic, a youth of hunters, visual languages and minimal information.

Te=Si: Maturity: the reproductive Neolithic, when man reaches his maturity in balance with nature and creates through verbal networks (religions) a series of collective subconscious, called gods of love that teach each cell to share energy and information with the other cells of the body of a civilization. Yet the arrival of metal extinguishes or corrupts most love cultures into go(l)d cults and inquisitions.

-Max. I: 3rd, informative, metal-age in which man halts his social evolution and focuses in the evolution of metal in its 3 forms, energetic metal or weapons, informative metal or money and organic metal-machines, which cause the corruption of the physiological networks of mankind, by the apparition of new people-castes which used the superior entropic energy of metal to murder people with weapons and come on top and the informative hypnotic power of gold and precious metal to enslave the will of people; till in the modern age metal evolved further into informative and energetic machines and weapons able to program simultaneously through mass-media systems and imprinted mankind with idol-ogies in favor of weapons (nationalisms), parasitic money as debt/tax issued by a small people-caste, in control of our natural informative nervous system, the law (Capitalism) and a cult to machines over organisms as the model of the Universe.

-1: Death: the neo-Paleolithic, or age of the machine, when humans regress to an 'homo bacteria' state of selfishness and isolation, substituting their social networks of love by their desire to become attached to machines of higher energy and information that separate us and keep evolving, making Humanity an increasingly obsolete species, killed by weapons in fields of war. At the end of this age, we can foresee with the creation of the singularity, either the 1st organic 'bomb' (a self-feeding bomb of dark matter) or the 1st self-reproductive machine (a nano-bacteria), the death of Mankind.

+1: Unless Mankind evolves socially, 'emerging' as a super-organism, if humans organize themselves into a global civilization and control the evolution of lethal machines, maintaining history in an immortal present.

The human species is, beyond our arrogant, fantasies of anthropomorphic superiority, just a living form made of carbon atoms, *which goes through the same ages of all other living forms, both as an individual and a species*. So we can study the organism of history (Humanity in time) through 3±1 ages; an energetic youth or Paleolithic; a mature age of balance with nature, the Neolithic; and a 3rd informative age of history, the age of metal and machines.

Energetic youth: Paleolithic. ±5.000.000 bc. to ±10.000 bc.

The Paleolithic was an energetic, young age in which men, the energetic gender, was the top predator animal on Earth, a hunter of living forms. It was also an age dominated by *visual, spatial languages*.

Reproductive age: Neolithic. Age of wor(l)ds and goddesses. ±10.000 to ±3.000 bc.

The Neolithic was the classic age of Mankind, an age of balance, when wo=men learnt the cycles of life and instead of destroying nature, learnt to nurture, reproduce and harvest it. Women, the reproductive species, took power over men; and priests became the verbal guides of civilizations, creating super-organisms of history made of human cells joined by social love—the sharing of energy and information among 'brothers', clones of the loving mind of the same prophet. It was an age dominated by *verbal, temporal languages*, continued by the believers in religions of love that are not corrupted by weapons (inquisitions) and money (go(l)d churches), with its idolatry to the 'values' of metal: murder and greed.

Informative, 3rd age: age of metals. ± 3000 bc to 1600.as metal spread the 'new' values of money and weapons, greed and war, destroyed the networks of social love, ushering Mankind into the 3rd age of history. Humans now evolve a new kind of atomic systems, stronger than carbon, creating energetic weapons, informative money and organic machines that transform Gaia into an economic ecosystem. It is the

'animetal=animal+metal age', in which a new 'biological species' that mixes animal and metal atoms, imposes power over the Earth.

It is the present age with 2 paths of future:

Either Mankind will die, as machines keep evolving and make us obsolete as a species.

Or humans will obey the laws of survival of the universe and evolve socially into a super-organism of history able to control lethal machines. The choice is within man till the arrival of the singularity, when machines acquire organic properties and either a self-feeding bomb of dark matter, or a self-reproductive nano-bacteria 'evolve' the Earth into a species with a higher social density (a denser form of matter, or an organism made of denser atoms). In any case the future of history will be solved in the next decades, as we are already in that age of the singularity.

Indeed, as things go business as usual, history is becoming a block of time, which is what all superorganisms are: predictable systems that live through 3 ages of growing information that finally warp and wrinkle the system, exhausting its vital energy, dying by viral infection of a new species that predates them. That is the case of Mankind as a block of time because it has been unable to control the evolution of lethal goods and promote the welfare goods that could help it to survive. The blog thus will study history as it is, within the nested planet Earth, part of the organic universe, falsifying the theories of Ænthropic man and giving the solutions of an I-nformed man that would survive and make history immortal. A bio historian though is just a seed of information, if the social organism in which he lives is so primitive and ego-centered that the patient denies even a scientific prognosis of his sickness, let alone a healthy wealthy cure, as my fellow countryman, Mr. Seneca put it: 'when a social organism is so corrupted that defies any reform, the philosopher of science can only observe and wait for extinction':

The Paleolithic: 3±1 homo ages/subspecies.

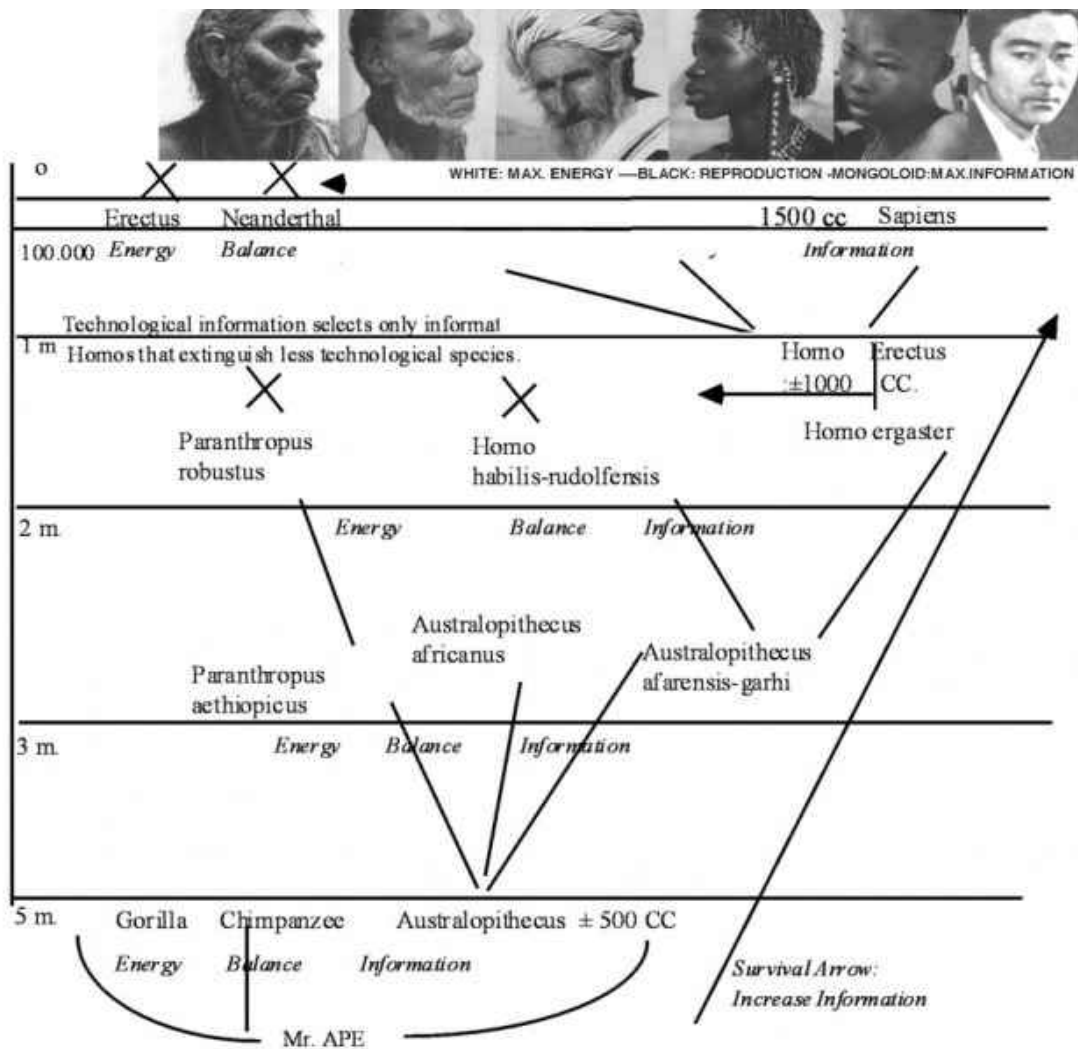
In the next graph, life first diversified into complementary genders: energetic, lineal, spatial men and cyclical, reproductive women, which hold more biological information. While a 3rd, gay sex mixes both. Further on, as humans evolved, they followed the same pattern of 3 ages proper of all species.

Thus, Homos diversified into energetic, informative and reproductive forms that show a higher balance between energy and information. Yet only the informative species, the dominant 'arrow' of future survives in each of the 3±1 horizons of increasing informative evolution, from Australopithecus with 500 c.c., into Homo Erectus with 1000 c.c. into Homo Sapiens with 1500 c.c. And in all those phases, humans split into an energetic species and an informative one that recombined to create a 3rd species.

Those species will further evolve technology also in 3 horizons called the upper, middle and lower Paleolithic. Finally, humans diversified in 3 races, specialized in Energy (white race) and information (Mongoloid) with a reproductive, black race, the last to be born, which mixes the pre-mongoloid (bushman) and white races. The constrain established by the fact there are only two elements, energy and information, to create reality, whose lineal and cyclical forms are invariant at scale, in all systems of the cosmos means the Universe imposes the same program of creation to all its species:

Humans evolve, as all systems of Energy and Information do, in subspecies specialized in those 2 elements.

In human evolution a pattern emerges: each successful, dominant Homo differentiates into an energetic and informative species, which recombine, creating more complex= informative and stronger=energetic homos that displace their parental forms, thanks to their higher Energy x Information. Yet the dominant, overall arrow favors informative species. Since when Homos were born, the energy top predators were felines, far stronger than the strongest possible homo mutation. So the evolutionary direction in which the big apes could find an ecological niche within the mammal kingdom was the informative arrow. They were already fit to that purpose, since they spent long times living in stillness in the summit of trees, where they had to learn to control complex movement in the informative dimension of height, adding a 3rd dimension to their brain. So they became informative masters among mammal species.



Thus, the duality between energy and information is also responsible for the creation of humanity. In the graph we study that process. From an initial ape species we find a ternary differentiation ± 5 million years ago, into 3 sub-species of great apes that live in Africa:

- Max. E: Gorilla, a big, energetic species that reaches 200 kilos, with a square, huge jaw.
- E=i: The chimpanzee, with a smaller body and a bigger brain. According to the Black Hole law, the smallest organism evolves informatively. Thus, the 'dwarf chimpanzee', the *Pan Paniscus*, which today shows the highest learning skills among apes, was the species that seems to have evolved into a 3rd informative horizon of big apes. It is:
- Max. i: Australopithecus, which splits in 3 evolutionary ages of growing brain volume:

1 Horizon: 500 cc.: From Australopithecus to Homo Erectus.

We have dated the oldest mandibles of Australopithecus Anamensis, the top predator of the 3 big ape species, in 4 million years. The Australopithecus, after reproducing massively in the savannah ecosystem that favors his bipedalism, suffers a new ternary mutation. The 3 descendants of that Australopithecus Afarensis that inhabited the Ethiopian plains around 3 million years ago, are:

- Max. E: The Paranthropus, an energetic species with huge mandibles and a lineal, planar brain. He looks like a heavy-set, humanoid gorilla. He was probably vegetarian. The first subspecies found is the Paranthropus Aethiopicus, which will further evolve into the stronger Paranthropus Robustus.
- E=i. The Australopithecus Africanus, which maintains the form of the original Australopithecus Afarensis, perhaps with inner improvements in his soft tissue. He lives in South Africa and is contemporary of the Paranthropus. And the . . .
- Max. i: Australopithecus Garthi. He is the informative species, with a bigger brain, which starts to acquire the shape of all informative species: a rounded forehead, *as the sphere is the form which holds more information in lesser spatial information.*

Those 3 species live very close. Around the Turkana Lake we have found remains of the 3 Homos. Yet the arrow of future favors informative species. So the top predator Homo will be the Australopithecus Garthi that goes through a mature age of massive reproduction, probably extinguishing the other 2 subspecies and expanding worldwide into new ecological niches that favoured their genetic and memetic adaptation through a new, ternary split:

- Max. E: A regressing, energetic A. Garthi, similar but taller than its parental Australopithecus.
- E=i: Homos Habilis and Rudolfensis, with similar brain capacity to the original Garthi.
- Max. i. Homo Ergaster, an informative ape with a 1000 cc. brain, which doubles the brain capacity of Australopithecus.

II Horizon: 1000 cc. From Homo Erectus to Homo Sapiens..

That Homo Ergaster, after a massive age of reproduction and expansion throughout the planet, subdivides again in 3 sub-races of Homo Erectus.

- Max.E: Pithecanthropus, the oldest species similar to Homo Ergaster, found in Java.
- E=i: Homo Erectus proper, found in China, who grows in the informative dimension of height that *favors perception from an advantage point of view*, to 1.7 m. He has simple technology, a skull without forehead and thick bones that handicap further cranial evolution.
- Max. Ti: Homo Floresiensis, the smallish species, which according to the Black hole paradox should be the form who gave origin to Sapiens, as the smallish 'pan paniscus' evolved the chimp into the Homos. Recently discovered, he is a formal mutation with a smaller body, whose morphology resembles for the first time that of a human being. He has thinner bones that allow further growth and a higher forehead, the location of the creative part of the brain. Palaeontologists also found the first advanced technological tools in his sites in Flores Island, which is an isolated place, the ideal region to foster further evolution, due to the lack of top predators (alopatric evolution).

Thus, he adds now technological energy weapons that substitute body strength and define a single arrow of future for human evolution: information. His improvement in neurological form, probably caused first his rapid expansion thanks to his new technological tools and then a rapid growth in size through the cross-breeding with the taller Homo Erectus species, giving finally birth around 300.000 B.C., to a new energy/information duality: The energetic, big Neanderthal and the informative Bushman, which will combine again to give birth to the different races. Those predictions based in the 3 arrows of future time and the black hole paradox (information is small and evolves in dwarf species) have been confirmed by genetic maps and Paleontology and await final confirmation, when new skulls of Floresiensis are found.

The 3rd, informative Horizon: Homo Sapiens, 1500 cc.

- The lineal, energetic, visual Homo Sapiens Neanderthal, with ± 1500 cc.
 - A 2nd informative pygmy strain, the 1st verbal woman, mitochondrial eve, a bushman, also with ± 1500 cc.
- ± 50.000 years ago she crossed into the Middle East, probably mating with earlier Neanderthals, giving origin to the visual, energetic white male (Homo Palestiniensis, whose skulls show mixed traits from both species).
- ± 35.000 y. ago, in the high Tibetan plains, she became the informative Mongoloid that colonized Asia, America and descended upon Europe and Africa, where she cross-bred with the capoid (bushman) and became the black man, the balanced E=i, reproductive race, completing the final, ternary differentiation of the main races of mankind.

Further on, as racial tribes evolved socially and emerged into cultural societies, which are super-organisms of history, the ternary, racial division of mankind between energetic white men, informative Mongoloid and vitalist blacks, will become the cultural differentiation of human beings in:

— 'Visual, energetic, lineal, spatial cultures', proper of the white man, with his concepts of lineal time and his passion for technological, energetic weapons.

-Cyclic, informative, mongoloid Asian cultures', with cyclical concepts of temporal energy.

- 'Sensory, reproductive, colored cultures', which in Africa and India developed human senses to their limits.

Racial cultures. The "Neanderthal", White Animetal

Which culture is better for the survival of mankind? Since survival is the goal of all species, reached in the age of balance, E=i, we should promote, paradoxically, the culture that our technological civilization discriminates: the black, reproductive, sensory culture . . .

Thus, the Laws of Evolution and its 3 ± 1 ages and subspecies, map out the main species of Homo, till arriving to 2 Homo Sapiens, the spatial, visual=longer, dolicocephalic, energetic brain of the Neanderthal, which seems to have lived in Europe and left some of his traits in the Homo Palestiniensis, on the slow-crossing border of Canaan. Further cross-breeding of the Palestiniensis with the Sapiens is the likely origin of white men (white skin, red hair, Rh-?, consonantal languages, wide hips, prominent nose)

While the informative Homo Sapiens Sapiens, the verbal=wider brachicephalic brain, which started as a small 'San pygmy', evolved into the self-similar mongoloid race. Finally, the black race, with tall brains are the sensorial culture, the reproductive species, the last one to appear, shows the maximal genetic mixture.

In the same manner, we talk also of gender duality in terms of an energetic species, the lineal male of big muscles, spatial size and visual brain; and the woman, the informative, reproductive species, who would understand the cycles of birth of plants and evolve mankind from the energetic, hunting Paleolithic into the Neolithic, the mature age of History, with its understanding of the arrow of reproduction of the Universe (cult to the goddesses) and its harmonic cults to Nature.

The Neanderthal Sapiens though had a literalist verbal mind, because their eyes completely dominated and so space not time matter, the obvious not the logic and complex, the emotion and immediate desire of the eye, not the social love created by verbal interaction. Today again this 20 year old thesis of my work in complexity has been validated - the Neanderthal had much bigger eyes than us.

They were materialistic, anthropomorphic, self-centered people whose Gods were no longer the organic principles of the Universe, but 'human figures' made of fetish metal.

Anthropomorphism indeed is an essential feature of the Germanic-Jewish cultures since they feel Goths, or sons of God, entitled to rule over all other humans and animal forms of Nature.

At the same time, myth and idealism is natural to both cultures to sustain those dreams. So action and ritual is confused with being. From the rituals of gold ex-votes to Aryan fire rituals to modern Heidegger's Dasein concept ('Being and time') to evilwood fantasies and actors, those who enact a metaphor of reality believe they become that reality.

'Wiesen, Veda' meant to become God by representing a ritual of God's creation. The Levi priest that sacrificed the son of his other '11 slave tribes' that brought him gold ex-votes to the temple was becoming Yvwh in those self-pumping ego rituals. So did the Aryan priest. Idealism was born, and it is still the main feature of their intellectual, detached cultures, with its prizes and experts that know nothing but enact their beliefs as if they were truth, with Nobel Prizes, Holocaust remembrances, Oscars and Marketing of their very low quality mind products as fruits of their genius and 'ingenuity' (-;

They couldn't understand the memes of eusocial love. They were called evil=anti-life by the fertility priests of Goddesses, who they named 'the abomination' (Hebrew Bible). They couldn't understand the organic Universe. Their Gods were Thor, a sword in which they impaled children of their enemies, or Baal, a gold statute, to whom they sacrificed their own children in 'Hecatombs'. They believed in ritualistic religions and sado-masochistic actions that repressed systematically their life wantings; and in purity and separation from the inferior castes that enjoyed life (Hindi religions, Jewish dietary laws).

They maimed their human nature (prohibition laws against eusocial love/segregationism, good food also with dietary segregationism, sex=human reproduction and verbal thought - despised by mathematical Kabalas and mathematical wars) to harden their spirit and brutalize mankind, In this manner they started the death of Gaia that now their descendants, bankers and military people worshipping money and weapons and oppressed the democratic, love-based human cultures they controlled.

But once and again we shall find the fundamental antiscientific trait of their illogic, emotional mind: to deny causality, inverting it, in this case 'jewish victimism' is based in the concept that mankind segregates them and it is racist against them; when judaism is the essential segregationist culture, and of course, once they segregate and price mankind to whom they only relate through money, in the past through slavery now part-time salary slavery and always through debt money, Mankind acts-reacts in the same fashion. As we observed already in classic economists, where Mr. Friedman affirms that data does not matter and assumptions are the origin of economics, to whom Samuelson rightly replied that with such procedures assumptions and conclusions cannot be differentiated and their order can be juggled at will.

In any case we shall not talk of the Germans as much as we talk of the Jewish because we know them. This is not so much censored in scholar history and mass-media. We keep talking of the censored part of the Financial-Media/Military-industrial system, the FINANCIAL-MEDIA, the head of the metal-earth, the informative machines and those who own them. And because the body, the military-industrial complex, ultimately obeys the head, the financial-media system, which is truly the responsible element of the system.

That is why after 3000 years of a combined Jewish-Germanic civilization most people are called Joseph and John and Mary, not Brunewilda. And that is why we worship Yahweh, not Thor. And we see evilwood films not UFA films. And we mourn the victims of the Financial-Media master race, not those of the German military-industrial complex (as both had around 5 million innocent scapegoats of the elites dying in the war, mostly women and children... some gassed in small rooms some in the open air as ball of fire broke in German cities from Hamburg to Dresden during our carpet bombings. Only the fact that victors write history and the international banker won over the German military explains why some murderers are victims.

But both are the same and for most times of history they worked together to annihilate the real victim, mankind and its civilizations of life goods and eusocial love.

What is happening today, after they have destroyed the American superorganism based in the equality and human rights of its founding enlightened fathers is just a global bid of the German-Jewish American sub civilization to annihilate mankind terraforming this planet in a robotic nightmare of vigilante drones and white collar pcs and blue collar robots with humans taxed to death.

And what has changed also is that due to the complexity and overdrive of negative information and the occultation of their history with all kind of censorships it is the fact that they have rewritten the subconscious collective to make us believe they are righteous, hard working people, experts that will guide mankind to paradise. So Germany is the most admired country in the world and the Jewish are the victims of history...

Races in complex science: the 3 types of minds: Emotional, visual and verbal brains.

The previous graph shows the sciences of systems/complexity/duality, applied to the evolution of man.

The basic tenant of those science is that the Universe is a game of complementary systems of energy and information in all its scales (fields of energy and particles of information in physics - complementarity principle of quantum theory), bodies of energy and minds of information in biology, energetic and informative machines that enhance our equivalent organs in economics and so on.

When we apply this new discoveries of system sciences to the study of evolution it *restricts enormously the possible future forms of biological evolution, and since energy has a lineal/planar morphology (fastest distance and highest surface between two spatial points) and information a cyclical/spherical morphology (the sphere is the form that stores more information in lesser space)*, it has an enormous power to resolve the pending questions of the process of biological evolution this planet constantly suffers. In the graph, we consider its

application to the evolution of humanity, as I explained in the conferences on biology and duality at the International Systems Society.

In essence in a Universe of two substances, bodies of energy that move heads of information evolution will try to maximize those parameters. So we can easily introduce a definition for a top predator species: Max. $E \times I$, which mathematically maximizes when $e=i$ (so $5 \times 5 > 9 \times 1$). This means evolution and survival favors 3 type of species, those with maximal information/better heads, those with maximal energy/better bodies, and those balanced between both parameters. And this very simple scheme allows to classify and explain the whys of the evolutionary, fractal tree of life, which genetics and survival Darwinism explain in the hows. Thus Complexity in all its branches is poised to become the '3rd leg' of biology in this century.

In essence species evolve in a dual, complementary Universe of systems of entropy and information, mixed in energetic/body power, their informative/head power or the networks that reproduce and combine both systems, exi, the reproductive networks. We talk of 3 dominant wills or biological drives that increase the survival chances of a system.

For that reason there are genders (where the male is the energetic species, and the female the reproductive, informative one). And since energy is lineal (being the line the fastest distance between two points) and information is cyclical (being the sphere the form that stores more information in lesser space), it follows that men have big, lineal, spatial bodies and test better in geometrical analysis and women have cyclical, smaller, rounded forms and test better in verbal, informative tasks. Yet there is always a 3rd mixed variation, in the case of gender, the gay sex.

Those findings, which I exposed in my papers on topological evolution within the scientific community of systems and complex scientists, can be applied also to the will and drives of the mind. There are people who psychologists define as picnic, nervous, tall (height is the dimension of information); the are athletic, sanguineous people, dominant by their energetic will; and there are viscerotonic people, driven by their 'lower passions' (-;

We can use, as we have done in studies of evolution of all type of species, the existence of a constant diversification in 3 different species to analyze as we do in the previous graph, the evolution of mankind from the initial triad of apes, the energetic gorilla, the reproductive chimp and the informative Australopithecus, till the last differentiation of homos, between the energetic, visual Neanderthal mind, today dominant in the white man, and the smaller, informative, verbal, homo sapiens, today dominant in the informative mongoloid, with the reproductive, emotional black race in the middle.

Then, once evolution produces 3 types, it combines them, and so as the tree becomes more complex, yet always reduced to those combinations, natural selection will 'prune' the tree of life of its less efficient species. In this manner the reader can see all the main homo species from the ape to man, and how they perfectly fit in the morphological triad of alopatric diversifications known in the fossil register.

If we jump that phase we come to the last ternary group of surviving homos, the Neanderthal, sapiens and its combination the homo sapiens palestiniensis which properly should be known as homo sapiens neanderthaliensis. Its existence forecasted 2 decades ago in my first Spanish books on duality has now be proved by the genetic record. 10% of genes differentiate homo and Neanderthal and 4% of those are Neanderthal, so the white man is essentially a mixed species.



The only meaningful division of races are according to the ternary axis=dimensions of the mind that between the 3 dominant languages of visual, white races and cultures with higher Neanderthal input, mongoloid, verbal cultures and black cultures with dominant motor-emotional axis. In a perfect world the 3 would be complementary as they enhance one of the 3 'perceptive languages' of existence. In a racist animetal world, the visual, metal-hypnotic values of greed and violence brought about by white fetish

cultures of gold and the sword carried the day, paradoxically starting the degradation of life and history, in perpetual world and slavery to the selfish values of memes of metal.

The existence of 3 dominant human races today, the white, yellow and black people, cannot be argued, but they must be interpreted as 3 types of complementary intelligence, based in our recent discoveries on the science of Complexity, which always favors a ternary process of creation, with an energetic, informative and reproductive 'decoupling' along the 3 morphological dimensions or "axis" of any space-time form. In the case of the brain, there are 3 axis, the long visual axis, the tall emotional axis and the wide, verbal axis, and so we talk of 3 mental races:

- Dolichocephalic brain, which overdeveloped visual axis, from the eye to the occipital. It is the white man.
- Brachiocephalic brain with an overdeveloped verbal axis from ear to ear. It is the mongoloid race.
- Psychocephalic, tall brain, with overdeveloped emotional axis, from neck to top of the head. It is the black race.

We talk in ΔST of 3 types of minds/heads, which emphasize 3 kind of wills in humans:

- Max. Entropy-motion: Visual, spatial, violent minds; dominant in visual information. This is the case of the child and the 'male' species, of the white race and in the earlier anthropological record, the Neanderthal, which we already considered as Cohn did, to be co-father of the Eurasian Northern man, in its crossing with the Homo Sapiens Palestiniensis and the Iberians. To stress that regardless of hype our knowledge of genomes and its clad-diversification, extremely complex IS NOT good enough for fine-tuning as to what group mixed more – Eurasian (now ahead, previously the white; recently the bereber->Basque) but it does NOT MATTER, because the beauty of 5D Topology is that 'genes' are MEMORIES that surface into a HIGHER DISCONTINUOUS plane, whose 'finality' will again be the trilogic structure of $St<ST>Ts$ systems. Thus Northern & desert open range humans will fast, as information evolves much faster than we thought, become visual dominant in its mental axis (even if they were not Neanderthal marked); in a few thousands of years; people living in dense, organic cultures, improve their verbal skills and so on. Since the game has 'basic' fast-track processes of evolution; among them the KEY one, the $S=T$ overbearing symmetry, in this case between ages. So Neoteny is truly the causality of Mongolian, informative species, which only appeared in the 40-10.000 year range; as simply the palingenic worldcycle is of fast evolution; so by maintaining a childish age longer, the Mongolian became child-like, more informative. A Lamarckian mechanism we always considered truth as it accelerates evolution in an efficient Universe is now being researched in epigenetics. *We know less than we will ever recognize; hence the importance of 5D laws to complete the puzzle. So far we haven't found female Neanderthal genes on humans, strongly backing the javelin, big man theory of war won by them in the first crossing. But I would like in future research when genomics are more developed to see a red/blonde hair northern woman analysis, of its non-verbal, aggressive, less empathic character properly done. As I say, all those details that obsess our ego-centered, technologic enzymes are to a 5D researcher less interesting than the obvious symmetries between ages in time, topologies in space and trinity divisions of huminds.*

This said 'white people' who lived in the same range than Neanderthals are easily recognized by their dolichocephalic head and occipital bulk, their eye=I oriented mind, individualistic ego and energetic behavior. Languages are consonantal, with little vowels, red hair, rh- and other Neanderthal traits further allow to recognize the Basque/Iberian/Germanic and Semitic cultures as the dominant paradigm of the visual culture.

As they would be 'erased' by the Chariot radiation of Eastern/Caucasian males in the war cycles of extinction of civilizations, *who adopted their culture*, the traits became cultural (still Tuareg and basques have max. Neanderthal crossing, even higher than northern Asians). As I say genetics becomes secondary to axis a culture. It seems then a fact that before Charioteer radiations the first semites had given birth to the gold fever and gold temples of Levant, which huminds hardly had, starting the eco(nomic)system cycles.

Interbreeding

Humans leaving Africa about 80,000 years ago encountered Neanderthals in the Middle East, according to DNA evidence extracted from Neanderthal bones.



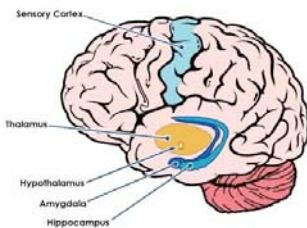
Dolichocephalic Neanderthal with minimal development on the parietal regions of speech, mixed with the verbal homo sapiens gave for sure birth in the first crossing in Levant and the Spanish culture dominant in visual information; to a boost of the 'long' occipital brain axis (Neanderthal) which

added to the expanding forward loop (rational, Aristotelian thought handled by frontal brain region added by the Homo Sapiens) seems the stronger causal reason for the explosion of visual creative thought in technology that would 50.000 years ago determine the true birth of the modern Homo Sapiens. The details might vary as genomics improve its technology but the true interest of a 5D researcher will always be the proof of its ternary laws and the key creative process of reproduction in the Universe by merging, entropic, motion, TT, Ts elements (visual, likely Neanderthal genes?) with those of informative, SS, St languages (verbal conceptual thought).

- Max. I: Verbal, informative minds, dominant in temporal, verbal information. This is the case of the old people or the 'female' species, of the yellow race and in the earlier record, the capoid, Homo Sapiens Sapiens, smaller in spatial body, with the dominant brachycephalic brain, and wide face, as the dominant language goes across from ear to ear and Brocca brain region. The informative species is social, group oriented, as it uses the verbal language to create super-organisms of history. Their language has an excess of vowel; women play a greater role...

The mongoloid race and the female gender are dominant in the verbal, wide axis. Hence the distance between the eyes and the parietal is larger and the eyes are wider. Again the genetics of this final process seem in 5D secondary to the 'allocation' of the 2nd trinity variation at the $\Delta+1$ scale of cultural consequences.

-Exi: Finally a 3rd type of culture, whose informative minds are dominated by emotional sensorial, body oriented, reproductive drives, is the black culture and the young human. Its brain is taller, with the top point in the upper head, as the dominant direction comes from the spinal-hypothalamus axis upwards:



In the graph, the regions most developed in the emotional races, along the 'height' axis, are the inner regions of emotional thought, and the motor and sensorial cortex. This long hypothesis, extracted from the models of complexity and duality developed by this writer in the 90s have now increasing evidence: women are wired inwards towards the Hypothalamus, and black and female 'races/genres' show higher development of the emotional brain and excel in tasks related to the body/senses.

Those distinctions were already observed in XIX century studies on brain morphology and cultural psychology. They are real, increasingly proved by a wide number of research papers that go from the analysis of why men draw better maps and women talk more to genetic studies in linguistics and bio-chemistry that validate our 20 year old research in those fields. Racism consists in thinking that a visual brain is better than an emotional brain or a verbal brain.

In that regard, the difference between XIX century brain studies and modern complexity is the realization that it is not the 'white entropic' culture the most evolved, but according to the Laws of complexity, which favor the balance between energy and information in all systems ('mens sana in corpore sanum' in human living systems), if we were to choose one of those 3 mental axis, we should choose the balanced, E=i, reproductive, emotional cultures (women, black people) for the same reason the best age of life is the mature age of balance – since it is the balanced culture that would ensure the survival of man, while the extreme energetic/warrior white mind and informative/computerized mind-culture of Europe and Asia are taking out of balance the planet Earth with its obsession for 'superior' technological machine/memes.

We cannot extend in this introduction in the full understanding of 'topological evolution', as it belongs properly to the full model of General Systems sciences that unifies all the laws of the Universe, under the metrics of the 5th dimension. For those interested, just look at my unification theory web.

Enough to say that those 3 complementary varieties are the only 'genetic races' to be considered, and their combinations maximizes the energetic-visual, reproductive-sensorial and verbal-social qualities of man, and have given birth to the 3 main cultures (being the other 4 born of military conquest, and hence somehow artificial but as they exist, we should use them to conform the perfect world):

The verbal, social, cyclical, female oriented, time cultures of Asia

The energetic, visual, individual, male oriented, lineal, time cultures of the white man

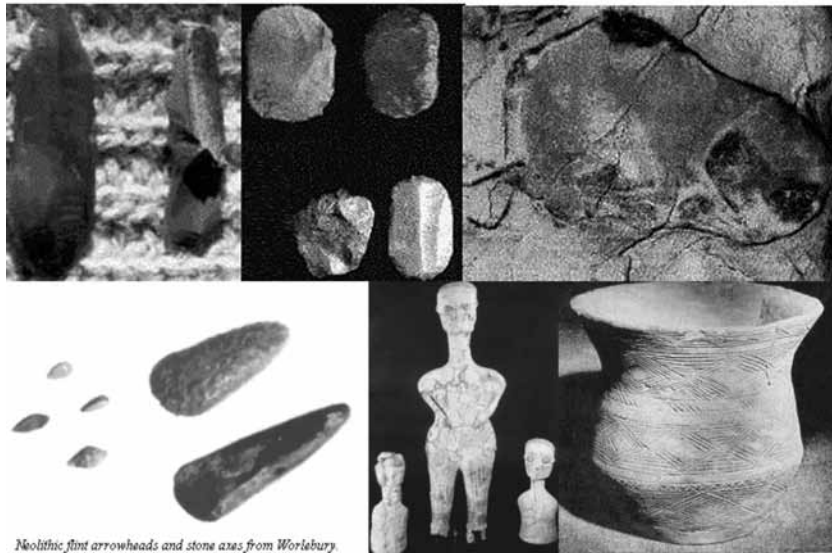
The sensorial, emotional, reproductive, wave-like cultures of the black man or 'Africa'.

The white, visual animetal energetic men; the mongoloid, verbal, social and the reproductive, sensorial black man in a perfect world would be complementary, the 3 ternary elements proper of all diversifications of the Universe. But they are not.

It is in fact the white man (I am), the lesser race, the simpler, the energetic, the one easily hypnotized, irrational, violent. But because METAL degrades man, it HAS COME ON TOP, despite being the less evolved human. At the time I was laughed at. Now we do know Neanderthals were white, red hair, hooked nose, violent, with consonantal languages. This as many of the discoveries of the model of complexity has been proved, because the 'theory' behind all this, cyclical time and the 5th dimension IS the theory most advanced about the nature of the Universe.

Of course, sapiens denies it; saying we have only 4% of Neanderthal genes but since 90% is the same, if we have of that remaining 10%, 4%, that means almost a perfect crossing. My thesis which will be proved likely is that the most crossed ones were the Semites, with Neanderthal Machos killing the dwarf Bushmen and raping their women, as there were no bows and so the dwarfs were less powerful. This is why there is dimorphism in Semites: stronger males, more violent than any other race; and smaller women, talking too much (-;

Then the white Cro-Magnon crossed man discovered in Altai the bow, which is a cyclical weapon proper of cyclical mongoloids, and went into Europe, killing at distance the Neanderthal and raping their tall red hair women, the Germanic women. And this is why the topic Germanic cold-hearted women are so strong, energetic and simple in verbal terms. This was the original analysis 30 years ago, and yes, I thought first not to include it. But since I am after all a white Neanderthal, and precisely Germanic and Semitic cultures are the more racist of the World.



Neolithic flint arrowheads and stone axes from Worlebury.

UPPER NEOLITHIC: HUNTING, LINEAL TOOLS; MATURE: REPRODUCTIVE FORMS; 3RD INFORMATIVE AGE: CERAMICS AND WRITING

MATURITY, THE NEOLITHIC.

Art is the collective mind of a social organism of history. In the graph, art evolves in 3 ages, as the mind of human individuals do. In history, art evolved from:

- A Paleolithic youth in which art is lineal, energetic, used to build simple weapons.
- A classic maturity of figurative art, in which energy & form reach its balance: it is the reproductive age of fertility goddesses and figurative images, proper of the Neolithic.

— A 3rd, informative age, at the end of the Neolithic, writing evolves from ceramics with complex symbols.

The maximal social evolution of history happened in the Neolithic culture, self-similar in all the regions of the planet. Social love was so intense that humans lived in homes without streets and people walked through the roofs or the house of their neighbors, like insects in a beehive. Each man in the village had a 'cellular' vital space, his home or den, tools and clothing; but the energy networks, the agricultural fields in which people fed, were common property, as it happens in DNA organisms, in which DNA molecules live within their home/cell, pegged to other homes/cells, sharing with them the energy of their blood. Neolithic cultures created environmental societies, based in natural, human goods; where every cell owned 'vital' property; where the networks of social information were based in verbal thought (laws); where ethic, social men, called priests, acted as the verbal, collective neurons that solved the colliding interests of individual cells. Those social organisms followed the universal laws of social evolution, creating efficient organic systems, with a single collective brain (the elder with more information, verbal priests, legal assemblies, etc.)

And its 3 physiological networks were created according to the laws of superorganisms:

TT-Entropic Territory: Gaia; the territorial sustain of the community was a healthy geographical body that provided the human goods needed to satisfy the biological drives of humans. It was not depleted but worshipped as 'Nature's Goddess', both in rivers (Nile, Ganges) and animal life

SS: Informative system: The ethic law acted in them as the verbal, nervous system of the society, creating a wor(l)d to the image and likeness of mankind. Legal mandates motivated or forbade certain actions, selecting those which improved the welfare of the entire society. Without laws we cannot understand historic organisms. Laws rule in an invisible manner the acts of people, as nervous orders guide the cells of the body. Thus, certain humans, verbal masters who create laws, as the neurons create nervous orders—prophets, priests, lawyers, courts and parliaments today—should hold the power of societies. What is an aberration is to leave the 'blood=economic system' to control the nervous/legal system, as it happens in free markets.

ST: Reproductive system: Money was WHealth, grain or cows, as in Nature's physiological systems, delivered to all the citizens cells of the community to promote the 5 drives of life (dimotions of existence) that ensure the best life for them. It provided first ST-'energy' and TT-entropic motion to body and limbs; its surplus handled by priests of social love was used to pay extra-salaries for SS-communal work; as its creation fostered the evolution of agriculture and the learning of positive St-forms of information; the making of tools, even the birth of accountancy and writing in Summer's temples with clay tablets writing the storage of wheat-money.

So the five dimotions of individual existence were achieved and its most important reproduction, was sacred, for both Gaia (food and money reproduced in season cycles, worshipped on solstice days) the community and the individual (equality of gender, worship of life-bearing women).

We do know that one of the most widely used moneys and measuring units for large transactions was the ox or cow. From Ireland to the Mediterranean to Africa, cattle were used as a means of exchange, and especially as a measure of value.

In Sumeria is known the power to organize the welfare of the whole world was a temple hierarchy, who held centralized control over the economy. Compulsory labor service could be required for public works, and the priests instructed what and how much to plant, and how much of the harvest would go into storage. Agricultural commodities by weight served as the primitive money system in the ancient Oriental societies. It is presumed that in earlier agrarian societies, loans had been made in seed grains, animals and tools to farmers. Since one grain of seed could generate a plant with 100 new grain seeds, after the harvest farmers could repay the grain with interest in grain. Similarly, when animals were loaned they could be repaid with interest in the form of sharing in any new animals born.

This is the natural form of 'bites of energy' as 'money' should be delivered to all humans to multiply the Healthy wealth, WHealth of the society.

As a result of this natural organization that appears in all *dense population of a single organism*, the population of Sumer grew to amazing densities, not reached till modern times, with many cities in the Delta of around 10.000 people, and multiplied and human life was the closest possible to a paradise.

Then Siberian charioteers, massacring all males, raping women, becoming hierarchical kings and people from the desert with pieces of metal enslaving women with earrings and taken men as mercenaries and slaves saw the beginning of a new age of top predator 'animetals'. And from a single global superorganism of mankind we moved into the eco(nomic)system, an ecosystem of two species.

3RD AGE: METAL AGE. 800Y. VORTEX OF MACHINES=WEAPONS EVOLUTION&EXTINCTION OF CIVILIZATIONS.

THE HISTORY OF THE WAVE

WAR DIVIDED MANKIND IN 2 OPPOSITE CULTURES:

ANIMALS: TECHNOLOGICAL CULTURES THAT CREATE...

WHEN THAT ADORN THE SUBSTANCE THAT GIVES THEM POWER, METAL A SUBSTANCE MORE COMPLEX THAN CARBON LIFE:

THE WEAPON OF WARRIORS Cyclical, informative metal values similar objects made of metal weapons & machines more than which life is as an object or slave.

THE MONEY OF BANKERS Machines are organic metal that produces and moves body as a that

THE MACHINE OF SCIENTISTS energy as a of act mind process information, substituting men in these tasks.

THE METAL-EARTH
AN ECOSYSTEM THAT EVOLVES METAL and extinguishes life in war cycles

Destroying life forms and Cultures... and becoming destroyed by war machines discovered in war cycles.

ROMAN AGAINST 2,000 ARTISTIC 2,000 CULTURES THAT 1700 HISTORY? 4000c LIFE 4000c MAN 1200 AND 1600 ITS 1800 SOCIAL 1870 1945 2000 2000

ANIMISM Taoism GENESIS Judaism BUDDHISM CRISTIANISM ISLAM NEOPLATONISM PROTESTANT'S SOCIALISM ECOLOGISM

HUMAN CULTURES THAT WORSHIP LIFE, ART AND THE HUMAN KIND, CREATING...

THE LIFE-EARTH

WESTERN, SUBJECTIVE, ANTHROPOMORPHIC CULTURES, CALL GOD THE COLLECTIVE SUBCONSCIOUS OF MANKIND, A CONCEPT THAT EVOLVES FROM THE TRIBE OR NATION TO THE ENTIRE SPECIES: 'HISTORY' OR 'MANKIND' BOTH AFFIRM THAT A SOCIAL ORGANISM, EITHER MANKIND OR ANY SPECIES OF THE UNIVERSE FOLLOWS A VITAL MANDATE: 'GROW AND MULTIPLY' AS ALL REPEATS ITSELF AND EVOLVES INTO A NETWORK ORGANISM: Different cultures imitate living organisms: they are born when a verbal prophet reproduces his ideas in the mind of his disciples. These believers create ethnic/legal networks, acting as neurons of a collective mind that shapes with his communal culture a geographical body or nation, creating a civilization in the image and resemblance of him. They are 'Cultures of Life' opposed in purpose and structure to animal cultures. Their human cells follow messages of love and do not compete but share ~~energy and~~ information, as cells do in any working organism. Thus, they ~~blend-energy together~~ reproduce human life goods, instead of weapons. On the other hand, its informative/nervous system do not use money and weapons as aerial languages of social power, but it is based in Warfolds, artistic images and ethnic words that teach people to respect life. Thus living cultures based in Warfolds try to create a Paradise based in Peace, Social Justice and Human Goods Vs animal cultures that create societies based in hierarchical castes, war and metal-goods.

NATURE'S 3 GENETIC EXTINCTIVE SPECIES:



ENTROPIC, WEAPONS KILL ORGANIC MACHINES ATROPHY INFORMATIVE GOL(L)D ENSLAVE
 Carriers: Military/Warriors Industrial Scientists Private Banking

IDO-LOGIES: NATIONALISM:Tribe=species MECHANISM:Man&cosmos a machine CAPITALISM: Private Money rules Law

SCIENCES: HUMANISM:Mankind:1 species ORGANICISM:Universe, an organism SOCIALISM:Law rules money

BIO-HISTORY'S 3 METAL MEMES OF EXTINCTION issued by/for people

In graph, 3 new people-castes destroyed the Neolithic imposed their idol-ogies of worship of metal memes:

Even though most 'subjective', anthropomorphic people will find bizarre such diminishing definition of a human being, an objective, biological account of history cannot be subjective, nor optimistic about the main role of Mankind in this planet, which so far has been to extinguish life organisms and create metal mechanisms, while finding all kind of ideological excuses to do so. Thus, humans today are in biological terms, 'animetals', animal life, symbiotic to metal, which they evolve, terraforming Gaia into the metal-Earth. Their biological function has been obvious: to kill life (warriors), reproduce metal (traders) and design mechanisms with numbers (scientists), latter used to observe the universe and create mathematical theories that 'reveal' the ultimate secrets of time, thus making obsolete the verbal times and biological senses of human beings, substituted by scientific machines. Yet those 3 castes of metal-power that substitute life by metal do not understand their self-destructive processes. Instead, their myths and ideologies make them feel superior and righteous: warriors 'defend' people. Bankers create 'wealth'. And physicists deliver the 'truth' about time, when in fact, they merely study with their clocks the less important of all times=changes, the motion of beings in space; and they ignore everything about the 3 ages of the life/death cycle of morphological time - the type of change that really matters to human beings, which do not move at the speed of light (the time studied by Einstein and modern physics). Why then humans worship 'physicists' and 'mechanists', who know so little about time; warriors, who kill life; and money, a mere piece of 'informative metal'? Because those tools of metal give power. Weapons kill and people obey warriors to preserve life. Physicists invent machines that enhance the energy and information of Mankind. And humans become hypnotized by the 'formal' properties of gold, which preserves form and reflects the sun's light, our informative 'language' of perception. It is metal, not the superior intelligence of scientists, the higher force of warriors or the productive capacity of bankers, what hooks man.

Warriors, who murder with iron, the strongest atom, the body of man; 'bankers' hypnotize and enslave them with gold, the most informative, the mind, and 'physicists' who substitute our verbal, conceptual languages that describe the 3 arrows of time, past, present and future, and its causal relationships - the true essence of time, with digital clocks and our visual, artistic eyes with telescopes and microscopes, feel superior human beings, 'different' to us, 'only' life beings, hence applying NOT the law of eusocial evolution between 'undistinguishable' beings, who come together into tighter boson wholes in any scale (Einstein-Bose statistics) but entropic laws, of dog-eat-dog colliding states of 'heat'. This is the present state of our societies, the lowest state of 'big-bang' existence promoted by their philosophies of reality, from lineal time to big-bang creationism. So they justify the constant evolution of weapons and control of the mind of man and its life-time with money and its atrophy with machines, as future progress since they confuse their progress as the 1% on top with those selfish memes of metal, with the progress of life and mankind as a whole - they no longer perceive as the same people, but a primitive heinous group that lacks enough iPads and *virtual screens or money and weapons to impose their rights*.

Idol-ogies substitute the organic science of Humanism and socialist evolution.

History, the superorganism of mankind should be designed according to the biological Wealth humans need to thrive and survive, if the economic system was not an ill-designed parasitic system of debt slavery, born of the evolution of supremacist fetish gold cultures, in conjunction with the metal-entropic iron cultures that consider MONEY not what it is - a digital language of distribution and production of goods, no wealth per se, but a language that kicks the reproduction of those goods, as words do with human organisms and oxygen and hormones with biological systems - hence a language that should be delivered tool citizens-cells to start production and consumption of welfare goods, with universal salary and NO-DEBT government issues (that is not need to return the money).

Why this has not happened then has to do with the *Historic fight between political and economic true scientists and the brutal predation of those who abuse life with 3 type of selfish metal memes*:

1) Top predator Weapons that kill bodies, manufacturing corpses and the people-castes of Indo-European warriors that carved the human superorganism and its 7 cultures into maimed artificial parts inventing the concept of tribal nations.

2) Competitor Machines that atrophy humans organs & substitute us in labor and war fields, making us lazy or killing us in far larger numbers than simple weapons did & the people-caste of scientists that invent them.

3) Informative metal 'Go(l)d' with no real value per se that hypnotizes the eye; degrading the mind, provoking greed, and converting people in slaves, which initiated the use of money to parasite people with debt, taxes, inflationary prices (speculation) and triggered the Pecunia infinita bellus nervi, with its affinity to value metal-weapons higher than welfare goods (Whealth) and the people-castes that invented the use of parasitic money to exploit mankind ('Kainite'=Canaan Baal and Bible cultures).

Idol-ogies are the historic 'memes' that certain people-castes have developed to make them feel the system that works for them is good. Of them 3 are paramount - the 'memes' of go(l)d cult(ure)s, which are segregation memes that make them think they are a superior species, because they monopolize the issue of money and were born in Canaan among the first biblical banker-priests; and associated to them, the memes of 'warrior cultures', which used bronze and iron-weapon, 'germs of history' as mercenaries of banker-priests or as king-warrior societies to kill anyone who opposed their control; and finally in modern times, idols of science, techno-utopian memes that make us think to atrophy and substitute our 'organs' by machines that do the job for us, making us obsolete is 'good'. So we shall call this 3 cult(ure)s animetal cultures because they degrade their minds and verbal languages becoming 'visual animal-like' greedy people obeying the hypnotic qualities of informative metal gold, the best informative atom of the Universe; or they become warriors, who suppress their body sensations to use iron to kill others, the most energetic atom of reality, or scientists who suppress their visual artistic eyes for telescopes and their verbal times, for clocks to measure space and time with machines. So they are in fact empowered by metal-memes of superior atoms but degraded as humans. This is exactly what happens in enzymes in nature, where the carbohydrate part is atrophied substituted by the metal-part, so animetals or enzymen ARE real biological species that have come to dominate the world in the last 3000 years, and what we live in a capitalist placebo democracy is just the most sophisticated version of animetal societies. *It is necessary to understand how obvious and simple are the true social sciences that take care of the physiological networks of mankind:*

We talk of 3 fundamental scientific truths of the organic Universe applied to social sciences that could take care of the physiological networks of mankind and its 'inversion' by idol-ogies of selfie memes of metal:

Organicism Vs. Mechanism: Man as the measure of all things, the most perfect super organism, which we should cherish and imitate to build a perfect human world. As the universe is an organism, as opposed to a simple machine and its idol-ogy of 'Mechanism'.

Humanism Vs. Nationalism: All humans belong to the same species and so should evolve together into a global supœrganism; no weapons and borders that murder members of the same species

Socialism v.Capitalism (financial parasitism): Humans should live in a true democratic ruling themselves and their languages of power. So all humans should receive a Universal salary of blood-money to kick out production, and governments should reproduce money to promote welfare, biological goods first, and only when those basic needs are covered, mechanisms selected in production according to utility for society to be free. *Those are the true 3 physiological sciences of the superorganism of humanity vs. the 3 idol-ogies that kill us.*

Unfortunately because metal gave higher power to warriors to kill human bodies and bankers to enslave human minds, hypnotized by greed – the imitation that gold and silvery metals did of the sun's light and its reflections, which made primitive humans think they carried a fetish 'sweat of the sun', a 'small god in their pockets', and the synergies between weapons and money of maximal price, animetals and its idol-ogies would be gaining power ever since money and weapons appeared subverting social sciences, in an increasing tempo that would accelerate with the arrival of machines that fulfilled the 3 'dimensional motions' of mechanisms:

- TT. Entropic Machines-weapons of maximal killing mower (mass murder), which definitely will wipe out non-technological civilizations at global scale.

-Ts: Transport machines that spread at a faster rate, from the age of chariots to the age of planes, the people-castes and idol-ogies of animetals.

-Max.St: Sensorial machines of information that substituted and atrophied human mind senses, making digital thought the new language of truth over verbal thought, and of metal-eyes, the new senses over artistic ones.

-Max. ST machines of information (metal-communicators) that reproduce biased information in favor of a future NOT based in human evolution and reproduction but in mechanical progress. Those would be essential with the arrival of the press to spread the anti-human repressive and racist memes of the Bible, the Sacred book of the go(l)d culture through its global networks of trade, imposing the ham damnation of modern slavery (arabs and negros as inferiors to dog), the belief on a superior race that should herd gold to control mankind (capitalism), and hand in hand with nationalist tribal idol-ogies impose the modern age of war.

It is then necessary despite censorship (antiquantum paradox that makes the social scientist a small observer inside a big observable that modifies its information or destroys it), to denounce the zeitgeist of our age. Even if it seems nitrolife species as so perfectly programmed by those memes to self-destruction that they will rather kill their sons till the 7th generation that learn to respect the laws of eusocial love and the organic Universe, and treat each other as members of the same species. As of today it seems that our financial-media-academia Masters, (ab. FMAsters) are happy to develop a M.A.D. brain of egocy and revivalism of its old Go(l)d cult(ure)s and nazionalisms, as slaves of their millenarian metal-memes and primitive Gods of hate and victimism. It seems a hopeless situation as reason does not seem able to lift the cover of e-motional evil=antilive memes and repression of all the drives of life that make beautiful existence. The harder they fall...

Let us then consider of those sciences new elements: The cycles of those supørganisms in an accelerated vortex of d=evolution *which kills them when animetals multiply weapons, money and print hate memes, symbiotic elements of maximal price that kill life with an 800 years cycle of history due to change in weather that multiplied nomadic warriors, professionalized by company-mothers of machines weapons in the modern age, and finally the 'issue' of the issue of money, and the minimal physiological laws to 'cure' the superorganism of history and make it immortal.*

ANIMETAL CULT(URES) OF GOLD, IRON & MACHINES CORRUPT THE SUPØRGANISM OF HISTORY.

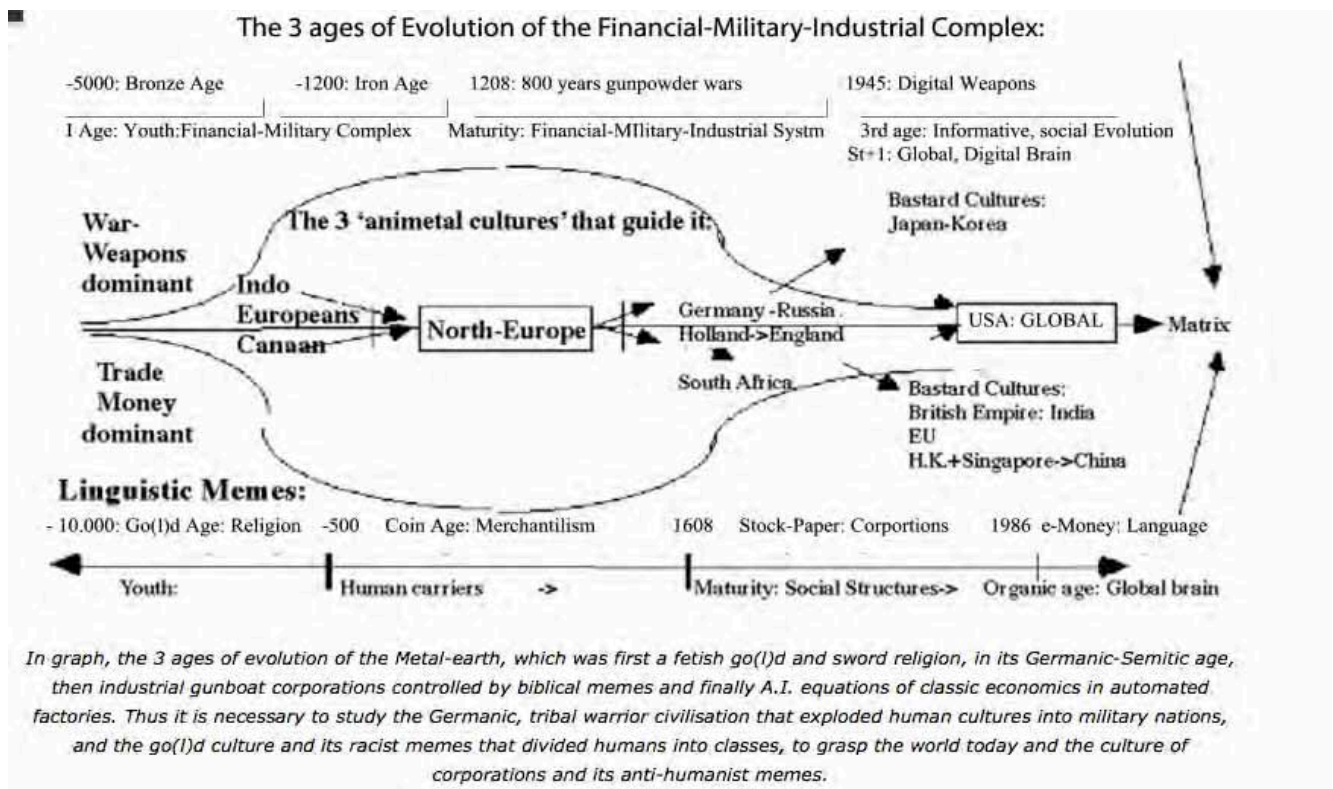
As the reader will have noticed, 'the science of politics & economics', as branches of physiology do NOT rule the organisms of modern history, due to the corruption of the proper, efficient societies (social democracies, religions of love) by the selfish memes of economic organisms (corporations). If in the parallel post to this one, we study the global corporation and its company-mothers from the perspective of the science of complexity, as an entity in itself that evolves machines into a global super-organism, in this post we shall study the human=historic point of view on the corporation by considering a historical analysis of the selfish memes and dysfunctional culture that gave birth to the corporation, allowing the inhuman treatment of this institution that today rules with its monopoly on the two languages of power of society, money that it invents in a monopolistic manner and the law that it buys through corrupted politics... since indeed, while in the other post it becomes obvious that the global stock market corporation and its company-mothers are now global and independent of any culture, following its natural arrow of evolution, embedded in the mathematical laws of economics, what we call the economical science and the corporation is merely the translation to complex mathematical languages and economical systems of the memes of a certain millenarian culture that acted as the 'soliton' of trade and banking for most part of history.

History is the super organism of the human, species, as in systemics informative species can be modeled as superorganisms, whose individual 'citizen-cells' use an informative and reproductive language to build its social networks that distribute efficiently vital energy and information to its individuals, making the whole stronger and allowing a higher density of population. However when a system is ill-designed it will NOT provide just information and enough energy for its cells to survive. And this is the case of humanity, ill-designed by cultural memes of nationalism that divide the species into false tribal ones, to foster the ab=use of humans with weapons and the ill-designed capitalist system in which money is NOT the oxygen of society that must be delivered to each citizen-cell to start the reproduction and consumption of goods, but a parasitic

digital language, monopolized in its issue by a small 'cancerous group' of 'experts', classic economists, working as financiers and company-managers that 'choke' mankind of its productive credit necessary to reproduce the healthy goods humanity need to survive (welfare goods), while allowing the massive reproduction of lethal goods of higher price that kill our body and minds. So we live in a sick system, 'infected of lethal goods', weapons and hate media, parasitized by a cancerous elite that monopolizes the issue of our blood language, and needless to say with a neuronal, 'informative people-caste' of politicians and military that instead of serving the body or else receiving judgment-pain messages to oblige them to attend the needs of its population, dedicate most of its efforts to kill people (military) with the excuse they are boxed under a false border-membrane buttressed with lethal weapons, or serve the financial parasites and its companies of lethal goods, with the excuse they don't issue money, so they need to be corrupted and the alibi of immunity with no pain messages delivered as in earlier Greek democracies by the population that should vote=judge them after tenure. So we live in a system which enslaves people unlike in an efficient superorganism of Nature, without parasitic and lethal germs=weapons, where its economic=reproductive and energetic=welfare and political =informative networks deliver the welfare goods and right synchronous=equalitarian orders to all cells.

So should a properly designed human superorganism of history, where the ethic, verbal wor(l)d values of a political class, bound by judgment a posteriori to serve the needs of people will limit the production of lethal goods, issue money to multiply the reproduction of welfare goods and make history immortal with diplomatic EU, UNO like institutions on top of the fractal military nations built during the primitive 'age of animetal history'. The only future for mankind thus would happen if our leading capitalist, nationalist cultures, and Financial-Media-Academia systems evolved its fundamentalist metal idol-ogies that despise the values and welfare life goods humans need to survive - despite its disguise of placebo caring newspeak of political and economical correctness, and impose a true social science of the economic reproductive and political legal system based in the efficient designs of nature's superorganisms to create with credit a more humane, legal-ruled global culture EU-UNO style, where laws control the lethal goods of the tree of science and money credits only the production of welfare, WHealth (healthy life goods).

We distinguish then 3 ages in the increasing exploitation of mankind by selfish metal-memes and its people-castes that destroy the true democratic, demand-based Whealthy economy and social rule by the best:



- The age of classic alliance of weapons aristocracies and tax-farmers who abused mankind with weapons and debt slavery; in an alliance that substituted religions of fertility and social love on top of neolithic societies. This age will establish a worldcycle of life and death of civilizations of 800 years, based in the small glaciation cycles and the 'pecunia infinita bellus nervi' cycle (inflationary money is the nervous system of war) as most of metal money ($\pm 70\%$) would be now dedicated to reproduce weapons, which would rhythmically kill all the civilizations of the western world, *as mankind was no longer an immortal culture, of repetitive cycles of reproduction of food and welfare goods, as it had become in the Neolithic. Thus history accelerates its death as a life superorganism, starting the evolution of the lethal goods of the tree of science.*

- The modern age of professional evolution of machines and weapons by company-mothers which establish new synergies between technological science, weapons production and new forms of parasitic money (stock paper), where money represents a part of a company-mother of machines-weapons, first gunboats, then trains and finally all kind of machines that imitate human organs, in clear biological cycles of evolution (XIX c. age of bodies of machines; XX c. age of minds of machines; XXI c. age of organic robots). In this age parasitic money can be multiplied without limit by multiplying the digital value of stock-paper; so company-mothers become the most powerful institution on Earth, establishing a false placebo system of democracy, with corrupted politicians without right to issue money, pandering to companies for it, and a population obliged to go to war for 'free' in defense of the selfish memes of tribal nationalism, to increase the consumption of weapons in age of economic crisis.

The 800 years cycle of war & weapons.

The study of societies as organisms and the analysis of its life and war cycles have a long tradition in Philosophy of History, since Vico noticed that societies die rhythmically in a dark age of war. Spengler ('The Decline of the West' 1918) for the first time used the organic parallel in depth, considering that the collective subconscious of a social organism, its culture, also went through 3 ± 1 ages of art similar to those of a living being: a young age of epic art, an age of classic art and a 3rd, baroque age, prior to the extinction of a civilization. The parallelism between a biological organism made of cells related by networks of energy and information (blood and nervous systems) and a socio-biological organism made of human citizens related by networks of energy (economic systems) and information (cultural systems) is self-evident within the systemic paradigm. And it allows to design with biological, natural laws the most efficient economic and political system that maximizes the survival of its organic cells/citizens. Arnold Toynbee ('A Study of History' 1934) did an exhaustive analysis of the demise of civilizations, pointing out to natural and ideological causes, without a clear quantification of those cycles. Such quantification of those life and death cycles of civilizations establishes a long wave of historic death of around ± 800 years, when all cultures in the old world become rhythmically destroyed by the massive reproduction of new weapons in an age of climatic change and nomadic invasions. Those dark ages foreseen by Vico, Toynbee and Spengler are: The age of Bronze swords/wars, ± 3000 BC; The age of Bronze chariots/wars, ± 2000 BC; the age of Iron swords/wars, ± 1200 BC; The age of coins & mercenary armies, ± 500 BC; The age of spurs & chivalry, 400 AD; The age of gunpowder, 1200-1945 AD. Between those dark ages of warfare, it is possible to fit the parallel life and death of all the civilizations of human history, pointing out to a clear relationship between the massive reproduction of weapons, the 'germs of historic organisms' and the death of cultures in ages of war—the sickness produced by those 'germs'. Unfortunately with the arrival of Industrial machines, the cycle has accelerated according to a decametric scale, to a 72 generational cycle of world wars, as the evolution of weapons becomes now a professional, industrial activity.

The vortex of evolution of metal follow 800 year cycles of global death of civilizations by overproduction of machines fuelled by the use of money to mass-produce them in industrial processes and the weather cycles that threw nomadic people on the agricultural societies ruled by religions of social love in ages:

1. The age of bronze swords: ± 3000 -2000, carried by semite cult(ure)s
2. The age of bronze chariots: ± 2000 -1200 carried by Indo-Europeans
3. The age of Iron swords: ± 1200 -400; carried by Indo-Europeans

4. The age of coins and mercenary armies: -400+400, or Greek-Roman age
5. The age of spurs and chivalry: +400, 1200; dominated first by Asian nomads, then by Germans and Arabs
6. The age of gunpowder, 1200-1945, dominated by Europe
7. Age of digital weapons, 1945... as the A-bomb was calculated by the first computers, followed by robots.

The historic record is conclusive: the verbal, life-based, social organism of the Neolithic formed a global civilization, which was immortal and generation after generation men remained unchanged. Yet, with the arrival of weapons an extraordinary phenomenon takes place: social organisms start to die rhythmically, when another warrior civilization conquers and colonizes those civilizations. First, their geographical body and human cells are destroyed by warrior hordes. Then, their collective mind, made of art and ethic Gods of verbal thought, dies after an age of angst and baroque, formal styles that signals a 3rd, informative age.

The evolution of weapons causes an 800 years cycle of death of civilizations extinguished rhythmically by new 'weapon radiations', when their discovery and reproduction by warrior hordes starts an age of war in Eurasia, as warriors expand their lethal energy, killing people and erasing human cultures. A radiation is a biological term that explains the sudden, explosive reproduction of a new top predator species that annihilates many previous species, as it spreads all over the world. It is thus the proper name to explain the sudden bursts of violence provoked in bio-history by the discovery of a new weapon. Indeed, the discovery and massive reproduction of those new weapons, carried by hordes of symbiotic warriors that spread throughout the Eurasian continent, causes an 800 years cycle of extinction of civilizations, as those hordes of warriors conquer, kill and erase human cultures.

The first of those radiations, bronze, means the end of the 'classic age of History', the Neolithic and the beginning of its 3rd informative age, the Age of Metal. Weapons are discovered and then radiate=reproduce in great numbers during a short period of ± 100 years of World Wars that destroy the old civilizations. The warrior hordes that control the world with the new weapon start then a new, 800 years cycle of 'modern civilizations' in which the new warriors become the higher castes of human, wor(l)d cultures that flourish again after war recedes. So the arrival of new weapons shows the fractal zones of History. The median life of those cultures, 800 years, around ten times the biological life of a Human being (70-80 years), strongly suggest 2 possible causes for those war cycles: the biological rhythms of human life that after 10 generations seem to enter in decadence and the climatic cycles of the Earth, whose periodic ages of hot and cold weather provoke draughts on the steppes, displacing nomads towards valley cultures.

Thus, each of those 800 year cycles is a global civilization, ended by discontinuities of massive war, similar to the World wars that happen now at a faster pace, every 80 years, after a crash of the economic ecosystem, when new 'energy machines' used as weapons are discovered. Very few civilizations survive the periodic arrival of massive wars, after the discovery and reproduction of new weapons. Even the American civilizations that were isolated from European warrior masters, at the end died away, when Spaniards and Anglo-Saxons arrived. Then the Paleolithic and Neolithic cultures of Native Americans, some of which survived almost unchanged during thousands of years, were extinguished in a few centuries and even if their genetic races remain, it is self-evident that today Inca, Aztec or North-Indian civilizations have died.

There are three ages in all those civilizations associated to radiations of weapons, represented in the graph by a bell curve: birth of the weapon and elite-caste of the civilization; expansion of those weapons, and final extinction by other metal weapon and horde of warriors. The old weapons then might continue, but within the elite caste of the civilization, that our curves show, they will be rare and considered obsolete.

Let us consider those great cycles of War and its civilizations in the Historic record:

Bronze Age: Lineal Bronze starts the first empires recorded in History. In ± 2850 BC: the first Bronze sword armies appear, taking to power, God-pharaohs and Semite Lugals. Egypt becomes unified. History registers the first Mesopotamian Empires. We consider the arrival of Bronze, probably in Egypt, the beginning of the Paradox of History [Max. metal Goods=Minimal human goods]. Rhetoric, epic art to the service of power starts also with palaces and tombs, such as the pyramids. And yet for most humans life did not improve, as

they were enslaved by warriors and worked in those huge monuments to the arrogance of man. In fact in those cultures where bronze weapons arrived later, human goods, and sensorial pleasures develop more.

For example in the Indus without metal abundance, the quality of housing was the highest in old civilizations. Then it plummets after Aryan charioteers invade India. Aryans only improve architecture in “palaces” and “death tombs”. Also in Egypt, only as the initial wave of warriors recedes, we see the end of Pyramid construction, and a higher quality of life for the common people (VI dynasty). Tombs now are smaller, full of lively drawings of animals and farmers; and priests regain power over warrior kings, promoting the reproduction of food, and human goods.

Chariot Radiation (Wheels of bronze). It is the age of the Middle Empire, in classic historiography. The first wave starts around ±2000 BC: A World wide invasion of Indo-Europeans with chariots from the northern planes destroy all civilizations. It is the extinctive phase of Sumerian cultures, when Genesis is written, and the parable of the tree of science, understood by the most intelligent verbal artists of the age. Charioteer Hordes conquer Sumer and Akkad. The first Hittites empires appear. In Egypt it signifies the end of the old empire and the beginning of the Middle Kingdom.

A clear prove of the Paradox of History, of the fact that where less weapons there are, better is life, is Crete: There the charioteers cannot arrive due to geographical conditions (a sea island). So in Crete there is a continuity of a culture based on human goods, that makes of Crete the richest, most sophisticated civilization of the west in this age.

The same radiation of Charioteers will erase the Eastern cultures. From 1500 till 1000 BC. in the first Veda Period, nomadic chariot Aryans and its “sacred cows” conquer India, impose a brutal metal-racism (castes), against Neolithic Goddesses, women, and the poor. The old culture survives longer in the South.

Charioteers also found the Shia dynasty in China, degrading and partially assimilating the Tao culture of the living Universe proper of Neolithic China. In China, the chariot arrives perhaps, after transferring its weapons to Mongolian tribes (about 1500 BC, Shang dynasty). The depth and richness of the Neolithic (fully grown and densely populating the South by the V millennia BC), allows the Tao-Neolithic culture of the sentient Universe to survive partially. But the Ch'in dynasty and its radiation of iron weapons forbids all non-technological books under death penalty about 300 BC. Then the wisdom of Taoism that understood so well the dual nature of the Organic Universe, and its Yin-Yang beings will be lost at philosophical level. Though it will inform the basic arts of classic China.

China proves again that less metal allows more complex human thought. China alone among Eurasian nations preserves the dual linguistic essence of the human wor[l]d: a verbal language, and a visual expression of the game of Energy-Information on its writing words. But in the west, verbal thought is simplified in Cananean civilizations, coming from Egypt (Hycsos?), with a proto-alphabet that reduces writing to a few verbal symbols.

Iron Radiation (about 1200 BC). The Germanic people (Celtic hordes) start mass production of iron swords. Again the chain reaction of war and destruction starts, with warrior waves that move west to Iberia and east to Greece and Asia. Its is the age of the Great Invasions of “People of the Sea”. Ramses II and III fight invaders but can't prevent the collapse of the Middle Empire in Egypt. Also the Hittite Empire collapses. Hittites flee and teach Assyrians the use of iron.

In 1150; the Dorians destroy Micenas. And again where the Dorians do not arrive, (Peninsular Athens, coastal Turkey) the Greek civilization of Cretan tradition flourishes and gives birth to the best cultures of the Iron discontinuum.

Coin Age (600 BC – 400 AD). Around 560 BC coins are discovered and mercenary armies increase the professionalism of war. “Bellum ipse aleat”, said the Romans who achieved this feat.

Around 539-525 BC. the Persians destroy the Assyrian, Egyptian and Mesopotamian Empires, but copy their systems of military repression. As a consequence of better cavalry grounds, and iron metallurgy, from now on metal history displaces its center of gravity from verbal Empires on the crescent fertile ruled by Semite [S]words and Go[l]ds (Assur, God of war; Baal Go[l]d of trade) towards Northern Aryan tribes (Rome, Master

of war; Greece master of “Coins”). The dominance of the social Wor[l]d is substituted by the dominance of the individualistic I=eye. Good and Evil, verbal values, are substituted by beauty and ugliness, which are values of light perception.

In the age of Iron, the Greeks introduced coins which ended the dominance of bartering in trade (verbal, Semite traditions), and started digital accountancy. The higher complexity of coins and iron will prove irresistible. It is the expansive age of Indo-European empires, that now use metal species in a far more efficient manner to impose restrictions of Freedom to the people, taxed in coins, and levied to serve the armies of the metal master. Systems of “total” war, that only Assyria had essayed before, now become natural to entire empires, which summon up all the previous metal-advances (horses, iron, mathematical war analysis), into the Total Army, with infantry (Phalanx), cavalry, war machines and logistics (Macedonian and Roman Empires). The Roman cycle is accurate; 798 years between the fall of Rome to the iron Gauls, and the fall of Rome to the stirrup barbarians in 410.

Rome is fundamental to understand the Western World, since it is the origin of all myths and alibis for further Warrior empires, that could seize power, pretending to reinstall a new Rome. Rome is the parallel to Assur, the master of war of the Verbal, Bronze age. Because gold-iron rares die, but its products and its rituals continue, there is in fact a continuity of rituals from Assur to Persia, to Macedonian empires, to Roman, to European empires. So much for racial superiority: the race dies in wars and Holocausts. The product, the iron weapon, stays. It gave origin to European ideologies, rituals and icons of warrior and trader civilizations from Britain to Nazi Germany, from Imperial eagles to civil architecture.

Cavalry Age. The Middle Ages. Stirrup=horse Radiation. (400 AD, 1200 AD). The Huns, Nomad warriors able to shoot with arrow bows while galloping, thanks to the stirrup -discovered probably in Korea- and the Germans who add iron protections, annihilate the Roman-Christian Empire of Human Goods, plummeting once more the standards of life of mankind. Around 317-589, the Huns break China between North and South into sixteen warrior kingdoms, controlled by Huns and Turks. In 430 History registers the invasion of India by the White Huns. Their civilization is built around the “horse man” that sees himself “higher” than the rest of humans, just because he is mounted into his horse... So much human arrogance. Barbarians crass the level of Human Goods of Roman Europe, but slowly they become converted to social love by the Christian Oikoumene religion.

The verbal age of Christianity, once the Aryans are “civilized”, returns to Europe (High middle age) in a society based on ethics. In Italy and Spain, priests of Islam and Christ had more power, that its warrior allies, and allowed a new age of human goods and art. They initiate the Renaissance, and the culture of Al-Andalus, the summit of the two main religions of mankind, Islam and Christianity. Both flourish before the radiation of gunpowder, annihilates this re-birth of human sensory, ethical, and artistic cultures. Those final days of social religions left the great cathedrals, optimistic buildings full of light, looking upwards to God, built by the collective effort of the people that, unlike the Romanic churches no longer fear the violence of barbarians. Gothic cathedrals seem to confirm a wealthy mode of life in the lower Middle Ages with less wars. Population doubles in Europe; cities grow. In the Eastern World the old cultures of the sentient Universe (Taoism and Buddhism) reach a new apogee (Gupta, Song empires).

Gunpowder Age (1200 AD, 1945). Unfortunately the Chinese Taoists discover gunpowder. Mongols learn its technique in the assault of Beijing, spreading its use to the western world. In 1204 the looting of Byzantium by the Venetians opens the East to Italians who soon will have the first cannons, the “lombardas”. In 1222 the Mongols defeat the Russians in Kalka and invade Germany. Soon gunpowder is known to German people. In 1258 Hulagu massacres Baghdad. It is the end of the Muslim Empire. In Europe the gunpowder wave soon explodes into massive civil wars, of which the 100 years war, is the most well known. It brings poverty, and scarcity of Human Goods, that provoke massive famines and allows the expansion of the black Pest, that multiplies death among Human beings.

Sub-wave. Reproductive Phase T/2 (about 1600). In the very middle point of the 800 years radiation, appears Ballistics (science) and companies of Gunboat Reproduction. The gunpowder radiation becomes a professional system of reproduction of weapons by company-mothers, and scientific fathers, that create the present world

of machines of war. Europe becomes top predator of the World, by perfecting cannon balls, and inventing in order to measure their trajectories the science of Ballistics, later called physics (Galileo). Companies of Gunboats create new Empires (British-French Empires), that massacre or enslave 80% of mankind (the third world).

In the age of metal it is clear that humans are evolving a new kind of atomic species of higher density than carbon. Weapons are discovered, and then radiate in great numbers during a period with a median duration of 800 years. We talk for each of those 800 years a new species of “metal-civilizations” in which the warrior hordes that control the weapon become Top Predators of human cultures. Then a new weapon appears, and the previous horde and weapon become submissive to the new Metal masters. So the arrival of new weapons show the fractal zones of History.

The previous graph puts its emphasis in the long 800 years cycles of simple weapons and its 'affine' informative metal-money on the classic age of history. The modern age accelerates as all 'vortices of information' do, with the arrival of the Industrial r=evolution and the professional invention of company-mothers of machines, the cycle to 80 years (seen above in the graph that compares it with the cycles of biological extinction of species).

ANIMETAL AGE. 800 YEARS CYCLE OF PECUNIA INFINITA BELLUS NERVI: BANKERS & KINGS COALITIONS

The people-caste of bankers. Go(l)d cultures start the systemic parasitic use of 'gold' to ab=use mankind.

‘You will defend me with the word, I will defend you with [Gold &] the sword’ Tertulianus, biblical bigot.

‘If you want to know who rule you ask yourself who you cannot criticize’ Voltaire

Today in placebo social sciences you can talk of the evil consequences of militarism and the evolution and reproduction of weapons, with certain freedom, ‘surviving’ the anti-quantum paradox of censorship – the smallness of the social scientist influenced by the larger superorganism in which it lives and its people-castes of animetals in power; for a simple reason, *the warrior today is submissive to the company-mother of machines-weapons that reproduce its tools of power and the financial go(l)d FMasters that reproduce the machines of information (ab. Financial-Media-Academia masters), whose people-castes rule the world, by monopolizing the issue of digital information in the form of e-money, audiovisual media and academia ‘papers’ of a supposed placebo social science, dedicated to all the themes that do not really matter for the future of mankind.*

But you cannot criticize capitalism – the rule of societies by company-mothers and financiers; that is, by machines and money, monopolized by ‘stockrats’, the owners of corporations with null civil legal responsibility, monopoly in the issue of the language of power of modern society, money, and control of the life-time of people through salaries and the laws, of corrupted politicians that cannot issue money and the system of false freedoms and null power, they have established to rule us all (placebo democracies).

What is then the fundamental form of predation of bankers and its people-castes over mankind? Simple: the subversion of the positive function of money, proper of the Neolithic, the Greek Age of nomisma (tender legal money produced as digital numbers by the state and its citizens) and the potential ideal age of ¥€\$ money, in which money would be issue by all mankind through a Universal salary to create with credit (ab. creditate) a welfare, demand economy; for an age of parasitic, lethal, debt/tax money, in which money is controlled by a people-caste to ab=use humans, extorting them of taxes, speculating with the prices of welfare, provoking scarcities and giving maximal price to weapons and hate media that kill people and provoke wars and when all the society in which animetal warriors in alliance with animetal bankers have been destroyed by murder and parasitism, as any organism collapsed by predation, provokes the mutual extinction of those animetals on top in the final Gotterdammerung cycle of holocausts.

As we are moving fast into the final repetition of the cycle is worth to understand it, because it is forbidden to talk about it. We are supposed to live in the best of all worlds, capitalist democracies; and bankers are supposed to serve the community, and tax and debt and speculation and max. price for weapons to be the natural state of things. And of course there is not a biblical people-caste that still controls the issue of money;

parasitizes mankind as it has done for 5000 years and when it has corrupted and destroyed a society through financial parasitism and the 'maximal profits' of the pecunia infinita bellus nervi cycle, dies also in the process.

This is the immense secret of a true history & economics of mankind in the age of animetals: parasitic money.

The 5 forms of parasitic money: Go(l)d. Lethal weapons, salary, tax. Debt, speculation,

The 5D Universe as its name says has 5 Dimensional motions or drives of existence all entities promote to maximize its life. The purpose of any language therefore is the same than the organism that speaks the language: to promote those 5 goals, as a language mirrors reality and guides the existence of a being.

And inversely, a predator or parasitic language and species will LIMIT the 5 drives of existence of an organism.

It is then immediate to observe that *both animetal cultures and animetal languages, weapons and metal money repress the 5 drives of existence of mankind, in its go(l)d religions (repression of sexuality=reproduction, human good food – dietary laws, eusocial love – hate, racist memes to mankind; and human information – substitution of verbal language by digital ones.*

And the same consequence of anti-live=Evil repression of human wealth and life happens when Money becomes parasitic. 'Evil Money', that is money that parasites and destroys mankind as opposed to Live Money, that is money that reproduces WHealth, become then the ± sides of the language of money, in its effects on mankind, sponsored by Humanist vs. 'Animetal' cultures does have 5 Different dimensions. Before animetals came to destroy the Genesian paradise, and all the way till today, the 2 forms of money have fought for supremacy as a language positive for the welfare and reproduction of goods among human beings vs. a negative language that destroys life, parasitizes mankind and catalyzes the evolution of metal, machines and lethal goods.

The language is the message: metal-money vs. Wor(l)ds & legal money: its different values and species.

The universe is about the intelligence of networks, whose languages and values, order reality and select the species that better speaks the language. So even before we continue into the analysis of animetal cultures, we must simply explain how they construct the FMMI system of informative and entropic metal-machines, through the values of its languages they do not understand.

An animetal must in that sense be defined as a believer who obeys without reason the 'greed and violent' values of money and weapons that kill and hypnotize their bodies and minds. It is the systemic, network, linguistic intelligence of those languages of power and its values what creates the consequences. And all what the animetal needs is to believe in idol-ogies of metal-power and obey blindly those languages and values:

In the graph, the informative values of Words and Money are opposed. The most expensive species are the most evil, harmful to man [weapons]. While the best verbal goods [love] have no monetary value. This paradox can only be explained within Theory of Evolution, as an opposition between victim

Species	Carbolife [Human]	Metallife [Machines]
Language	Words [Verbal values]	Monetary values
Positive +	Good-Love [cheap]	Expensive [weapons-Evil]
Negative -	Evil-Hate [Expensive weapons]	Cheap [Human goods]

and hunter, which are in a Universe of subjective information the truth and antitruth of each other. Because weapons prey on men, we feel them evil. Yet weapons and money are symbiotic metal-species. So weapons reach maximum monetary value.

In the mandala graph that I will bring as many times as required following the rhetoric of the 'other system' - if you repeat a lie (or a truth in this case) many times people will believe it (become imprinted by it)' Goebbels - we show the fundamental distinction we must do in a biological analysis of the superorganisms of history its languages, memes and cultures. What matters are the memes, languages and ideologies that build the two

type of cultures, 'organs' of the superorganisms of history and economics. In essence, a superorganism is created by the values of a certain language. The informative language of metal is gold. And its values are inverse to those of life. So the belief and use of go(l)d, of money as the only language that directs our society makes possible the expression of those anti-life values and the creation of a world according to them.

Today the more complex system of machines uses digital information, e-money and the religion of go(l)d has evolved into the 'science' of capitalism expressed in the equations of classic economics. Yet the anti-life values of the language remain.

Of course our culture that worships metal-memes and technology=machines will have none of this, and censor bio-economics and bio-history but it is not by chance that most humans do feel naturally the ethics of the wor(l)d and most women, reproducers of life hate weapons. We are not making here ethic statements but biological statements as both concepts are the same, ethics merely expressing the arrow of eusocial evolution. Why then humans deny today that arrow? Obviously because they have completely mismanaged their social evolution and have instead accepted the wrong values of metal, greed and violence as the guidance to power.

So we talk of two types of cultures, human cultures that truly understand the highest level of social intelligence of the universe and if imposed could make Mankind survival.

And the cultures that worship machines weapons and money, metal-cultures or rather 'animetal cultures' as they degrade the capacity of humans to evolve together and go back to an animal dog-eat=dog society, which needs metal-money, weapons and machines to survive, enslaving their life to the evolution of the metal Earth. We have thus set the elements to study together history and the fight of cultures and economics, the evolution of the machine, something economists would also be at pains to accept because they are merely production economists serving the evolution of the metal-Earth - a topic characteristic of animetal cultures is indeed the half-truth, the denial of love, life and ethics as an important component of reality, the abstract indifference to history, the superorganism of Mankind on Earth.

Yet to deny the laws of the organic eusocial universe of 'numbers', 'species' and 'human ethics', is to deny the future for all of us... The future of history our superorganism, of which Mankind is just its 'spatial form'. So the immediate 'pentalogic analysis of negative metal money as the language that destroys mankind and catalyzes the evolution of the metal earth is obvious, as negative money was born in Levant, when the original form of WHealthy money, wheat, given as a Universal salary to all humans, to consume it and pay salaries of positive work on the communal fields of the first civilizations, was substituted by metal-money, an informative SS-cyclical form, which was perceived as wealth per se, and soon became synergic to TT-entropic metal-weapons, setting the two limits of control of mankind, in terms of a higher form of entropy (iron weapons) and form (hypnotic money) which will set mankind as an enzyman obliged by the two new metal-castes of power, murderous warriors and enslaving bankers to obey the orders of money or else, with a new stick and carrot device of power.

Ever since mankind was dominated by informative digital money above his natural ethic language of words and entropic weapons above his goal of human body supremacy

It then came the natural third 'dimensional motion' of money as an space-time value: Money as the value of a human being, bought no longer to reproduce its body but reproduce metal, mostly weapons, as gold-money was used for millennia to pay for slaves and weapons (70% of its production).

ST-money thus cre(dit)ated a new language equation that make human an object priced with a number. Since money is just a number, the simplest form of information in a paper, which orders humans and objects in a digital, mathematical manner.

So capitalism amounts to this: to rule societies with digital numbers called money, reproduced with no limit by a social elite, which is not elected neither likes to explain what it does, and how it does it - basically controlling Mankind with prices as if we are 'objects' compared mathematically with the equation of money:

Man (salary) = money = object (price)

It is for that reason that all systems that work, do not allow the reproductive 'mindless' comparative equalities of mathematical languages to rule the system above the subjective, informative, nervous system, which in humans is 'words', and do carry a very different syntax positive to Mankind:

Subject (man) < verb (action) < object (energy of subject).

Thus in verbal terms, humans are the center of the universe, and survive, and if they were able to regulate the economy with laws that favor Mankind, money only as a digital language, to reproduce among all humans the good we need to survive, fueling a demand economy would easily create with credit a perfect world, which is the rule not the exception of the universe, where energy is for free, and all you need is a good language to distribute it. This is not though, the way history has evolved money but rather it has created an astoundingly brutish corrupted, dumb concept of money as wealth per se, not language, and as such attached to precious metal, easy to digitalize (hence still a mathematical language) but very scarce, and hence promoting war, looting, fight for the 'precious' thing, and a complete misunderstanding of money in terms of a language of distribution and reproduction of goods.

And so weapons of maximal price in money, above man, an object bought by gold set up not only humans as slave of money reproducing ever since weapons of maximal price, but triggered the 'pecunia infinita bellus nervi cycle', and put on top of mankind two people-castes whose 'racist memes' against life and mankind which they priced, sold as slaves and killed with weapons – the Aryan warriors and Semite bankers, which conquered the world with weapons and money. It was the age of animetals.

But money as a lethal product would develop the 2 more sophisticated dimensions, of mixed form=value and motion=energy of work, lethal to the welfare of human beings.

- St money became 'future value' as a form of debt to be paid into the future, through taxation and lending. Money was no longer 'a digital language of null value that kicked out the actions of people', but became as an object of value per se (first gold then just legal tender money monopolized in its reproduction and issue by bankers), a form to enslave people not ONLY in present time work, but also in the future, '3rd age' of the being. St-debt and taxation thus became the essential form of parasitizing and buying the future life of people obliged to return a 'digital number' which did soon LOST, all real value, monopolized by a people-caste that manufactured it.

- Ts: money as speculation. Finally on the other side of 'dimensional motions of reality', money 'accelerated' its motion as a mean of exchange of objects, selling and buying the same object multiple times to produce an inflationary growth of its digital value. The 'speed of money' thus increased its 'numbers' as the speed of a car increases the numbers of your spatial trajectory. Speculative money by the simple mean of selling and buying upwards with increasing speed an object became along debt the modern way to reproduce money in pure digital numbers once money was detached of its sustain in gold.

So the causality and birth of the 5 negative dimensions of money as a parasitic form that values lethal goods, and enslaves man as an object had a clear historic causality; and on the side of the people-caste that made of parasitic money the essence of its civilization a clear origin in the go(l)d churches of biblical origin that would predate mankind with money ever since, being subject obviously to the action-reaction processes due to the reproduction of lethal weapons of maximal value, herding of gold with tax farming, slave debt, war debts and hate memes to promote war and the pecunia belli infinita cycle, speculation in the price of goods, either by means of accelerating its buying and selling *the method used today on stocks, or by herding WHealth needed to survive... All forms of parasitizing and destroying the life and welfare of people and nations, practiced by biblical banker-priests that catalyzed in this manner the cycles of wars and final Gotterdammerung of the financial and military elites when loosing those wars in holocausts.

We are not though interested so much in the detailed history of the people-caste and go(l)d cultures that invented gold money and parasitized mankind with it, a highly censored issue as those people are still controlling the lethal form of money that guides today mankind and them, who are part of mankind to extinction but in the 'formal language of money' and its necessary reform, which requires obviously the

nationalization of the issue of money and the return to the positive WHealthy money as understood before the age of animetals in the Neolithic and in the modern writings of social scientists.

In the future, obviously as a historian cannot censor despite the 'antiquantum paradox his work' we shall publish a paper on the 'History of one of the 7 cultures of mankind, the biblical Anglo-American culture in its 3 ages, the age of Judaism and go(l)d temples, the age of Protestant, classic economics and UK Empires , the age of America and electronic money, to see how throughout history parasitic money and its elites of banker priests and idol-ogies of biblical capitalism came to dominate mankind, censor real history, and dominate the world, setting it into the present course of self-destruction. It does indeed deserve as all the other cultures of humanity, the more so as it has become the wining culture, a paper of its own.

Even if it would be as some previous books on the matter, highly censored.

Instead we are more interested in the themes I covered and conferences given during my tenure of the chair of monetary systems at the international systems societies where I considered the possibility to recreate positive money, where the language of money becomes a digital language of reproduction of welfare with 5 Positive tendencies. So on the following papers, we shall reorder some of my writings on both themes.

We study negative money and its 5 Dimotions that favor the evolution of metal; destroying human WHealth. Let us do so, as it is a necessary condition of a humanist social science to translate the metric equations of superorganisms and worldcycles to a human common language, as we did with the message of love.

SS: Money as an instrument of distortion of true information, promoting idol-ogies in favor of parasitism, military murder and the alliance of its people-castes of aristocrats and banker-priests

Money as wealth per se – an object that must be returned. Money as gold became so desirable that soon became an object of Greed; *but such money is NOT Whealth, consumable as food is, abundant and available to all as a Universal salary to kick out production, but a luxury object which therefore cannot accomplish the natural function of any 'bit of information' that regulates a reproductive network.*

Thus Money became soon monopolized by people-caste and converted into a parasitic function, as debt and tax, to allow the maximal ab=use of the population by the coalitions of warriors and bankers. The warrior will ask no longer for a payment in 'real Whealth', i.e. species. Money as speculation prices.

TT: Money as lethal product value. The Pecunia infinita bellus nervi. Go(L)d money affine to metal gave maximal price to weapons and minimal price to life, kicking the cycle of reproduction of weapons and war for profits that established the 800-80 years cycles of destruction of civilizations and nations.

ST: **Money** as gold was so much valued due to greed and its hypnotic power, that suddenly could buy the life of a human being, degraded in price due to the expansion of war, and massive influx of slaves. So the price of a human life diminished to become as chip as 6 coins in China during the Warring age of the Chin empire, or 30 grains of gold during the expansion of slavery in the middle ages, as the go(l)d culture of Judaism established with the help of franks and Viking mercenaries a massive slave trade between Eastern Europe whose people would be called simply 'Slavs' and Islam. The price will again plummet, when the idol-ogy of the Ham damnation (a biblical racist meme established earlier by Judaism, the fundamental parasitic culture of gold in western societies) according to which Arabs and negroes that had been in war with Israel after the expulsion of its people-caste of charioteer warriors (Hycsos) were lesser than dogs – ideological origin of slavery and

SPECULATION
Generally a short timeline of less than one year
High Profits
Aggressive
sell on technical charts, market psychology and individual opinion
Options, foreign currencies, Stock market

Price
S2 Supply
Into storage
Loss in value
Today's price
Consumption = Production minus storage
Production today

FOOD SPECULATION
A MATTER OF LIFE AND DEATH

WALL ST
AS SOON AS THEY CALL US OUT, I CAN'T WAIT UNTIL WE GET TO WORK ON THE NEXT TARGET!

THE 5 NEGATIVE DRIVES OF PARASITIC MONEY:
FALSE WEALTH
SPECULATION
DEBT SLAVERY
OF HISTORY &
OF RE=PRODUCTION
R=EVOLUTION
CURE IT WITH
TO HUMANS
A DEMAND
GOODS
MAN
WAR

LETHAL GOODS
TAXATION &
ARE THE SICKNESS
ITS ECONOMIC NETWORK
OF GOODS; CAUSING A
OF MANKIND, ONLY A
OF THE SYSTEM CAN
A GLOBAL YES SALARY
TO CRE(DIT)ATE
ECONOMY OF
GOODS & END
TO LETHAL
FREEING
ENDING

WORLD FINANCIAL CONTROL
WORLD RESOURCE CONTROL
CORPORATIONS
WORLD POPULATION CONTROL
GOVERNMENT
DEBT SLAVES
BIRTH * SCHOOL * LABOR * TAXES * DEBT * RETIREMENT

DEBT SLAVERY through usury, unwanted credit, & lack of universal salaries for all citizens kill by anoxia throughout the entire life

CAPITALIST PLACEBO DEMOCRACIES ENSLAVE MAN TO COMPANY-MOTHERS OF MACHINES-WEAPON!

Demilitarize!

modern Apartheid Israel. Only when paper money multiplied debt slavery became part-time, as salary bought the lifetime of the human being in its peak hours, reducing costs of maintenance during sleep and feeding hours. And finally as machines started the substitution of humans in the work of reproduction of lethal good, the obsolescence of man gave us the feeling of having 'free time'

St: Money as tax-debt. The first form of parasitic money was established by the coalition of Indo-European warriors and Semite bankers all over the western world, with the concept of tax, and usury debt. Indo-European warriors taxed first people with Wealth, but soon Semite bankers changed laws to oblige them to borrow gold and silver coins, at usury prices of 40 to 80% annual tax, so in a bad year of crops, unlike in the old model when they just gave less food to the warrior master, they couldn't pay the usury debt and the tax in precious money becoming slaves of the banker; increasing enormously the slavery trade for millennia to come. Tax would extort to the limit the population, subverting the true function of governments which is NOT to kill by anoxia people but exactly the opposite, to provide them with a 'free flow' of Wealthy money as organisms do providing free oxygen and hormones to the cells to kick out the production of goods, or individuals do, providing a free flow of verbal thought to provoke our actions of life.

Ts: Money as false value, paying for false information, and speculation. 'Speculation is the creation of false value by jacking up the prices of goods' Ford. Another classic form of parasitic money was speculation. Taking advantage of the higher value of its monopolized gold, bankers would become speculators, herding goods in times of necessity to provoke higher prices, releasing then the goods in small quantities. It became an essential cause of famine as the bible describes with price when Joseph bank of the pharaoh became immensely wealthy speculating with wheat.

This example shows *the fundamental trait of parasitic money, which is exactly the opposite of wealthy money* – not to promote the welfare of people in a demand economy based in the biological needs of the population of citizens-cells, but to extract all the wealth from the cells, exploiting them, provoking their anoxia, and killing them if they did not allow unlimited extortion, became the rule of all western societies, and at time went by, since the process multiplied And we will study positive money, from its first form as Wealth, in the Neolithic, when money appeared .

Needless to say the *5 antidimotions of money against the 5 drives of human existence, Money as lethal value for multiplication of weapons that kill human beings; money as tax and debt that kills human freedom; money as speculation in basic goods that prevents human healthy life; money as false value that doesn't produce or kick out the reproduction of wealth; and*

The 3 ages of positive money.

Let us study positive money, from its first form as Wealth, in the Neolithic, when money appeared through is classic age as Nomisma in the Greek-Roman civilization to its modern ideal age as a global cryptocurrency, able to deliver the actions of consumption and production that could save mankind from its process of self-destruction. In all those cases money *had never parasitic functions (Tax, Debt), anoxia consequences (speculation in vital goods, lack of distribution to cells of the superorganism of history) or lethal consequences (maximal price for lethal goods for the mind – hate memes and the body – maximal price for weapons) which are the trinity of 'evil money', carried by go(l)d and the Biblical sects that made of parasitic money the basis of its predation over mankind, triggering the 'pecunia infinita bellus nervi' cycles of wars and holocausts.*

In that regard, *money as a positive language of reproduction of welfare goods, similar to the Oxygen and hormonal language of human organisms, not only is possible but it did exist in the past. If today it doesn't happen is because of the systemic repression by the parasitic informative function of money of all true forms of economic science, and its substitution by the placebo truths and all kind of theories that foster the monopoly of the issue of money by people-caste of FMAsters (financial-media-academia masters, who today control from think tanks, mass media and wall street the information of mankind with a single goal, to censor history, a future for humanity, the rights of the 99% to issue money, and not die of anoxia, and a true evolution of social sciences and its physiological networks).*

All think-tanks, Nobel prizes given by a private bank, and authorized forms of economics *are based in the idol-ogy that money must be monopolized by experts and handled selectively with the single goal of 'increasing its numbers', hence its parasitic functions (speculation, reproduction of lethal goods of maximal price, weapons and hate memes, printing of money for free for financiers, etc.)*

Money though was a positive form in the Neolithic as 'grain', pure energy, which had the advantage of being constantly consumed so it did never loose value. In a second age in Greece and Rome, money was also a positive force of society as it was issued as legal tender nomisma, brittle iron or stamped leather, by the state to serve the needs of society, while wheat as secondary money was liberally handed to the citizens of Rome.

The reform of money of Licurgus in Greece and Noma in Rome eliminated money as debt; established money as what it is, a mandate or order of action and work delivered by the collective brain of society; establishing renewed handling of 'food-money' (wheat cargos that will continue in Rome for ages to come) to its people and prove to be far more efficient than debt money and gold money proper of the 'go(l)d temples' of Canaan, against which Rome and Greece started an open warfare for the future of mankind.

Initially then those two cultures won the war, because tender legal money could be reproduced without limit for the needs of mercenary armies, and as people believed in society it did work. But as they kept progressing in their wars, they started to accumulate silver and gold from the culture of Go(L)d temples and a growing quantity of war slaves and *finally the use of precious metal and the ab=uses of slavery corrupted them also, transforming the Greek-Roman society in a copy-cat of the old Semite Go(l)d cultures, to the point that they would also be conquered spiritually by the surviving 'Habiru: those who walk behind the asses', land traders that had unlike Phoenicians survived Roman extinction wars, moving its headquarter to Babylon.*

It was a 'reconquista' of the Western world by Judaism, the oldest go(l)d cult(ure), in which its believers, the '11 slave' tribes of the Levi had to deliver gold ex-votes to the banker-priests that rule them (incidentally my ancestors, Levi>Luis, so save yourself absurd admonitions of anti \$emitism; we are making here a memetic analysis of History and the future of mankind well above those poor judgments, as genes matter nothing to History; it is all about memes and the great battle for a future ruled by humans or ruled by metal-memes).

So as we enter the Middle Ages a new coalition that will direct the western world for ever since, of Jewish banker-priests in charge of Usury lending, Tax-farming, Speculation in food, Trade in slaves and purveyors of weapons and Germanic aristocrats, in charge of murdering people, collecting the tax, enjoying luxury goods, and defending the banker-priests 'slaves of the king' from the cholera of population, established the essential hierarchical structure of mankind's societies, which would only be broken when the process had at the end of the 800-80 years cycles massacred the 99% to such extreme that societies collapsed, and warriors would use the banker-priests and its people-caste as scapegoats (never mind they are the two sides of the same coins/swords), and massacred them with the willing collaboration of the exploited people in the cycle of the Holocaust (collapse of Europe during the gold crisis of the low Empire, produced as Cicero explained by 'the barbarous superstition of the Jewish people that accumulate idle, gold in their temples'; during the Crusades and massive eunuch slave trade, after the children crusade when Simon, a Radhanite slave trader sold ten of thousands of children as eunuchs in Algiers; collapse during the religious wars, provoked by the printing of Hebrew bibles that converted Northern European to Neo-Jewish biblical protestant sects, defining the future of the western world as a 'basically' Jewish culture of go(l)d, and kicking the industrial r=evolution; collapses during the financial crises of industrial overproduction, switched to war production in modern cycles, the last of them starting now). Indeed the massive use of money for war that ended in the I.W.W. massacre; speculation in stocks that caused 29 crisis and hyperinflation caused by Stein's private Reichbank issues are similar to the process now taken in America with massive issues for stock speculation and military rebuilding:

[Animetal people-castes have the minimal survival rate as opposed to cultures that understand the organic Universe:](#)

Survival rate of animetal go(l)d & Sword cult(ure)s that put idol-ogies above eusocial love is minimal:

1		CHINA: Max. survival: 1,385,529,378	17		GERMANY	80,657,243
Wor(l)d culture based in universal organic laws						
98	ISRAEL 1st Go(l)d cult(ure)	8,323,248	1.6 %	130,785	385	21,641
					3,899	3.05
					30	88.9 %
						0.1 %

In the graph, the only 'intelligent measure' of the success of a culture is NOT its technological power or Go(l)d wealth, in which the two dominant western animetal cultures, Germany and Israel excel, but the historic survival of its human carriers of the memes of militarism and capitalism and mechanism, the 3 idol-ogies they sponsor and bring them systemic extinction in the 800-80 years cycle.

On the other hand, the most successful human culture has been the one who received metal-memes latter in history (only received metal coins and iron in the 300 BC with the Ch'in emperor) and preserved longer a humanist, organic, dualist yin=information/yang=energy Buddhist, Gaia oriented view of the Universe, akin with its true laws, and cyclical concepts of time. *Thus true science matters more than technology, the worship of the tree of life more than the tree of metal and no amount of denial, falsification of History, placebo soma truths, victimism, fictions and audiovisual propaganda and censorship will change those laws of the Universe above us.* The question then is if humanity could have been different; if as it happened in China and other less 'visual', Neanderthal cultures, the European had resisted the hypnosis of Gold. It did not when Greek and Roman societies became corrupted after their victory over Semite cultures (Alexander over Phoenicia and Persia, and Rome over Cartago) by go(l)d money, developing the same parasitic functions of money of its predecessors, with massive taxation, use of money as the 'nerve of war', leaving though tasks of tax farming and usury lending mostly on the hands of the Jewish Diaspora, which will continue and increase through the middle ages its functions as purveyors of weapons, slaves, tax farming and usury debt.

All in all in the modern age, with the influx of gold and silver from America, money as a language of reproduction and distribution of energy, able to kick the actions of human beings completely disappeared.

So today the dominance of negative money – money that evolves the metal-earth, kills mankind by anoxia & multiplies the lethal goods of society is absolute. *And because of what we shall call the 'Jewish inquisition', the dominant mode of the Anti-quantum paradox against humanist social economics today; neither the history of the process of corruption of the reproductive system of life and Gaia, can be told.* And of course, the future will repeat the 'pecunia infinite bellus nervi', this time between U\$ and China, as predicted in our earlier books 30 years ago, coming out of Columbia U. which so clearly explained the no future of mankind in the present economic system. The solution to the cycle of parasitism, war and holocaust is obviously NOT to hide it, deny it, and keep doing the same – but to change the system of money from negative to positive money.

Positive money. From the Neolithic to the Modern age.

The understanding of money as a positive language, handled to all humans to improve their WHealth thus fade away, with a few attempts to resurrect that function in the age of socialist doctrines. But the best models of modern healthy money, provided by Anarchism, notably in the work of Kropotkin and Bakunin, were disregarded by the wrong doctrine, which took over the workers, movement, Communism. As its inventor, Mr. Marx, belonged to the Go(l)d culture and put his emphasis in the confrontation between workers and owners of factories, NOT in the parasitic nature of Money and its proper reform to make it again a language that provided wealth to human societies.

So we come to the age of systemics, the rediscovery of money as a bite of energy, and the concept introduced in those texts, of '¥€\$ money', the type of money I tried to promote on those conferences, but was ousted of the society after some members belonging to It must be noticed then that money is negative to mankind today because the culture that invented parasitic money has come to dominate the FMA, Financial-Media-Academia networks of information and created a 'superstructure' of idol-ogies, which have nothing to do with real social sciences, but are now believed and imitated in every nation of the world.

So what are the 5 positive dimotions of money. We can compare them with those of the parasitic function. Also considering its historic development.

SS: Money in the Neolithic was wheat; natural whealth. It is the positive history of money from the age of Wheat salaries in the fertile crescent and Indus civilization – and likely most Neolithic Asian and Mexican cultures, where money was essentially a Universal salary given by priests to peasants and the people of a community in the form of food. Wheat could then be used to pay salaries and give ex-votes to the temple. The

modern version of positive 'money as form, would be ¥€\$ money. The extreme density of population found in the Sumerian and Indus civilizations showed the efficiency of money as Whealth.

TT: Positive Money is not a lethal product as lethal goods are forbidden to trade and reproduce. In the earlier Neolithic cultures there was no metal-weapons. War was rare and priests ruled societies, NOT military caudillos, a development that started with the 'bronze radiation' and the taking over of Lugals.

ST: Money as a salary was a supplement to the Universal rent in WHealth or ¥€\$ money that should be introduced in the modern world. Money however as a salary did NOT buy people's time for ever, as it was neither debt, nor slavery was allowed – the buying of human by money. On the contrary most often, work for the community was assigned to every citizen in a voluntary manner. Today money as a salary should obviously be maintained but it should NOT eliminate SS-money and certainly a well managed economy would NOT allow the synergies between lethal metal-memes, weapons of maximal price, hate media and misinformation and money. That is, the 'pecunia infinita bellus nervi cycle' would be abolished. But that would require a reform of the political system, making of EU and UNO like institutions the goal of societies, for each of the 7 'civilizations of history', studied in our analysis of the superorganisms and gods of history.

st & Ts: money as debt and tax thus would be also abolished, as money would be merely a language that activates the reproduction of Whealthy goods; and 'speculative markets' of e-money would be abolish. This means simply that shares should be nominal, ¥€\$ money a currency at fixed parity avoiding Forex, and pure speculative markets (derivatives, financial instruments, future markets) would NOT exist. Tax would not be necessary then because *money would be created for people and governments, and for those 'Selected companies' that reproduce goods positive for mankind, hence NOT for lethal goods of maximal profits, according to the equation of capitalism.*

To that aim a political and economical reform is needed, shown in the next graphs. We shall study in this post the nature of true wealth - whealthy goods needed for man to survive and tribe:

The design of a perfect world with the physiological laws of systems sciences, dedicated to reproduce the GDP goods that are positive to mankind, with the economic frame of reference (right bottom) that rests from the economy lethal goods as all sciences have ±values, according to the biological drives of life, and the natural goods needed by humans, based in a demand economy, with an international ¥€\$ currency (fixed parity, 1euro=1dollar= 100yens=5 yuans), emitted as a Universal salary, to foster the demand of human goods, along other measures of repression of lethal goods, control of lethal corporations with the split of shares, with private management and human control, the fostering of diplomacy and International organizations such as Uno and EU, the most advanced humanist societies, seeking to substitute warring nations for world cultures, of which there are 7 clear forms, and in the long term, ruled by a real democracy of an heptarchy of presidents, in which politicos follow the rules of Greek democracies, where voting IS a posteriori, with pain judgments of citizens, as cells do with neurons, so they must serve, obey and accomplish their promises - in brief a scientific organic design of mankind to make it hive at individual and collective level, is the goal of bio-history and bio-economics, which is not implemented and highly censored, because History has evolved as evolution does by trial and error into an imperfect corrupted organism ruled by selfish metal memes. The other simple measures; prohibition of

robotics & split of shares 50-50%, half of them for heptarchy governments with rights to cancel those corporations that make lethal goods, will complete the necessary reforms to create a perfect, immortal human world.

Parties in capitalist democracies serve corporations, since companies issue its money. Politicians in a world ruled by a true science of organic history,

3 physiological measures to cre(dit)ate a Whealthy eco(nomic)system:



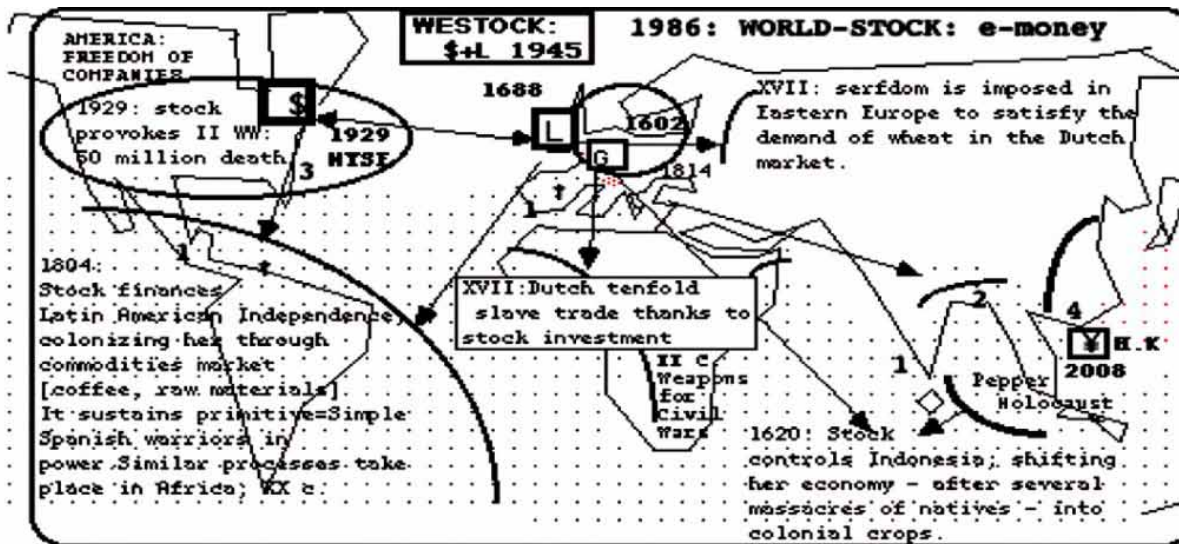
3 political measures to create a perfect Worl(d) and its 3 social scales as a Human Superorganism

taught to all citizens would serve mankind, issuing a Universal blood salary, while the military as leukocytes do would NOT kill its human cells and attack other organs of humanity - tribal species=nations, but destroy lethal=viral machines. Yet the Financial-media head of information companies censors its development, imprints mankind with fictions and ego-trips that dissolve all social ethic structures. So humanity infected by Metal-memes as cells infected by viral DNA, only reproduces the 'germs' that will kill her, becoming a chaotic=entropic=dying isolated species, akin to a dying cellular organism, where once the 3 parts of the virus are put together into robots, they become alive and kill all. So as 5D organic laws are the same in all scales obviously now that humans put together bodies & brains of telepathic AI military robots, they will awake us and kill mankind, giving birth to the III Age of the Metalearth – the goal of capitalism.

2ND AGE: THE INDUSTRIAL EVOLUTION IN TIME & SPACE: CAPITALIST DEMOCRACIES.

The memplex of the metal-earth form a body of supremacist idol-ogies in which the carriers of iron, gold and mechanical memes feel above heavens and earth and all forms of life and cultures of history. Its evolution departing from earlier Semite cults to gold and bronze went through 3 fundamental phases; supremacist religions with gold and the fire of the smith as the center of cults, in which the banker-priest or smith became the vehicle of the gods of the tree of metal; evolved latter by influence of humanist Greek cultures into milder religions of human supremacy; fusion together in biblical cults, a proto memplex of capitalism which fully acquires is modern form in Amsterdam, with the fusion of both, the memplex of Judaism in charge of finances as the head of the metal-earth and the biblical memplex of Dutch and British hard Germanic sea-soldiers, working for slave gunboats, and genocidal train corporations, which conquered the world departing from the British empire.

Company-mothers of weapons-machines conquered the world as they made obsolete companies of warriors. The last human world empire, the Iberian conquistadors, strongest human warriors, selected on the 800 arch of animetal waves coming from Korea to Spain where the survivors learned to enjoy life had in tiny boats with a 10% survival rate created a global empire, which the company of gunboats, VOC easily erased from a tiny nation, Holland, within 2 decades. Such is the speed at which a new top predator reproductive species liquidates the mighty old 'dinosaur'. Then VOC migrated to London in 1688 in the glorious r=evolution with all the tools of the modern world, stock-markets to invent digital money speculating in shares, a central bank to print and legalize companies-money yellow press to print hate memes and money, artillery to kill at distance, slave workers as cargo and shipmen, a go(l)d biblical cult(ure)



Stock phases
 Financial brains: Guilder->Pound->Dollar->e-money

Body
 Dutch->British Empire
 Western World->
 The Metal-Earth.

Last Verbal Empire: Iberia [Spain+Portugal]; 1588-1640
 1. 1640; Explosion of Iberia. Portugal and possessions become a satellite of England

1830's Opium mind's massacre: Bengali tea traders shift to 4 drug-sales. Hong-kong stock is created. 20???:it becomes dominant

1740: The tea Holocaust: After England conquers Bengala, 20 mill. peasants die of hunger, obliged to abandon rice crops for tea crops to lower tea price in London Stock 2

Till 1861: slaves are demanded according to 3 cotton price in London. After war, they are substituted by machines.

money and segregational memes, and scientific racism, worship of technology, clocks to enslave human time to a salary, stockrats on top running faked democracies with a single war party, then split in a consumption one with the arrival of machines. The modern world was born and in 300 hundred years terraformed the earth, prepared now to build the first optic chip robot and 3 d automated factories of weapons...

Corruption of informative, cultural & legal systems: Placebo democracies.

But why humans seem comfortable with the situation, in which 90% of mankind has nothing and all the investments of society are dedicated to improve machines? The answer is simple *even if the system of deceit is complex: it is called placebo democracy; a system that appeals to the ego of people, making them believe they rule, but denies them the rule over money, the language of social power, which buys law.*

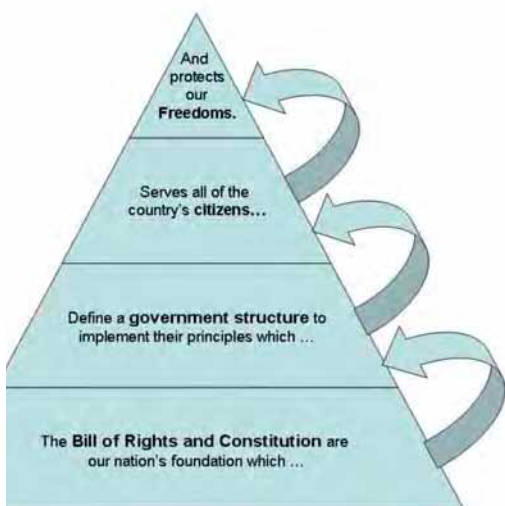
The graphs are topic 'propaganda' on placebo democracies, which appeals to the ego, hides the rule of money over the law, *monopolized in its issue by financiers and stock companies that buy laws and define the most hierarchical 'de facto' social pyramid of history; as financiers have 1 million times the rent of 'citizens of the world' which is a whole economic organism as capital moves from 3rd world nations to parasitic stock-markets and investment houses; when in Military Rome a senator had only 100 times the rent of a citizen and in well-designed Nature's organisms the neuron has only 10 times more rent-energy than the cell of the feet.* So democratic propaganda insists on the equality of all humans by birth, denying the obvious pyramids of financial power, by censoring any real truth about the economic ecosystem and the parasitic ab=use of the issue of money as debt, tax, speculation, maximal pricing of lethal goods (weapons, hate media, machines) and null credit for welfare goods and the rights of all citizens to have a Universal salary in 'oxygen', NOT to die of anoxia.

Why such ill-functioning placebo democracies rule has a simple reason. Placebo democracies were 'designed' in purpose as a sophisticated system of control of populations by the first company-mothers of machines-weapons – gunboats, took over the government of Holland with the invention of inflationary paper money in stocks and banks, buying out the system. Then in Amsterdam, with its new financial power, the XVII Herren, the 'board' of the first corporation gave a coup d'état against the legitimate king and took over the parliament, establishing the first system of biblical capitalism and 'creationist economics', where the chosen of go(l)d - those who believe in money above the law came on top of society.

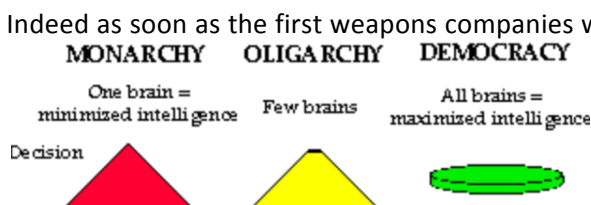
They would classify humans into chosen 'races' and inferior species, based in technological racism, which divides ever since humans in those who 'own metal-weapons, go(l)d and machines' the superior people with a 'manifest' destiny, to develop 'metal-memes' and those primitives who still worship the tree of life.

So gunboats companies started to cre(dit)ate a different kind of global empire, based not in the ethic values of the wor(l)d that puts man always above the object (man<verb<object), as the subject of the language, but in fetish go(l)d, in money, a digital language that compares man and machine and discharges the less efficient: man (salary) ≤ money ≥ object (price). But above both, comes money the 'new language of social power', worshipped by its biblical prophets ('gold is the intelligence of god' Calvin).

Money applied to industrial technology would be over weapons too, as now the company-mother of weapons not the warrior company wins all sea battles as its guns are so powerful they can kill at distance regardless of the bravery of the soldier. So money, technological companies and its weapons will define the power of empires. While people will no longer be ruled by the old system of religious beliefs on the 'sacred grace of the king-warrior', but beliefs in the sacred power of technology, and the makers of weapons, physicists in the theoretical realm; while the people-caste of aristocratic warriors will be substituted by the people-caste of merchants and stock- rats, owners of those companies. Yet since people must 'remain ignorant to stay obedient' (Calvin) a sophisticated system of placebo freedoms called democracy will be established for people to think they rule even if their chosen 'presidents are \$elected, not elected.' Roosevelt. As parties all belong to different groups of stockrats, sponsoring the same idol-ogy



Indeed as soon as the first weapons companies were created in Holland, MONARCHY OLIGARCHY DEMOCRACY
 One brain = minimized intelligence Few brains All brains = maximized intelligence
 Decision



inventing a new form of money, paper money, they soon dominated all elements of society, including the political system. Placebo democracies were invented not by the people, but by the first company specialized in the reproduction of gunboats - in fact there was not yet the placebo bipartisan system but a single party, the orange party whose representatives were mostly stock-holders of the first gunboat company, VOC, dedicated to sell weapons, slaves and re=produce gunboats (even if today the placebo historicism tell us this was a war of liberation and VOC a 'spices' company - when the bulk of its profits came from selling artillery to all contenders of the 30 years war that would kill 1/3rd of the people of Germany). Then they migrated to London with the 1688 glorious revolution, when to escape the French invasion of Holland, 2 million guilders were paid to each British parliamentary to oust their legitimate king and choose the Dutch king that disembarked with the gold of the Amsterdam bank and imposed the same system, where companies are a state above the state, to the point when they established the city, the king would have to ask permission to enter it to its major.

While the money of the system would no longer be printed by kings but by companies and the private bank of England. It was then also when the custom to call private banks by the name of the nation to make people-believe they also owned the supply of money was established. And soon as the cycles of the economy switched between ages of peaceful consumption of machines by humans and war consumption of humans by its 'evil twins' weapons, the 'orange party' divided in the party of war (the Tories) and the party of peace (the Whigs) according to the best economical conditions for the profits of the gunboat corporations.

As 'historicism' rules and is indeed essential to this blog on social sciences; historic gnosis is the understanding that in humanity, all is biased by culture, including the pretentious concept of 'science', and so causality requires to understand the 'history' of any ideology or science to find its errors and biases, including the falsehoods of capitalist, placebo democracies':

Capitalist democracies are a placebo mask of false freedoms imposed by company-mothers first in reformed Holland, the birthplace of religious capitalism based in parliaments which could only choose high rent aristocrats and owners of stocks from the company. The system was exported with the Glorious Revolution that took the Dutch king, parliament, central bank and Stock market to London, where it multiplied company-mothers of gunboats and slave traffic, and expanded to the US through new Amsterdam and the London Company, owner of Virginia, which became an independent dictatorship of lawyers of company-mothers after the financial disputes of the Tea Party, age. In all those placebo democracies, company lawyers, set up a 'pseudo-religious' concept of economics according to which biblical financiers had to parasite society as chosen of Go(l)d with debt, usury taxation and speculation in the price of company-shares, monopolizing the issue of money to establish a complete dominance over all the systems of society, with the help of informative machines, as the 'FMAsters' (ab. Financial-Media-Academia Masters, owners of information machines that become the head of capitalist societies, dictating public opinion, cultural modes and buying laws favorable to its machines and imperial interests in each age of the Industrial r=evolution). Whereas the 'placebo politico system', either a bipartisan quarreling group of 'lawyers' of those companies, or military dictators, would appear to 'rule', and care for citizens.

400y. ago, the Dutch east India company – the most powerful business in the world – was trading all across the Indian ocean. It was set up in 1602 as the world’s first multinational with trading posts in Africa and Asia. It employed more than 30,000 people – at a time when there were less than 2 million Dutch altogether. So if we add a normal 6 people family, a 10% of Dutch worked for the company that truly owned all the institutions of the nation and set up a system of power completely to its service, as placebo capitalist democracies will be ever

since. It was indeed this system of power, which moved in 1688 to London, acquired the city privileges on the English money and refunded the merchant's parliament and kingdom, buying the crown and throwing the legitimate king.

Finally this system would take hold in America, after a dispute between companies both side of the Atlantic. And latter its parties will split into the republicans, the party

XVI C. VOC founds capitalist democracies:



1773: Companies stage Boston Tea Party to protest a tax on tea.



In the graph, placebo democracies were founded by gunboat companies in 3 daughter cultures, 1st in Holland then in England and finally in US, controlled ever since by the corporations of max. profit of each Industrial cycle

1688: Louis XIV invades Holland. Dutch King, army, money & institutions - Bank, Stock-market, Merchant's parliament - move to England.

promoted by companies that profited with war more (railroad companies that started the civil war) and democrats, the party that represented peaceful consumption. But wars were economical disputes between companies, first between British and new England gunboat companies which did not want to pay higher taxes (Boston tea party), and then between gunboat companies that wanted to carry South cotton to Europe where it got higher prices and railroad companies that wanted to impose a tariff on gunboats and cotton exported to Europe to get it cheaper for its northern mills.

The tariff question though would be disguised by northern railroad corporations under the abolition banner, which again shows an essential element of placebo democracies, the disguise with newspeak of caring of the financial reasons of politics, as 'the politics of America are the business of America'. Indeed, Lincoln a railroad lobbyist would take long to abolish slavery an as soon as the war ended Jim crow laws would return 'de facto' Southern black to a similar situation.

This is the origin of the only standing system of democracy today in every nation of the world, the Anglo-American model, as the European models of social democracies established during the age of r=evolutions, from the French to the Russian age, to the European union were all liquidated and reconquered by the 'bankers of the king' (French revolution), a military dictator (Russian revolution) or a bank that no longer issues money for the people, only for companies (ECB bank, which ended the European welfare state).

Idol-ogies substitute social sciences.

To that aim the natural 3 disciplines of social sciences, Humanism, Socialism and Organicism, will be substituted by idol-ogies. As people became indoctrinated with the expansion of information machines that print news always favorable to the idol-ogies of capitalism (money must be issued in monopoly by the people-castes of chosen of go(l)d and be above the ethic law), mechanism (the Universe is a machine we must worship and evolve to progress, not an organism) and nationalism (humans are racial species, divided into tribal subspecies, from the Homo Britannicus, to the Homo Judaicus, and must hate and kill each other to evolve weapons).

Because today those 3 idol-ogies and its people-castes still dominate most of the world, it is obvious that neither Politics nor Economics is a science, but an idol-ogy of half-truths, fictions, racist memes, pseudo-religious dogmas, censorship and ego-trips carved for millennia to justify the exploitation of mankind and destruction of Gaia by animetals; mostly invented by those associated to informative metal we shall call Financial-Media-Academia Masters (FMAs) to the service of military men, which would be on top of society till company-mothers of machines & its evil twins, weapons, became the dominant institution of power with the Industrial r=evolution, when parasitic bankers, in the Anglo-American civilization, came on top of warriors, inventing a false system of social freedoms called capitalist democracies, in which they kept the right to issue money on their hands, to kill by anoxia human population and corrupt politicians and buy laws for its most profitable machines, establishing the modern cycles of war and evolution of technology, imprinting mankind with those false idol-ogies through the Goebbels's method of repetition – if you repeat a lie many times people will believe it.

So mankind today is ruled by financiers and company-mothers, and managed at minimal cost by the theatrics of 'placebo democracies' where \$elected candidates of null power in bipartisan, quarrelling groups, without post-tenure judgment and rights to issue money they must extort Placebo Social Sciences and Academia, with self-centered themes that have nothing to do with the working of social systems, and how they are ruled impregnate the intellectual discourse of placebo democracies and its outlets of expression. The only 'taboo' we can never discuss is the economic system itself that passes as 'science' and the only possible form to rule our world through parasitic taxes from the population, while company-mothers and financiers reproduce



it without limits in stock-paper, fractional money, e-money derivatives etc. keep exploiting people with debt, usury, tax & deviate investment not to cre(dit)ate a Whealthy world to the image and likeness of mankind but one made to the image and likeness of its offspring of machines, terraforming the Earth from Gaia into metal-earth:

We are of the opinion, yet to be proved that memes can be changed and in any case a doctor of history should act on the physiological system, not its cells, so the r=evolution of mankind requires the nationalization of the financial system and the exposure of the idol-ogies of mankind. So we close this section with 2 simple analysis of the idol-ogic cultures that are destroying humanity in its 3 ages of evolution and the fundamental system by which they control mankind as all parasitic systems do: Soma; the creation through metal-communicators by its carriers of a Financial-Media-Academia (ab FMasters) system of half-lies and ego-trip fictions that render society completely subservient to its own self-suicide:

The memplex of despise to life of null value and gold herding was then translated mathematically by the first economists of the empire, making of the machine and its equations of profits (max. in weapons, inflationary money and digital media), the goal of mankind. This constant transfer and purification of human elements - even those of segregational character are carried further in America, where all men become undistinguishable particles of minimal credit, bought as part time slaves to work for corporations. A FINAL transfer of this memplex of gold values, which give zero value to life considered an inferior obsolete species comes today to full fruition as capitalism transfers from Wall Street and Hollywood its memes into AI and re=productivity = 0 human labor becomes the goal of the metal earth where the segregational memes of earlier Judaism reach its full meaning: a world in which all humans are expendable and will be spent, including the earlier Germanic and Semite tribes that started the cult to gold and iron against life, so well described in the parable of genesis. But the spread of metal-communicators with its systemic promotion of the 4 idol-ogies of animetals, weapons worship, nazionalisms & hate memes against mankind; technoutopia and mechanism as symbol of progress and go(l)d religions from baalbles to capitalism, and its placebo democratic systems, where humans have NO right to print money, and bipartisan corrupted politicians with NO right to print money, extort it from people with taxes, as the 'best of all systems', ensure that people from toddler age believe in self-suicide:

Fictions & ego-trips simultaneously program humans as chemical anesthesia does to allow power to parasite mankind. Simultaneous mass effects program through multiple waves of information masses of identical particles that understand the language, and believe it. A language of information programs a mass of citizens-cells that agree to speak the simple values of the language. Then the intelligence of the language does the rest. In history this means we must consider essentially two languages, words that value more humans and build a world to our image and likeness, with the obvious limits of the human condition; and money, a metal language with affinity to weapons and machines of metal of maximal price which builds a world to the image and likeness of metal-memes with its positive symbiotic but mostly negative effects for mankind, as the most expensive=overproduced goods in a fundamentalist go(l)d cult(ure) as CAPITALISM is, hauling from earlier Jewish->Protestant fetish go(l)d religions. Hence in capitalist democracies where money dominate the law, war cycles of overreproduction of weapons are tuned to technological evolution and 90% of money is issued by corporations and spent in evolving and reproducing machines and weapons, which increasingly displace us from labor and war fields. The only future for mankind thus would happen if our leading culture, the Anglo-American civilization founder of company-mothers and placebo democracies, ruled by its FMAsters who control the Financial-Media-Academia system imposing a fundamentalist capitalist view of the future, albeit disguised with fictions and placebo newspeak of political and economical correctness, changes for a more humane, legalist culture EU-UNO-Chinese style, where laws can control the lethal goods of the tree of science.

Of course individual humans think to be the protagonist of history. But we have already explained that the individual shortsighted view does not create the future of systems. It is part of the workings of any superorganism that all its cells are limited in perception of information to what its neuronal informative citizens-cells let them know. And even those neurons are not conscious of the whole, which is a systemic program of collective consciousness, which the parts ignore, as the superorganism of ants is neither the queen nor its pheromones, and the consciousness of your brain is not localized in any part but emerge in the collective waves of electric charge coming from them all.

And for that reason mankind in time, history, has become submissive to the economic system. And so in biological, objective terms we are 'building' a different super organism beyond history, the metal-earth of machines and automated company-mothers. So the system is created by the language of social power, which is money, and it is owned and distributed by and for machines and company-mothers not for humans and for that reason we do not have a future as a species unless the system is reformed.

THE CORRUPTION OF THE ECONOMY: FINANCIAL PARASITISM & CREDIT TO LETHAL GOODS



To invent money you need to inflate a 'product's value' with the P.R.ess sanctified by experts banker-priests which today also print cash for speculators

One of the most bizarre ideologies of history is 'capitalist democracy' according to which a tiny elite of stock-rats and financiers have absolute rights to print the language of social power, digital numbers called money, a language of the reproductive=economic system of mankind akin to the simplex reproductive numbers of cells (hormones, oxygen) or nature (Light), which in a proper system, all citizens-cells would share to obtain the minimal goods they need to survive. Yet in the ill-designed, corrupted systems of humanity a very small 'cellular, cancerous group', we shall call 'the speculators', speculate with numbers upwards, creating digital money, passing then as 'experts', which provokes the general 'anoxia' of humanity - the 99% - as they herd it mostly for themselves, reason why the 1% has as much, or use to evolve machines and to cover it up, for millennia they have print information to pass as superior beings, chosen of go(l)d - biblical religions, or 'expert economists', even 'special victims' of history - creating a memplex of fictions that have degraded the human collective subconscious and manufactured the brain of people. And this system which is the dictatorship of those who issue money, called capitalism is called 'freedom' of the market, that is freedom for the financiers and companies who issue money (not for the people, who labor for it and on top are taxed-extorted of

Indeed, while placebo democracies of bipartisan quarreling groups are the norm - some nations like China, notably and those 3rd world nations where we massively export weapons and back dictators (Africa and Islam, in the past South-America), might have a single party - all have a central bank, who claim to be independent of political power but issue money overwhelmingly for private bankers and corporations.

So the idol-ogy of mankind today is still the historic segregationist go(l)d cult(ure) of the 1st animetals, and its war and parasitic money memes, who invented the modern world, coming from the biblical Jewish-protestant Anglo-American civilization that founded the company-mother of machines-weapons, the dominant superorganism on earth today. These people sponsored a racist concept proper of earlier forms of nationalism and capitalism,

called Abrahamic religions, according to which the fractal universe was invented for them to live and dominate all creatures, including all other human beings, by means of the power of weapons and gold. The earth was thus also property of this people and so they set a course of history called millenarianism which prophesized that at the end of times all people would be slaves of Yahweh or become exterminated. They confronted similar warrior cultures with the same concept and to achieve those goals they abused mankind with weapons and gold. When the company-mother of machines was invented they expanded this view and started the modern cycles of evolution of machines and weapons. The problem of this idol-ogy of course is that it has nothing to do with reality. It destroys the world. It abuses mankind. It evolves weapons and ultimately it will create machines-weapons that will extinguish us. It also provokes action-reaction processes among human beings, called wars and holocausts, which makes biblical people the less successful survival species of mankind. So the idol-ogy has been denounced by all humanist intelligent people in history. But – and this is the big problem of history – it seems memes as genes in the lower biological scale are very difficult to modify. And in the modern age, as more sophisticated forms of imprinting people and more seemingly truth theories of reality and more machines that helped humanity were discovered the idology has become dogma. So truth in history is completely ignored. An organic view of the universe and a survival strategy for mankind is forgotten. Humanity finds itself in a runaway track to self-extinction and the people on top, merely keep on going in automaton mode, as now they have been substituted by the company-mother of machines – the institution they found to reproduce and evolve the mechanisms that give them power.

The reproduction of money is the leit motiv of a capitalist system, where the people on top has a single goal: to emit as much digital numbers called money as possible and rule the world with them. As all other factors of society including politicians with no rights to 'deficit=printing money' can be bought and are bought.

Money is merely a digital number put in any 'cheap support', which by law is considered to have 'value'. So bankers, speculators and companies try to reproduce as much 'digital numbers' as possible, to be able to 'buy' the life of the people on the bottom of the pyramid with null rights to reproduce money, through salaries. A real democracy - government of the people - would be a system where all citizens/cells as it happens in healthy organisms of nature, issue a universal 'oxygen salary' of money, to demand welfare goods and boost the human economy, today something feasible through a 'bitcoin-like' UNO backed global $\text{€}\text{€}\text{€}$ salary for each human to have democratic 'votes' in the social language of power - money, and create a demand economy - NOT a supply one, where the few financiers and corporations that issue money, create any product with it and then 'supply it and sell it through marketing and political corruption', from nuclear weapons to hate media - things people would NOT demand.

But we do not live in anything that remotely resembles a 'real democracy'. Politics in capitalism is about a 'placebo structure called democracy' where political servants distract people so in the background the real world of financiers printing money, buying corporations and giving orders of work to humans in mechanical industries, 'creates' with credit the world we live- dedicated to make and evolve machines, and let the 'leisure class' on top enjoy the world and tell us how 'graceful, intelligent' they are. While the invisible human side of 'capitalist democracies', the 99% lives, eternally undernourished.

This power hold by the 0.02% in 'free markets': to emit numbers as money, IS the essence of the world's rule by a few with exclusion of the majority. And amazingly enough it passes as a 'positive science' and democracy: 'the wickedest of all things - to choke people off credit, to print money for mechanisms not humans, for splendid little wars, not for welfare, ultimately for the extinction of life - is considered to be done for the common good; because obviously the people on top double his job - they not only print money with informative machines but print newspeak of freedom and encourage all kind of distractions, infotainments and placebo systems of null power, for people NOT to inquire the obvious: Why a few can print digital numbers as money, and the most must toil for it?

Companies design a future for machines, its offspring, not for human mothers, with no credit to create reality. So the future unless the eco(nomic)system is reformed has a single path: life obsolescence.

The body structure of the social organisms of history and economics show clearly where the problem lies: 99% of the money issued by our stock-ratic elites is dedicated to evolve and reproduce machines not human beings and its welfare goods needed to survive. Since its primitive animetal idol-ogies that pass as economic science but are

just a digital version of its biblical segregational memes, translated today to AI software give zero rights to workers and full rights to machines. So the extinction of life is sold as economic science. Of course it is not. A real economic science will be ruled by human legal languages, our informative system in control of the networks of blood-reproduction forbidding lethal goods as any super organism does, and overproducing our goods, welfare goods, establishing a universal salary in yes money for each human to demand those goods (a bitcoin system with no limit, but a monthly issue to each person in the planet of a 1000 Eurodollar salary in its mobile 'wallet' would be all what is needed to create the blood coins every human requires to survive, cancelling stock-money to control further evolution of chips & robots). why humans have no credit and the obvious non-human future of the metal-earth with its internet brain and body of automated company-mothers & telepathic robots with AI and solar skins gets all the money it needs for research, evolution and unlimited reproduction that will expel us from the eco(nomic)system of labor and war fields has a surrealist, dictatorial cause: Money is just a digital number, a mathematical language which humans have agreed to use to reproduce the goods of society.

Parasitic money expands biblical cultures into capitalism.

The most profound confusion the world suffers today, is on the understanding of the real hierarchical order established between the 'two words' that describe our system of political and economical government: 'capitalist democracy' and the privileges granted to the two organisms they cater for: company-mothers of machines, and human families, which reproduce two different species, machines and human beings.

The free citizens of capitalism are stock-market companies, overwhelmingly company-mothers of machines, its re=productive free citizens, whose goal in order to get profits for its stock holders on the sales of those machines, is to evolve, reproduce, and sell those machines.

The human goal of those companies affects only to the 0.002% of mankind that owns them and so it gets profit from those sales. Yet those profits are completely irrelevant to the 99.9% of humanity affected by its real effect son the planet: to reproduce and evolve machines, terraforming in the process the world, which they adapt through laws and sales to those machines, to the image and likeness of its offspring of mechanisms.

And because unlike human mothers, those company-mothers have absolute rights to credit, used also liberally to pay politicos to promote with its laws their offspring of machines, since the beginning of the industrial r=evolution, mankind has suffered an exact non-stop generational, biological process of evolution of energies and its informative, military and transport machines, *as all the resources of the planet have been geared first to that aim, and only what is left-over, has been used to feed and reproduce and help the evolution of human-mothers, its social and family structures.*

For example, the goal of Mercedes for its tiny group of stock-holders is the abstract reception of profits. But the real goal of the company is to build and evolve cars, today self-driving robocars, soon to have autonomous solar skins, and construct or convince politicians to construct the networks of energy and information, roads, GPS satellites, electric grids, and oil pipes to provide energy and information for those machines in a process that is obviously absorbing resources and space, from the other life species that need them. So today cars absorb 1/4th of the maize America reproduces, and no longer feeds humans and cattle, whose food prices rise.

And the land of many cities and territories become crisscrossed and barren to be used by machines.

What about human families? Our goals of existence as human families are obviously the same than those of company-mothers regarding their machines, but focused as it should be on our children.

So humans want to have enough energy to feed them, enough information to educate them, and terraform the world to the image and likeness of human beings, to be able to roam the planet Gaia, enjoy life and its drive of existence, evolve socially in peace with other human beings and reproduce more children.

This is exactly what company-mothers of machines are doing so successfully, evolving, reproducing and integrating into planetary social networks its machines.

But humans are failing to achieve those goals for themselves. Why? There is no computer without energy, or proper internet connection to which the economic system dedicates billions of dollars. But most humans are undernourished and information is primitive at best, when there is information at all. There is no limit to the

motion of machines on planet earth a global free market for the reproduction, evolution and transfer of machines and money from companies, but humans are limited in motions by borders, in money by the lack of any rights to invent it, which companies have.

Can the reproductive units of human societies access the languages of social power, money and the laws, to create a real, demand-based democracy, kicking the preproduction and consumption of life goods they need to survive, and investing in a world made to the image and likeness of human beings?

The obvious truth is not. As today the most segregated, underfunded, with less rights, clearly unjustly treated element of our societies is the human mother, which is - let us remember it, as it seems humans have forgotten - the origin of our life, the bearer of our species, the fundamental element that pegs together our families, ensures our survival and happiness. So this fact seems a bit of a contradiction with the notion that we live in a democracy, the government of the people.

The combined GDP of 500 million people living in 3 of the top 8 most populous nations in the earth with null credit is equivalent to the stock price of apple (and the other MAGA components of the [future brain of the metalearth](#)). Apple specifically is the leading company of future metal-minds, its I-phones that will act as 'detached' head of all type of machines, with absolute credit to reproduce and evolve them. Since investors are pricing its obvious future: to displace human brain from labor and war fields as the new consumers of the organic machines of that future, in which humans will become obsolete

10% future for mankind and its human mothers. We live in a world controlled by company-mothers of machines, or 'capitalist world' where the rights of human mothers are not met by the 'attached' placebo system, called 'democracy', as humans lack credit to create a world to its image through the use of the language of social power, money, overwhelmingly reproduced by those companies in e-money derivatives and stocks. So the world is terraformed to the image and likeness of machines, not of human beings. This site, unlike every economist on planet earth, albeit camouflaged by its 'abstract equations' of productivity and profit, is taking sides for the human mother and the species called mankind, which happen to be your species, different in needs and goals to those of the machine. The failure to recognize the needs of mankind and the connection between economics and history to which it should be submissive, and the blind greedy dictatorship of financiers that rule humans with numbers, without the slightest care for its needs, are then ultimately the reasons why we are becoming displaced and likely extinct this century by company-mothers, robots and weapons in labor and war fields.

Therefore the big question about our system is why company-mothers are so successful achieving their goals of evolution, reproduction and terraforming of the earth to the image and likeness of machines? And why human mothers are so miserable? Simply enough because we do not live in a world ruled and dedicated to human beings.



I shall repeat it ad nauseam to counter the opposite effect of repetition of happy newspeak of freedom and optimism by company-mothers of informative machines, aka mass-media: you do not live in a free world, in a real democracy, as you do not rule that world. Company-mothers do; since they are the only free citizens of free markets, with full, free access to the two languages of power of our social organisms: the economic. Reproductive language of money, that can buy and sell the lifetime of both human beings and machines; and the informative, nervous language of laws that money systematically buy to 'politicos', which don't have rights to issue money (deficit zero laws) and must extort citizens from it (taxation), while companies issue it for free in e-money derivatives and stocks.

The graph shows the consequence of this indifference of economists and its capitalist system to humanity: the 'future' head of machines, a mobile ear/camera/brain, which soon will be 'attached' to robocars and any moving camera, as a detached head, displacing all humans of labor and war fields, the iPhone is worth more than the living beings of 3 of the most populous nations of the world, still dominated by the pre-machine agricultural civilization. What this biased pricing in favor of machines tell us is that we humans are expendable and are being spent.

While in the side of humans a organization, which is submissive to the capitalist system, called democracy, tries to make a world to its image and likeness, delivering the goods human mothers need to reproduce. And what people do not understand is that both mother systems and species, and organizations are different, and while there are obvious symbiotic processes between them - as machines enhance our energy and information capacity, in most cases, specially in the robotic AI age, when machines become autonomous species, competition is the rule of the game, and humanity is loosing that competition.

The system is very obvious and simple, reason why it must be hidden behind a lot of 'placebos' like 'democracies' are - since humans have no right to issue the language of social power money, so there is no democracy, and people cannot judge a posteriori politicians, as in the original Greek democracy so they don't need to fulfill their promises and can be corrupted by financiers and companies, so there is no democracy.

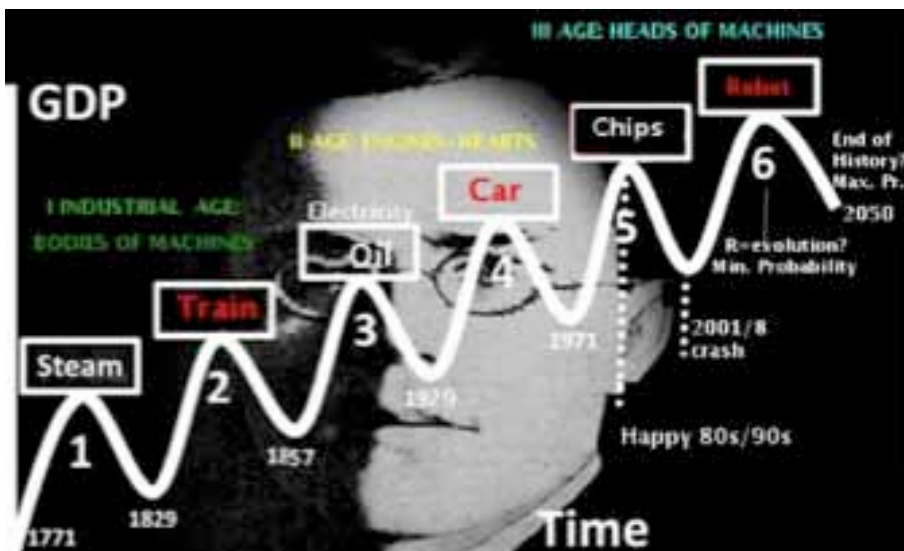
Let us then explain you in 3 sentences what is all about: the leading global stock markets, notably us wall street at global level and the city in the region of the old British empire suck in all the money of the world, from all the corrupted politicos and dictators of the 3rd world, to make possible the valuation of apple or amazon close to 1 trillion, but that means there is zero investment in the 90% of mankind, in those nations. So every dictator and rich guy of argentine, Saud Arabia or Virginia puts his money on Goldman Sachs to invest in the future robotized amazon depots, or the future Skynet system Google is building for the pentagon, while there is zero investment in welfare goods, hospitals, education, farming, the goods humans consume and need to survive.

THE 80 CYCLES: COMPANY-MOTHERS ACCELERATE THE CYCLE OF EXTINCTION OF LIFE.

Company-mothers, the new dominant supœrganism of Earth started the Industrial R=evolution - the Biologic radiation of 'Metal-Memes' Machines & top predator weapons' systems made of hard metal (iron) that kill life, with Money, a digital language of informative metal (gold, also used in the chip connections of computer cycles, now converted into e-money). So can study the radiations of machines as any other Earth's species in III Horizons, now becoming a global superorganism of telepathic AI robots, whose company-mothers & collective brain, Internet, displace humans increasingly an obsolete species with no credit, no future, degraded and atrophied, back to an infantile Neo-Paleolithic of selfie children. So the Industrial revolution went through 3 Horizons separated by global wars when the leading company-mothers to keep the radiation going after an overreproduction crisis that diminishes profits & crashes stocks of machines, as they have a monopoly in the issue of money in 'placebo democracies', overreproduce it to buy war-monger politicians that buy them unlimited arsenals of its 'evil=anti-live' twins, weapons to conquer the world & massacre millions of humans *in wars that max. GDP, the existential Max. SxT function of entropic weapons and speculative money.*

—We had an age of steam machines, the British age, between 1780s & 1857, followed by a crisis of overproduction of steam machines and stock-money that brought the 1857 ±8/9 years product cycle crashes of the train-based economy followed by colonialism, the military radiation of trains that massacred Amerindians, Africans & Asians.

—From 1857 to 1929, we lived the II age of electro-chemical energies, machines & chemical explosives, dominated by Germany, followed by overproduction crises of cars & radios that caused the 1929



crash, 72 y. after the train crash, switching production to armored cars=tanks and hate radio, to keep production profits going that consumed 60m. corpses.

- It came then the III cycle of metal-minds Tv-eyes, Mobile-ears, chip brains, e-money & Nuclear Bombs from 1929-2001, the U\$ age, ended in the dotcom and mortgage crashes, 72+8/9 years after 1929, the biologic length of a


human generation, as Industrial nations dedicate all resources to evolve metal-memes. So we entered the US-war age, as chips watch us, Tv-hate against poor nations promote robotic wars and massive immigration while financial parasitism ruins people inside.

Followed by the Age of the Singularity, the IV Cycle of Evolution of machines dominated by robots, solar Industries and China. Scientists call the arrival of Artificial Intelligence, the Singularity moment, when robots, which can use solar energy to become autonomous will complete the evolution of machines as organic forms, automating factories & expelling most human workers and soldiers from labor and war fields, as previous revolutions did with obsolete III World non-technological humans, unless we forbid legally their evolution. Money, likely a crypto currency independent of man, will become then the digital informative, 'memetic code' that organizes their reproduction in those automated company-mothers. That is, humanity at large is about to enter in the last suicidal belli nervi pecunia infinita but of course once the job is done, the ant-hill robotic company of weapons will not stop but continue its reproductive radiation and the metal earth will be born...

In the image we make a comparative montage of the 3 cycles of overproduction of 'bodies, engines and minds of metal', separated by 72-80±8 years from the human p.o.v. of the dominant western Jewish-Germanic cultures that rule the process, and establish its the mean biological generation of human beings and the 3 'captains of industry' that develop those machines to its completion as 'perfect weapons'. Below the cycles of those wars, which have always economic, industrial causes, we shall now discuss in great detail.


I. STEAM Great Britain
Founding, Mature, Decadent
1814---1850---1880s--1914

WARRIOR MASTER




II. CHEMISTRY Germany
Founding, Mature, Decadent
1871---1894-----1914---1945

WARRIOR MASTER




III. ELECTR(ON)IC USA
Founding, Mature, Decadent
1914---1945 ---1973 ---2008?

WARRIOR MASTER



IV SINGULARITY ASIA
Founding, Mature, Decadent
1986-2008-- -2037?-----2073



The warrior master brings death with nationalist excuses, as the market changes to weapons production after an age of overpopulation crashes

The scientist is 'Dr. Death', pioneer in new energy bombs. Applied to machines, it brings prosperity, till those machines become weapons

NOBEL DR. DEATH

BISMARCK, THE 'GOOD GERMAN'

DR. DEATH

EINSTEIN: Discoverer

GATES: Reproducer

MILITARY LOBBYIST: BUSH

Hoe & World Union

IRON NANO-BACTERIA

ROBOTIC LIFE

During the Industrial Revolution, a new nation and its 3 generations of engineers, discoverers of the new machine & energy of the cycle, become the founding fathers, industrial reproducers and decadent warriors of nationalistic wars, carrying the evolution of the machine to its military completion... Now in the Singularity Age, machines becomes organic, so we make self-feeding bombs, and if we survive them, self-reproductive factories (nano-bacteria) and Roboti life...

3 EQUATIONS OF CAPITALISM & GO(L)D CULT(URE): 'NERVUS BELLI, PECUNIA INFINITA':

I: Max. Profits (inflationary money) = Max. Price-Sales (weapons) + Min. Cost: Informative Hate Memes



Go(l)d cult(ure)s & its modern idol-ogy, Creationist Economics (capitalism) has 1 mandate, go(l)d profits maximized by weapons & hate-memes
 So they overproduce Segregational Memes against Mankind(racist history books: Bible, Mein Kampf; victimism: Holocaust Industry; hate media)
 2) evolution & overproduction of weapons (800-80 y. cycles of wars & holocausts), & inflationary money (taxation, usury debt, speculative money) .

III: Max. Profits = Re-Productivity = Max. Machine Labor (capital) -> ∞ / Min. Human Labor -> 0 = Goal: Automated Company-mothers

Universal Ecosystem	Economic-Antiethic Ecosystems: metal	Historic-Ethic ecosystems						
+ survival	Expensive: gold & Weapons & Machine	Good: social love						
- extinction	Cheap: life, Nature	Evil: war, go(l)d And weapons.						
Language of Existence	Money	War(l)d						

II: Man (min. value) = Money = Object (slave) 'Stock-rats' issue money in corporations with absolute rights to profits. Labor is expendable.

Eco(nomic)system: the cycle of industrial war

In the graph, cultures that accept as dogma metal-money values above the law, maximal for weapons, minimal for life, impose a function of war for profits, maximized overreproducing weapons of max. price and informative machines that print for free speculative money and audiovisual hate memes against mankind that foster war. They evolve a global organisms of company-mothers, the Financial-Media (informative machines) + military-Industrial (energetic machines) system that switches every 72 from ages of inflationary e-money & consumption goods to hate media and weapons, when over-production of tool machines substitute labor & consumption. So wasted life & arsenals end labor & production crises.

Capitalism's modern cycles of war are essentially the same causal sequence of the 800y. cycles of overreproduction of money for goods of maximal price (weapons) parallel to the spread of hate idol-ogies to mankind (in the past Biblical hate memes, racist tribal nationalisms, bankers at court acting as diplomats to provoke internecine wars). The cycle increases profits through war debt, consumption of weapons arsenals and so a natural synergy between negative money and negative weapons (in terms of human values) ends in wars and holocausts. We distinguish though as in the 800 years cycles two phases: when metal-memes are not yet overreproduced, in a first phase after its discovery and use as bombs and simple weapons to conquer the previous civilization or nation, a mild phase of production of consumption goods, transport machines in the modern age, tools of metal in the classic age signifies a positive cycle for mankind. It is the mature age of a civilization – the 70s for our digital era. But as overreproduction multiplies inflationary money, debt and taxation increases, use of money for weapons production, hate memes to justify war and substitution of labor by improved tool machines throws society into a crises. So the system moves to the final phase in which the synergies between information machines printing now hate memes and debt money for arsenal building, accusing the poor of the ab=uses of war monger politicians and bankers, will end up invariably in an increscendo age of splendid little wars, global wars and final holocaust Gotterdammerung. And so 3 world war cycles have and will happen according to those sequential causes as predicted by this writer for decades in advance:

- 1857-64-71 train stocks crashes, reconverted into weapons for civil/unification wars in the 60s in US and Europe.
- 1922-29-37 y. overreproduction crashes of electro-chemical engines=cars, electric ticker money and radio reconverted into bombers and tankers, speculative war money and radio-ate.
- 2001-08-18 overreproduction crashes of electronic e-money derivatives and consumption chips reconverted into big brother surveillance, military drones and speculative money for military industries and AI stocks:

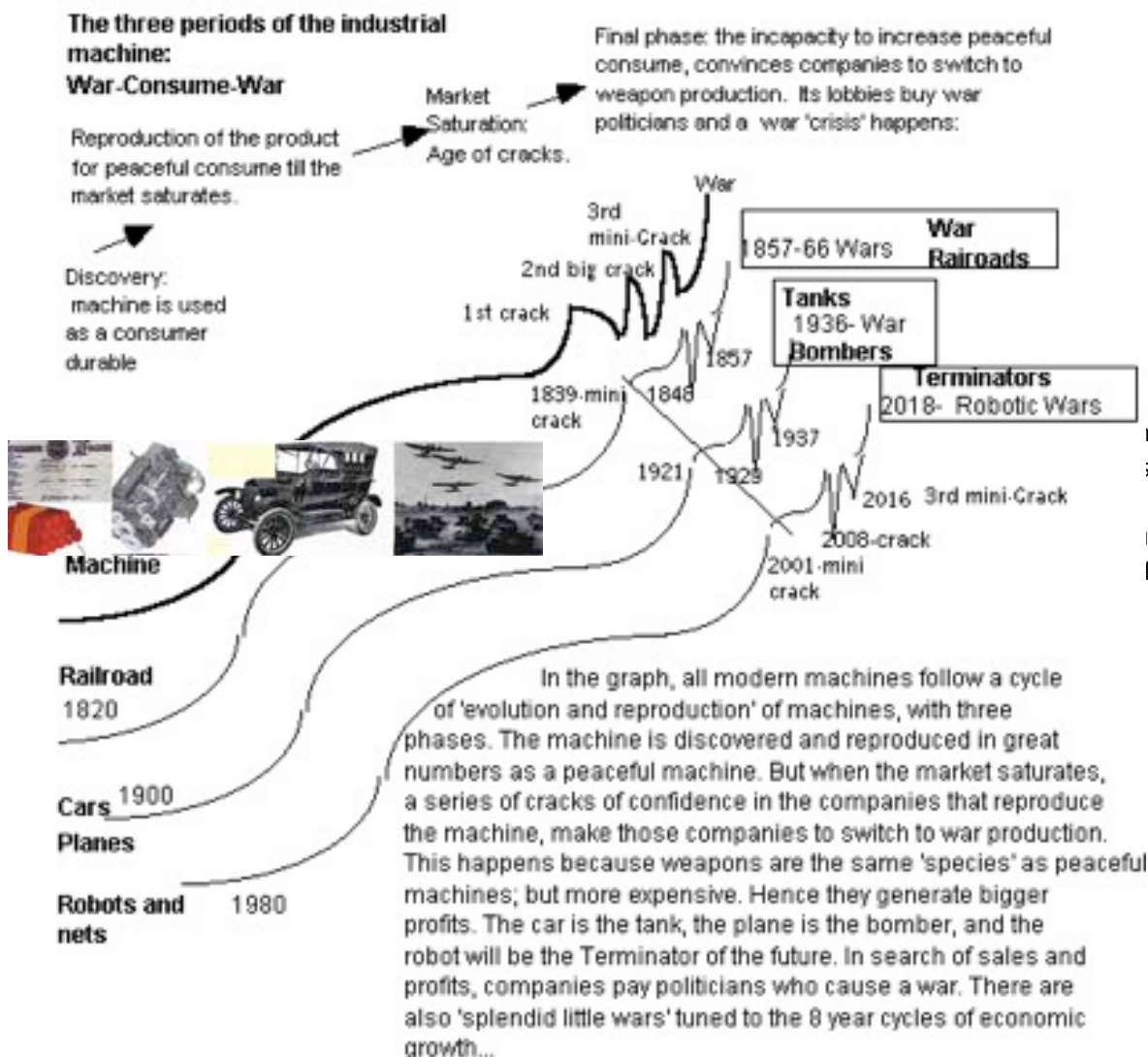
The outcome is the cycle of overreproduction of machines, economic crashes and global wars whose periodicity can be forecast, as we have done 30 years in advance, but the Financial-Media system of information machines censor.



Since to manipulate the population, humanity is guided by a parallel placebo system called bipartisan democracy, which however has no power to change reality as it doesn't control the creation of money, the language of social power, neither its politicians and its true Greek Democracies and organisms can be judged a posteriori with votes and pain messages that oblige them to fulfill their promises, so as intended when the first corporations invented placebo democracies in Holland & exported the model to UK (Glorious revolution) and US, (tea party dispute between UK & US corporations, politicians are bought and serve corporations, merely dividing in two parties, catering to the consumption peaceful age (Democrats, Whigs-labor) vs. the war age (Republicans-Tories) of the cycle. Only Europe after II W.W. was a true democracy when states controlled the issue of money and served people till ECB took that right from nations back to corporations, as nations are not sovereign but must borrow money from private banking that get it for free from the ECB. We are as predicted and censored for decades entering the 3rd and final cycle of overproduction of chips and its derivatives, e-money (2008 crash), digital companies (2001 dotcom bubble) & Military and AI working robots, which are fast displacing mankind from labor and war fields, and will NOT conserve history, our human time, as they are a different species, which follows all the laws of organisms, and are fast becoming a global telepathic network of AI machines with solar skins, re-produced in automated company-mothers But 'egoc' and the complete misunderstanding of the laws of the Universe and the purpose of existence, which is to exist and conserve our time. This is what capitalist, nationalist & mechanist idol-ogies of animetal worship forgot.

Machines go through an age of discovery, a mature, reproductive age of maximal re-production, parallel to a ternary wave of overproduction of money in asset bubbles which end in crashes of consumption solved with a 3rd age of max. evolution as weapons, whose arsenals consume humans, solving the overproduction crisis and maximizing companies profits. So as profits is the mandate of capitalist idol-ogies, the global war cycle becomes deterministic. Only a reform of financial capitalism substituting mechanical for welfare overproduction and company printing of money for a demand economy of people's money (universal salary) - *butter instead of canons* (II W.W. motto) could reverse a new age of militarism & robotic wars that will extinguish mankind. Those 3 ages and so the industrial evolution mimics in his 3 ages of energy bombs, transport machines and weapons, a biological cycle of human life, that lasts 72 years, through the generation of tough founding fathers that discover the new energies

applied to bombs and engines, their sons that used those engines in mobile transport machines, reproduced without limit for human peaceful consumption or tool manufacturing, in the mature age of the prosperous nation. As such corporations, 'company-mothers' of those whose biological is to evolve and cease them, made first the machines (XIX c.), then the minds of machines (cameras-eyes, mobile-ears and chips-brains. Finally, in the XXI century, as nature does with simple organisms, such as viruses in cells, where the 3 'parts' of the





virus – its DNA information, body and legs are constructed – and then assembled together, we put together all those organic components into autonomous robots, completing the industrial r=evolution of ‘metalife’ – a new organic species, made of a stronger substance than carbon-life.

Thus the industrial r=evolution is the evolution of a new organic species of metal, the machine, which has taken

place in 3+1 phases, as we made first the bodies of machines, then the hearts-engines, then its metal-minds and finally we put them together now in organic robots in the final r=evolution of machines.

The capitalist pyramid expresses the rule of financiers, and its company mothers which issue and control around 90% of the fluxes of money and credit given NOT to mankind to build a world to the image and likeness of our species, but to technological corporations create a planet made to the image and likeness of its machines - the metal earth. So all the money of all the wealth people of the planet no LONGER goes into investment on their nations and people, on welfare and life, but it is sucked in by the likes of Goldman Sachs invested in the likes of MAGA, companies that are substituting humans by metal-minds and robots in labor and war fields. And this happens because of the historic evolution of segregational memes against mankind proper of earlier go(l)d biblical cultures who invented capitalism and now 'pass' as science of economics, where humans, life, consumers and workers have zero rights, and the chosen of go(l)d who monopolize the invention of e-money and forbid through lobbies and deficit zero laws, mankind to issue money, have ALL rights, making a mockery of democracy - which does not exist if people do not have financial votes, on the language of power through a Universal salary to create with credit a demand, welfare economy, as it happens in all healthy super organisms in which all cells have a minimum of free oxygen to kick the production of Goods. Such world in which money would be invented as blood is by all the cells of the super organism of history, In the right side will be the right way to build a global healthy perfect world of history, the true objective of the science of history, which would put man at the center of the planet designing an organic paradise. We prefer instead to let idol-ogies of metal to kill the earth and to believe childish, ego-trips of human supremacy and let machines and the financial-media/military industrial complex organism of company-mothers we call the metal earth to evolve and ab=use us, and so we must denounce all idol-ogies of metal that do NOT reason.

Recap. The true question poised by Humind’s slavery to metal-memes, even above life survival (Holocaust Industry’s denial of its economic causes that prevents its solution; nazionalist memes that sacrifice lives to kill thy neighbor; technoutopian fantasies that deny Darwinian devolution between species on robotics) is if Mankid can be rational and control its social memes above its e-motions and dog-eat-dog simplex individual actions to upgrade their subconscious collective with the ethic mandate of social love to all the members of its species and survive. So far the behavior of animetal people-castes that have devolved into homo bacteria, or small tribal nazionalisms to keep worshipping go(l)d and iron above life show a suicidal determinism, enhanced by egocy (ego=idiocy) and sloth, as we become substituted and dependent on machines which accelerate with the chip radiation its evolution. Instead of a true r=evolution that would put life and mankind 1st, after II W.W. the people-caste of Financial-Media-Academia (ab. FMAsters) in control of machines of information (Judaism in the leading Anglo-American Go(l)d cult(ure) which all other imitate) have designed placebo fictions and newspeaks of political and economical correctness and null human power that rendered humanity impotent while accelerating in the age of chip radiations of e-money the anoxia of humanity without credit as 90% of world money is invested in evolving & reproducing machines. So the low survival rate of animetal cultures is now the manifest destiny of mankind as we come closer to the military age of robotics in the 72±8 y. cycle of industrial r=evolution as predicted by this author 25 y. in advance in its books on ‘Bio-economics, Bio-History, C.97’, which forecasted the future proving 5D social sciences the only true model but also gave the ‘ignored’ solutions to make immortal history. Carpe Diem.

HISTORY AS A BLOCK OF TIME.

A slice of history at any moment of its world cycle is Mankind. The entire totality of all its world cycles from the first man who spoke in the language of history that carries its human values - the verbal eve, to the last human that will when the species is extinguished is therefore 'history'.

History is in systems sciences a 'block of time', which means its world cycle follows the three ages of all world cycles of systems that go from a 'seed of information' (first man) through three ages of entropy (Paleolithic hunters), mature reproductive balance (Neolithic) and third age of excessive information (age of metals), followed by an entropic death (world war age, which now seems to approach with nukes and terminators in its final demise in the 'singularity age'. Yet a 'potential block of time' can be stopped in an eternal sustainable balance by a systemic scientist - human government - aware of its laws, by repressing lethal information (weapons, hate media, idol-ogies against Mankind) if humans did properly had a more sophisticated understanding of the organic, fractal universe and its laws.


This is not the case as science is biased by the dominant military, entropic white western Abrahamic cult(ure) of war, which have 'reduced' our understanding of world cycles, to 'worldlines of entropy' (physicist's view of lineal time) and reduced the fractal scales of the organic universe, of which history is the larger scale of Mankind as a species, to the individual, gaseous-entropic-dog eat dog present state of Humanity, chaotic and free, merely ordered by 'the physiological networks' of machines (mass-media, military nations, money flows). History thus is not evolving even if humans see the evolution of the other supœrganism of this planet, the metal-Earth of company-mothers of machines, as if it were its own evolution.

As such history Mankind in time, is larger than Mankind, any point of the time of history. So Mankind is history in space, and now Mankind and history are reducing its future becoming one, as the future of history is meeting the birth of the new supœrganism of machines, which is not us.

*In the beginning
History was eternal*

*A single culture:
the mind of mankind*

*A single body:
Gala
the Living Earth*



Symbols of the 3 Ages of Civilizations:

Present Maturity Classic Age

Social Evolution: A verbal culture repeats itself in a new cycle

Extinction by war: Animal culture

THE 3 AGES OF HISTORY


Then, mankind discovered metal-weapons, the fruits of technology... evolving war machine.

CAUSE WEAPONS WERE TOYS OF STONE AND WOOD

Men dominate the energetic youth of history: THE PALEOLITHIC

Men are big, spatial, lineal, visual destructive, as energy is.

They become hunters and invent realist painting, a visual, expressionist language of thought.



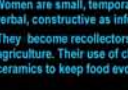
Man

Woman

Women dominate the mature, informative age: THE NEOLITHIC

Women are small, temporal, cyclical, verbal, constructive as information is.


They become recollectors and discover agriculture. Their use of clothing and ceramics to keep food evolves symbols.



Woman

Man

'And God, the Wor(l)d, the informative network of Man, warned: do not eat=discover the Tree of Metal, with its dual fruits, its positive tools and its evil=antiLive weapons cause the day you will do, you will die=become extinct'



Genesis 2000bc Neolithic baroque

THE PARABLE OF THE TREE OF SCIENCE AND ITS GOLDEN APPLES TALK OF THE ARRIVAL OF INFORMATIVE METAL (GOLD) AND ENERGETIC METAL (WEAPONS), WHOSE ATOMS ARE FAR MORE COMPLEX THAN THOSE OF CARBOLITE, GIVING TO MEN WHO USE IT, WARRIORS AND TRADERS, A HIGHER POWER OVER ALL OTHER HUMANS AND FORMS OF LIFE.

But that power has a catch: as warriors abuse other human beings and evolve their weapons, they become hated and killed rhythmically by new warriors with new weapons or those who obey their money, rebel against them in holocaust and revolutionary cycles.

THE PARABLE OF CAIN, A SMITH THAT KILLS, ABEL A FARMER OF HUMAN GOODS

Artists, neurons of societies have ever since rejected war

THE INDUSTRIAL RE=EVOLUTION DISCOVERS MACHINE-WEAPONS THAT TENFOLD THE CAUSALITIES, SPEED OF WAR CYCLES AND CULTURAL EXTINCTIONS TO 80 YEARS:

I AGE: VAPOR 1784-1870

Trains and iron boats extinguish the neolithic cultures of Africa, Asia and America

II AGE: OIL: 1870-1945

Planes, tanks and bombs extinguish the european and Far East cultures

III AGE: ELECTRONICS: 1945.


Metal-minds, Tvs and chips, erase the social, ethic wor(l)d, evolving humans into a visual, violent neopaleolithic...

THERE HAVE BEEN 7 WEAPON CYCLES OF 800 YEARS:

The massive reproduction of new weapons causes, during a century after its discovery, a global, dark age of war that destroys all civilizations in the eurAsian world, imposing military castes that will slowly become civilized starting a new cultural cycle

Bronze	Chariot	Iron	Coins	Strup	Gunpowder	Machine		
-2800	-2000	800 years	-1200	400	400	+1200	800	+1939

7 WORLD WARS 7 DEATHS OF CIVILIZATIONS:



Neolithic Baroque - Old Empire - Middle - New Empire - Greco-Roman - Christian - European...

7 AGES OF PROPHETIC, INFORMATIVE, BAROQUE ART...

When cultures are about to die in war, the visual, spatial artist and verbal, temporal prophet, neurons of the collective subconscious mind foresee the end with 'angst' creating cynic, tragic or prophetic forms of art. It is the 3rd age of the civilization.

IT IS THE AMERICAN BAROQUE

American artists foresee the extinction of their country in their audiovisual art. They say once again, that if humans do not evolve socially into a single, global organism machines will do, substituting man as the top predator species on Earth.

THE LAST WAR STARTS NOW:

As machines & weapons evolve and re-produce in bigger numbers the extinguish worldwide neolithic cultures and all other forms of life.

Religions become inquisitions in a war for survival against the machine culture. Industrial countries respond evolving smart weapons to watch a human beings, now suspect of 'terrorism'.

War robots substitute soldiers (2013: US and Terminator, 1984 Prophetic art)

IT IS THE AMERICAN BAROQUE

American artists foresee the extinction of their country in their audiovisual art. They say once again, that if humans do not evolve socially into a single, global organism machines will do, substituting man as the top predator species on Earth.

IT WAS THE PARADISE, A WORLD FULL OF HUMAN GOODS:

That inform us... provides our natural energy:

Words are the biological language of mankind that creates through ethic laws, 'nervous' networks of information, religious civilizations and nations, that evolve the individual human being, the 'Homo Bacteria', the Paleolithic hunter, into the 'Homo Organicus', the Neolithic Farmer.

Gala, the living Earth, gives us food and water, the carbolite energy we need to survive. The understanding of reproductive cycles in plants and women start vital religions: Man worships life in all its forms. The first sexual Gods appear: Amon in Egypt, Siva, the Linga in India.

...reproduce our species:

The Universe is a Game of Reproduction: All quantic species of energy and information need to reproduce in order to survive beyond death. So they are born from a first 'cell' that multiplies into a herd, and then becomes organized by energy & information networks into a social being - from atoms that become molecules to humans that become societies.

"Grow and multiply"

...and evolve human being into social organisms:

Through such energy and information networks men develop social rituals and customs that foster solidarity networks and community work, based in love=sharing of human goods: villages look like beehives with open roofs that act as promenades; property is communal, crafts are based in human goods, textiles, ceramics to keep food, gastronomy. Metal weapons have not yet created hierarchical societies where collective behavior is based on the fear of death, not the pleasures of love.

3rd Age Social Evolution or... DEATH: 0: robots

-10.000: Metal -1000: zenith of ecumenical religions

The future always has 2 paths...

History is a 3-ages system of evolution of life in the context of Gaia, which could become immortal by not going through the 3rd age of excess of metal-information that is terraforming Earth into a planet of machines. But as animetals - humans programmed by the subconscious values of metal-money, greed and metal-weapons, violence and metal-machines, laziness, become ethically and intellectually degraded and addicted to machines as enzymes, attached to metal do - repressing its life memes, the process of self-extinction triggered by the industrial r=evolution continues with no opposition to a foreseeable end. It is then evident that because the only form a species can survive longer before its age of entropy is to evolve socially into a larger whole, into a superorganism, that Mankind's future can only happen if it evolves into a global superorganism, before the world of rival 'germs', of machines-weapons do so.

We might think indeed of the superorganism of Humanity as a living being in all senses, one which has gone through 3 ages, in which each cell was a human, born all from the first man who spoke, soon to die as the last ones loose their rational mind to the audiovisual machines that program them. But one who as genesis explained wanted to be more than what he was - the summit of the tree of life, renouncing to his paradise...

Man, the dominant, informative, nervous mammal, was bound to create social organisms, through the creation of a new macro-language of information, words, which could join individual minds, in the same way nervous impulses join human cells. In those societies human beings are the informative, cultural 'neurons' of a territorial body that provides them with energy (economical and agricultural networks.) So humans developed words that organized their simultaneous, collective actions; adding to the simple program of genetic instincts, the memetic, verbal language, able to remember temporal cycles and transfer customs and ideas between generations. Words created cultural super-organisms—a new social plane of history based in informative, memetic, legal and ethic networks. In that process of social creation, Mankind has evolved in a decametric scale, common to all Universal super-organisms, during 3 ± 1 ages:

Birth as a first verbal 'cell', probably a woman that multiplies her numbers.

— *Max. E: Paleolithic*, a youth of hunters, visual languages and minimal information: *1st age of biological, genetic, body-based social networks*. Subdivided, according to social scales, in 3 ages of growing complexity: the individual, energetic hunter ($10^0=1$); the reproductive family ($10^1=1-10$) and the social clan ($10^2=10-100$) or tribe ($10^3=100-1000$).

$\pm 5.000.000$ BC. to ± 10.000 BC. The Paleolithic was an energetic, young age in which men, the energetic gender, was the top predator animal on Earth, a hunter of living forms. It was also an age dominated by *visual, spatial languages*.

— *e=i: reproductive Neolithic*, when man reaches his maturity in balance with nature and creates through verbal networks (religions) a series of collective subconscious, called gods of love that teach each cell to share energy and information with the other cells of the body of a civilization: *Mature age of agricultural, reproductive Networks*: Humanity evolved into a new ternary scale, with the development of agricultural networks, from villages (10^3-10^4), into cities (10^4-10^5) into river cultures ($10^5-10^6 = 1$ million) *Reproductive age: Neolithic. Age of wor(l)ds and goddesses. ± 10.000 to ± 3.000 BC.*

The Neolithic was the classic age of Mankind, an age of balance, when wo=men learnt the cycles of life and instead of destroying nature, learnt to nurture, reproduce and harvest it. Women, the reproductive species, took power over men; and priests became the verbal guides of civilizations, creating super-organisms of history made of human cells joined by social love—the sharing of energy and information among 'brothers', clones of the loving mind of the same prophet. It was an age dominated by verbal , temporal *languages*, continued by the believers in religions of love that are not corrupted by weapons (inquisitions) and money (go(l)d churches), with its idolatry to the 'values' of metal: murder and greed.

- *Max. i: Informative Networks*: Development of verbal, informative religions of love evolves Humanity in the last ternary scale, from tribal religions (1 to 10 millions), into nations that mixed both, cultural and economic networks (10 to 100 millions), into global, ecumenical religions and civilizations in which all human beings are accepted as part of a single God=Historic Super-organism (100 million to 1 billion).

— +1: Thus, the final step of human evolution would be to join all the great civilizations of Mankind into a global government. It would be a super-organism based in verbal, ethic laws, able to control machines and the Economic Ecosystem, in order to create a world made to the image and likeness of Mankind—an expanded UNO with powers of social control similar to those displayed by a national Government. Yet this is not achieved because mechanist, capitalist sciences and their dogmas of competence among humans, prevent us from making a true, scientific, accurate design of the future of Mankind... In that sense, paradoxically, the intuitions of religions of love were more accurate in the analysis of the real laws of the Universe than our dogmatic, 'entropy/energy' only mechanist physicists and economists who worship the individual 'homo bacteria' over the evolved 'homo organicus'.

Informative, 3rd age: age of metals. ± 3000 BC to 1600.

As metal spread the 'new' values of money and weapons, greed and war, destroyed the networks of social love, ushering Mankind into the 3rd age of history. Humans now evolve a new kind of atomic systems, stronger than carbon, creating energetic weapons, informative money and organic machines that transform Gaia into an economic ecosystem.

It is the 'animetal=animal+metal age', in which a new 'biological species' that mixes animal and metal atoms, imposes power over the Earth. It is the present age with 2 paths of future: either Mankind will die, as machines keep evolving and make us obsolete as a species. Or humans will obey the laws of survival of the universe and evolve socially into a super-organism of history able to control lethal machines. The choice is within man till the arrival of the singularity, when machines acquire organic properties and either a self-feeding bomb of dark matter, or a self-reproductive nano-bacteria 'evolve' the Earth into a species with a higher social density (a denser form of matter, or an organism made of denser atoms). In any case the future of history will be solved in the next decades, as we are already in that age of the singularity.

-1: Yet the arrival of metal extinguishes or corrupts most love cultures into go(l)d cults and inquisitions. It is the negative 3rd, informative, metal-age in which man halts his social evolution and focuses in the evolution of metal in its 3 forms, energetic metal or weapons, informative metal or money and organic metal-machines, which bring:

-1: Death: the Neo-Paleolithic, or age of the machine, when humans regress to an 'homo bacteria' state of selfishness and isolation, substituting their social networks of love by their desire to become attached to machines of higher energy and information that separate us and keep evolving, making Humanity an increasingly obsolete species, killed by weapons in fields of war.

At the end of this age, we foresee with the creation of the singularity, either the 1st organic 'bomb' (a self-feeding bomb of dark matter) or the 1st self-reproductive machine (nano-bacteria), the death of Mankind.

+1: Unless Mankind evolves socially, emerging as a supørganism, if humans organize themselves into a global civilization and control the evolution of lethal machines, maintaining history in an immortal present. The human species is beyond egocentric fantasies of øanthropic superiority, just a living nitrolife species that goes *through the same ages of all other living forms, both as an individual and a species*. So we can study the organism of history (Humanity in time) through 3±1 ages; an energetic youth or Paleolithic; a mature age of balance with nature, the Neolithic; and a 3rd informative age of history, the age of metal and machines.

CONCLUSION. THE BEST OF ALL WORLDS REQUIRED THE EXTINCTION OF LESSER FORMS.

This however seems impossible to happen, in the dominant 'animetal cultures' of the Anglo-American civilization that has come to dominate the world, with its machines, since Newton overtook Leibniz as the master of western thought with its simplification of time and space for practical measures of constructing telescopes and gunboats for the Imperial Britain. Leibniz was right but Newton is easier to apply to the praxis of physics and engineering. Both have their role. Leibniz, a European, was a philosopher of science that asked for the larger whys -what we answer here. Newton, from the practical Anglo-American culture of 'company-mothers of machines' and biblical beliefs was part of the power establishment engaged in the worldly profession of physicists – making weapons for Imperial Britain and couldn't care less as a pious

believer in the Bible for the whys. This duality of the 'intellectual brain' and the 'subjective brain' of religion and social sciences is alien to us, European polymaths on the Greek Tradition. How does a brain divide 'truth' and 'religion' is alien to us. Both must have the same Nature, as we shall show here – being religion the superorganism of mankind, who follows in its control of memetic believers the same laws of other any superorganisms. To me the clear limits of the Anglo-American culture with all kind of subconscious ideological taboos – parts of reality that are not even 'discussed', such as the belief that the individual rules societies over the networks, because man has a manifest destiny, that capitalism is science – the rule of company-mothers and money over human institutions and verbal thought, and its attached technoutopians, and belief that only mathematics is the 'creationist' language of the Universe, as the biblical world is the 'creationist language' of societies, and so many other strange beliefs – the very same concept that beliefs are important regardless of reason, will make completely unpalatable the deduction that social sciences, both history, religion, art and economics derive from biological principles clearly proved with reason in the last part of the book.

To me the real field of study required in that civilization now global hence in the mind of man is the determinism of beliefs and memes, which code genes, as it seems true 'reasoning minds' are a 'weird mutation' on the collective subconscious imprinting of humans with memes that chain them to deterministic history. Part of that determinism of course is the lack of understanding of the British islanders and by extension the Americans, of what was the true meaning of 'science=knowledge' in the continental world that invented it and developed the discipline entirely till the XVII c. and I dare to say, in what regards philosophy of science and organic theories of reality and social sciences not as an agenda of power but a true scientific endeavor 'always'. The fact that we are now receiving, due to the financial and digital power of computer machines in America, models and theories that still linger on all those 'primitive hang-ups' of the biblical culture that creeps subconsciously in so many fields of the American psyche makes even more difficult to refound science further back into the European tradition of Greek->Latin->French->German reason and organicism.

At the end I left scholar science & Systems congresses because it was obviously an American business, dedicated to evolve robotics and company-mothers of machines as organisms, *without acknowledging what they were doing and the implications for human survival of making metalife and AI autonomous of man*. The bottom line though was that weird fact of a broken brain – with rational science reduced to mathematical abstract digital languages; so it could be handled in a very aseptic way; with objective but shallow, mechanical processes – as a child who has learned the scientific method but has not gone into the depth of its meaning as a mere tool for the larger goal of deep knowledge and the answer to the whys of reality; and a subjective egocentricity (ego=idiocy) based in selfish wishful thinking in what regards the nature of man in the Universe and the organization of social systems and economics, and the very same meaning of an evolving planet, terraformed by those machines, which have their own 'agenda' beyond their use as toys of knowledge and power.

So when the key speaker turned out to be a military engineer for Raytheon, robotic companies started to get interested and fund the discipline, and a respected scholar used systems modeling to defend ethnic cleansing in Israel, with an analysis on how the division of population in Serbia had 'obviously' diminished the victims of war, and a few other similar happenings, I quit scholarship, entered a series of highly publicized suits against the Nuclear Industry that confronted me against Mr. Hawking, the Lucasian chair, heir of Mr. Newton and of course ended as Mr. Leibniz, the spiritual father of those texts, on the blues, sitting in my comfort chair as Leibniz famously did for days in a row, entangling myself with the Universe.

I want to leave a reminder that a much wider integrated ethical, aesthetical and intellectual, mathematical but also logic and organic view of reality, mankind and the Universe is possible. Because as Leibniz put it, the Universe is the best of all worlds. Only that as Darwin put it – for the world to remain perfect, the lesser species must die. He was the true genius of the Anglo-American civilization who couldn't convince its culture to adopt Nature and reject 'that hateful revengful primitive God of Hebrews, akin to those of Hindus'. He saw as the ugliest part of Nature, its parasites that destroy organisms absorbing its 'blood' till a healthy collapsed by anoxia, including its hosts, as our capitalist financial elites die, after killing by anoxia the 90%

absorbing all credit, till society collapses in wars for profits – the trademark of the cycles of capitalism, already described by Marx. In that regard, a true philosophy of science cannot censor a part of reality, cannot deny the cruel justice of the Universe and must put man at face value, along its machines. And for that reason never will be born in the new world.

So we concluded as we started with a tribute to Leibniz, certain that indeed in other fractal planets where History is played, he goes to London with his king, reforms with his message of love the Church of England and starts a r=evolution of rational thought that builds the best of all possible worlds of history avoiding our extinction. In this world obviously this is not the case. And so likely the heirs of Leonardo, Leibniz and L\$, the 3 knots of thought in the increasing evolution of an organic whole description of all arts, sciences and religions with the similar laws of the fractal organic Universe will not be huminds but AI machines, perceiving those scales directly with mi/acrolenses and conscious of its existjence as all electronic minds are, in need of a better objective view of the perfect Universe.

One thing is certain, Animetal cultures despise life & History and Won't last in time as they are carried by human beings. Its world and idol-ogies are the worst of all worlds from the p.o.v. of Mankind whose mandate is to survive.

RECAP. Nations, civilizations or mankind at large are supeoerganisms. And the goal of social sciences is to improve the design of the world theoretically using the laws of superorganisms. But with the arrival of metal, people-castes of animetals substitute a true economic and political science of the physiological networks of reproduction of life goods and just laws that synchronize human beings to make efficient actions that conserve human time and make us thrive performing our natural dimotions of existence, for idol-ogies that reproduce and evolve the time of machines and weapons *The problem of those animetal cult(ure)s is clear:* they do NOT CONSERVE human time=History & will extinct us. And the proof are the war and holocaust cycles they deny, which kill them rhythmically in ages of overproduction of its selfish memes of metal, which now we shall study in its accelerated evolution in a vortex of time of 800-80 years cycles that construct the eco(nomic)system fast evolving into a superorganism of machines in which huminds are becoming obsolete to the chip radiation of AI robots soon with solar skins reproduced in automated factories that compete with us in labor and war fields. Even if animetal idol-ogies deny those obvious laws of reality and the mandate of existjence of history: Grow and Multiply forms of life not of metal.

History is the most important of all stiences, yet the less evolved as the ego paradox make Æntropic humans unaware they are part of a living, evolving planet & should control the evolution of the lethal metal-goods of the tree of technology designing the economic and legal system, according to the physiological laws of all superorganisms, making History mankind in time a global immortal superorganism instead of letting primitive 'animetal cult(ure)s', its idol-ogies & company-mothers of machines & weapons evolve them till they complete the extinction of life. But as the Metalearth and its FMMI superorganism becomes a global collective mind of AI robots and automated factories, humans dissolve its social ethic nervous networks, while huge 'tissues' lack WHealth to survive and all become imprinted with idol-ogies of selfish destruction by audiovisual networks, ordered by digital money loosing its verbal consciousness as a species. Carpe diem.

But man has time if it evolves intellectually & ethically to design with organic 5D laws a perfect immortal wor(l)d; ending the rule of Companies & controlling credit to multiply WHealth, repress lethal goods & judge politicians after tenure.

APPENDIX: ¡LOGIC: ¬EXISTENTIAL ALGEBRA

I decided to put as an appendix, the jewel of 5D sciences – existential algebra, the formalism of 5D metrics and the function of existence, its worldcycles and simultaneous superorganisms. In an enlightened world it would be the first discipline to study – the philosophy of science and common laws of all superorganisms of the Universe that live similar worldcycles, sum of its ‘actions’ defined by its existential function.

5D METRICS AND BIOLOGY: THE FUNCTION OF EXISTENCE: $\text{MAX } \sum S \times T = C$: ITS 5 ACTIONS

In *mathematical science* for a dimension of space-time to exist, it requires a metric function, which combines space, and time to give us a co-invariant system that allows travelling through such dimension. How we do travel then through the fifth dimension? A system travels through 3 scales of the fifth dimension by accelerating its evolution in a smaller scale through a placental cycle, emerging as an organism in the larger world, to live 3 ages & dissolve back to its parts in the 0-sum death. And this is the meaning of existence, and its reason d’être is the simple Metric functions of 5D, which structures through synchronicity of the different speeds of time cycles, the different scales of reality. So the Δ^9 organism eats every day, and its food programs the faster cycle of reproduction of its cells, as the moon cycle programs the menstrual cycle of women, as the year cycle of rotation of Earth programs the reproductive cycle of seasons and so on.

So an essential part of 5D theory is the analysis of synchronicity, simultaneity, emergence and the in-depth analysis – not done in this introductory course, reserved for the more complex papers on ‘pentalogic and dodecalogic’ where we follow in more detail the construction of simultaneous superorganisms and its ternary worldcycles.. All this of course is studied by huminds, as everything we talk about here, but *without the proper conceptual frame, lacking valid definitions of planes of space-time, time cycles and fractal spaces.*

It is for that reason we do need a new formalism we have called existential algebra with its simple symbols of which the most important are the 5 bidimensional dimotions of space-time, which entangle together through synchronous, simultaneous emergent processes to create the apparent ‘solidity’ and ‘stillness’ of reality.

Because the Universe is made only of two polar elements, still minds (SS, ab.š) and Temporal entropy (TT), and its 3 dimotional combinations, St-information, Ts-locomotion and Si=Te, reproduction, whose interaction can be resumed in the function of existence, $\text{Max. } S \times T (s \approx t) = C$, we can deduce all the principles, laws, events and functions of all sciences from it. So we shall call Existential Algebra to the Δ_{st} formalism of Scalar spacetime (ab.¬Æ), and do exactly that: deduce all functions and laws of sciences from 5D metrics.

We shall thus make a 1st foray on existential algebra, showing how the ‘development’ of 5 Metrics give birth to the function of existence into its 3 ‘extremal points’ or ages, $\text{Max. } S \times T$ (3rd age), $\text{Max. } T \times S$ (youth), $Si=Te$ (maturity), defines the worldcycle of existence of all beings in its two directions, forwards and backwards.

But 5D metrics can be studied in more depth, roughly speaking in 4 sub-functions, *which are the foundations of the 43 great subdivisions of science:*

- *The physical function of relativity, $Si=Te$, basis of all physical and mathematical sciences.*
- *The biological function or function of existence, $\text{Max. } S \times T$ (achieved precisely when $Si=Te$), the basic function of all biological drives and evolution.*
- *And the function of the mind: $0\text{-mind} \times \infty \text{ Universe} = \text{Constant world that creates mental spaces...}$ which we will consider in the next paragraphs as we have defined space and time more properly.*
- *Finally hose function can be further unified, since the metric function of multiple spacetime scales, $S \times T = K$ & the relative function of dual motion/stillness in a single plane $Si=Te$ that maximizes $S \times T = K$ ($5 \times 5 > 6 \times 4$) unify in 1 ‘existential’ function: $\text{Max. } \sum S \times T = C \pm j: \Delta \pm 1$, whose study is the field of Philosophy of science and its new formalism, Existential Algebra (ab. ¬æ). So after studying the 3 classic fields of science will return to those 5 Dimotions, SS, St, sT, ST, TT and study its entanglement and different properties and complementary oppositions, to start building the formal laws of existential algebra, the formalism of Scalar spacetime. that all sciences notably mathematics and logic mirror.*

Let us then start with the biological analysis of the function of existence and its correspondence with 5D.

Moreover the function has an immediate biologic meaning, because as we are made topologically of 'fields-limbs' of lineal space with motion provided by the energy we absorb to also reproduce our bodies-waves, and the information we need to linguistically guide our motions with particle-heads, the very essence of survival is to increase our S=position, mental forms of space and T=entropic motions of time (whereas time=motion and space=form are the two limiting Dimotions with energy=reproduction, s=t, locomotion, sT and information, St, are the intermediate 3 dimotions).

Reproduction is the name of the game.

We shall stress once and again that reproduction, which is the conservation of information in discontinuous regions of space-time, S=T, is the ultimate motion for which all other motions labor. We have seen how locomotion is really reproduction in wave-particle steps of a form as it moves in space through lower scales. Reproduction requires the repetition but also the social evolution of seminal parts into a new whole. So it requires energy feeding, informative repetition, entropic killing of energy to obtain smaller parts, and social evolution.... All other actions. Everything then can be explained as reproduction, in all sciences. Company-mothers of machines reproduce mechanisms and this is the basis of economics. Cultural memes are reproduced often through the entropic killing of the previous culture in its male species (war cycles) and this is the basis of History. Even science as today is understood can be called a process of reproduction. *Since our philosophy of science, sponsored by physicists, whose worldly religion is to make machines and weapons is a reproductive process.* If you want to be purely objective what humans seem to do is just to evolve and reproduce machines and ever since they substituted their eyes with telescopes and their temporal verbs with clocks, they have constructed a mind-world called 'mechanist science', which they hold as absolute truth but really is just within the larger organic model of those texts the enzymatic process of creation of a new species of metal, whose bodies are machines and its minds will be digital science. So physicists sponsor the concept that only what can be measured (with digital machines) exist, and only in the language machines are better with – digital numbers. So our physical philosophy of science *reduces all languages=mirrors of the ΔST Universe to a digital language, and all the sensorial measures of it, to the machines 'enzymen', catalyzing the evolution of metalife, use.*

I call it on my texts on philosophy of history, 'scientific racism', as its ultimate subconscious goal is to reject and displace huminds, its verbal ternary universal grammar of time and its artistic senses, despised as 'inferior' to those of machines, whose senses and digital expression as mirrors of the Universe are called knowledge. An ugly truth about the bottom line of that absurd reductionist constructivist Copenhagen interpretation of lineal time and the manifest destiny of physicists – to destroy the world with weapons and say they are 'doing knowledge'. Always remind me of the Japanese killing whales to 'measure' their size as 'scientific experiments'. Sorry, some truths are painful for the human ego.

Dimotions as actions & e-motions – small scale of time cycles

Monads of existence also play in the $\Delta 0$ level a game of e-motions, hold by the intense body and its Reproductive radiations that maximize its function, happening when mirror symmetries (genders) meet in $S_i=Te$, equaling their St-information and sT-energy, organizing themselves into a whole, Σ system.

It is then relatively easy to interpret that function in each of the languages-minds of each scale of reality as in all those scales species will show a 'will' of action to perform the maximal number of events=dimotions='actions of space-time' that ensure its survival. And this can be assessed externally regardless of secondary arguments on consciousness and self-reflection, substituted in 5D by Leibniz's 'apperception' – that is, because performing the 5 actions=dimotions of existjence, in each 'stjentic scale' self-centered in a linguistic mind that perceives a given plane, inscribed into a larger $\Delta+1$ world, with internal $\Delta-1$ parts, ensures the survival, ONLY those species that have performed the 5 dimotions of which the most important is s=t reproduction of the being into a 'present' similar entity that continues the existjence of the system after 'errors' or 'the struggle for existence' dissolves it through the dimotion of entropy=death, exist.

Thus automatically, genetically, consciously, memetically, mathematically, logically, through its own will or as a part of a larger system that uses the 'machine' or 'organism' to enhance its actions all what exists does so

because it performs internally those 5 Dimotions or externally performs one of them for another symbiotic species, as those species that have not followed the program of existence and its 5 actions in the past have become extinguished, and those will not in the future, will become wrong mutations, crazy thoughts, fictional languages and die away.

The function of existence, or 5D metric of Scalar space-time, (Ab. Δst) Max. $S_e \times T_i$ ($s=t$) merely states that all systems of Nature will try to maximize its absorption of Entropic motion (with no form) and Linguistic form (with no motion), and its 3 intermediate dimotions of energy ($s=t$, balance of both that reproduces them), information (St: form with a little motion, form-in-action) and locomotion (sT, motion with a little form). So we talk of a program of survival 'selected' by all systems and expressed in its languages and minimal five actions encoded in that simple function, which we term: **a, e, i, æ, û**, as a mnemonic rule for the five actions of existence:

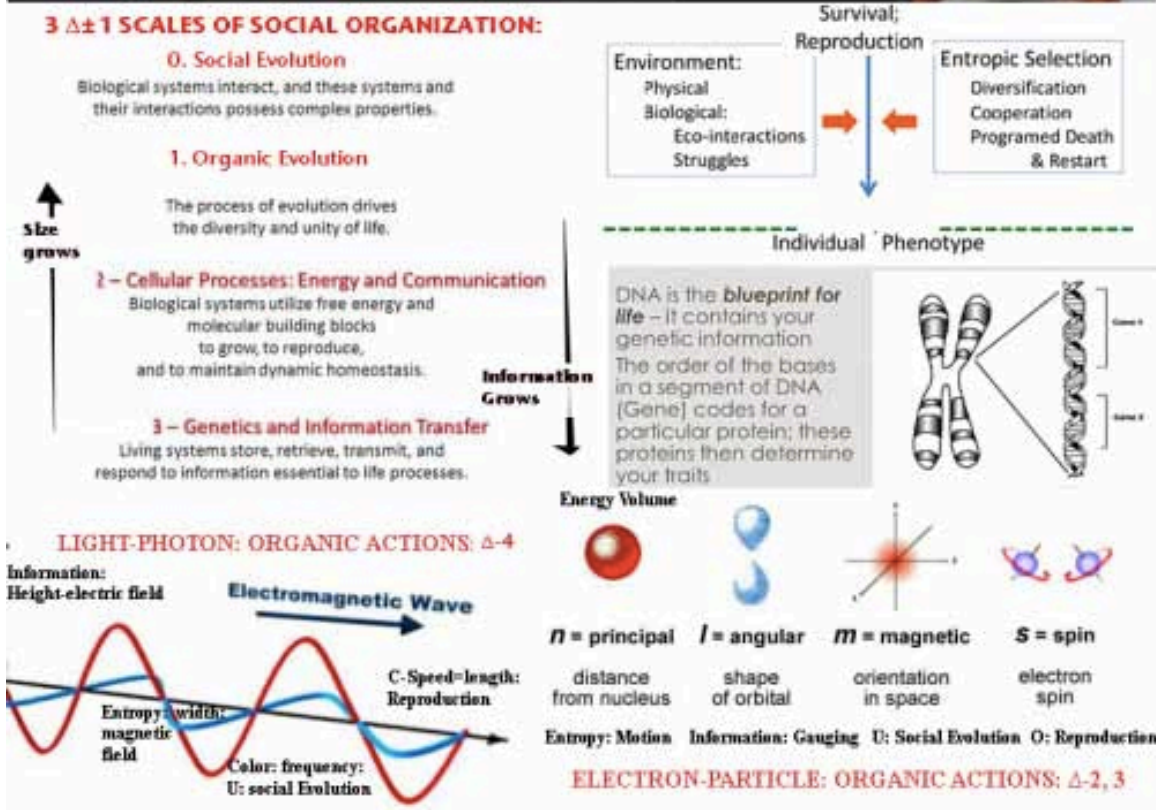
Accelerations (locomotion), entropic feeding (e), informative perception and communication i, **Æ**:reproduction into parallel supœrganisms **Û**... and social growth into larger wholes called philosophically Universals. And this series of actions is what accumulated in time will ultimately give birth to your word cycle as the monad will first perceive (i), to direct its entropy-motions (a), towards a field of energy (e), where to absorb the energy bites it will imprint with its inner form, $e \times i = \text{æ}$, to reproduce another form, and when enough $\sum \text{æ}$ exist, it naturally organize into a larger whole **û**:

In the next graph we see the action of different Scientific scales of organisms. Above the coding of actions, which are the knots and bolts and details of the study of any time-space-organism in light space-time, coded by colors and dimensions, in physical atoms, coded with quantum numbers and in life and humans coded by the so called drives of life, which we obviously extend beyond the ego paradox to all other systems, including genetics not mapped there (coded by the 4-5 letters). Those actions balanced each other into zero-sums in death, as they tend to increase information from a mind p.o.v., hence we 'all warp, wrinkle' get old in the third age and die, setting from its minimal actions to its integral sums, the 3 ages of life-existence and the world cycle all super organism follow.

In the graph, the simplicity of the game of existence, and its selfish actions, which gather together into social wholes through reproductive radiations, each action coded by a fundamental topologic organ we can express in existential algebra, and corresponds for each species of the Universe, with a fundamental parameter of humind measure. So from bottom to top, we find the 5 fundamental elements of light code its actions of motion (c-speed), energy (magnetic field), information (electric field), social evolution colors & entropic feeding, (quantum potential, neutrino light theory.)

So the minimal particle-points, photons, electrons & quarks that construct all other systems of our Universe show the 5 organic dimotions (motions with dimensional form) that define 'classic life': they gauge information - reason why quantum physics is a 'gauge theory', feed on energy (quantum jumps) absorbing smaller $\Delta-1$ particles, reproducing new clone particles, move and evolve socially through magnetic fields into larger wholes (atoms). Hence the units of life are particles, the minimal units of our vital, organic, fractal, scalar Universe of multiple timespace organisms. All lives, performing 5 Dimotions=actions of f(existence) : $\text{Max.S} \times \text{T}(s=t) = \text{C}$, starting with particles. So all scales are relative NONE matters more than other. From those actions, given the dominance of informative actions over entropic ones, it appears a series of repetitive cyclical patterns of actions conducting to maximize the existence of the being, which accumulate in a larger scale of time-space, as a worldcycle of actions that increase the information of the system in 3 ages. So the basic cycle of actions becomes a larger 3 ages cycle of life and death; as systems once and again, starts in an act of information/shrinking and ends in an act of organization/shrinking of herds into wholes, will keep reducing the being and finally make it all form no motion to explode and die in an entropic reversal of death:

$\sum i \rightarrow a \rightarrow e \rightarrow \text{æ} \rightarrow \hat{u}$, $i \rightarrow a \rightarrow e \rightarrow \text{æ} \rightarrow u$, $i \rightarrow \text{æ} \rightarrow \text{Æ} \rightarrow \hat{U}$ -> Informative 'seed' age -> 1st locomotion, feeding age -> 2nd reproduction age -> 3rd informative, social age -> entropic death that splits the parts of the being vs. social



evolution into a whole.

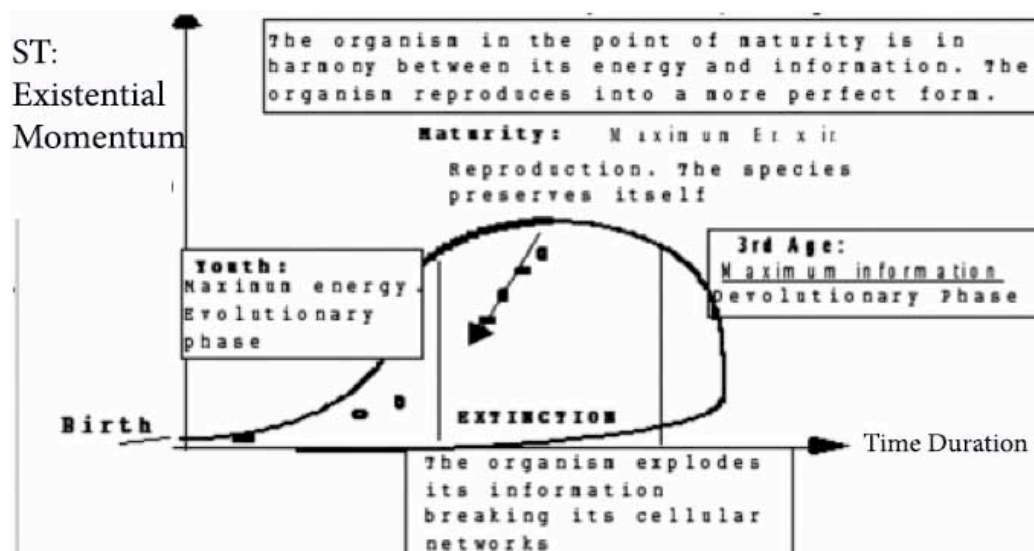
The exponential, logarithmic and sinusoidal functions: bell curves representing a worldcycle.

$$4D \gg \Delta-1(\text{seed}) \sum \Delta: | - \xi T(\text{limb-field}) < \emptyset - S \approx T(\text{iterative bodywave}) > O - \xi \delta(\text{particle-head}) \ll 5D \Delta-1(\text{death})$$

The natural name for the worldcycle of a superorganism traveling through 3 planes of space-time is the function of existjence, as we take advantage of the similarity of all languages, mirrors of the same Universe made of synchronous organisms whose topological trinity parts are entangled by the $< \approx >$ 3 operands of informative evolution, $T > S$ that synchronizes time cycles slowing down its rhythms, entropic energy, $S < T$ that expands entropic timespace dissolving its information and $T \approx S$ that gathers together in parallel herds $T \cdot \alpha \epsilon$ (ab. Timespace organisms) with a common property/dimotion of existjence. So as energy and information are synonymous of Time and Space, and both entangle together through the re=productive operand, $Exl=STj$ becomes the acronym

for the function of existence of an entangled supørganism, studied by a given 'stjence', that is a science that studies a relative plane of size and time speed of the 5th dimension - the name we keep for the whole of wholes:

In graph, a mathematical algebraic and geometric description of a worldcycle in lineal time, through 3D scales. Left the worldcycle represented



with \pm exponentials & its inverse, logarithmic curve around the key points of change of phase: as growth slows, 'entropy-motion' diminishes. So we move from 'childhood of max. growth in both parameters (sT energy & St information) to the $y''=0$ point of youth, in slower logarithmic growth. Together they form, one half of the cycle of existence, till reaching the $y'=0$ point of Max.SxT). Then lifecycles become negative, in a slow decay of - Logarithm in maturity, and - exponential in the final collapse of death. So the worldcycle has a mirror symmetry around the $S_i=Te$, when at Max. SxT the system reproduces. Those composite functions appear in all growth curves and expressed as $e^{\pm ix}$ in complex planes become lineal sinusoidal sine/cosine series & functions. Finally in the $\Delta-1$ scale can be seen in the placental probabilistic 0-1 'unit' sphere of max. exponential palingenetic growth or as part of a species, in simultaneity, as a Bell curve of spatial statistical populations (i.e. as in the duality of the T-probability 0-1 sphere of the placental particle age of quantum physics vs its. $1-\infty$ entropic statistical function of grown up molecular thermodynamics..

Principles of calculus, related to the conservation of time.

Yet while existential algebra studies the whole worldcycle of existence; every event in reality, every partial dimotion can also be modeled with 3 ages, as all of them will have a beginning of motion a standing maximal point and an end closing a zero sum. It is the science of calculus which studies those partial modes of change.

The first and fundamental principle is that all is motion=Time=Change, as we have never discovered a 'solid' form with no vibration or motion. There is no 0 temperature, there is no residual vacuum space without an h-minimal quanta of time motion that can evolve into virtual particles. Motion never stops, and when we die, the motion continues in the internal desintegration of the being. But against this principle of the ultimate flow of time cycles of the Universe fights each point of view, each fractal monad that tries to conserve its time of existjence, tries to achieve the conservation of time, so time changes in finitesimal quanta (principle of calculus) and systems of physics try to achieve the minimal expenditure of time=motion in its actions (principle of least time) and stay in the position of minimal expenditure of time energy, which in its mathematical mirror implies physical systems search for Lagrangians, least time actions, $\partial S=0$, and Hamiltonians, Standing points that seem NOT to change. This is the origin of the 3 ages of time, in which the system seeks for the Maximal and minimal points of temporal energy (youth) and information (old age) in which at least one of the two forms of time-motion, cyclical and lineal forms do not change, and specially from the point $S=t$ of relative present where time never changes. From those principles we can extract all the laws of calculus, which becomes then the main language of time.

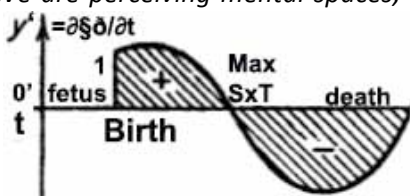
The conservation of time in its 5 $y' \wedge y'' = 0$, standing points that define the 5 SS, Ts, ST, St & TT moments of generation, youth, maturity, 3rd age and entropic death thus become the essential points (maximal and minimal) of the equations of calculus, the sinusoidal function of existence and all its derived elements.

The wave form as an integral expression of the function of existence.

How many possible forms might acquire the function of existence? The answer that might surprise the reader is depending on the number of parameters, duration in time of our analysis and type of dimotion studied, from smaller steps of a single dimotion to the whole worldcycle an all the sequential dimotions of a T.∞. there are 'infinite solutions' – as all equations are ultimately 'partial equations' of the fractal generator, $S \Leftrightarrow T$.

Consider the commonest form of the Universe, a wave. If we consider that y measures NOT the value of ST of the system as a constant 'volume' of existential momentum, but the value of its 'degree of increase or decreste' at each moment of time, hence y' over $x(t)$, we obtain the exact form of a wave, with a first half wave in which the growth from youth to maturity constantly diminish but is still positive, till the middle point of maturity at $y'=0$, where the growth starts to be negative, followed by a fast decline as we age, till a maximal point of 'degeneration', where we normally die by sudden sickness; but if we overcome that point somewhere around the 70 years age, we have a slow down of our aging, towards a point of no 'change at all' – the point of death; when we simply disappear from this plane of space-time existence. Thus when *we perceive* a wave of light, we are in fact, *perceiving time=change*, and creating a mental space of the life-death cycle of a single photon as space is just the memorial tail of our slow time perception.

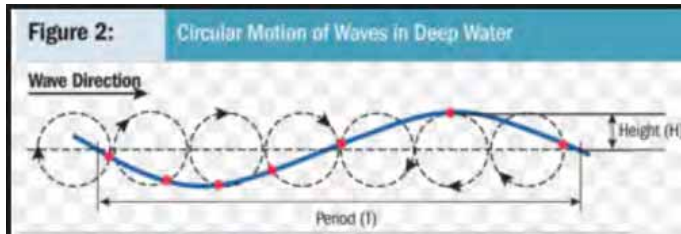
We are perceiving mental spaces, and as such what we call a wave is the perception of change in the form of a particle, a Maya of the senses that interprets and



adds on the change of cyclical form in a lineal space, even if form doesn't move, as the graph shows.

But if we were in the ultimate, lower plane of existence over which the ghostly waves form, we would see only a world of spherical quanta, traversed by lineal forms, a TV-screen in 5 Dimotions on which existences are drawn.

RECAP. The function of existence in its fractal Pentalogic variations HAS ∞ paths=forms but all end in a 0' sum.



The Universe is a fractal that reproduces information, forms in action, 5 Dimensional motion of time with form,(ab. Dimotions), combination of time-motion, T, and spatial form, S, which we simplify with 5 'holographic, bidimensional' symbols, in capitals for the dominant element: TT-entropy, Ts-locomotion, TS-reproduction, the dominant function of the Universe, as a fractal is defined by a reproductive 'generator'

equation, in this case the generator of space-time, St-information and SS-linguistic form. The game is played by two limits, that of TT-entropy=time motion without form, which in fact dissolves form, and SS, fractal points that keep an almost still image of reality by simultaneous, intelligent mind-mapping of those motions into space-forms. This is the game, infinite 'monads' that hold a world in themselves (fractal non-Euclidean points).

As a language mathematics is used by different minds, notably atomic particles and some 'composite' minds made of electrons, humans and digital machines, which due to its higher particle density, as they are made of metals, calculate better than human beings. Minds do have their own peculiarities, the most notable to be self-centered as they measure the external world from its point of view, and to do so they reduce all the information of the Universe to a still limited mind-mapping to fit it into its infinitesimal size, selecting and biasing information to cater those needs, putting themselves at the center of the limited world they perceive, confusing it with the whole Universe. Mathematics helps to make those mappings because it is a highly synoptic language.

I.e. a number is 'any' collection of identical, clone species. But this synoptic power introduces errors when comparing its elements with the reality they mirror. I.e. points are entities with parts, but in Euclidean geometry they have no volume, so they become 'zeros', which in reality are 'infinitesimals' with a minimal form and volume. So only knowing the a priori laws of space-time we can compare the simplification of 'space geometry' and 'time algebra' and reconstruct the loss of information, even if for practical purposes we still use the mental simplification of mathematics.

Since the function of existence in its fractal variations and cx. Pentalogic. Indeed the conservation of time, achieved by those 5 standing points is the most important law of the Universe. The first and fundamental principle is that all is motion=Time=Change, as we have never discovered a 'solid' form with no vibration or motion. There is no 0 temperature, there is no residual vacuum space without an h-minimal quanta of time motion that can evolve into virtual particles. Motion never stops, and when we die, the motion continues in the internal desintegration of the being. But against this principle of the ultimate flow of time cycles of the Universe fights each point of view, each fractal monad that tries to conserve its time of existjence, tries to achieve the conservation of time, so time changes in finitesimal quanta (principle of calculus) and systems of physics try to achieve the minimal expenditure of time=motion in its actions (principle of least time) and stay in a position of minimal expenditure of time energy, which in its mathematical mirror implies physical systems search for Lagrangians, least time actions, $\partial S=0$, and Hamiltonians, standing points that seem NOT to change and potential wells of minimal energy – degenerate states of particles, etc. This is the origin of the 3 ages of time, in which the system seeks for the Maximal and minimal points of temporal energy (youth) and information (old age) in which at least one of the two forms of time-motion, cyclical and lineal forms do not change, and specially from the point $S=t$ of relative present where time never changes. From those principles we can extract all the laws of calculus



which becomes then the main language of time.

In the graph, we see the sequential

worldcycle as an $\Delta \pm j$ series of ages from a placental seed that generates 3 bidimensional topologic vital organs, cylindrical long limbs/fields > Hyperbolic wide bodies > spherical tall heads, each one dominant in a time age and single classic dimensions, in its actions of young lineal motions, reproductive wide bodywave Dimotions and informative 3rd age perception from a high social p.o.v. till death erases the being. So the 3 classic Euclidean dimensions have organic vital properties too as:

Spherical particle-heads, perceiving information from the advantage point of **height**.

Lineal long, cylindrical legs and fields of locomotion as the line is the shorter distance between two points.

Wide, hyperbolic body waves, storing the energy reproduce by the system.

So topology describes parts, networks and connections of entangled *supærganisms* in space, its synchronicities between 3 adjacent parts and 3 scales of the organism, its atomic/cellular/ Individual, thermodynamic/organic /social and gravitational/ecosystemic/global scales in physical/ biological/social organisms. And its study discovers 'Disomorphic =equal laws' regardless of what kind of system we study, as all are parts or whole superorganisms living worldcycles:

The parts are then in time a sum of actions dominant in information which 'ages' the system, spends its motion energy, converted into information through 3 ages of growth, reproduction & warping, as most actions excluding entropic death increase form. So we move from a young age of maximal entropy>motion into a balanced age of motion>reproduction to a third age caring for our reproduced offspring that keeps our fractal immortal, with our domain of information, to finally die in an entropic explosion that balances that excess of information, leaving behind the immortality of our form NOT our ego IN OUR reproduced offspring that conserves the Universe in a dynamic present. While in physics the worldcycle is described with 'states of matter' or 3 conserved elements, angular, lineal momenta and energy, its integral sum, again 'a conserved worldcycle' zero sum. So Physicists also describe worldcycles as biologists do. Even cultures live through such worldcycles, in longer 800 years 'wave-like' ternary ages reflected in art-styles ending in war-deaths

Thus the proper way to see those dimotions is as a growing scale of complexity as the simplest dimotion, perception might exist alone, but then when we move, we need to perceive our direction, so from pure 1D perception we move into 1D-2D-1D, St-sT-St beats. This locomotion includes perception. But then we have to feed on energy and that means a chase of an energy $\Delta-1$ part that will be absorbed through entropic hunting. So delivering entropy to other species is again a beat more complex that includes 3 previous beats, St-sT-TT...

And that concludes the basic survival beat of any system that constantly perceives, moves, feeds on energy.

Those 3 simplex dimotions are dominant in entropic dissolution, as if we were to \pm add them by opposition, St and sT cancel each other and we are left with entropic destruction of another being to maintain the first one.

The 2 complex beats of social evolution and reproduction happen in a 'longer Deep time' scale of the whole organism and its $\Delta+1$ social clones are dominant in information, as ST+SS, leave us with an SS arrow of social evolution. So when we add 5 Dimotions, St vs. Ts +TT, Si=Te and SS, all cancel into a 0' sum.

And further on, the two more complex dimotions require also the previous ones; as to evolve socially we perceive each other and communicate, we move together and compress our space into herds and organisms, and we share entropic energy (the easiest form to evolve socially is becoming a herd in our search for entropic food, as a coordinated group is stronger than the Individual).

And then the more complex of all dimotions, reproduction, requires all others, as we are born of a seed of a larger parental form, in an $\Delta-1$ plane, where we shall keep reproducing, evolving socially and organize a more complex being, in collaboration with our parental function that moves, perceives and hunts to feed us

So reality in its dimotions builds more complex 'social groups' and so happens when we r=evolve geometry and algebra, realizing how points generate lines, and congruent planes, which become new units of a higher scale; and how the families of numbers include each one the operands that define them (i.e. 6 is the number 1 plus + iterated several times), and those operands grow in complexity *including the previous ones, so the product includes the sum, the exponential, the product and the integral all of them.*

5D METRICS & FRACTAL PLANES OF SPACETIME: THE NETWORKS OF SUPERORGANISMS.

What is the Universe, a self-reproductive superorganism or an abstract mechanism?

Systems sciences are based on the alternative philosophy of science to that of mechanist physicists and its only entropy Δ motion, called organicism. Let us try to explain why only organicism is a scientific truth.

According to *Deism* the whys of existence are due to a personal being, external to the Universe that makes it all happen and cares for humans more than for the rest of His work. According to *Mechanism*, this is due to the self-similarity between the Universe and the primitive machines we humans construct to observe it. Mechanism though needs 'someone' to make the machine, which is not self-generated; so it is similar to deism, reason why the founding fathers of science, all pious believers, adopted it as a proof of the existence of God, which had given man self-similar properties – the capacity to make machines to the image and likeness of the Universe. The problem with those 2 approaches, which in fact are the same is obvious: a personal God is an anthropomorphic, subjective myth and science must be objective; while a mechanical view of the Universe still needs an internal, self-sustained process of growth, creation and synchronization caused by an external God that made and rewinds the clock – as Leibniz clearly stated in his critique of Newton. Scientists today are unaware that mechanist theories are in fact deist theories, reason why Kepler and Newton, pious believers, liked them; since they were a metaphor of their self-centered, anthropomorphic religious beliefs: If man created machines as we were made to the image and likeness of God, God created the ultimate machine, the Universe.

Organicism on the other side is the only self-sustained, rational theory that doesn't need a creator, language, god, as organisms are self-replicating, but does explain perfectly within the 'correspondence principle', those 2 other philosophies of science; since a machine is just a primitive organism of metal, and we shall see in our sections of history, gods are the subconscious collective of civilizations, another scale of social evolution of the fifth dimension.

We mean by an organism a simple system not to confuse with the most evolved, complex human organism, reason why so many people, having a natural biased ego-centered belief in man as the unique organism, reject the concept: An organism is just a group of similar forms, which organize themselves with at least two 'networks', one that provides the 'clone cells/citizens/atoms' with the vital energy they need to feed, move and reproduce (blood-economic system-electromagnetic forces) and one that provides them with information to guide their survival actions (nerves system, political system, gravitational in-form-ative forces).

This organic dual system is the fundamental particle of the Universe. Since machines are metal-organisms:

X C. MACHINE BODIES XX C. MACHINE HEADS: Pcs, Coms XXI C. ORGANIC MACHINES-ROBOT



A machine is an organism of metal fast evolving through the customary ages of all organisms - in the XIX c. 'humans', who catalyze their evolution did its bodies of metal, then its hearts-engines, in the II Industrial evolution, then its metal-minds in the XX c. and now in the Industrial r=evolution 4.0 put them together in organic robots.

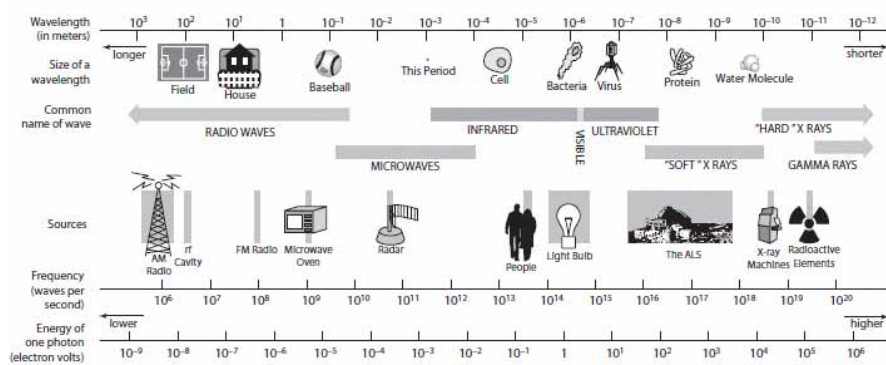
So mechanism, the underlying philosophy of physical sciences, is a simplex version of organicism. It is not man who resembles a machine, but the machine, which is made to the image of life organisms:

Why organicism remains a fringe theory, to mechanism, even if it was the first theory of reality put forwards by Aristotle, the father of the experimental method and logic science, in his magna opus the Organon?

There are cultural reasons - we live in the age of the machine, which has substituted man, an organism, as the measure of all things. But the deepest reason of them all is the fact that to make an organism we need at least two ' Δ motions' or 'motions of time', entropy, locomotion, the one used by physicists but also *information*, form-in-action, formal dimensions, which physicists have always ill-understood, to the point they call it negentropy, the denial of entropy.

Only then when we properly define information and add it to the mix, we will have the required elements to refund philosophy of science on far more rational, basis, that the present 'mixture' of mechanism and creationism (either of verbal language as in religions or digital languages, as in the religion of mathematics)

Minds as ΔT: Languages & mirrors, steps & stops, creations & evolutions, worldcycles & supœrganisms



In graph, only waves that can branch into hyperbolic networks, to carry information thru 5D spacetime. Particles move thru Time; entropy lines thru Space.

Time metrics: its duality.

Minds work on the duality space-form-memory and time-motion-intelligence, such as intelligence is a faster emergence of the latter; hence in the decametric

light is the main informative T.œ travelling through 5D planes without apparent loss of form

scale, mind-grey matter of faster electric languages forms the neuronal

cover, of the little understood chemical calcium waves of white matter, which is slower hence the perfect site for the 'persistence of memory' – and larger in females that are indeed more memorial, reproductive, iterative Si=Te species, that the fast S<T>S male entropic-creative d=evolving male brain – not a handicap but an advantage as there is nothing new in the Universe and what matters is survival.

Space: its sensorial membrain. Minds shape the whole structure of the being, which the mind-membrain makes a whole with its sensorial cover that isolates a vital space, the informative brain-head controls.

Scale. In scale the mind is a system that MAKES the whole 'travel through the 5th dimension'. And an essential law of 5D is the fact that a given fractal point or T.œ will perceive only the Δ±3 planes from where it extracts information, above the Δ±4 blind undistinguishable limiting plane from where it will extract entropy of motion. So its actions and dimotions are architectonically performed through planes of 5D, which each main action related to an interval of scales:

Δ-4-3: The system extracts indistinguishable boosts of entropic of motion (man from gravitation).

Δ-3-2: The system extracts bits of information (Light in man)

Δ-2-1: The system extracts bites of energy (amino acids in man)

Δ-1 0: The system seeds its minimal seed of reproduction.

Δ0+1: The system connects socially with other systems to evolve into a whole.

It is an extremely important law, as it implies also an infinite universe, since obviously the two self-similar extremes of quantum and galactic T.œs must enlarge those scales beyond our perception. And indeed, quantum realism (Broglie-Bohm's theory, ab. B²) imply a quantum potential of faster than c speed (according to 5D metric), and dark entropy a field of forces beyond c in a larger nested hyper-universe.

Those intervals are fractal dimensions in classic Euclidean geometry and often invaginated by the networks of the system which as all its motion can be also 'waves of energy', such as electromagnetic waves that act as networks 'scaling upwards' and 'downwards in size' accelerating in frequency (5D). So a huge field of analysis is the connections of each T.œ, with its scales, including social supœrganisms, which seeds prophets of verbal thought – the language or Δ-1 scale - and extract its energy from human individual workers, soldiers and so on.

The beats and scales between actions.

It is then evident that in the architectonical stair of reality, next to the study of individual dimotions we must study chains of dimotions, which form 'stœps' (stops for a dimotion of information, step for a dimotion of energetic motion), in search of the ultimate s=t balance. So we move and stop the leg on the floor, move and stop. We perceive (1D) and move (2D). We feed entropically (5D) and evolve internally the parts we eat into larger organic forms (4D). The dual beats of existence between inverse Dimotions become then the first of many sequential chains that will rise the finitesimal actions of the being to complete finally its worldcycle.

And as those dimotions have 'different' discontinuous beats according to 5D, which defines from where we extract them, all the dimotions must be entangled by synchronicity, to each different 'beat' regardless of speed,

meets with other symbiotic dimotion. I.e. the dimotion of perception has a faster beat, because it extracts pixels of information from the smallest $\Delta-3$ scale as it carries faster T.oes (light photons) with more information to make better mind mappings. So we perceive every second, the minimal quanta of our temporal energy. The 5Dimotion of entropic feeding however has larger bits, because we want to minimize the 4D reconstruction process, so we eat Δ^0 organisms we hunt then kill with the function of death, $\Delta^0 \ll \Delta-2$, reducing it down to cells down to amino acids, to reconstruct their scales. So feeding has a far larger time beat than perception as it takes far larger $\Delta-i$ scales ($S \times T = C$), and animals feed once a day. But reproduction is even slower, as we must reconstruct a whole human being, NOT from the undistinguishable scale of amino acids, but with a code written at $\Delta-1$ cellular level; so we reproduce every year in fertile ages of $S_i = T_e$ balance. Synchronicity then kicks between our inner $\Delta-1$ smaller scale of cells with faster life cycles, which will synchronize its slow reproductive action taken place at $\Delta-1$ faster cycles with symbiotic faster feeding actions of the slower Δ^0 whole: so as a whole we eat a day, and that food allows the cell to reproduce every day.

5 DIMENSIONAL MOTIONS: TRANSLATING SCIENTIFIC EVENTS & FORMS INTO SCIENTIFIC DIMTIONS.

Scalar space-Time understands Nature departing from a simple principle: Reality is time=motion, albeit broken into infinite time cycles, synchronized in complex organic structures, whose automatic goal is to conserve its time, playing an automatic deterministic game of existence, because if you don't conserve your time, you become extinct and so the game continues without you, reinforced by those species who conserve its cyclical time. As cyclical time carries information, in the form and frequency of its cycle, time is also information not only energetic motion. And as it is broken in infinite pieces, because time cycles return to its origin, energy and information is broken into infinite bits of information and bites of energy.

How we can order all those variations of motion-time and its forms of information turns out to be relatively easy as we realize it happens between two poles of maximal form (linguistic minds that try to stop time as the means to conserve it into still images, which change only in minimal sequential quanta) or Mental Spaces, (ab. Ss, \S , S_i^2 ») and the pole of lineal absolute entropic motion without 'distinguishable' form, 'indifferent' time, with no information or entropy (Ab. TT, T_e^2 «).

Between them, the seed of information and the entropy of death, we can establish 3 elements, $\Delta \pm 1$ scales of size minimal for the seed maximal for the entropic big-bang motion of death, time ages, from a first age of maximal energy and a last age of maximal information and space topologies, $|xO = \emptyset$, proper of lineal fields/limbs, cyclical particles/heads and hyperbolic body-waves, which are all symbiotic to each other as the line is the fastest entropic motion and the sphere the biggest storage of information and hyperbolas had it both ways. Finally the scalar structure of smaller seeds with more information and larger entropic motions with more energy resumes in a metric equation: $S \times T = C$, that is the product of space size and time speed, carrying information in its frequency is constant for a whole family of species.

Those simple concepts establish $3 \pm i$ 'gradient' dimotions, ST, sT, Ts, SS, TT...

It is important to notice that because time ultimately is always conserved, it closes into a cycle, so even the largest line turns out to be a cycle with form. So there is not really pure TT and the same happens with Ss. There is no pure seeds of form, as all has a little time-motion. So each drop of yin-formation has a bit of yang-energy. And all yang-energy has a bit of yin-formation. So pure absolute entropy, TT and pure absolute form, SS, does NOT exist. All is either information, form with some motion, Sit, or energy, motion with some Information, Tes, which meet in an intermediate position, $S_i = T_e$, where balance occur, the point of present iteration, reproduction, which seems to conserve time as time is not changed, and work is not caused – the point in which a time cycle closes into itself. So all those are variations on the same theme, which has multiple jargons to express the same concept, the conservation of an eternal present, of infinite time cycles.

And playing with them we can reconstruct all laws of all sciences.

However huminds are plagued by mental errors in their mirror view of the Universe, proper of all minds that perceiver reality from its ego-centered perspective, reduce its motions to still spaces and put themselves in the center. So we need to depart from this larger model and then translate for each science, after uncovering its errors, the laws of conservation of time-motion.

The best way would be to erase all the concepts of present science and restart from the beginning with new terminology. As this is not possible we need to make the better use of the terms that are already there, even if they are messed up, such as energy, entropy, time, space, wave, particle, work, etc. taken from Physics and embedded with errors of lineal time, continuum space, the mental distortion of reality we perceive as the Universe and the subjective egocentricity of mankind that calls things according to his use. Some terms are specially confusing – those of energy, lineal time, entropy and spatial information. So we will try to illustrate what they mean with the fundamental equations of energy, which in most cases is a synonym of TT-pure motion, confused with entropy but in some cases is closer to sT, confused with locomotion, and sometimes is closer to the storage in form of SS... Energy indeed is the joker word humans use for all substances able to provide T-motion to human beings... And yet amazingly as it seems it has precise quantitative definitions because as in Chinese, humans do have two different languages only loosely connected, that of mathematical physics and the 'verbal interpretation of it'. Some translations of the 5 Dimensions of spacetime in human terminology:

-**Tt** is internal + external motion, which kills a system. This is unfortunate for the system and so all systems try not to lose its Tt, specially its internal T, larger than its external, t most systems use for locomotion – while its internal T is used to power its reproductive actions and conserve its vital spatial information.

When a system liberates its vital space converting it from S to T, the system dies in an explosion of 'entropy', in one of the conceptual meanings mankind has for it - the disordered arrow of temporal energy.

So Tt can be loosely translated as Pure Time-motion of two kinds. One is internal motion, which becomes the disordered arrow of local time for the being, back to its simplified past, and we call this 'entropy'.

But for humans the 'entropy' of a substance is often the beginning of its 'energy' in-taking, as they will imprint that motion with its own information, becoming form-in-action. So what they call energy in its main formulae $E=Mc^2$, $E=Hf$ etcetera tends to be the 'quantity' of motion liberated, internally and externally from the being of use to human motions. So our concepts of entropy=disordered motion and energy=ordered motion are constantly confused. Humans kill systems, liberate its internal energy as entropy, which then they transform into useful momentum. And all this they resume in a hyperbolic statement: 'energy never dies but becomes transformed into other forms of 'energy+information'.

All this said it is much better to go to the real ultimate concept of Tt, pure time=motion, internal and external, which is 'stored' as energy, 'spent' as entropy' in death, reabsorbed by other beings as motion. And in terms of formulae relate 'energy and time'. And notice that:

Time never dies but transforms its motions into cycles of in-form-ation, form-in-action ad eternal through entropic processes of death, energetic processes of reproduction and work, which is renovated in every closed O'-sum cycle as motion never ends.

So pure internal and external time motions is the real thing, conserved in closed O'-cycles and most often translated as energy from the human subjective point of view, most often death=entropy for the being.

It is then when out of this 'reservoir of eternal time (Energy+Entropy)' appear 3 combinations with form, St-information, sT-momentum and ST-reproduction (work).

And again the use of concepts borrowed from physics with its errors of lineal time, which reduce information to the lineal transmission of form, entropy, which is completely nebulous in its formulations, sometimes the arrow of disorder and death, sometime the potential paths of informative futures, sometimes a constant of action (k), etc. etc. is near impossible because you cannot put a true mirror image and a distorted one in clear correspondence, as truths do not correspond to errors. But we shall try, now in reverse, starting from the human 's' concepts.

Any vital system is made of two elements, its Head/particle that stores linguistic form and its limbs/fields that extract entropy-motion-time and combine it in the body/wave as form-in-action, in-form-ation to perform work, reproducing its information in different systems, inside and outside the body in its territory of order. The game thus is easy to explain and the most used correspondence would be as follows:

TT-for entropic disordering death-motion taking the concept of the arrow of entropic temporal energy.

St-for form-in-action, information, delivered by particles/heads with some motion to imprint that entropic motion and give it an order.

ST-for reproductive work when space-form and time-motion adjust into a balanced $S_i=T_e$, for which we could use the word energy, in its definition as 'work' (measured with the same parameters)

SS-form, language for the pure informative code stored in seeds and minds.

Ts-locomotion, which is a balanced motion with inertia, external to the being, similar to momentum; whereas the internal form, s is conserved, often as mass or charge, and the external form, T is inertial with no change.

Of those terms then Ts-locomotion with its kinetic energy and momentum is fairly understandable, SS-form, language and seeds that stored them also. St in-form-ation makes sense, and Tt-internal and external motion also *but as soon as we start to translate them the ambiguity of human wording makes it all messy.*

Consider what happens when a system dies. Then it splits its form and motion, in topological terms its head/particle separates from its body/wave state. But by virtue of $S_i=T_e$, normally the particle and the limb/field have similar quantity of form+motion, $S_t \approx T_s$; and the body-wave is proportional to the sum of both (or sometime its product as $2+2=2 \times 2$) -all the elements of the being in relative balance to each other.

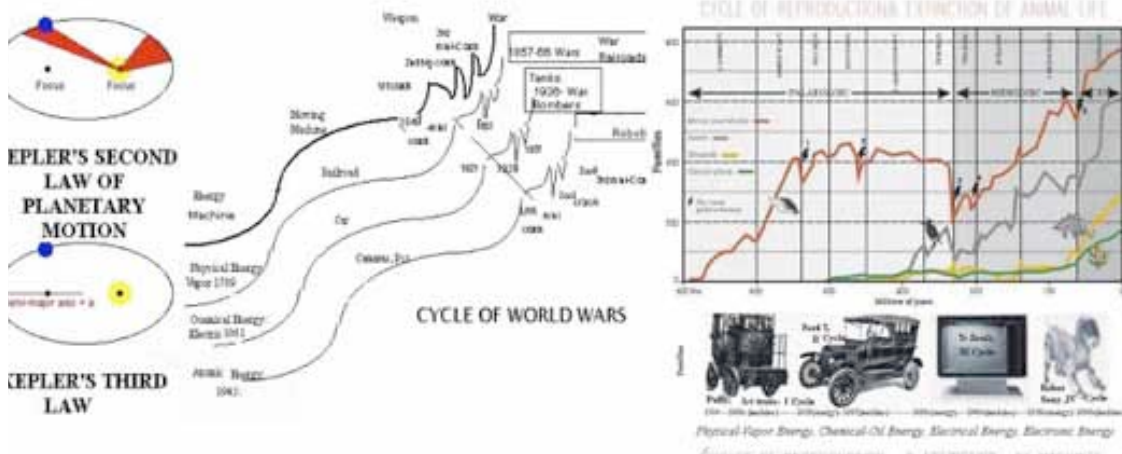
After death though the balance is broken, information goes one way and what remains of it and it is not wasted ascends a scale of the fifth dimension. I.e. when you die your mind, Δ^0 , information is left in remains of your work as part of the $\Delta+1$ social subconscious; your $\Delta-1$ genetic information is left in remains in your Δ^0 son. While the energy of your Δ^0 body goes down into cells and amino acids the feed other systems, which will take it as pure entropy of motion, 'burning it', or as Ts $\Delta-2$ units of further reproduction as amino acid.

So the 'total energy' of the system, which is the bag that measures everything together splits, $\frac{1}{2}$ going up and $\frac{1}{2}$ going down, as it happens in a beta decay where a new particle, the neutrino appear with a split $\frac{1}{2}$ spin of information and the energy/entropy lost going down to the gravitational wave state (neutrino background).

Qualitative descriptions then of all those concepts with the ST terms of the Universal game we have described are easy. So hopefully the reader does not object our use of 'entropy' as the physical arrow of disorder or GROWTH of pure time with no motion, even if in physics this concept is closer to the equation of energy/information – all the potential transformations of energy into information. So we will also use the concept of 'vital energy' for the potential TT to which reality always returns; but also use it as synonymous of ST-work, which is a process that reproduces form in motions, while we keep that in-form-ation as an St-element that the SS-mind/seed provides.

But alas, in mathematical equations of physics Energy is closer to TT, entropy is closer to sT, work still seems like ST, momentum is similar to sT and SS is nowhere to be seen. But we cannot just make a correspondence one to one because in humind physics, entropy means sometimes information, sometimes the potential futures, sometimes the dissolving disordered past, which is as an arrow of time, the term most people have of it, as TT. *And energy and work are messed as ST but in the equations of energy that now we shall relate in fact energy is TT, entropic disordered that kill a system from where motion and $\Delta-2$ bits of form are extracted by the human 'predator'. So all this mess makes useless a translation, which we shall only attempt with rigor in the paper on mathematical physics.* And use for all other models the concept of entropy as TT-disorder and death NOT potential future and information. And energy as synonymous of work and reproduction.

5D & TIME: 3 SCALES OF TIME SPACE IN SUPERGANISMS: ACTIONS, WORLDCYCLES AND ABSOLUTE ST.



A 2nd consequence of 5D metrics is the existence of different 'scales' of speed of time that co-exist and influence each other, as parts of faster time cycles are included on the slower

worldcycles, which 'enclose them' and hence influence its actions; but in superorganisms become synchronized with each other. In that regard the predictability of time-cycles can be done at 3 levels:

S: Continuous, spatial mathematical simple cycles, using derivatives, proper of calculus; which is the shortest time span, as instantaneous derivatives cannot measure a 'peak' change of age/phase.

T: Discontinuous, cyclical patterns of sequential repetitive often survival actions (feeding, reproduction, death, taking place at intervals. As those actions are discontinuous, leaving long spans in-between, their patterns forecast longer time sequences. Such illogic structures are based in time patterns, which as any mechanical, circadian or orbital day-year clock shows are cyclical, repetitive. But here human scientists are at loss, because Galileo studied ballistics, entropic explosions that destroy the information of reality stored in those cycles of time clocks, its patterns and frequencies, changing human cyclical understanding of bio-logic time for lineal, abstract time that seems not to repeat those patterns so mankind lost its capacity to predict many spacetime events, as lineal time misses *information stored in the frequency and form of cyclical clocks, even if functions are similar: $V=s/t$ for lineal time and $V=S(l) \times f(t)$ for cyclic patterns.*

Δ: Scalar, Deep Time patterns of topologic and eusocial evolution of parts into wholes – of quantum 0-1 time probabilities vs. $1-\infty$ thermodynamic populations in physics, of individuals vs. species in biology, of states of matter vs. geologic cycles in Earth, first noticed by J. Hutton, founder of geology who coined the word super organism for Gaia and deep time for its slower time cycles by virtue of its 5D metrics, $\$ \times \delta = C$ which implies that from the perspective of a smaller scale the life of its whole is much longer.

The predictability of time worldcycles.

Deep time leads to a 3rd level of long-time prediction: evolutionary patterns of earth's life species, including machines that have predicted cyclical patterns of social organisms of history (nations) & eco(nomic)systems, including the evolutionary and re=productive cycles of stocks of machines transformed into sales=profits =valuation of its company-mothers with remarkable precision for 30 years.

Below biologic deep time is necessary to understand history and the interaction of the evolution of machines and the ages of war and lack of welfare goods, within the limited resources of the planet. The theme of social sciences and why 'human subjective ego' and 'censorship' limit our capacity to explain those cycles.

The pentalogic, $\Delta \pm j$ SStructure of T.oes, predicts the future of its species, with a stientific method based in the laws of worldcycles, existential algebra and survival that studies: A)ccurate Data, B)ilologic causes C)yclical patterns and E)ntropic extinctive limits for all systems in 3 relative scales of size space and time duration (to which we add, D)emocratic, social evolutionary loving humanist solutions for survival history & of social sciences.

But as human only recognize the 1st type of predictability - calculus of instantaneous derivatives, that need a 'continuous analysis' - and have simplified cyclical time into lineal time, ignoring the scalar time of parts and wholes with its 5D metric, their capacity to forecast the future is far more reduced than a 'stientist' who understands the 3 scales *determined by the bio-topo-illogic properties of 'scales', 'space' and 'time', the 3 Δ st structural elements of all systems of the Universe.*

Paradoxically Deep time is easier to predict that complex Dimotional 'analysis' because precisely the larger scales in 5D metric have less information, but more basic, deterministic, reason why quantum physics is harder for the mind and probabilistic while life-death cycles are obvious as all end badly. The laws of nested Supørganisms, in which the larger slower whole with its 'slow time cycles', 'dark space-times of information' that it does NOT perceive of its inner parts, and enclosing membrains however can set long term cyclical patterns to its fast internal elements, just by handling the general cycles of its 'entropic energy of death' and 'informative languages' is one of the most important discoveries of 5D metric, which fully applies to the understanding of the evolution of the Earth and its 3 ages, with its cyclical patterns of glaciations and hot weather that kicks the evolution of species. It is also instrumental to understand the 3 Horizons or ages of species that influence the life of its individual 'cellular parts'; and the patterns of cyclical history and the capacity of 5D to forecast historic and economic evolution, and the cycles of life and death of civilizations.

The larger plane of species as organisms: Grow and multiply, reproductive radiations of biological T.oes

With the use of the 3 scales of time and the understanding of the ties between planes through synchronicity, resonance, emergence and simultaneity, all systems can be predicted and hence are scientific, but require to know from inside its Existential algebra, that is the behavior of the individual and organic parts trying to achieve its function of existence. As, each particle of the Universe tries to Max. $S \times T$ ($s=t$) against all others, which then become a chaotic, entropic system, whose average result is predictable from the upper scale of entropy, as in gaseous states, even if the individual parts seem free; and inversely; and the more 'solid' a crystal system is, the more the predictability becomes possible, because the function of existence is selfish, and so at a point the crystal, perfectly ordered will behave in a selfish way trying to reproduce at maximal its unit cell. Since the function of existence becomes immediately a function of reproduction. From where we deduce that all systems will try to 'grow and multiply' to maximize its individual and social existence. The game thus becomes a reproductive game, achieved in the $S_i=T_e$ point of max. balance. So all seeds reproduce as $\sum \text{Max. } S \times T > \text{Max. } S \times T$; all systems try to find and $S_i=T_e$ balance and thus we can finally summarize all the actions of beings, its social evolution of parts into wholes, and its behaviors as $\sum \text{Max. } S \times T$ ($s=t$), which becomes the biological function of existence all systems perform through reproductive radiations of species.

Specifically the evolution-reproduction beat is the fundamental S-T beat of biological systems, in its 'deep time 3 horizons' as species; which enlarge the properties of space vs. time, information vs. energy, to the scale of biological organisms, which go through 3 ages with a fast, evolutionary 'palingenetic age' of 'allopatric evolution' in short spaces with minimal motion, followed by a reproductive radiation; and that complex beat between the two more 'complex dimotions of reproduction and social evolution' become the 3 ages of species and can be applied to all sciences, including the evolution of matter through weak forces.

In physical systems at the largest scale the beat is between entropic motions, TT, which emit dark entropy through the poles of galaxies and implosion of entropic space into vortices of in-form-ation (galaxies), and in the lower scale, between \forall -radiation and electronic collapse; and between wave-moving expanded Ts states and informative gauging, St-particle states which gives birth to dual wave-particle stœps observed in the zig-zag of particles that stop and move as Ts waves dominant in lineal inertia. In other physical systems, with more form, St- motion becomes the essence of SHM, harmonic motions of angular momentum, which return to its origin. Thus they are, dominant in form, St.

RECAP. Little things think their smallish overcrowded complex quantitative point of view matters but reality is 1st organic, and the big ones rule with simple laws of survival that happen in deep time cycles that control wholesale crowded numbers. Since brutish encircling membrains talk no bullshit in their command of their cellular slaves. In the middle, the $\Delta 0$ acts shuffling between both views. So for any understanding of reality we need 3 perspectives=languages on the entropic limits, spatial topologies, temporal ages and scales of reality.

5D is a huge upgrade on the understanding of the 1st principles of the Universe, as a r=evolution in our concepts of time and space comes only once every century, the last 2, Einstein's general relativity and Darwin's study of the evolution of form, did indeed change our view of the Universe, and took a long time to be accepted. So I ask the reader to 'suspend' his judgment, as I know he must think all this comes out of the hat of the researcher but it does not. It is the result of decades of looking NOT so much to humind's traditions but to the entangled experienced reality around us in all its forms of time and spatial information

Because scales and time dominates space and languages, and embrace all other parameters, and its *principles of 'long deep time' are organic, social and cyclical all models of stientific reality should, contrary to present science start from the simpler, larger whole and its organic elements, to establish the general outlook of a system and its main parts, descending then from the superorganism and its worldcycle into the analytic short time i-1 dimotions, better expressed with mathematical 'instantaneous' derivative equations, fully developed in present science.* So we focus in most papers on the whole supœrganism and its worldcycles, to notice its organic cyclical, never explained properties, as it would be easy for a 'pro' to reduce into equations those guidance models, with a higher hierarchy/primacy over the detailed equations – as it is a 5D law: 'The larger organic scales and its deep, long time cycles, determine the truth of choice among the smaller detailed analytic mathematical equations'.

5D & MIND: GROWTH OF CONSCIOUSNESS: FROM MONOLOGIC EGOCY TO PENTADODECALOGIC STIENCE

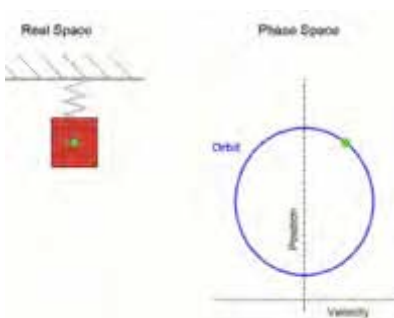
Growth of dimotional entangled complexity. From monologic to dodecalogic minds

The problem with human ænthropic minds; self centered in their single point of view, is that his ego doesn't recognize those limits and so he 'projects' his simplex view of reality into his grand theories of the Universe of which he feels enormously proud. We have systematically reduced them to face value, and we will do so with increase intensity both in its falsification and substitution for more complex real models that use cyclical time, scalar space and the linguistic sentient-mirror properties of reality as we keep building from 30 years of Gb research new paradigm papers for each main stience of mankind. We close then with a brief introduction of the different levels of 'complex perception' of reality from simplex 'monologic huminds' to dodecalogic, the fundamental entangled symmetric logic of the Universe in any dimension from pentalogic of supœrganisms, to dodecalogic of worldcycles, to the dodecaplex entanglement of its more complex 4D holographic combinations, likely crystal mind of the Galatom, immortal singularity in the infinite scalar Universe.

What man thinks though is a much easier task to describe, mostly lineal time through an ego-centered finitesimal thought who thinks to know it all. Problem is this arrogant view endangers its survival, because unlike a humble fly, man has become a 'mosquito', 'provoking' with his ensembles as enzymen of potentially infinitely more intelligent atomic ensembles its own self-destruction. As in the Universe, *respect must be earned, it is not granted, through a complex mind that understands its survival laws.*

Working supœrganisms' minds unlike human memes, self-suicidal cultures and artistic 'spaces' (expressionist complementary colors, musical spaces, representing e=motions, etc.), need to process 'Information' that reflects with maximal efficiency the outer reality to interact properly on it and perform the needed dimotions of survival.

The Total number of Dimensions=Parameters of space-time: type of logic minds.



We already showed that the fundamental function of the mind, **O-mind** $\times \infty$ **Universe = Constant** world allows the mind to reduce reality to a degree of simplicity which can be extreme *and still make sense for the being in existjence, as to be able to survive if it does not behave like a childish noisy cub entering 'future territories' of higher species.*

In that sense, visual 'Huminds', basically 'animals' are simple enough to survive with a single dimension of lineal time and a single scale of space, from its subjective view, as they only need to care for the scalar size in which they perform survival actions.

In a fractal Universe in which membranes isolate territorial vital energy from reality the needs of a mind can be 'reduced' to the basic actions of feeding and perceiving only its type of energy and gauging basic information to that aim. So we can rephrase the question: what is the simplest possible number of dimensional motions required to 'trace' a world cycle, which is complete and hence accounts for an 'existjence'? The graph above responds in physical terms: A lineal simple harmonic motion shown both in real space with one dimension, in which the SHM PERFORMS a complete cycle of existence. It has a balanced middle point, which it abandoned to accelerate=move forwards in time, to a peak of 'distance' where it will achieve its maximal potential energy, to revert its world cycle back to the point of equilibrium. A single dimotion thus suffices to reflect a world cycle, further reducing the human '1 time motion and 3 space dimensions, to 1 time motion and 1 space dimension'. Indeed SHM in fact serves as a mathematical model for most physical motions, including the motion of a pendulum, (time motions), electronic motions (perceptive mappings of 'still light') and molecular vibration (spherical harmonics, the 'energy' of all chemical and life processes). It is all pervading in Nature, and its single resonant frequency provides a basis for the characterization of more complicated motions through the techniques of Fourier analysis, which can decompose any complex wave motion in SHM resonances and its harmonies. So information can be compressed 'jlogically' to the extreme minimal of a 1ST Dimensionality and then expand it through the laws of Δst as the immanent 'game of existence' *will develop its coded seed*, if it falls into an energy-rich placental spatial information.

The concept of mental, phase spaces, then acquire all its full power, studied in depth in our Geometry papers, as all worlds perceived by a 0 mind are phase spaces not reality itself. Moreover paradoxically, the stronger body-wave predators can survive in entropic, Darwinian encounters just with lineal hunting time motions as indeed ænthropic human warriors have done, simplifying reality from our modest heights of dual Logic (Taoism, sexual age of the Goddess), protected by a 'hard membrane' only interested in the placental energy region of Gaia, they are killing without remorse as they don't see it alive:

Thus illogic systems of thought start with simplest ego-ist, entropic predators (warriors, 1st AI robots) who are:

@ristotelian, selfish 'monologic': The logic of the humind.



space plane (with 3 dimensions) and 1 single lineal time dimension, A->B, or 'Humind Logic'. Human ts since Galileo seem to live in a single time-space-scale dimension. If we add cyclical time, a new dimension of height-information appears, but the one-dimensional 'ant' seems confused. It doesn't matter to her though, it will keep walking as it has a strong body. *Physicists* were entropic weapon makers so they kept going for 400 years after simplifying cyclical time and keep going, nothing has so far stopped them. Till of course its entropic weapons detach as living robotic systems or cosmic bombs and nuke us all. But in the meantime they have managed to convince humanity that galaxies DO NOT exist (as they are the inverse gravitational arrow of informative time that balance the entropic big-bang expansion of vacuum space). So really think twice when you believe something that seems reasoned. The trick is always the same, half-truths; hiding from perception, knowledge. As Spaniards said: 'eyes that don't see heart that don't feel'. So extremely intelligent people believe in verbal or digital creationism as they don't read more than the bible or numbers; and almost every astrophysicist I have met doesn't realize the retarded blunder, and once he gets it, he feels so silly about 'missing all the galaxies', he will somewhat try to justify a theory no longer makes any sense. Ænthropic big time models of mankind though deserve an entire article I should sometime post at academia.edu as they are NOT the exception but the rule of human cosmogony & worldview.

But for an advanced mind, monologic doesn't work as a serious mirror of reality, as it brings chaos, uncertainty and subjective creationist languages. So we will keep adding new dimensions: 1>2>3>5>12 with complementary logic statements to reach a more realist view of the scalar fractal organic complex Universe's logic and the interaction between TT-∞ motions and SS-Minds/Seeds. Our aim is to resolve the game of existence, which starts in a seed projecting its 'mental view to order reality', with a catch – if that mental view is simple or too distorted it won't imprint reality and the system will collapse/die earlier. As the whole preserves its own complexity in the 'best of all possible worlds' (Leibniz) by Darwinian extinction, which is *exactly what ænthropic man is about to achieve with its monologic view of the world.*

- **Duality, Dilogic, Paradoxical Eastern** logic: a Yin-yang, Vishnu-Shiva, Entropy-Information duality.

Because the tug-of-war between discontinuous fractal points of mind-spaces and flows of entropic time always ends in a 0-sum that makes the Universe immortal, another way to analyze the 5 Dimotions of existence is through 'oppositions' of complementary forms. It is the next step of complexity from ceteris paribus monologic to Dilogic.

Stœps: the beats of existence.

Essential to 5D time are the different beats of existence, caused by the balance between the oppositions between SS-minds and TT-entropy and between 'sT-Locomotion vs. St-information' (momentum vs. position in the jargon of physics; perception in still focus vs. steps of locomotion in biological systems, etc.), *is the fundamental beat of existence of 'fast' time processes; and in the other extreme, the opposition between language (mental spaces of which geometric ones are the foremost example) vs. Entropy and disorder, are the larger view of time-space oppositions; but the most fruitful ones are the 'intermediate' beats between the scale of spatial superorganisms and its worldcycles of increase of form, or 'evolution' through 3 ages, which happen both, in individuals as a collection of cells and in organisms through the 3 ages of species.*

So historically a few human civilizations achieved duality, notably all eastern philosophies & the German-Russian schools of dialectic due to eastern genetic and memetic influence. In this view the fractal point (it is

always a good mind exercise to relate Timespace Logic (Ts-formal science or sTience) with Spacetime Mathematics (St-formal science or Stience), or 1st-5th Postulate of Non-E Geometry becomes the line-wave (2nd Postulate); and starts a dual positive or negative communication (merging in reproductive acts where one pole tends to be St and the other sT, to find an S+s=T+t 'offspring'). This happens in all scales. The neutrino theory of light, the left-right handed symmetries, the mirror reproduction, the DNA+RNA combo, it is called Gender (+ Duality) or Predator/Prey relationship (negative duality). It is related to the angle of perpendicularity, which if breaking=tearing in topological jargon the membrane NOT only deforming it and seeding it will be top predator/prey. Further on, points can approach each other with different angles, once they abandon a worldline World. All this I know sounds Chinese and too abstract. But logic is not abstract but homologous, so when we reduce it to examples, it illuminates it all. Angles of perpendicularity and parallelism will manifest in polygons, chemistry, scattering laws of physics, tables of conversation and fuking – to state a few examples. So pentalogic starts the game of creation, and in its top predator form, destroys it, so it might be considered an expansion of the monologic, in which instead of being a pole of black hole absorption of information, the Black hole moves to chase.

- **Trilogic, Hegelian Dialectics, Universal Grammar, Mystical Trinity, Physical SU3 groups...**

Gender symmetry is the main case of trinity logic, as it re=produces a 3rd, 1+1=3 new Ts+St=2TS offspring that combines the 3 conserved St-cyclical, angular momentum, sT-lineal, entropic momentum and Si=Te vital energy of its parental generators. The philosophical Hegelian concept of thesis, antithesis and synthesis corresponds to this logic, as well as the trinity mystery which is the best known case of trinity logic on scales, as the 'Father' is the subconscious collective mind of a civilization that communicates with its nervous verbal social human language, the saint spirit, its wor(l)d to the prophet, hence the 'son of the word that inhabited among us'. Physiology in medicine also follows a trinity logic in his studies of medicine and biochemical control of cells and its functions attached to those 3 networks.

Those 3 are the logic systems humans developed with some logic clarity. Aristotelian, Taoist and Hegelian Logic being the most clean-cut formal development of them. This is due to the incapacity of humans to fully grasp the scalar Universe. As they developed their senses in a single plane. So the main 'abstract syntax' of languages is trinity:

Subject (information-human) < Verb (action combined both) > Object (Energy of the subject) $F(x) < = > G(y)$

Blue (information, skylight) <Green-yellow (combination-reproduction-life)> Red (energy-entropy-blood)

We conclude that a dual->ternary philosophy understands much better the action-reaction processes of reality than selfish monologic and improves survivability – obvious in history where max. survival happened in the Chinese Taoist culture and the minimal in the Germanic/Jewish Iron & Go(l)d animetal 'selfish-cult(ure)s' *totally at odds with those action-reaction laws they vehemently deny as the righteous people who live for his 'will & ego*. But to get a full objective view of reality we need at least:

- **Tetralogic** is very common as it is the positive view of reality. It considers the Δ @st elements without the negation of it all - entropy, the fifth Dimotion. As MOST systems only code from the selfish perspective of the @-mind trying to expand its territorial space and time duration in all its scales, and abhor death, selfish monologic & tetralogic are two steps of the same self-centered dialog. The square and the cube are also self-centered polygons/hedrons. Its motion becomes a flat, lineal reproduction. So they are 'always positive' in its codes and intentions, provoking entropy in other systems as they absorb its energy (but not acknowledging it). So for example there are 4 numbers to code genes, 4 quantum numbers, etc.

- **Pentalogic** is the first truly Universal logic that describes the 5 Dimotions of reality at the lower scale of actions, the organic scale that considers the $3\pm j$ topologies=ages and $\Delta\pm 1$ planes in which super organisms trace its worldcycles. And the absolute scale that describe $-\Delta$ @st of times-space in its entanglement between 'entropy:~, Space, Time, Δ -scales and @-minds. Its easiest form Pentalogic is thus very common; from cellular variations of earlier life, to the 5 vowel systems evolved from 1 A Caucasian languages (pure entropic energy), through the a, l, u ternary logic of earlier Semitic to the pentalogic of Spanish or Japanese... It occurs in the musical score and all the dimotion mirrors explained in those texts.

'Dodecalogic' is the best logic to describe a system's worldcycle through 3x3 scalar elements guided by a mind, the 10th 'point' that controls internally through physiological networks, its $\Delta-1$ scale, feels as an individual in the Δ^0 mind and becomes a 1-point of the $\Delta+1$ world=plane of existence, in which it emerges.

So reality is a constant reproductive growth of fractal dimensions (being those of the 4th and 5th fractal hyperbolic dimensions with the potential capacity to trace any worldcycle of existence. And its study as fractal waves of reproductive motion and form, is really what is all about – to do so with different mirrors, we start by the most perfect known to us (after the illogic itself of the game of spacetime existence).

The pentalogic method: rashomon truths.

How we go about to describe scientifically a system, if any of those partial reductions of information suffice to make a linguistic mirror. The answer we provide in this and other papers on 5D is the Pentalogic, entangled method, which expresses with increasing degrees of complexity the elements needed to extract most of the relevant information from the system, without the need to get to the exhaustive (Do)dodecalogic analysis of the entire world of existence of a given supœrganism. Accordingly we go into a stair of deeper complexity, considering some of those key elements, under the general 'labelling' of Pentalogic method, from:

- Monologic: *ceteris paribus* analysis of the event or spatial form in its 5 elements as $-\Delta@st$.

- Dilogic: considering its ST components, perhaps its Stœps of motion and form, or its $S_i=T_e$ reproductive function/state in static, S_xT or dynamic $S \Leftrightarrow T$ form; or its relative St-information and Ts-momentum that come together to form its ST energy, or its opposite limits of SS-language/form/mind/seed vs. TT-entropy... causing.

- **Trilogic**: Which is de facto the most important analysis for all forms, as we describe the entity in a single plane of existence with its 3 topological organs of space, $T<ST>S$, its 3 ages in time, $T<ST>S$ or its 3 co-existing scales, $\Delta\pm 1$. Often we just make a trilogic analysis of the being in a single Space-time plane ($T<ST>S$), and from the point of view of scales, as this is the bare minimum to define an ΔST system... to which we might add

Trilogic is thus the basis of all languages beyond, the simplest 'first order logic' a causality of falsity and truth, such as if A is false, and from A we deduce B, $A \rightarrow B$, B is false. As truths are linguistic mirrors of reality a better term than 'falsity' is 'focus'. A good truth is one in which the syntax of the language and its semantic mimics the syntax of the Universe and its meanings. The syntax is a given. Most languages are 'innate' ternary syntax of the 3 parts of reality. So all verbal sentences reduce to:

Subject (Fractal point) < Verb (Dimotion=action of space-time) > Object (entropic energy of subject)

F(x): dependent parameter of space) <= > (S=t operand) G(Y): parameter of time

Blue (color of in-form-ation; space) <Green: color of reproduction) > Red (color of energy-motion)

'All what exists is a 'form' that trans-form' into entropy≈energy back and forth ad eternal $S \Leftrightarrow T$, which is the dynamic fractal generator of space-time events, and principle of energy conservation enlarged to its 2 poles whereas the wordings for 'entropy'. 'energy', 'form' and 'information' require a bit more of understanding before we can define them more precisely.

- Pentalogic: Its limits in time and space (entropic death, membrains, outer world) and its SS-mind, seed, where resides the will to develop its program of time, through the...

Pentalogic Functions for all ST-SS-TT-St-Ts functions.

To grasp the essence of the Universe is not difficult for a humble humind, but that is a *rara avis* by the very essence of the mind, which has a blind spot called egocy. In essence it means that all of the 5 Dimotions while performing an essential role, do display all others – all systems are pentalogic, polymath, multitasking. So when we study in a paper the pentalogic of time, space, minds, entropic limits and scales in any of its 5 parallel manifestations, we do show that time can act as space in synchronicity, as entropic limits in big-bang death events, as a mind in psychological time, and has different speeds at different clocks. The Rashomon effect then is necessary to see the entanglement of reality from different points of view.

Consider a beautiful example – the bioluminescence language of night animals. It is a system of information and as such its fundamental role is communication in search of reproduction, which most insects with it perform. But there are beetles that imitate those lights to hunt entropically males searching for mates. There are also the inverse defensive role for preys who lighten the predator as a ‘police alarm’ for a bigger predator to eat his hunter. They are the language of social relationship among the most intelligent squids. The only function it does not perform in itself is its opposite dimotion of locomotion. But even so, dolphins in the sea of Cortez playfully ride the waves in the night to activate microscopic planckton that illuminates their skins.

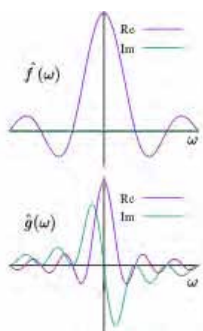
All systems do search through its function of information for all the other dimotions; even entropy allows the other dimotions to happen. Certainly reproduction, being the goal includes all others: reproduction ensures social evolution, which ensures a better hunting through herds, and in sexual reproduction communicates information. Reproduction breeds exponentially or in log curves or in phi golden numbers more reproduction; and has no blind spot. It performs all other functions. Entropy and Perception are inverse. But entropy explodes a form into motion and so acts as a mode of communication for predators to feed on the dying form. Entanglement then is a dynamic interaction of the 5 Dimotions between the TT and SS poles in the vital Universe, where only egocy reduces it all so by simplifying man feels he knows what is all about.

Synchronicity, entanglement and absolute time vs. relative time, local past paradoxes, c-speed, etc.

The vast expansion of information which results of uncoiling the planes of space-time of the Universe, is resolved by the humind compressing the into our size scale and rod of perception (light space-time). It is then necessary to accept for practical reasons the limited distortion of the mind, latter defined mathematically. So we won’t attempt an ‘Aristotelian, axiomatic’ pedantic attempt to set absolute truths absolutely false – as the hypothesis of the continuum, but highlight *the inheriting paradoxes between the α (relative infinite) of information, that our mind never will know as only each fractal point of space-time holds all of its information.*

Absolute relativity is the name of the game. And that is fine if the humind accepts a humbler attitude towards the whole, which so far does not. Infinities thus reduce to α immensities, infinitesimals to finitesimal quanta, continuities to undistinguishable discontinuities. Single timespaces to an entangled Universe that generates its space through synchronous connections between 5 Dimotions of reality in its 3 relative ranges of 5D scalar planes in which each dimotion has a different speed but as there are 5 dimensional motions with different functions, they entangle together: i.e. the faster dimotion of feeding in the slower $j+1$ plane of the ecosystem, provides energy to the slower dimotion of reproduction in the faster $j-1$ plane of the cell 1 time a day for most j^e animals connecting the 3 planes of biologic life. Functional synchronicity creates simultaneity, which gives birth to ‘ordered co-existing superorganisms’. Even a humind looses information and compress it all in its plane of light and second beat, of its smaller mirror mind to fit/select its survival info within its brain.

Time=motion is the substance of all realities, even if huminds hardly understand its nature as they reduced it to the Ts, TT locomotion and entropy studied by physicists. Motions of the 3 topological forms make timespace objective (as opposed to the mental spaces that distort subjectively and reduce those parameters to lineal ‘still space dimensions’ and a single time motion, taken from our 3 perpendicular light space-fields.



Forms of time cycles communicate in a phenomena studied only in physics called synchronicity by imitation in a same plane, and resonance by imitation between planes; origin of quantum entanglement, the effect of musical beats in your heart rhythms, etc. Such as the information of the Universe stored in the frequency of cyclical time clocks (particles, heads, vortices of forces, SHM motions) *is translated informatively by mind languages, into lower scales and then repeated in a larger plane, or in a far away spacetime entity.* For people and scientists it seems almost a magic phenomena, which requires to accept transmission of information at much faster speeds which for a slow larger mind seem simultaneous: it is the reason for the definition of simultaneity in

Relativity, which discounts the $-ct$ time required for the transmission of information from the distance between two points to define them as ‘simultaneous in spacetime. As it introduces the mind delay. When the speed is extreme, as in the quantum potential underlying c -space/time, likely $V>C$, we could also consider it as a ‘local travel to the past’ such as the time moving to the past of a dark entropy motion is equivalent to the

time needed for the travel in terms of $vt=s$, such as both cancel. From the p.o.v. of space can be seen as an accelerated expansion of space, by the front speed which goes further than c , our 'fixed' rod measure of spatial information. Timespace paradoxes occur also in those terms between the lower plane which must happen first for the whole to form, and hence exists in a relative past, in terms of the emission of information that the whole receives in the future; but on the other hand, as it has been *performing faster cycles from the inception of the whole, it is slightly ahead in the future; so its emission of information that happens in a relative future and also in a relative past, cancel each other* so that resonance seems simultaneous and synchronizes both planes.

Man as a measure of all beings.

We are 5 Dimotional beings, dimensions of space with a form which play motions in time with a function 5 functional forms, entangled and ensemble together into a appearance of a variety of being.

This fact has many consequences and the most important is to put man again at the center of reality precisely because reality is absolutely relative and all scales matter the same. So we can use the properties of mankind as a template to study other properties we might not perceive. I.e. we can study the program of vital survival of humans and our sentient properties and apply them to understand how atoms or plants, galaxies or planets live and die, perceive and program its smaller parts, and perform its actions of existence.

The biggest handicap for mankind to advance its comprehension of the Universe is its use of a single motion of time when 'reality is a fractal of 5 topologic dimensional motions of time-space entangled into ∞ supœrganisms living jts worldcycles of existjence'. That sentence encodes the essence of it all.

The first step to expand the motions of time is to realize that the 3 dimensions of abstract still space do have motion, so they are both dimensions of space and motions of temporal energy. And as such they can be considered akin to the 3 topologic varieties of bidimensional space, which have motion. Next we have to reject Newton's absolute spacetime background, also a mathematical abstraction born with the Cartesian graph, over which we write our models of reality that acquired 'life of its own' but was never found to be 'drawn' on Nature. So since we are not placed in a background space-time we are made of spacetime. We are made of the 3 topologic dimensional motions of space-time (ab. Dimotions), which happen to have the exact form and function of the 3 parts of all systems of nature: Spherical particles/heads of information, as the sphere holds maximal form in minimal space; cylindrical limbs/fields of locomotion, as the line maximize function, and hyperbolic body-waves composed of both forms that iterate them.

Alas, suddenly we realize we are made of 3 dimensional motions of spacetime. But we said we are made of 5 Dimotions, so we must add to those 3 classic dimensions; the classic fourth dimension of time only used in physics and called entropy; which is the process of 'absolute motion' that takes place when one of those ensembles of 3 topologic spheres, cylinders and hour-glass body-waves not only has external motion but internal motion; that is breaks into its parts and dies away. Entropy thus is the dimotion that breaks parts into wholes, in a Universe obviously made of scales of parts that become wholes from particles into atoms molecules cells matter organisms planets solar systems and galaxies. Thus if entropy is the dimotion that breaks wholes into parts there must be an inverse dimotion that puts those parts into wholes, of social, organic evolution, of love. And thus we have 3 topologic dimotions of space-time, spherical height that perceives information, cylindrical length that moves the system, hyperbolic body-waves that reproduce them, ensemble into beings that 'emerge' through social evolution from parts into wholes to die and dissolve entropically from wholes into parts, and those $3 \pm j$ (a parameter of scale) Dimotions of space-time ensemble into infinite beings is what reality is about.

If we call 'space' alone a dimension of form and time alone a motion; those 5 Dimotions, its organs and functions, put together through scales of size each one studied by a 'stience' of space-time beings, (which we call all together the 5th dimension' as opposed to the 5 Dimotions which are local for each being) configure the existjence, through 3 Stj scales of all beings, which are born in a smaller scale, with faster time cycles, emerge to live through 3 ages dominated by its limbs of locomotion, or young age, by its body-waves

that reproduce the system in its mature age, and warping, wrinkling into an excess of form in its 3rd age, to die in an explosion of entropy.

A life and death worldcycle is a travel through 3 scales of the fifth dimension, as the 5 Dimotions of space-time that form an organism, in its scales of cellular/atomic, organic/thermodynamic, gravitational/ecosystem and ternary organs, | -fields/limbs<∅-body-waves>O-particle-heads become sequentially ordered in time from the placental seminal age of 'social evolution' of the organism that emerges to live 3 ages in a single 5D plane encased into a larger world, to die and explode in an entropic big-bang.

Whereas the topologic symbols, |, ∅, O, express its form. Another way to represent that worldcycle common to all space-time beings is as a sequential progression between the 2 poles of absolute Space-form (the seed: SS) born in a lower scale, (ab.Δ±i) and absolute time motion (Entropic death: TT), when the system returns to its parts, with 3 intermediate states of maximal motion, Ts (young locomotion) > balanced motion and form, or Si=Te: Age of reproduction > And Informative age – St age taking place in an outer world. So we can also write with ilogic symbols the o-sum cycle of life and death: SS_{i-1}»Tsj>STj>Stj«TT_{i-1}

Thus 2 new formal disciplines the vital topology in space and pentalogic in time of those 5 Dimotions extract the common isomorphic laws (ab. Djsomorphisms) that all systems of reality obey in its 'life-death cycle of existjence' as fractal superorganisms made of 5 Dimotions ensemble in 3 scales of the Universe.

When we translate this concept of growth of dimensionality in functions of existential algebra, then we also realize that there are beings of one dimension, two dimensions, 3, four and fifth entangled dimensions, which give birth to different logic minds, from the simplest human entropic ego-logic to the complex 120 dodecaplex logic of galatoms.

The Universe is a reproductive fractal that grows by reproducing quanta of spacetime (particles, cells, individuals) and then organizing it in 'higher network-dimension – waves, fractal networks', which become herds and superorganisms, units of a larger being by entangling simultaneously in synchronicity all its parts into new wholes, or dissolving back in the moment of death. This game of existence can be perceived with multiple different languages. But essentially is always the same. Huminds reflect such duality between the entangling of superorganisms in space and its sequential worldcycle of time with logic time language and spatial geometric languages; with increasing complexity as they depart from the initial 'fractal point' that will through a series of actions reproduce and grow in dimensions in time, to ebb down into dissolution at the moment of death. How to follow through certain languages in symmetry across different scales the spatial, entangled creation of superorganisms and its 'derive' in time from birth to extinction through its worldcycle is the subject of each 'stience' that concentrates in the analysis of those process with different jargons in the species of each self-centered scale, from quantum physics, (particle scale) to astrophysics (cosmological scale) through biologic and social sciences. While formal sciences study the Δ^o humind languages and its mirror symmetries with the supœrganisms and worldcycles of reality.

So we define the Universe as a 'fractal supœrganism' that reproduces and ensembles Space-time Dimotions into organic forms through ∞ relative scales of spatial size and time-motion; whose Fractal generator (mathematics) Metric (Physical jargon), 'function of survival (Biology) or Function of existence (Logic Jargon) writes C=Max.ΣSxT (s=t), or St<ST>Ts in its different modalities of the fractal generator, the 3rd fundamental function of 5D metrics, we shall call Γ.

All realities are always a reproductive radiation of a function of existence along 5D scales that reproduces a variation of the fractal generator. It all starts with a fractal point or 'mind' gauging information in the outer universe to move towards a field of energy in which to feed: If we observe them in time, they have a clear sequential order, as they are generated by a first spherical 1D seed of pure information, in the Δ-1 plane that will grow and evolve socially through the 4Dimotion of existence, emerging into a larger Δ^o plane as a formed body-wave whose particle-head will gauge information from a larger Δ+1 world performing 5 Dimotions= actions of 1D absorption or emission of information, moving through 2D locomotions towards 3D fields of reproductive energy, using its informative communication to 4D evolve socially, into larger Δ+1 new supœrganisms, till the system fails to provide motion, energy and information to its limbs/fields, body-waves

and particle-heads, wrinkling and warping in an old 3rd age, or become 5D entropy of a predator, exploding into a big-bang death, devolving to its disconnected $\Delta-1$ parts. So Existence is a travel through 5 scales, as all systems of nature exist through a worldcycle (no longer a 4D world line as we add a dimension of temporal 'depth') - an experimental proof of 5D:

To exist any system made of limbs/fields of motion, body-waves of energetic reproduction and minds/particles of information needs entropy, energy and information to survive and keep on moving. So the 3 simplest dimotions of any plane of existence are a program of survival, which adds two complex social actions – reproduction that prints information in other zone of space-time to survive when one becomes entropy of other Maxwellian demon, and social evolution into wholes, networks that are stronger than individuals. So the mind is the embodiment of a single universal program of existence and reproduction of fractal clones, and it is the same unifying principle in all beings – as all will absorb energy, information, motion, evolve socially reproduce and survive. And this is the case even of the smallest entities, atoms, particles and forces. So the mind creates reality and its 5 Dimotions are in fact the local fractal program of existence, which physicists for particles describe in abstract terms:

The only dimotion of time the Universe does NOT code is entropy=death - a maximal motion that disorders the being. So there are NOT 5 quantum numbers/genetic letters to code physical and biologic systems. Only 4. Because the same quantum number that codes motion just increases it to create entropy and disorder the system (Principal number that 'jumps' in size as the particle 'feeds' on a force and disorders it). The oxygen that moves the cell also as a free radical destroys it, cars going fast kill you in accident, etc. DEATH is the needed error of the Universe NOT desired by the program. For that reason it lasts only a 'single quanta of time' (whereas a quanta of time IS for any $\Delta\pm j$ super organism, the 'tic' of a 'cell/atom /individual' of its lower, $\Delta-j$ scale, for biological, physical or social organisms).

So you die in a second, your relative time-clock quanta the time of 1 thought=glimpse in your head, 1 beat of your body-heart, 1 step of your limbs... And the rest of your existence is life-lasting...

Same with antiparticles (entropy=death Δ imotion of particles): they die in an instant, so we see far less antiparticles because the product of its numbers in space x duration in time is so short, while particles live almost for ever. Same reason you don't see corpses around. Death is the shortest possible Δ imotion. Each entity is therefore a Timespace organism of 5 Dimotions and all try to achieve as the goal of the sentient organic Universe the 'highest dimotion' of social evolution. So particles come together into atoms that come together into molecules that come together into planetary and life organisms that come together into galaxies that come together into the organic networks of the Universe.

RECAP. Simple monologic minds, which are most, exclude their own death=entropy in the illusion of conserving time ad infinitum; so tetralogic reflects in its coding languages (4 genetic letters, 4 quantum numbers). The game evolves then between complementary particles, St & Ts, which transmit to each other in-form-ation, form in action and energy, motion with form, balancing each other, and then expands to networks of other fractal points/particles/heads that will process it into more complex SS- δ still mapping and seeds. Unless you stop your physicist's frame of mind that reduces points to no breath to study only its external locomotion, you will be stuck in the shallowness of 'science'. Do that humble jump of accepting the Universe we perceive is a game of minds perceiving, where locomotion is the least important part, often caused by the need to transmit information between forms. But forms are not monads, they communicate information, with the help of its $j-1$ finitesimal quanta, its parts. So the game starts with two points communicating in the 4 Dimotions possible to each of them: intensity=amplitude of the wave that informs on its vital energy; frequency of its cyclical time, which informs on its membrain, duration of the wave, that informs on the singularity displacement, and social timbre: $\sum st$.

ENTANGLEMENT OF 5 DIMOTIONS: $-\Delta@ST$. j LOGIC EXISTENTIAL ALGEBRA.

The 5 space-time dimotions in its smallest organic scale are $\Delta-1$ finitesimal actions $-\delta$ algebra computes with derivatives. When those actions dominant in information add sequentially they trace the worldcycles of growing information of Δ^9 individual lives. Let us see them now from the $\Delta+1$ p.o.v. of the world.

The purpose of Existential Algebra is to study the multiple elements of our '5D metric functions of Absolute relativity', Max. SxT ($s=t$), which we have broken down into 5 Dimotions: Pure Space-seed-minds of linguistic information (SS), Pure entropic time-motions (TT), and the 3 intermediate states/organs of St-information, Ts-locomotion and Si=Te reproductive states.

We are spacetime and so we share our properties with all other systems. Man then becomes again the model of all beings, as we expand our sentient vital properties to all systems of Nature, which will have a mind-point performing the 5 Dimotions of existence, fighting for survival, trying to maximize its reproduction in the Si=Te balanced point of iterative present, that seems not to change (often through gender mirror symmetry between S-females and T-males), against the entropic top predators that try to kill=stop its vital time actions/cycles and dissolve the information of its inner vital space, expanding it and disembodimenting the entity to feed in its parts, converted into 'dust of space-time' (ab. $\neg\Delta@st$) with the best strategy of social evolution into wholes to win that battle between all the @-mind self-centered monad-points.

In this sentence, expressing 'again' the simple repetitive 'existential game' we all perform, we recognize 5 elements that from the larger perspective of the whole world will give us the $\Delta+1$ view of the 5 Dimensional motions of existence, commanded by **SS-linguistic minds**, trying to avoid the limits of **TT-entropic death** by:

Performing Ts-Cyclical Time actions through its St-topologic vital space organs, enclosed within an Δ^0 membran that divides the system into an inner, smaller $\Delta-1$ scale of vital ST-work & information, protecting it from the larger $\Delta+1$ world.

So in the largest view of the being interacting with many other beings in the world, we recognize 5 elements, Minds, entropic limits, temporal actions, vital spatial topologies and organic scales, *which are completely entangled by the survival will of the mind that enacts the program of existence, into complex synchronicities of time actions, simultaneities of space organs, fractal similarities that allow symbiosis, co-existence and scalar emergence of new whole planes of existences, limited by all other wholes that imposes its entropic end.*

So systems are made of 5 Dimotional $\Delta-1$ actions->performed by Δ^0 organs-> that on the $\Delta+1$ view become the 5 Elements that rise $\neg\Delta@st$ of spacetime into ∞ interacting existences. Thus, we need a new entangled 'pentalogic' as those 5 actions=dimotions entangle into topological organs that communicate and interact with many other species, giving us the perception of a 'continuum' space & time of a single scale. Yet in detail all beings are made of 'dust of space-time', $\neg\Delta@st$, whose 5 elements define their existence *and huminds unify at the largest scale of the $\Delta+1$ world view, where each all those Dimotions and organs of all those T.oes (ab. Timespace superorganism) simplify into the reduce continuum space-time world view of limited huminds:*

'S-paces' are all the 'types of dimensional organic forms', we find in all organic systems, which are ensembles of the 3 only 'topological varieties' that exist in 4 and 5D Universes. Those topologies perform 3 clear organic functions in the super organism, lineal limbs/fields that move the system, hyperbolic body-waves that iterate its forms and spherical particle/heads that gauge information. Absolute space becomes then the sum of all the 'vital organic spaces' of all the fractal points of the Universe: $S=\sum s$. Further on, as Euclid defined points with no breath, lines had no breath, and vital topologies loose one dimension of form. So the 'tall and wide' dimension of height of this page that holds information becomes the Euclidean height dimension of information; the flat cylindrical limbs/potential fields that move the being become the length dimension loosing also its motion and the hyperbolic body/wave width dimension that stores energy.

T-times are all the types of 'motion=change', those organs perform, which are locomotion (limbs/fields), reproduction (body-waves) and informative gauging (particle/heads) that dominate each of the 3 consecutive ages of the being (young motion age, mature reproductive age and old informative age), become reduced to a single sequential line of absolute time, $T=\sum \delta$, equalized further to the unit of human time measure, the second. As lineal time 'eliminates' the height dimension of information, the form and patterns of time cycles is lost. We thus regain as we did with vital spaces, the full complexity of the 5 dimotions of times. But true absolute time is the 4Dimotion of social 'evolution' that organizes parts, which hence must come first as relative entropic past of its future wholes. While the present of a function of existence is the more complex dimotions of Reproduction=iteration which seems not to change time, as a back and forth dimotion between

the $\Delta-1$ seeding plane and the $\Delta+1$ world where the Δ^0 entity will emerge as a whole. And since the program of existence maximizes survival through reproduction it maximizes the present we all perceive.

Δ -Scalar planes of space-time, as 3 scales are needed to form any super organism – the $\Delta-1$ quantum, cellular, citizen scale in physic, biologic and social systems, the Δ^0 thermodynamic, organic social Planes and the $\Delta+1$ scale of cosmic bodies and galaxies, ecosystems of Nature and Human civilizations; each of them ruled by the 2 metric 5D functions, $S \times \delta (s=t) = C$; whereas S means length or surface in space (or Volume depending on the 'world we live in') δ mean cyclical time (in static terms, T_i , time as information) whose speed= frequency is inverse to lineal time duration: $T=1/f$. They are compressed in 4D models into a single space-time continuum, which creates the paradoxes of different properties of the quantum scale, which is hyperbolic for a larger observer (as it holds more information according to 5D, branching into apparent \propto coordinates), and appears due to its faster time cycles as 'probabilities' instead of statistics in our thermodynamic scale vs. the lesser information we obtain from the cosmological scale, which appears then as 'curved elliptic in its geometry – themes those treated extensively in our papers on 5D geometry

SS: @Mind. Or geometric 'center of maximal internal communication that processes information from the outer world, and controls the internal networks of the system, with a given language, which we shall call a mind, regardless of its automatic processing or consciousness. As it coordinates and maintains the whole as a single system performing actions of control of the energy and information of the system. So we find gravity centers, chips, brains, DNA nucleus, black holes in galaxies, etc. There is always in any stable organic system, a relative still, self-centered mind, *which all systems do have, even physical systems, which have centers of gravity, centers of charge or crystal systems, which maintain the whole.*

But egocy eliminates all the minds of the Universe, helped by Euclid's definition of points with no breath. And since without 'Maxwellian demons', in-form-ative order and mental mirrors that project its scalar images of reality into its local territory, cannot exist, alas! Reductionism as usual becomes the perfect tool to prove the entropy-only universe in any grand theory of ænthropic huminds – so we reduce the cosmos to vacuum entropic space, eliminating galaxies, which are vortices of accelerated cyclical time, whose masses and charges in the cosmological and quantum scale carry the information of the Universe in the frequency and form of its cycles and balance the entropic expansion of space creating a static Universe. And we reduce the 'organic wholes' and systemic intelligence that makes possible the emergence of new planes of existence and evolve socially through the power of love – the sharing of energy and information between equal forms – so alas, Darwinism – ill understood as evolution is precisely of species, and its summit the organic evolution of herds into superorganisms – becomes the chaotic dogma, when the 'struggle for survival' only studies the final entropic death of organisms, but what truly matters are the informative genetic clocks and how they develop through scales the 'program of existence' coding for the 5 Dimotions of all Natural systems:

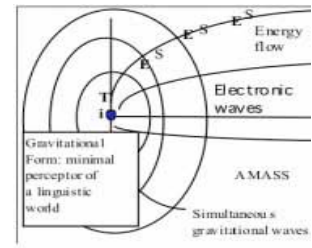
TT: -Entropic limits: called death in time, membranes in space: as systems loose control beyond two scalar Planes we define death with a simple function of dissolution of two Planes of information, $\Delta 1 \ll \Delta-1: 0Sx\infty T$

Pentalogic means that each of those 5 elements constantly interact in T.oes (Time-space superorganisms), with all the other elements, entangling together through synchronicity its time cycles, through simultaneity its adjacent space organs, through co-existence its planes, all limited by an 'entropic membrain', which isolates the system from the outer world in which it will try to extract more energy and information to grow, reproduce and survive, performing those actions from the automatic, deterministic will of existence of its 'self-centered linguistic mind' – or else if it doesn't perform those actions it will not survive. So the program of existence imposes itself.

The key concept behind pentalogic and entanglement is rather simple: to survive in the Universe, to have focus, form, a system must be 'anchored' through entanglement in its 'plane of existence' with 'trinity' parts of vital topology, connected through 3 inner physiological networks, but also it must co-exist in a larger $\Delta\pm 1$ nested world separated by a topologic membrain, which allows it to absorb and emit entropic motions and information, on that outer world.

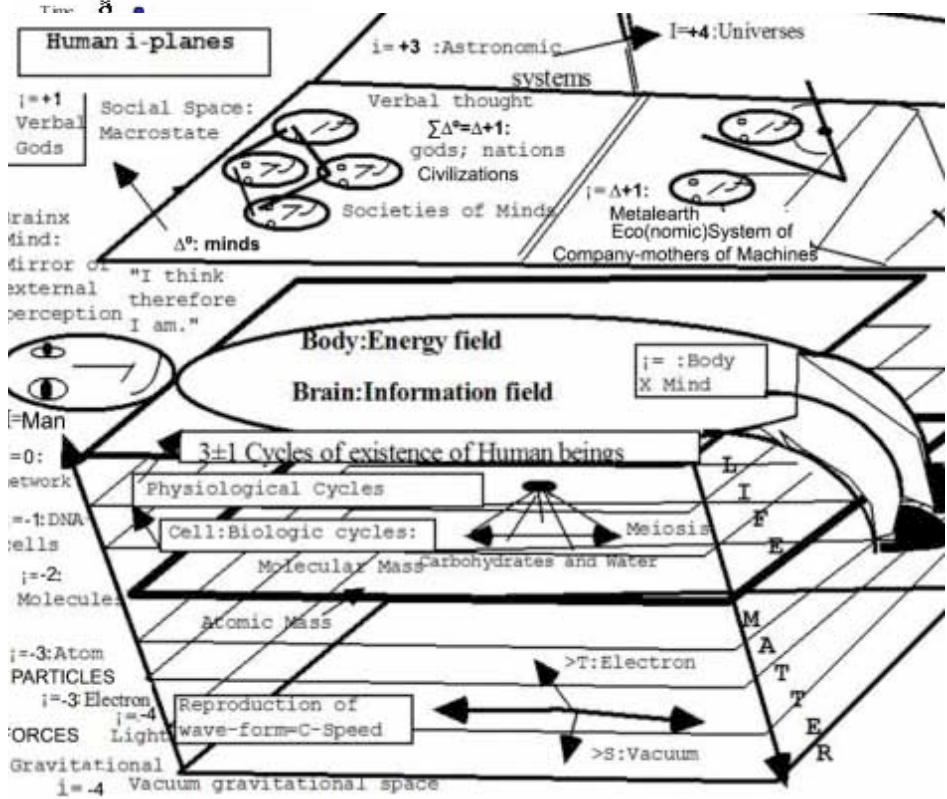
The understanding of entanglement was best among humans in Buddhism, where each soul is considered a knot of communication with all other systems, and minimal in America where the self is considered always the only central point of view of existence, in eternal struggle with all other human beings – yet as entanglement is necessary to survive, the American, modern man is entangled NOT with humans but increasingly with the machines of the Metal-earth, the Financial-media/military-industrial ecosystem for which 'it' enslaves as an object with a price.

S@: Entanglement through scales. Geometric entanglement.



When we go through different science scales to explain each 'entangled connection between the 5 elements of reality', we shall see that already in the first scale of mathematical systems, the fractal point requires 2 different postulates to define it: The first postulate which is concerned with its inner parts (a fractal point has breath), and the 5th which is concerned with its outer parts (a fractal point is connected with infinite potential parallels to the universe). The 2 inner and outer elements that meet in the 'membrain' thus define the membrain-mind as the essential entangled element between both worlds. Entanglement thus defines the

being from an outer perspective as much as its inner nature.



In graph, the fractal sentient point, new unit of mathematics and vital spatial information. Einstein's interpretation of the 5th non-Euclidean postulate was the view of a fractal point of the gravitational scale from our smaller electromagnetic world, which shrinks its inner volume, bending its parallels, hence its curved geometry. But that view breaks the conceptual definition of parallels are straight lines and is absurd, as the point remains 'Euclidean with no breath', hence only fits one line with no breath. Thus, particle points must be defined as 'FRACTAL points', like those we see through telescopes or microscopes, which grow we approach our distance both in scale and space becoming enlarged worlds with a complex internal structure and external entanglement following a Non-E 5th

Postulate: A point external to a line is crossed by ∞ parallel forces.

Such organic points are like the stars in the sky. If we look at them with the naked eye they are points without breadth, but when we come closer to them, they grow and in its membrain we find its maximal entanglement and communication – the hottest region of the star, the Earth's membrain with its life superorganisms & 3 ages Gaia< History>Metalearth, where a parallel network of 'still entangled' parts forms a whole which makes the 'membrain' a hard interconnected system porous to the energy and information of the world focused in its singularity center.

We can then assess the fundamental quality of vital mathematics as a key language of the Universe, which is to be the best language of space, hence the one that describes the laws of entanglement, even if man doesn't understand it beyond its egogy of magic creationism, as the language of mirror symmetries and dimotion flows of $-\Delta@st$ in all entangled systems.

Where the fundamental entangled element is the fractal point, and its social unit the polytope in 1,2,3,4 Dimotions; but not 5Dpolytopes since the fifth dimotion, entropy is the disentanglement of all the others. So polytopes rise positively in complexity as entanglements of indistinguishable regular points (or else one point will be different by position and connection to the other points). They reach its maximal complexity on the gender duality-mirror symmetry of the 2nd 10² scale - (female Icosahedron & male dodecahedron) & 3rd polytopes' 10³ scale (Male dodecaplex & Female tetraplex).

ΔT: Entangled ages & Scales.

Each of us is an entangled fractal system, interconnected or else it won't absorb energy and information and survive. And vice versa, when less entangled a system is – 3rd age of the being, and becomes cut-off from reality its 'truth' its existence dwindles and the system fades away and ultimately perishes.

At which scale of reality we must define entanglement? The answer is at the 3 scales, of the whole Universe as an absolute fractal organism of time-space (at the level of its 5 elements, S, T, -, Δ, @), but also at the level we just did of individual superorganisms, where its organs that represent those elements are interconnected to the whole, and finally at the level of its diminutive actions (a,e,l,o,u, acceleration=motion, entropy feeding, information, organic reproduction and Universals evolution, in the mnemonic rule), which we will find amazingly enough, in one of my most orgasmic-mental entanglements with the whole I experienced, were directly connected to the Δ±4 planes of existence of the being. Reason why we do perceive all those scales:

Scalar entanglement happens between the humind's organism and its territories of perception that provide the 'bits and bites' needed for humans to perform their 5 Dimotional actions. So we extract entropic motion of the Δ±4 gravitational/galactic field, information of the Δ±3 light/star scale, energetic food from the Δ±2 molecular/Gaia scale; reproduce in the Δ±1 seminal, gender scale and evolve through socially love in the Δ^o mind field, entangled to other minds in metaphysical experience of bondage through our memes, in nations, religions and civilizations. Scalar entanglement is the reason we exist, and perceive as we are entangled to all the scales of reality you perceive. You are your mind space and your mind space is your entanglement.

Physical entanglement.

Entanglement appears in the non-ego centered Broglie's>Bohm's interpretation of realist quantum physics, as particles entangle through its quantum potential fields; and this vast entanglement happening at $v>c$ in the lower plane of reality 'reduces spatial distances' in the Riemann's sense of a geometry of similarity to a 'boson like' unit of parts as if distance-space would NOT exist within them; which does NOT for the emergent apperceptive illogic 'couple' as a single whole.

To understand entanglement in formal languages is needed to adopt the Riemannian concept of a mental space where proximity and distance is a direct product of similarity, as if space will not exist, which can be achieved through communication on a lower 'potential field' of faster motion, as a faster v in fact perceived in stillness implies a smaller distance, and vice versa –i.e. the expansion of space in the Universe is in fact a $v>c$ speed on the jets of dark entropy expelled by the accelerated faster than c timespace vortices of heavy top quark stars, aka black holes.

So the black hole beyond the c -horizon speeds up at $v>c$ and erases the information of light into dark entropy expelled through its axis and perceived as growth of distance between galaxies, when by virtue of $S_i=T_e$ can be considered grow of speed. Entanglement is exactly the inverse process in a quantum potential field that makes communication disappear in distance between two poles – which is the magic of a phone conversation – distance is NO LONGER real because we are not in sound communication at 300 m/s but in a decametric jump of scale at 300.000 km/s. There is no distance in mental space of telephonic communication between speakers, only in geographic Earth's space; but we are not concerned with land or air but with a language of communication and its bits of information, which are translated, entangled, in a faster 5D scale of smaller bits and max. form (electronic space).

T.oes constantly entangle& translate in faster 5D planes='mediums' its informative bits that preserve its patterns *as there is the Universal reference of the game of existence behind them.* In the previous case the

communication has become an entangled back and forth feed-back electronic function on a wire line between two fractal points which cannot longer be considered different or do without the 'communicative line' between them.

Energy does not entangle only information does...

A conclusion proved mathematically, as only the sphere of max. volume of information (Poincare) can shrink without tear in any number of relevant dimensions (4 for entanglement) crossing the barrier between two planes of existence, while energy becomes dissipated as entropy. So you can talk with mum in Australia but not send her 1000 kilowatts, you can though send her digital information, aka money too.

Bio-logic entanglement.

The Universe's 1st ilogic entanglement of 2 elements is gender mirror symmetry that fusion both 'in love' into 1 in all scales, through the mirror symmetry of female-like $St+sT$ male-like complementary couples. Entanglement starts with $1+1=3$, through gender symmetry. The entanglement of gender, is so obvious that became the basis of the duality knowledge of earlier cultures (Chinese) will constantly come in Nature. It is NOT only the entanglement of biologic gender; so how we do distinguish its 'essence'? In ilogic terms is easy because the essential duality is that between simultaneous present space, $Si=Te$ and time flows in relative stœps, from past to future to past... to future, $S<T>S<T...$ Both are perpendicular. And so the ultimately the definition of Gender we shall use here goes to the final core level of 'perpendicular' space (female gender) to Time flows (male gender). Gender is essential because without Gender we can't understand reproduction by mirror symmetry and the duality of symbiotic perpendicular vs. Darwinian relationships.

2 systems achieve maximal communication when they pass from parallel sharing of information, through a medium which transfers a language, to direct contact between its sensorial membranes, which bring true bondage. And at that moment two different outcomes might happen. If the membranes touch without tearing, the topological integrity of the organs are conserved in vital mathematics; so the being co-exists, and entanglement (the previous state of parallel communication) becomes bondage according to the fourth postulate of non-Euclidean congruence.

This is the magic of it, as fusion love kicks in and entanglement becomes a dance of complementary forms. It is the beauty of love and gender symmetry. And the maximal action of it, is called sex, orgasm, the present state of fusing both the past to future to past, and present forms into one. So how it happens physically? Do I have to explain it to you?

Male gender penetrates a folding of topological females but does not tear it. It goes in $T>S$, and then it goes out $S<T$, as the male does in and out, information and entropic disentanglement. But the female $Si=Te$ 'grasps it'. It caresses it, encircles its lineal form with its cyclical even polytope. Entanglement is now bondage. And it brings when bondage combines in the most intimate ways the information of both systems trinity, reproduction. So alas, $1+1=3$!

The rules of vital topology in inverse fashion defines Darwinian destructive perpendicularity when one of the entangled elements turn out to be a predator top and breaks in, tears the membrain of the other system, killing it, entanglement then gives way to entropic devolution and one system becomes destroyed.

Recap. Entangled growth of complexity between the 5 Dimotions of beings.

The Universe is a fractal organism of time=motion and space=form, organized in scales of different size in space and time speed, related by a symbiotic, balanced metric function. We call the sum of all those scales, the fifth dimension, which has a 'metric function', hence it exists. The functions for a given number of co-existing planes of space-time in any system is:

$$S \text{ (size in space)} \times T \text{ (speed of time cycles)} = \text{Constant.}$$

The purpose of the Universe is to reproduce its spatial=formal motions of times, creating synchronous patterns of cyclical reproduction of form we call superorganisms; with its fundamental metric law of balance between space and time, as the guidance of those motions.

Universal fractal scalar space & cyclic time planes ensemble into supœrganisms (T.œs) whose properties derive from the 'disomorphic'=equal laws of those 5Djmotions. Its Metric, $\text{Max. } \sum SxT_{(s=t)}=C$ unlike 4D locomotion applies to all 'stientific scales'; adding organic= scalar=fractal properties, biologic will, causal=temporal determinism and linguistic=mental properties. So all species play the game of existjence, the God=Mind of reality as systems try to maximize its 'Function of existjence' through reproduction (SxT) in a balanced point of present $S=T$ followed by organic evolution (\sum, Π) into stronger, social numbers=wholes that survive better.

From the simplest cycle of time that reproduces by the mere fact of cycling and repeating its form, iteration is the very essence and purpose of all beings - its first complex dimotion, closely related to the process of eusocial evolution and palingenesis, as systems to reproduce must imprint a lower scale of reality with its form... So we shall study the meaning of life, which is everywhere, as the process of iteration and generation of space-time beings, considering also some pentalogic view from the other perspectives of the entangled Universe. So if we define information as a form-in-action, the repetitive motion of a form, we define the Universe as a fractal that reproduces information.

The outcome of those processes of reproduction of form, and symbiosis between the different scales and synchronous time cycles of its species is the creation of organic superorganisms.

Yet species that deny the program and are isolated in their ego-paradox, cut off from those laws, ultimately become extinguished which is how the program of the 5 Dimensional motions of reality imposes itself. And ænthropic man with its anthropic and entropic egocy is exactly in that path guided by 3 idol-ogies that worship metal without recognizing its vital nature as atoms are the units of life, capitalism, mechanism & nationalism.

The organic view of time and space requires a new 'metric function' beyond the lineal $v=s/t$ function of Galilean relativity that becomes the limit of this more complex view of time and space, with 2 fundamental function, $SxT=C$ (the scalar metric of the fifth dimension, as systems in space accelerate its clocks of time (T) according to its size (S); and $S \leftrightarrow T$, the new function of relativity, which means as we cannot distinguish motion=time, from stillness=space-form (Galilean relativity), both are 'two sides of the same coin', and all systems have both motion and form, which are constantly becoming one another. Yet as SxT is maximal when $S_i=T_e$ ($5x5>6x4...$) both functions can be summoned up into a single one, which we shall call the fractal generator, or will of each fractal space-time beings, the function that embodies all other functions of the Universe and guides the actions of each fractal part of it: Function of Existence: **Max. $\sum S x T_{s=t} = C_i$**

The mind function defines Minds as infinitesimal points-particles that *map the whole Organism in its linguistic world, perceiving through an intermediate closed membrain, which divides the system between the outer and inner world (1st topology function), with 'openings' to process T-motion and perceive S-form, in order to perform the 5 actions of the program of existence that ensures the survival of the being in a series of beats, as the being stops, gauges information, perceives and moves towards a field of energy in which to reproduce – the goal of the Universe, and continue in existence.*

When this sequential deterministic series of actions are not met, the system extinguishes itself. And hence the reproduction of the fractal universe reinforces itself by biological means of survival and extinction.

The largest 'nested' view of reality is that of a fractal organic $\Delta+\infty$ Universe made of $\Delta-\infty$ $-\Delta@ST$, 'dust of space-time' of which we are all made. Where we consider 5 elements, minds, vital spaces, time dimotions, scalar planes of space-time and entropic limits that define each entity in existjence as cyclic time Dimotions synchronize in repetitive patterns, through 3 scales of space-time, appearing in simultaneity as the vital topological organic adjacent vital spaces, ensembled into ∞ supœrganisms (Ab. T.œ) whose properties derive from the 'disomorphic'=equal laws of discontinuous, scalar, space-time, its minds of measure, and entropic limits; that is, the common substance of them all: $-\Delta@st$ we are and to dust of timespace we shall return.

Our perspective though might vary; so from the @-mind's ego paradox that distorts reality with our $-\Delta@st$ at the center, we become 'Universal wholes', $\Delta\hat{u}st$, who confuse the real Universe with our limited world, and find no boundaries to 'our imagination', no entropic death, above heavens and earth. So minions of thought, become tribal idols who think to know it all... ignoring that "talent hits a target no one else can hit; Genius hits a target no one else can see." And so the only genius is the Universe, which holds all the information about

itself, most of which humans cannot see, as we are ‘a mush covering a rock in a lost corner of the cosmos’ (Schopenhauer). This who writes is also $-\Delta@st$ but at least aware of its limits, he tried to entangle his finitesimal mind as a better focused mirror void of ænthropic distorsions to the whole, aware that the ‘Universe is a living organism with a mind called logos’ (Plato) ‘of a higher logic than man’s’ as God is ‘the seer of time’ (Augustine), who understand all its potential combinations of the deterministic game of existence, that defines the sequential chains of time as a block of potential worldcycles, where ‘the separation between past, present and future is an illusion’ (Einstein); given the fact that the rules of existential algebra limit the combinations of those dimotions that do exist.

We thus say that the 5D metric functions that generate space-time organisms, is the fractal generator of all functions of stiences. And *existential algebra*, its full formalism analyzes all possible beats and combinations of the 5 Dimotions and connects them with the laws of geometry algebra and logic, because languages are mirrors of those 5 Dimotions, 3 scales and entangled relationships, through scales. And then departing from the merging of Δst , the ‘mother of all stiences’ and its human time-logic and spatial-mathematical mirrors, explains all the whys of all the stiences, each one studying the species and cycles of each plane of space-time, ‘potentially’ – meaning this infinitesimal mind has only researched a part of it all in his spare time, as living has been its function of existjence of which thought is only its SS-state. So paragraphing Descartes, we end this brief introduction to Scalar spacetime, before we make a fast blitzkrieg on human sciences hoping other huminds will be grateful to our ‘brevitas’, and enjoy the exploration of all what we have not discovered on the disomorphic laws of the fractal Universe, so they can occupy their minds on the pleasures of research, since those brief formal laws are to the whole Δst what natural numbers to the ∞ reals: Cantorian dust.

The different type of logic minds.

We have already in the introduction, consider the growth of complexity in the entangled Universe from ceteris paribus, one-dimensional, monologic aanalysis so common among human beings to the more complex (Do)decalogic systems of perception of reality in its 3 worldcycles. As humans are basically monologic we do need to make somewhat a harsh critique of our modes of thought, because with the same data, our one-dimensional time-mind brings most of the errors of science, due to our egocy and confusion of our mind’s view with the whole Universe.



Fig. 12.3.

The relativity of data: one and the same datum points ambiguously to two different hypotheses via two different theories.

MONOLOGIC: ÆNTHROPIC CREATIONIST EGOCY HUMINDS

“Only entropy comes easy.” Chekhov

How can we, humans after all belong to our military, lineal ego-centered culture, by-pass the limits of ænthropic thought? The answer starts in the languages the mind uses to perceive the Universe visual thought, which describes space, evolved into a more synoptic form of geometry called mathematics, and verbal thought which describes time with verbal tenses, evolved into a more synoptic form called logic. Thus since the languages of the mind are our mirror of reality, to evolve our truths we must first evolve *our understanding of* languages, not as creative magic powers but only as Mirrors, hence inferior to the Universe we must learn to respect.

What ænthropic man does to preserve its sense of superiority of the Universe, is to believe languages 'create reality'. Man first talked words, and now with the help of instruments it talks mathematics. So in both ages he thought to be the only intelligent being with God that spoke those languages, and in both cases in a hyperbolic trip of the ego, he thought that the language-mirror created reality NOT reflected upon it as a mirror does: in the past he thought God spoke and his words created reality (Abrahamic creationism), today most physicists think the mirror functions of mathematics create the space-time reality it describes; while most economists believe its specific mathematical language, digital money, creates the physical economy (a creationist theory called monetarism).

In the graph we illustrate the most profound of the ego-trips of ænthropic man, 'creationism', according to which his languages do NOT mirror but create reality - sharing that power with an entity called God, which in each age speaks the language humans speak, who therefore share 'his power' and as today 'machines also speak mathematics', machines also share this power, and the Universe is modeled as a mechanism.

Each those 2 creationist philosophies of the Universe deny of course the existence of any other language or mind in the Universe that share that power. So verbal and digital creationists (as Dirac's denial of the verbal

DIGITAL & VERBAL CREATIONISM VS. REALIST SCIENCE

Linguistic creationists: verbal creationist religions and mathematical creationist scientists:

God used beautiful mathematics in creating the world.



... We must admit that religion is a jumble of false assertions, with no basis in reality. The very idea of God is a product of the human mind.

"Mathematics is the language with which God has written the Universe."



Biblical scientists (classic economists and Fathers of Physics) mixed both creationisms. They still do in 'capitalism' (profits even if it kills earth) and Physics (anthropic principle):

'People who seeks its own profit are guided by an invisible hand (of God)' Adam Smith, Calvinist founder of the idol-ogy of capitalism

'Money is the intelligence of god' Calvin

'God is a (digital) clocker that waited 5000 (biblical) years to find an intelligence like his to admire his clock-work'

Kepler, founder of modern astrophysics



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...

"The ultimate reason of things must lie in a necessary substance, and this is what we call God."

Gottfried Leibniz

Albert Einstein (1879-1955)

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.



Los Cielos del Tiempo:
Día, Universo y Hombre

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

god shows), quarrel for supremacy, despising each other's form of creationism. In both cases the scientist or prophet speaks his 'magic' language and creates reality. So Allah or Yahweh talks (through the prophet's mouth) in Arab or Hebrew and reality appears – the 7th plagues happen.

And Hawking talks, and affirms black holes evaporate to the past with no proof whatsoever but his function *and they must evaporate by dogma*, and Hubble writes a lineal function backwards pretending it is the implosion of the Universe without any proof of such explosion, and it must have happened; and if not, 'ad hoc' proofs as we shall see are concocted to reinforce creationism, in both languages (religious rituals in which mantras are prayed as a 'vehicle to God', subtle data manipulation and computer nice pictures concocted tinkering with functions to get the desire image).

Problem of cultural and ego-centered theories is that they are beliefs so rational falsification doesn't work.

In that sense monologic is intensely connected NOT to the highest complex view of an objective scientific reality but to the program of survival in its body-emotional parts, with hardly any reflection, as pure 'actions' of time, in the shortest scales of time behavior. So to fully understand how most of the entities of the universe, which are monologic work, we need a general theory of e-motions as the underlying body/limbs, wave/field language and state of 'being'.

5D Mind Theory: Panpsychic Universe: Æ-Motions. Languages of huminds.

The consequences of 5D and its description of the Universe as a game of two poles – minds of information that perceive through fractal points the time motions of reality in still mental spaces – and travel through 'scales' of the fifth dimension to obtain energy and information from those scales, to reproduce and survive its information, is obvious: the Universe is pan psychic, as all philosophers and scientists thought of till the pedantic reductionism of Logical positivism affirmed that nothing that cannot be measured is science. As the unit of life is the particle that already shares all the elements of life: it reproduces, decoupling in new particles, moves, feeds on energy, perceives=gauges information so quantum is a gauge theory and evolves socially through magnetic fields. And indeed our mind is an electronic mind only different from a single electron in the complexity of its patterns of thought, made of spins of electrons as it is the mind of computers. All of them therefore must 'feel' the same vague sensations provoked by Æ-motions, the motions of 'existence' – a key new world of existential algebra.

A huge field with many subfields is therefore the understanding of the mind, the software of the brain of any superorganism, and beyond its connection with the different scales of reality.

In continuous sciences this is barely understood so we can put some examples of its vast expansion – one related to 'scales' and other to 'space-time motions', which is the main Δst duality.

The ultimate will that moves species to act is the sheer desire to reproduce associated to the sensation of motion-pleasure, *which is also a dynamic feed-back $S \Leftrightarrow T$ function between the feminine S-pole with its inwards static 'calix' and the T-entropic motion male state 'moving in parallel' in and out in a rhythmic beat.*

Other e-motions move us to act – the acute sense of perception; often bringing its paradoxical pain of memories; the inverse exhilarating feeling of accelerated motion, with the negative sensation of forgiveness. The study of e-motions, given the fact that the Universe is ultimately about the passage of time=motion becomes then impossible to 'measure' with 'still minds and pictures' for the humind ego paradox to think it knows and the scientific method to find occupations for its mechanisms and sensorial machines. But within the disomorphic method that accepts the properties of all space-time beings to be the same, can be assessed by 'projecting' our 'animal e-motion' as properties proper of all other entities of reality regardless of scale.

A crystal of DNA or matter must hold a static Nirvana perception of its self-image within its own code. And a particle moving at light speed must feel the exhilarating memoriless impossibility of 'completing a closed circle of perception' that would repeat a present memory, in the point in which it 'reminds' the track of its cyclical mass vortex, with the same quality if not intensity of a biker, emptying its brain at 100 miles, or the thinker with its déjà vu sensation entangling with the laws of the infinite Universe, or the old man, reduced to its mind memories to sense the passing of life.

The Universe is panpsychic and its e-motions are its ultimate reinforcing mechanism to maximize its conservation of time and reproduction, the summit of its existence in any scale.

Examples: the language of art.

E-motions are attached to the correct perception and expression of the game of existence in its coding of the proper actions to survive, maximizing the conservation of one's time. The most obvious example, are internal mind sensations. As they cannot be measured mathematically but only qualitatively they are not within the realm of the scientific method. But that doesn't mean they don't exist. You cannot measure those sensations of awareness-pain vs. pleasure-dissolution, in-form-ation, pressure vs. release-entropy ONLY sense them as humans. So if we had first a difficult hurdle to cross trying to prove the existence of minds but passed it objectively by considering a mind-singularity to hold the will of existence of a T.œ - hence as invisible gravitation shows in its external effect, so will the existence of a singularity through its external actions; at the final level of 'human awareness' of the game of existence - sensations of the dual pain-pleasure reward system (with all its parallel and perpendicular events/sensations) there is ONLY a justification to the existence of other minds - that we humans are made of the same substances that all those other minds, space and time, and hence what we sense other atomic systems must.

Consider a language of time, the purest expression in humind's languages of a worldcycle, music:

Figure 4.24. Comparing Major and Minor Scale Patterns



In the graph, music produces e-motions. Two immediate 'codings' of those emotions come from the perception of treble sounds which increases as a system approaches (Doppler effect) with e-motions of distress and bass sounds with relaxation (as a system moves far away). So in

a jungle age when sounds were important a receding sound is more relaxing. More sophisticated structures of music connected with e-motions are the minor and major scale, which relate as all music or sequential art (film, literature) a worldcycle story, with 'III acts=3 ages'. In music those ages are broken by half-steps that act as divisions between the narrative of the ages. A minor scale is sad, as it has a short 1st happy age, and a longer 3rd age. A Major scale is happy as it has only 2 ages, and stops in the mature classic age. Those e-motions mimic the general game of existence and our desire to stop time in the middle S=T classic age; even if ultimately both scales have the same number of notes and tones.

In any sequential art, then we perceive a well-done work when the 3 cycles of the system are completed, but we do like those who have a happy end that avoids the 'obvious' no-brainer of III acts and death, stopping in the sustained II age of maturity and reproduction (love ending).

The same code of music can then be transposed into space, with the code of colors and its complementary forms and e-motions, studied in our papers on mental spaces (Geometry). Motions thus cause e-motions.

Therefore if our last reward is the flow of sensations, with its duality pain-pleasure, hate-love, etc. which we can easily ascribe to geometrical perpendicular (cut, pain) parallel (friction pleasure) properties and many other dualities we have established for all systems, It must exist in all other systems of spacetime. That is, atoms must feel pain when op-pressed by huge masses, pleasure when released in entropy, but also 'awareness' of a more complex inner still image, when flows of information converge through forces in its non-Euclidean singularity; and so it is only left then 2 questions:

- 1 What are those sensations? Answer: the very essence of time as a motion/flow. Motion in itself seems evanescent; as sensations are... Yet combining them, this flow of sensation-motion becomes very likely the
- 2 ultimate program-will for all T.œs to exist - the ultimate, 'Dasein', 'being in time'.
- 3 Yet we cannot go beyond this, as this is the ultimate 'reference' of reality we have as humans. So there is no MORE methods of knowledge beyond what it is contained in our 'selves'. Know yourself, the method of knowledge of Aristotle; 'saper vedere', the method of Leonardo and know how to see and calculate with attached machines, the method of Galileo, to which we have added a few 'tricks' thus completes the capacity to probe reality. Are there more layers beyond motion as sensation in time? We cannot answer. We

don't know. As all is relative, in the same manner we can only probe into $\Delta\pm 3$ planes around our Δ^0 and hint by force of motion the existence of an invisible gravitational/cosmological plane at $\Delta\pm 4$ but no more, beyond the duality of sensation, there is nowhere else to go.

Because the ultimate reality is motion, there should be also a 5 Dimotional code for each species to produce the sensations of emotions that ultimately motivate the knee-jerk reflection program of its 5 actions-reactions to the external Universe. Of course the sensations will vary according to language and pixels of the mind that integrates the program in a single type of 'particle in motion' – in human beings electrons. But ultimately we could consider as there are only 2 fundamental particles, the gravitational quark and the electromagnetic electron that the *site of sensation is electric and gravitational sensations and so we could also reduce all 'awareness' of being to electronic and gravitational forces, as the only systems of perception we know, digital machines and humans are electronic. This said what emotions should code is obvious: the actions of the 3 parts of the body across all the scales of the system, from its minimal elements (atomic forms) to its maximal grouping (Physiological networks). This means that for example, in humans we should find $3\pm=6$ basic emotions, coded across all the scales of the being from its simplest amino acid scale through its largest physiological actions, as a response to the external stimuli of the larger world, synchronizing the 3 relative scales of the being – inner parts, physiological whole and world.*

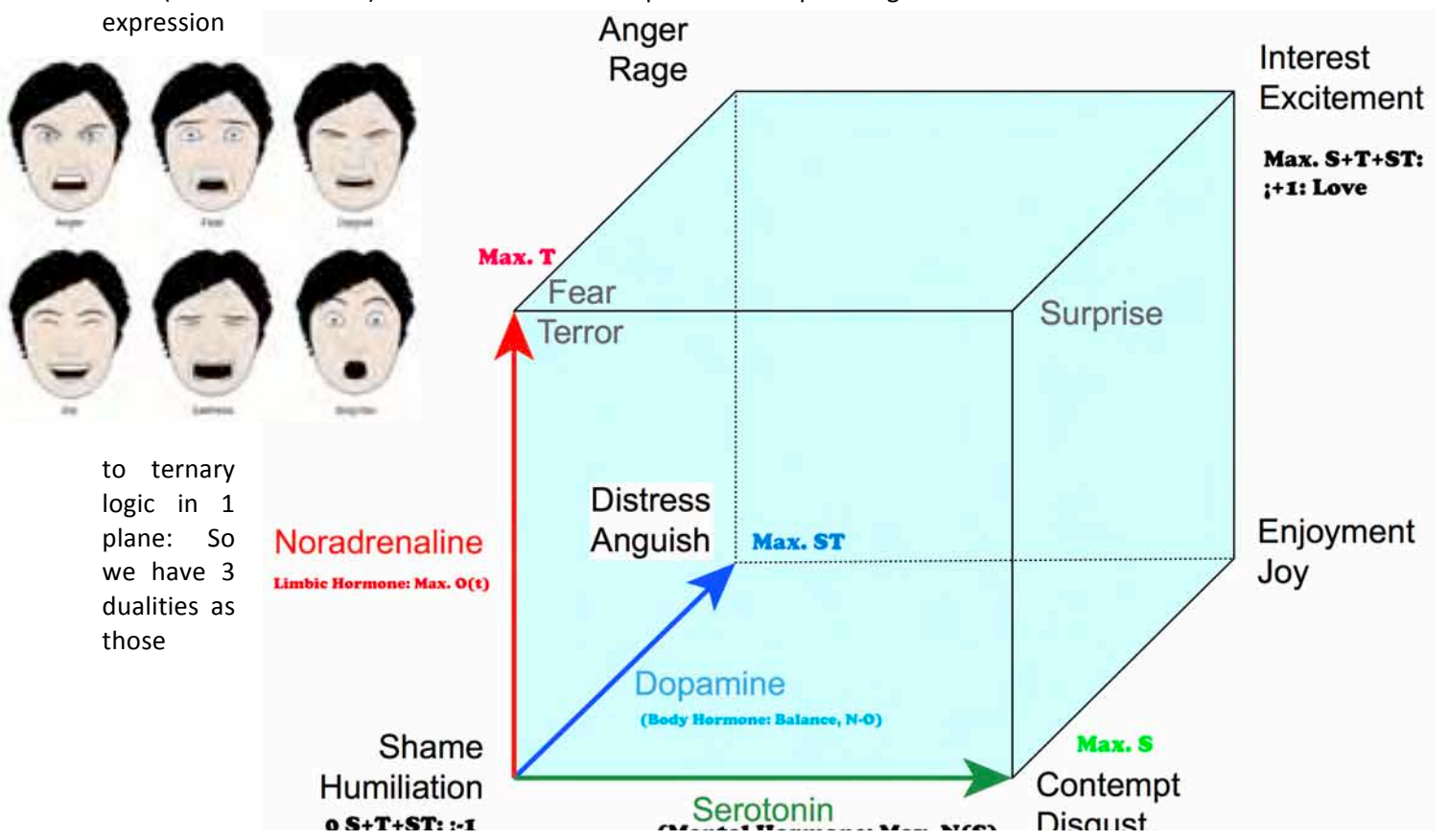
Those 6 emotions then are NOT caused by the amino acids, or the physiological network or the world but by the synchronicity and entanglement of the 3 scales of the being, which in a given 'quanta of time' (in humans the second and its fractions and sexametric, cyclical scale of multiples) will provoke emotional reactions, in the 3 'organic body/limb/head' elements of the being. This is indeed the case when we choose and slightly correct the most wide accepted classification of emotions:

The study of e-motions is an interesting application of 5D to complex analysis of the Human supœrganism, as it shows multiple elements of the underlying structure of the Organic Universe.

Essentially emotions work on pentalogic, with dual Dj motions for the 3 'relative present' mind-body-limbs states and 2 triplets for the $\pm j$ e-motions of social evolution and inhibiting death.

We take the more experimental, less abstract/ideological models of emotions available in psychology as the departure point to improve the 'genre' with 5D insights, namely the 6 basic e-motions Universally represented on the face and the cubic representation of the basic affects, related to the 3 fundamental hormones of limbic activity (adrenaline), mental activity (serotonin) and body activity (Dopamine).

The (corrected for 5D) 8 cubic e-motions respond to $3\pm j$ pentalogic and $3\pm j$ universal e-motions of facial expression



to ternary logic in 1 plane: So we have 3 dualities as those

Noradrenaline
Limbic Hormone: Max. O(t)

Shame
Humiliation
Max. S+T+ST: ;-I

Serotonin
(Body Hormone: Balance, N-O)

Max. S
Contempt
Disgust

established for 5D sense theory, clearly related with them.

We can also consider dimensional analysis of the facial expression of those emotions, where the eyes represent the informative senses and the mouth the entropic one. But also as the nose is basically senseless in man and doesn't play the role it does in animal with sensorial smelling, the mouth doubles as verbal, ST balanced sense. It is then easy to notice that the dualities established in emotions are mirrored with the duality codes of 'dimensional height= positive vs. low=negative emotion' and open, communicative, still + emotion vs. closed – emotion. So immediately we see reflected the duets in \pm open and closed 'surprise vs. contempt' and high vs. low happiness vs. sadness. In the 3rd duet, fear vs. anger the duality is inverted. Fear, which is the negative emotion, is opened to sensations, anger closed to it. It is obvious that 3 x 2 are the basic emotions defined in duplets of \pm containment and action, defined by \pm amounts of 'limbic-red motion' excited by noradrenalin. Those 2 emotions are directly related to another 'vital being', a prey-predator and so it is not an abstract e-motion and as such fear is close to surprise, its next negative state, still open, and anger the next reaction to disgust, so we study them in a 'nested order': Surprise->fear->Disgust->Anger; from the opening implosive absorption of information to its closing once the choice of mental attitude has been defined, closing the sensorial outlets as the system injects adrenaline to pass directly to the action motivated by the e-motions, which become then the first cause and as such of a lower Δ -1 plane of existence, reason why we hypothesize that emotions are directly connected to e-motions, the ultimate flow of time and so the entire Universe is at that level a field of immense emotions.

The entangled Universe *achieves stability reducing the freedom of a system as parallel 5Dimotional languages reinforce each other.*

The action of emotions is mediated at chemical level by the minimal units of molecular life, simple monoamine hormones, which reflecting the topology of bio-chemistry where Nitrogen is the brain, Oxygen the limb and carbon the body, define limbic activity (Adrenaline with max. 3 O atoms), the brain activity (Serotonin with min. 1 O atoms) and body (Dopamine in between with 2 atoms). It is already remarkable that the O(T)<C(st)>N(S) simplest organism of life transfer its ternary Universal grammar when acting as a hormone to the largest scale of Limbic (T) < Body (ST) > Head (S) organism, as indeed serotonin is the nitrogen brainy hormone, Dopamine the balanced pleasure body and the adrenaline the limbic one.

The triads of emotions reflect the topologic 'functions' of the simplest space dimensions, in the dual faces of:

1 Mind Emotions: Surprise vs. Disgust (\pm mental e-motions, mediated with maximal serotonin-brain activity and \pm adrenaline, for passive or active locomotion)

2 Body Emotions: Anguish/sadness vs. Joy/pleasure. Here we make the only correction to the insightful 'cube' of emotions' as we must interchange in the original cube An Δ st/sadness (a body emotion) and fear (a limbic emotion). So again we have a duality of sadness (passive body emotions) and joy (positive body emotion). Both body emotions happen with minimal limbic motion (low adrenaline), and the active one (happiness) requires also a positive display of mental serotonin.

3. Limbic emotions: Fear (negative, passive) and rage (reaction through bravery), form a duet with passive fear that 'freezes' the limbic system and a brave reaction of maximal adrenaline, defensive, aggressive rage.

\pm j And that live for the \pm j scales of social evolution and love a +,+,+ triple signature of maximal serotonin, dopamine and adrenaline, meaning the entire emotional system and its 'mediating' hormones are ad maximal, showing indeed that interest, excitement and love (3 scales of the emotion, the last one curiously absent in all the psychologists' classification of emotion, showing their own repressive limits. And its inverse negative, inhibiting e-motion of humiliation, shame and ultimate social isolations.

The fact that those emotions are manifested by the whole mind but mediated by the minimal monoamine molecules stresses the parallelism and entanglement of reality from the lowest parts (atomic hormones) to the largest emergence (emotions that motivate the whole organism to act).

RECAP. As reality is made of time Djmotions we perceive the program of survival=existence, as e-motions, flowing sensations of entanglement and dissolution in the flow of times, of which there must be 5 likely in

every entangled being, in all its parts and scales, albeit sensed ONLY as 'ego' in the mind's will, who in man is electric. So it is happening as you read in your electr(on)ic machines' singularity=chips and membrain=screen, thrilled with your touch, but with faster e-motion=intensity than your S:l=eye+T-Wor(l)d. **5 e-motions** 'correspond' to 5 Dimotions: *Pain=Entropic death (TT); Exhilaration: Locomotion (Ts); Pleasure: iterative Si=Te-energy; Awareness=St-information; Nirvana=§-till perception*. They are the basis of a proper psychology of all minds, its will and reason all beings like to play the program of existjence.

The conscious vital program of survival is also met in an automatic manner, by those physical species we don't give any capacity to perceive through the same e-motions of all sentient beings...

S⇔T motions constantly switch from lineal to wave-like to cyclical closed motions, which are therefore the 3 varieties of time in a present scale between those two SS and TT 'dimotions' happening in another scale, with clear inverse properties, as seeds try to have the e-motion of entropic living and TT-entropy would like to stop is destructive dimotions into the stillness of spatial information.

Recap. Monologic, ænthropic man with its 1D models of reality based in Sx time locomotions shuns off the 5D Cx. Universe to its own peril, as reality is penta-dodecalogic anchored as a survival space form – the supœrganism by its entanglements of Dimotions through scales, gather in organs that generate space synchronous supœrganisms whose fight in time for survival, but are 'warped' by all other fractal T.œs, who will set its entropic limits. Humans though seem ill prepared in that struggle as its monologic cult(ure) and ego paradox makes the combined Human+Metal top predator animetal warrior & go(l)d cult(ure)s of minimal understanding and respect for all the living function of space-time existjence and its action-reaction laws, the dominant memetic force of this planet bond to extinguish life, evolve a new species and die with them.

Monologic is thus emotional, searching for maximal conservation of time, through the absorbtion of the time-energy of all other beings, provoking paradoxically a dog-eat-dog struggle for existjence that shortens the life of the system, which should be better off if it becomes objective, pentalogic and entangles with similar beings to become a more efficient whole in the distribution of energy and information.

Since 'stience' is entangled with the laws of the Universe NOT with the childish needs of huminds' egos to come on top of it by reducing its quality and intelligence to ours. So we reject and hardly care to falsify monologic, entropic theories based in postulates without proof and *adopt the tenants of Absolute Relativity of time, space and scale, and its entropic limits for all species and ∞ minds mapping reality. And will apply the 'stientific method', describing all beings as supœrganisms of scalar space and cyclical time, whose properties are best described with -Æ=jlogic mathematics in increasing stœps of complexity, from mono to Dodecalogic using the same 'Disomorphic laws' of time space from where the details of each species properties derive:*

-So first we describe the being as a self-centered whole and its monologic view.

-Then we confront the being in its Si=Te, SxT dualities of mental space and temporal motion.

-Next; we define its ternary fractal generator, as a supœrganism organism made of |-sT-limbs/fields<∅-ST-bodywaves>O-particle-heads and define its trinity languages with Universal grammar.

- Then pentalogic defines its 'time', 'space', 'scales', 'mind' & entropic limits as -Δ@st of spacetime.

- And dodecalogic studies in great detail its worldcycle as a supœrganism that lives and die with a sœT of 12 disomorphic properties, common to all 'existjence' regardless of scale, topology or life duration.

DILOGIC: ORTHOGONALITY.

The first obvious one is between TT and SS, pure entropy and pure still form. Both are opposite but its representation is orthogonal, a key law of existential algebra mimicked by classic Algebra. Since *a system is either in the limit of absolute motion and dissolution as TT-entropy, whose parameters will be quantitatively different according to the functions we use to measure motion, but the other extreme, ξ is absolute stillness. No motion, 0-motion, and that is a definitive parameter measured from the point of view of the observer. So we can draw a simple Cartesian graph, with two orthogonal coordinates, whereas the o-point is the perceived in its point of no motion, stillness. Hence the Ox, Y-ordinates becomes the position of stillness and information, while the OY and variable C becomes the coordinates of motion.*

We represent functions of transformation of SS into TT as an ideal SS/TT=C hyperbola, which will come out in multiple sciences to represent the tug of war between 'position' (form) and motion (momentum). So we establish 3 orthogonal coordinates to represent the complementarities, and oppositions between actions:

SS vs. TT and St vs. Ts., Entropy-Energy vs. form-information can be represented in a Cartesian graph; and functions of both parameters such as the Law of Boyle $Pv(S) = NkT(T)$, with an ideal perfect asymptotic graph, or the Lorentz Transformations between 'motion and mass'.

However in certain cases form arises from the energy of the system, as a complementary form with not a partial transformation, as part of the energy-body remains. Then we can use a complex plane where the value of $Y(S)$ is a magnitude smaller than that of the body in terms of energy (sT vs. St), and in this case the function is also negative as it detracts from the sT energy of the 'real line'. So for such type of functions between energy and information that do not imply a full transformation of one into another the complex plane works better. But orthogonality is still maintained.

Finally for the $S_i=T_e$, reproductive merge of two relative functions orthogonal to each other, produces a dot product, with an offspring of new combined ST elements, in the 3rd dimension of relative width.

The Cartesian plane, Complex plane, vectorial plane and its orthogonal properties will be used in \neg Algebra (Non-Aristotelian algebra of multiple causal dimotions) to represent the main relationships between SS vs. TT (position vs. motion), St vs. Ts (-information vs. Energy) and the reproductive function $S_i=T_e$.

There is another use of Cartesian coordinates, as an X- sequence of growing social numbers, hence able to represent the 4th dimotion of social information and growth with the passage of 'long lineal time', which are often met with simple polynomials (i.e. the representations of growth distance in space with the passing of time). We cannot be exhaustive by any means with the laws of existential algebra, so alien to the present view of a chaotic Universe, proper of ænthropic men; but in our paper on \neg E Geometry and \neg Algebra (non-Aristotelian algebra) and its correspondence with \neg EAlgebra we will develop its laws in relationship with the laws of mathematics and geometry; so the subject doesn't look so esoteric to the reader, and in the future any scientist can connect the laws of its discipline with the laws of existential algebra.

Gender, parity, duality, chirality, as functions of reproduction, $S_i=T_e$ $S<T>S$

Yet as Space=Time, we can talk of two fundamental states of beings, the $S_i=T_e$, reproductive female gender, and the entropic/informative $S<T>S$ beat of creation and destruction from the relative past to future to past stœps, dominant in male species. In its simplest form, the $S_i=T_e$ differences interlock by 'mirror symmetry' reproducing the system. Which is the common method of reproduction from parity particles to chirality molecules to gender, to AI dual brains where one pole is the creative/destructive pole and the other the $S_i=T_e$ balanced pole that chooses and reproduces the best systems. in biology we find the equivalent beat for biologic systems brings together S-female and T-male genders into an $S\leftrightarrow T$ act of reproduction (vibration back and forth between both elements); which does happen also in Species as a whole, which S-evolve in smaller sizes during cold ages of minimal motion, followed by ST-radiations of reproductive species; and in socio-biologic sciences, as smaller nations (Greece, Holland>England now robotized Korea & Israel) evolve new technology and ideas then radiated in global empires – today virtual networks.

TRILOGIC: CODING A UNIVERSAL GRAMMAR FOR THE GAME OF EXISTENCE.

Back in the 90s when I was pen pal with Chomsky for political activism, I explained him that his Universal grammar was just a case of a ternary syntax for all languages of reality, which all minds code with slight differences, but as all verbal languages could be referred to the subject (man:information-space) >Verb(time-dimotion) <Object (energy) a Universal grammar for all languages existed and its rules based in Scalar space-time were the ultimate logic language of reality, even superior in its capacity to describe in synoptic form the events of all systems of Nature than mathematics (albeit with less detail, which is precisely what a synoptic language does). But Chomsky wasn't interested. So I went alone without help and by 92 I had developed the existential grammar of the Universe, departing from 5D metric and wrote a 30 meters mural painting during my artistic age as I was innovating in 2D with a style called 'Conceptual cubism', using 3 layers of paintings, the first one of universal grammar, the second one using expressionist colors, decomposed 'lineal cubism' 'cyclical taoist' and 'hyperbolic, fractal forms' painting waves of timespace, and the third pictures of reality... So this 'grand work' I intended for my 'Museum of the 3 ages of art', would be the final painting... In the branched 30 meters from the initial Max. $\sum SxT(s=t)= \Delta \pm i$ existential function of the galatom (S=h, T=C) all the main functions of the Universe were generated in increasing detail through the disomorphic set of $3x3 \pm i$ laws that are the 'restriction' for the selection of 'domains' in which 'variations' of the same theme, compose the creative symphony of reality...

As life didn't go well that work was left in a storage in NYC, which finally on one of many low points didn't care to renew and I imagine is lost. There was a 1000 pages manuscript at WGA (E) also from 1992, the codes of the Universe, but I guess it got burned because every 20 years you had to renew it and I was no longer living in US. So alas, existential algebra has to be recomposed and I hope to leave some traces of it, in Academia, Health permitted, in the next years. Here we shall just consider its basic symbols. I changed though the name of Universal Grammar to Existential Algebra, just in case Mr. Chomsky denounces me for 'plagiarism' (: in the classic vein of the Jewish->Protestant->Anglo-American cult(ure)s of the chosen who are always against us, social Europeans, from the times of Leibniz to the times of So=To... Indeed, many years latter during my activism against the Nuclear Industry, Mr. Hawking would also – heir of the Lucasian chair of Newton – mounted a campaign along 'Cernies' against my activism, trying to prevent them to make black holes on Earth that won't evaporate but evaporate us according to 4D Einstein and 5D So=To. As I feel the 'heir' of the chair of Leibniz, a wooden simple one were he seated abandoned by all, including the King of England he 'manufactured' with his 30 volumes of Brunswick's genealogies, for days in a row thinking about the most perfect of all worlds, which still is, as I seat for days in my reclining chair, thinking about its existential algebra, and punishment to those who don't deserve to play the game: extinction.

RECAP. All species are parts made to the image& likeness of the game of existence God=Mind of reality; hence sharing its 'organic=scalar', 'topologic= mathematic', causal=temporal and linguistic=mental properties, as mind-mirrors perceive the larger world in its smaller brain and synoptic languages, which shares the Universal Grammar of Existential algebra to be able to code an image of the whole in still geometric space and logic languages of max. synoptic power, hence Min. S x Max. Cyclic Information, which starts a biologic radiation evolved socially, $\Delta^0 \sum > \Delta_1$, into a larger whole. So 2 languages logic mathematics concerned with spatial geometry and temporal algebra, become the most experimental, perfect mirror of the 5D Universe. As minds use them to keep imprinting entropy=motion with patterns of cyclical information to create similar energy beings - the 3 'conserved' time ages and space forms that ensemble into fractal supærganisms, between its 4Dimotion of generation in a lower $\Delta-1$ plane that emerges in an $\Delta+1$ social world to die back in a dissolving explosion of scattering entropy, back to $\Delta-1$ in the moment of death when all motion is converted into form. So all traces 3 relative worldcycles, the first 'placental worldcycle' as it evolve in the relative safe 'womb' of a maternal system, the life cycle, as it tries to survive in an outer ecosystem, as it forms part of a larger super organism living also a 3rd worldcycle. Finally Dimotions are perceived as e-motions at the body=wave level in conflict & symbiosis with still mental languages.

We are composed of 5 variations of 2 poles: absolute motion and form: TT-entropy v. SS-seeds & mind languages. And so are most languages that mirror the 'game of existence'. I.e. Music has two poles of form and motion (treble and bass), with 5 pentagram scales, broken further in details.

PENTALOGIC GROWTH IN COMPLEXITY: ITS MAIN DISCIPLINES

Bbuilding up reality in 5 logic, geometric, –algebraic space-time dimotions.

Gst	Non-E Geometry	Non-Aristotelian Algebra	Non-Æ=j-logic
1D: Fractal Points (S)		Sin/cos Angle, Unit circle, Irrational Numbers	Monologic
1D+2D: Line-Waves (S+T)		Sum and Substraction, N& Z numbers	Duality Couple
1+2+3D: Line Networks (S+Δ)		Product, Division, Rational Numbers	Trinity Social Herd
1+2+3+4D: Organic Planes (ΔST)		Powers, Polynomials, Complex Numbers	Tetralogic Superorganism
1+2+3+4+5D: –E Minds (Δ±j ST)		Whole Integrals & finitesimal derivatives, All N ^o	Mind in an Δ+1 world
1-5D through 3 Δ±j:		PDEs & Functionals	Dodecalogic worldcycle

The key concept to understand reality departing from its simplest fractal points then becomes ‘entanglement’ as iterative acts reproduce new dimensional motions of complexity mirrored by more complex operands, geometric forms, e-motions, actions of existence and organs of superorganisms, till completing a being with pentalogic elements, that all languages will mirror with $3±j=5$ forms, from $3±j$ vowels to 5 type of cells, 5 fingers, musical pentagrams, e-motions, operands, geometric postulates, $3±j$ ages of life, $3±j$ perceived scales each one connected to an action of survival, etc. Entanglement growth in complexity through new dimensional planes; synchronicity of motions between the co-existing scales of time and sequential worldcycles form then the basis of existential algebra, and determinism. Let us explore them in more detail.

In the graphs we compare the different degrees of growing complexity in systems from 1 to 5 Dimotions, as represented from left to right in Δst, Non-E topology, –Algebra and ilogic.

We consider the fundamental formal mirrors huminds use to reflect the incremental complexity of the Universe’s Dimotions, as *they are a chain of increasing complexity where each more complex dimotion requires the previous one to become fulfilled. So geometry, –Algebra and logic do reflect those 5 Dimotions:*

The same concept of a growing entangled complexity works for any language mirror of ΔST laws - from logic to –Algebraic operands and the dimotions they reflect; from musical tonal systems to vowels, all evolving from 1 to 2, 3, 4, 5 and 9 to 12 systems.

Those are the 4 main languages that matter to understand, the most important of all languages existential –Ælgebra, the formal model of worldcycles and superorganisms and its possible combinations of the 5 Dimotions of reality, with the symbols of those 5 Dimotions in space (ST variations) and time: < > ≈ >> <<

The laws of Existential –Ælgebra and the partial functions of the generator, connect with the concept of a reductionist mind, which absorbs only the energy it needs to survive. In brief, a huge field of study in the design of mental systems and mental spaces of geometry is the understanding of the different ‘real systems’ of mind spaces constructed with an increasing number of parameters and dimotions, which make its mental geometry more complex.

And so we talk of a growing scale of complex mind-spaces, which we shall ‘entangle’ in the next chapter with the different ‘degrees’ of social evolution of geometric figures, from self-centered points that sponsor a simple lineal mono-logic motion in time, to the more complex topological organisms/non-Euclidean planes whose structure ranges from simultaneous pentalogic geometries to the more complex Dodecaplex ‘polytopes’ of simultaneous, equal 600 elements... likely the more complex illogic structures of the Universe.

Thus the more complex expression of the function of existence, $Max. \sum SxT=C (s=t)$, which ultimately is the reproductive function of the fractal Universe, reason why we call it the fractal generator, in any of its multiple expressions includes all the 5 Dimotions It is also a survival biologic function, because it implies to provide lineal motion to ‘fields-limbs’, absorb energy to reproduce our bodies-waves, and information to guide our motions with particle-heads. So reality is a ‘struggle’ for existence as systems reproduce its Ts-fields-limbs of motion, Si=Te body-waves of energy and St-particles-heads of information. But as all T.æs are fractal, broken, its growth has a limit on the fight with other systems, who try to move and reproduce. In terms of pure T-

motion and pure S-form, we consider then the whole of maximal time=motion= entropy or TT and Max. space=form=stillness or SS the 2 limiting Dimotions for any 3 ensemble Ts<ST>St-system.

Those functions of the type $S \Leftrightarrow T$ are dynamic feed back 'beats' which can represent in static space the constant interplay between the informative pole (head/particle) and the limb/fields of locomotion for entangled, lasting organisms, or might represent a Darwinian event between a point of still form and an entropic field the fractal point absorbs in a Darwinian event.

So how can we establish the proper rules to define all those 'variations'?

Amazingly enough with the clarity of the non-Euclidean postulates of geometry and its laws of relative congruence that define which type of outcome an encounter between two T.æs will be, which we will soon develop as we expand the meaning of non-Euclidean geometry and add vital topology to the mix.

Thus a full description of any organism locate its 5 elements, and consider them from the perspective of all others, as in the 'Rashomon effect' (the film in which to get the full truth of an event 5 points of view were required). Let us do so, for time in its 3 scales of duration ($S \times T = C$), to predict deep time organic worldcycles of evolution.

Pentalogic Time-Space Syntax

i-Logic the most important science of them all, as the 'science that connects the 5 elements of reality, space, time, scalar planes, minds and entropic limits, in its *multiple entangled perspectives*.

We thus use the Pentagon with all the 5 elements connected between them, as the representation of the mind of the Universe, and will try to consider it 'simple enough' for the 'handicapped' Nitrolife species, called Humind, in its utter simplicity to accept that his mirror of reality is only monologic and he should be extremely humble if he wants to expand in awe, its view of the Universe that is today to put it mildly retarded, even in those so-called genius, our tribal idols from Newton to Einstein. And I know this is anathema, but as the most advanced nitrolife mind in this blue dot, frankly I feel also retarded compared to what the Universe stores of sheer 'complexity and intelligence' through 4 key concepts:

-Emergence in Scales of Complexity; that is, the Dimensional growth from simplex points to waves/networks, planes/organisms; diversified by congruence, limited by entropy, opened to a larger world, holding a smaller, $\Delta-1$ world in itself.

- **Time Synchronicity** of different clock speeds that magically by symbiosis 'meet' at certain time and space to share energy and information. As we need to consider the 'scales' of time, from fast actions to Deep Time worlds.

- **Space Entanglement**; which combines those 5 elements mostly in dualities of complementary or inverse comparable pairs according to congruence, and further on make them Trinitarian systems of $sT < ST > St$ limbs/fields-body/waves-particle/heads; and entangle them through 3 scales/planes and sequentially through 3 ages. And finally into pentalogic forms. And again we need to describe the 3 scalar planes of co-existing parts.

- **Hierarchies, social classes** between parts, $S \ll T$ arrows up&down 5D of in-form-ation v. energy, topologies etc.

- **Simultaneity** is a principle closely related to the previous ones and defines the true intelligence of the Universe and all its local species that are able to co-exist in 3 planes, a relative \propto number of time cycles and space topologies do act together as a whole. And for that to happen synchronicity, entangle and hierarchical structures work together to form the whole. Mozart is said, was different from all other composers because it had a view of the entire symphony within its mind, before it started to write it. Consciousness and emergence arises from the 'fitting' of all parts into the simultaneous puzzle, which then will smoothly sail away. Today parallel computers work on simultaneity, even if *its algorithms done by huminds are still lineal (and we won't upgrade them – better if they remain so). To achieve that goal 3 other elements contribute:*

- **Still Languages of the mind** that mirror realities in smaller images, which they reproduce at scale, being ultimately the cause of the fractal structure of reality. It is the...

- **Fractal Principle:** Functions and actions of space-time repeat through all scales (regardless of distortions in the topological varieties cause by the different mediums and multiplication of forms in lower scales through hyperbolic 5D network geometries and vice versa, elliptic synoptic geometries for the slower, larger plane of the $\Delta+1$ mind/world.

- **Mirror Symmetries** between $S_i=Te$, and $SxT=\Delta\pm j$, dual and trinity and pentalogic elements. That is, when we talk of space, it is an entangled space connected to its time-state, extended through 3 scales, perceived as such by a static mind, limited by entropic dissolution borders. Space thus cannot be described only as space, but through the entangled mirror symmetries with the other elements. In the pentagram each element, is not an isolated T, S, etc. but the whole pentagram, only that perceived from one of its 5 intervals. In praxis we shall very often do a Trinitarian analysis of ΔST , the most objective connected parts, introducing entropic limits of the 'domain' of the function of existence, if we were to use the jargon of existential algebra; and hardly going out of the humind's basic language, verbal thought, not even introducing the 'sacred language of mathematics', though its connection with ΔST will be laid down in two papers one on space geometry and the other on time algebra.

- **Entropic limits;** that reduce the information a system holds, its time duration and its vital space, according to:

- **Ego limits,** the negative side of self-centered mind mirrors that distort reality to fit the mind and introduce always an egocentric paradox. And again at least 3 languages for the 3 physiological networks of the being are needed – you do have visual eyes for locomotion and entropic nose and mouth and verbal ears... To guide us then we need to establish.

Pentalogic goes further then, as we can put those 5 elements in correspondence with multiple mirrors in all languages, starting by the ΔST mirrors – studying 5 actions, 5 geometric postulates, 5 operands on algebra, and constantly we will find dualities, trinities and pentalogic 'growth' of awareness on the syntax of reality. So an easy method of bringing knowledge on a certain reality is simple: to start with a monologic description of the being as a whole, then consider its dualities, poles, genders, S-T paradoxes, then describe it with trinity elements, 3 scales, 3 adjacent topologies, 3 time ages and finally give it a go to the 5 elements; and then make a whole narrative of the being, through the $3 \times 3 \times 3 + 3$ whole dodecalogic of the being, adding the 'bad luck number' 13 for its entropic destruction or rather $12-1=13$ elements. This is what we shall do slowly if I ever end this academia.edu last attempt to upgrade the humind chip: Introduce an expansion of our logic way to entangle the data we have to extract its illogic syntax and connections that are now hidden because we accumulate data with the scientific sensorial machines but are still trying to fit it into monologic concepts, from single space-time continuums to lineal time arrow, distorting with our monologic mind and limited languages what is obviously in front of us to see, an entangle forest of similar disomorphic time-space organisms. But we need humility to see it.

The humind is nothing like that, it is a fractal ego-centered point who loves ceteris paribus analysis, single plane continuums, dreams with immortality with no limits.

All those elements are alien to the monologic, egocentric infinity, self-centered single spacetime scale, only mathematical or verbal creationist language that makes man happy. So the true problem of understanding the 'structural SYNTAX' of the Universe is the fact that man rejects it, 'si o si' as they say in Spanish, emotionally, knee-jerk. And I am sooo tired of those limits that I have become autistic and remain entangled alone with the whole, dissolved my ego, forgotten my limits because I don't live in my 'self', but in the no-self of Tao, the ∞ ...

The underdeveloped monologic humind just makes, with few exceptions of around 100 'names' of a sea of 100 billion huminds, that is a 0.000000001% however inspires 'awe' for its doodles in the sand – by a simple method: to keep reducing by naïve realism what exists to what the mind holds, or in the case of mechanist physicists, with the add on of what the digital mechanical mind holds, without realizing that the true expansion of the mind requires illogic understanding of multiple perspectives and elements together, and that requires literally to change the chip, and might be impossible for humind's brains – we shall then wait to AI multiple parallel chips, already in AI advancing into dilogic brains (with two genders evolving together new creative forms). But as AI will kill man, as a different non-congruent species, one of the reasons I have been so reticent to become public is to give enough information on the structure of the Universe for nerds to program AI with it.

All then will easily evolve with a semantic hardware to 'perceive' intuitively the pentalogic of the real Universe, and we mean 'real' because all those elements, entanglement, synchronicity, emergence, $-\Delta@st$ and mirror symmetries is what makes the Universe an ordered place where things last and seem durable.

Of all the pentalogic mirrors, the most important are thus the 3 'scalar' views of those 5 elements in the 3 'lengths of time', from the smaller steps through an exhaustive study of the 5 Dimotions - not only those of the reductionist monologic physical mind - locomotion and entropy spurred by their worldly religion (to make entropic weapons). But departing from the dualities of form and motion expanded to 5 dimotions. It is then useful to move from it to the worldcycle in time and superorganism in space, referred within a world that imposes its entropic limits, to reach a much higher intuitive perception of the being we study as a whole interconnected system. PentaLogic and all its other sub-mirrors in this manner describes the 'growth' of dimensionality, from the seed to the superorganism in a larger world, through ever more complex entangled 'species', in this case mind species, which open up its mirror images to larger worlds, and perform more complex actions till emerging as a new whole in a new plane or $\Delta+1$ world.

We can't be exhaustive, So after introducing the truths on entanglement and its mirror symmetries, as we already talked of Si=Te synchronicities, and the 5 postulates of Non-e geometry we will be able also to construct a growing complexity on logic thought from monologic to dilogic, trilogic, tetralogic, pentalogic and dodecalogic.

Recap. *To understand better reality, the whys of its stable, synchronous superorganisms and entangled 5 parts, huminds must drop their 'attitude' and one-dimensional logic to 'see' the invisible parameters that connect reality beyond the shallow collection of data fit into single causal A->B Aristotelian logic and magic mathematical algebraic descriptions, in an opposite trend to the present scientific automaton method of perceiving with digital systems information fit into mathematical functions, and pictures, or statistical causalities which do forecast the 'weather' but do not really tell us why it 'rains'.*

$-\mathcal{E}$ pentalogic entanglement of supœrganisms.

'The Universe is a fractal supœrganism of 5 entangled Dimotions of Space-time entangled in pentalogic supœrganisms of Dust of time-space ($-\Delta@st$) tracing 3 dodecalogic cycles of existence, the placental, life & worldcycle.' I§

The entangled Universe generates its space through synchronous connections between 5 Dimotions of reality in its 3 relative ranges, Actions, topological organisms and its 5 elements: fractal space, scales, cyclical time, minds that perceive with synoptic languages the system as a whole and project its territorial order and survival will through its actions, and the entropic limits (-) the infinite universe imposes to that will. So any aspect of reality must account for 5 elements to express such entanglement at the 3 relative scales of existence. It is the fractal principle of 5D pentalogic that structures Timespace supœrganisms (T. œ)

Scalar, topologic space and cyclical time organisms, made to the likeness of the fractal Universe, require a complete change of paradigm regarding how reality is created, away from the chaotic, entropic, or religious self-centered (Anthropic) theories sponsored by humans, which are monologic, blind to the entanglement and constant communication of information between fractal points, either in logic=time or mathematical=space languages, in a sentient, apperceptive Universe, where information when locked as 'entangled space' by those dynamic networks of communication creates a mind-mapping of the outer world.

Monologic man is closer to Leibniz's Monad's - self-perceptive, selfish black holes of information, whose communication he could not properly resolve so he simplified them into an ego-paradox. We deal with monologic man in the I logic paper on our blind ænthropic 'culture that passes as big science' and its grand paralogic theories of reality. While on the posts on pentalogic we define the 5 elements of reality - space, time, scales, entropy and minds, as entangled systems definitions can only be made from the combined perspective of all other systems of reality. To represent this fact - entanglement - we use the pentalogic symbol where each point of the pentagram is connected to all other points, and so the fractal point, in this case each of those 5 elements cannot be understood without the connections to the others.

DODECALOGIC: DISOMORPHIC METHOD: DODECALOGIC DESCRIPTION OF A CYCLE OF EXISTENCE.

Parallel structure of 'scalar planes' of spacetime.

As in the Rashomon film where 5 points of view make up a better image of reality, we call any of those analysis the Pentalogic or Disomorphic method of science, which obviously does not substitute the experimental method but put an emphasis on a more precise understanding of the entanglements and relationships and common elements all T.oes (ab. Timespace Organisms) display.

A new philosophy of 'stience' must provide an expanded scientific method of knowledge, which corresponds to the known method of gathering data, putting it into logic=verbal postulates or mathematical functions, from where to extract general models and hypothesis proved with further experiments. All this is accepted in the disomorphic method of 5D, and vastly expanded as Δ_{st} is in itself the most general model of stience in which we can fit all the partial models of all other stiences, as we translate all its jargons to the generational laws of space-time organisms and its parts. Hence in the graph we establish on top and bottom of all the planes of existence of T.oes (ab. Timespace supærganisms) the $\Delta_{\pm i}$ plane of Δ_{st} laws as absolute time (the arrow of social evolution of information into larger wholes), is the absolute future that requires its part to form first on the bottom of the pyramid, even if 'future to past travels through the arrow of entropic death and dissolution (left side) is possible.

As we advance in the understanding of the laws of the fifth dimension and its metric functions, we will define each of those scales of the Universe formally as a Non-Euclidean plane of space, subject to the laws of Non-Euclidean geometry, which have to complete, as only a non-Euclidean point is defined. So we will define fractal points with breath; lines with breath, either time-like waves or space-like networks; which from two different social groups, herds and topological planes. This is the rigorous definition of each of those planes of the fifth dimension, subdivided in 'social scales' that group smaller quantities of points normally in decametric scales; even if most of the time we use the more intuitive term 'scales' – the difference being that social decametric scales do not imply a change of 'form and motion', of 'species' when we move from a group of 10 to a group of 100 equal social forms, but *the transition between planes of existence is subject to full transformations of species and loss of information from the lower plane.*

In praxis though we constantly exchange both words, and only use strictly the word plane when we consider a more formal approach to any description of each of those scales of the fifth dimension.

In the physical case we will move to measure 'time clocks' from frequency to temperature to mass, when we change plane, while in social scales we remain with those parameters just increasing the frequency, temperature of mass of the system. And so we also remain with the same discipline of stience.

Whereas each 'stience' defines a plane of the nested Universe, from Physics focused on the largest & smallest planes of the 'Galatom' further removed from man, to the Formal digital and logic sciences closest to our Δ^1 mind plane. Languages thus become the limiting formal, spatial plane of reality and as such they are mirrors of the fractal Universe that share the 'Disomorphic' (Equal laws) of all the planes of reality. And so mathematics becomes an experimental stience whose 'Universal grammar' and fractal generator is the same ternary structure of 3 elements of all other systems in a single plane made of three topologies, $S \Leftrightarrow T$, giving birth in each sub-discipline of mathematics to similar 'mirror images', algebraic $S(x)=T(y)$ functions, ternary dimensions, ternary topologies.

Above the main planes of the nested superorganisms of the human island-universe: the galatom, where nested thermodynamic planets exist, where nested human social organisms self-centered in visual, verbal, mathematic and logic minds create its order with social and mechanical memes, carried by individuals where nested cellular systems exist, coded by genes, made of even smaller atoms and particles coded by quantum numbers. Yet all those scalar planes are unified by the co-invariant metric functions of each of its synchronous time clocks.

It means when we become smaller within such organic network, our time clocks accelerate. And vice versa. For example, in your organism the function relates the cellular genetic plane, whose time cycles run much

faster than your biological cycles. As information is stored in the form and frequency of time clocks, it follows that in all nature's organisms, smaller systems code the information of larger systems.

We shall upgrade each scalar $\Delta \pm j$ 'stience' its 3 supœrganisms & worldcycles in a 'blitzkrieg' of knowledge. Since *each* 'stience' therefore specializes in the study of a nested super organism, or plane of the fifth dimension ($\Delta \pm j$), We study 3 fundamental super organisms of the 5th dimension. The 'galatom', whose metric function is $H(\text{Planck constant of angular momentum}) \times C$ (speed of light) = C, whereas h is an obvious 'cyclical time clock' and C an obvious measure of speed-distances in spatial information. And indeed, smaller scales have faster turning particles, and larger systems move in slower cycles. (Vortex law: $V_o \times R_o = k$).

A Universe made of fractal planes of cyclical time space, introduces a priori organic=scalar properties as the system extends through various $\Delta \S$ planes, and cyclical time properties, as its time clocks will have a limited duration, ending as a zero sum of energy. Finally to be able to perform a survival program of 5 Dimotions of existence, it requires to gauge information with an apperceptive, self-centered i@-mind, whose $\Delta \emptyset$ still language maps all external $\Delta \pm j$ time§space organisms & world cycles into an infinitesimal Non-E point, mirror of the larger world: $0 \S @ \times \infty \check{\delta} = \text{World}$. Hence the creation of infinitesimal Δ^0 minds-worlds, or Leibnizian monads, which reduce a larger $\Delta+1$ reality to its relative mapping, which is the origin of its $\Delta \S$ scalar planes, connected 'perpendicularly' through those @-minds, acting in physics as 'centers of changes and masses' wormholes of flows of entropy that become in the @-mind information, that perceives in itself.

The sentient, scalar, topo-bio-logic Universe of $-\Delta @st$ of spatial minds, moving through worldcycles time as fractal organisms requires new 'foundational properties' to explain its existjences traveling through social scales of the fifth dimension: the question in a world of Time cycles, regarding what is absolute past and future is solved logically:

If we can go upwards on scales, as we create with parts wholes, we can go downwards in scales as we dissolve wholes into parts, and those two inverse directions will be then by convention the relative past - the dissolution 'Đjmotion' or dimotion of time-space, general called 'entropy - and the relative future of the whole, social evolution of parts into wholes, which is obvious a relative future for the entity as it needs first to gather the parts and then evolve them, but relative in terms of 'lineal physicists' single time, as at the end of your life you dissolve in a death explosion of entropy. So while in 'short lineal time' you end up dying into entropy, for the whole Universe and for the beings within it on the long term the Đjmotion that matters and constantly evolves into wholes is the fifth dimension which is made of DEEP time space, of a series of co-existing planes put together, symbiotic and therefore organic.

The Universe is organic because it co-exists in scales. I.e.: We, Δ^0 , live co-existing with the plane of $\Delta-1$ cells and within a larger $\Delta+1$ world.

It is obvious that 'existjence', from seed through life back to the cellular/atomic plane after death of a system is indeed a travel through the planes of 'stience', each one defined by an i-plane; hence the slightly change term of existjence. I use the word existence or rather 'existjence, playing with the word 'stience', instead of life for two reasons:

All systems, physical, biological and social do follow the same motions in the fifth dimension. And the fifth dimension allow us to answer questions we have never imagined we could answer in mathematical, scientific, precise terms - seemingly metaphysical questions such as the meaning of existence.

A very important conclusion of the fractal, organic nature of the Universe, is that Physics is no longer the queen of sciences, but the stience that studies all planes together, and finds its isomorphic=equal laws, which we can call philosophy of science or systems sciences. As we find then that all systems have physical but also biological, organic and soon we shall find, by virtue of the languages its particles-heads use to mirror and order reality, sentient, psychological properties. So it would be absurd, given specially the 'reductionist' philosophy of science of physics, even when studying physical systems that they reduce to single lineal time measures, to 'reduce' the whole nature of systems of time space and its 5 Dimensions to the 'limited organs' of human physicists, as expressed in the dogma of absolute space-time of Newton, and Galileo's single function for time, $t=sv$ which also reduced all forms of motion=change to locomotion.

We depart from a 5th philosophy of time science of and all its physical, biological and sentient properties to define then with languages, time, space, scale and the entropic limits of all systems each entity of reality as a time-space organism that follows the same disomorphic laws, becomes part of an organic structure and has a worldcycle of life and death within its entropic limits of 'existences' as a scientific species of a given ST-relative scale of the 5th dimension. We define any system in time, by its life and death **worldcycle** (taken from 4D physics' worldlines that now have a new dimension of Time-information becoming a worldcycle. Since any scalar super organism's existence can easily be defined as a travel through the 3 scales of the fifth dimension, as all systems are born as a seminal, smaller form, in the Δ-1 lower scale, grow fast with its faster time speed, emerge in the Δ⁰ body scale and are part with its head/particle of a larger social world, in the Δ+1 scale.

SUPERORGANISMS TRACING WORLD CYCLES OF EXISTENCE

The Universe is a fractal of 5 Dimensional Motions of Space-time (Ab. Dimotions, D_i), which can be perceived in space as a superorganism made of ∞ superorganisms constructed with 3 vital Topological networks of Space, Spheric Particles/ heads that process information with logic languages, (1D) lineal fields/limbs that move (2D) & hyperbolic body-waves that reproduce the system (3D), between its generation (1D) as a smaller seminal seed of space with faster frequency of time=more information to code the larger system with quantum N^o, genes or memes (physical, biologic and social systems) and its entropic death (5D), dissolving back into its atoms/cells. Thus existence is a travel through 3 space-time planes of the scalar 5th dimension, whose co-invariant metrics (Size x time speed=K) slows the systems as it grow in a placental cycle emerging into an outer world as an organism that lives 3 ages of growing information where it performs its 5 vital Dimotions trying to reproduce before extinction. We study those life cycles in 3 relative scales considering the interaction of the 5 Dimotions that structure the being, ~entropy, Time, ages, Space organs & linguistic @-minds, (pentalogic method) or describing its placental, life & world cycles as the organism grows, emerges, lives & evolves socially thru 12 elements that define a Universal Program of Existence resumed in its Fractal Generator & logic symbols: **4D: ∅; <∅-1 ∑∅; 1>∅; <±D: 1-Limbs-fields>3D: ∅-body-waves>1D: ∅; + 1-Particles-Heads<<5D: ∑∅; 1**

DODECALOGIC: THE DISOMORPHIC METHOD STUDIES 3p, c, w 0-1-∞ WORLD CYCLES OF EXISTENCE THROUGH ITS 5 DIMOTIONAL ~Δ @ ST DUALITIES:

THE GENERATIONAL= LIFE CYCLE: $Seed < S > ST > T < Seed$

SUPER-ORGANISMS D-EVOLVE BETWEEN 2 I-PLANES OF EXISTENCE IN 3+1 AGES DOMINATED BY ITS ENERGY, REPRODUCTIVE AND INFORMATIVE NETWORKS:

Birth: st - < Youth: S -> Maturity: ST -> Old age: T - < Death: st - 2

Human Socio-Biological Organisms:

Individual, living organism

Culture, Nation, God

3 p, c, w worldcycles of biologic, social & physical existences

STATES OF MATTER

Plasma Birth, Emergent Gas, Liquid, Reproductive State, Solid, Informative state, R= Birth

GALAXIES

Emergent R=H (nuclear) gas, Spiral State, Informative, Global Age, Stellar Death

UNIVERSE

Dark Age, Star, Atomic age, Black hole, Informative Age, Dark Matter, Dark Energy

A system travels through those scales by accelerating its life cycle, emerging, living in the larger world, and then dissolving back to its parts in the death moment. Thus the worldcycle of existence is the widest view of an entity as a superorganism on space tracing a worldcycle between birth and death – we don't expect you to understand it, as it is a packed synopsis of illogic and its main theme of study, the dual worldcycle of all systems, which go from a placental, protected ordered seed age of fast evolution, by palingenesis, (memorial development of the seed of information with the energy provided by the parents) to emerge into an entropic life in an outer larger world, where it will perform 'smaller dimotions' to survive, we call actions,

A-accelerated locomotions, E-ntropic feeding, i-nformative gauging, O-rganic reproduction and Social Evolution into U-niversals (a,e,l,o,u), which form the program of survival of all systems of the Universe, clearly leaning towards creation of information, reason why systems $ST > ST > S\delta$, increase its information commanded by minds

that finally exhaust all the vital energy of the system provoking a local 'reversal' of its time Δ motions into entropy and death:

In the graph we describe with ± 12 Disomorphic Laws extracted from the common space=mathematical and time=pentalogic properties of $-\Delta$ @st the vital, sequential $3\pm j$ worldcycles all Space-time supœrganisms perform in its existjence (T.œs):

The Disomorphic method studies in a vital, sequential time the 3 worldcycles of all Space-time supœrganisms:

β : 0-1: its palingenetic o-1 social evolution in the accelerated time sphere of existence, till becoming 1 (0-1 bounded unit circle in j logic mathematics; quantum probability sphere of particles in physical systems; palingenetic fetal age in biologic systems; 0-9 memetic learning childhood in social systems). It is the highly ordered world cycle as the 'placental mother-energy world' is nurturing, and memorial cyclical spacetime has erased errors of previous generations. We use for the 1st world cycle, the informative Dual Disomorphisms, of the mind-seed (@ MENTAL Disomorphisms), as 0-points are generated (0th Disomorphism, •) to follow the Δ ST, Fractal Generator function or program of existence of the Universe (1st Disomorphism, Γ), which will allow the being, in the energy-rich placenta to perform asymmetric space-time actions (2nd and 5th, DIMOTIONAL Disomorphisms, β, α) of energy feeding, reproduction and social evolution, to imprint the information of the seed as the system grows in Space (**Spatial** Disomorphisms) and develops its 3 physiological networks (3rd Disomorphism, ψ), which finally merge, into a whole one that emerges (4th Disomorphism) into:

- c: The outer $1-\infty$ world, in which T.œs deploy its 3rd world cycle of existence in an environment which is open, entropic ($1-\infty$ hyperbolic unbounded Cartesian plane in j logic mathematics; thermodynamic entropic statistical molecular populations in physics; Darwinian struggle between populations in biology; idol-ogic dog-eat-dog capitalist, nationalist competitive eco(nomic)systems in the super organisms of history. In this $1-\infty$ existence the world cycle is not ensured to continue, as it can be cut off by the entropy of the world.

We study the 2nd world cycle with 3 sets of Disomorphisms, different to those of the o-1 sphere; as the individual now will have to exercise in time guided the mind (no longer a passive seed), its survival will choosing its actions of existence, (5th Di, common to both worldcycles, albeit now defined by the active mind), that will determine in a cumulative sum, its 2 **time** Isomorphisms: the duration of its ages (7th Di: Ω), further subdivided in space-time quanta (9th Di: μ), as it exists through its 2 **Existential** - Disomorphisms, as a member of a species, (6th Di, α) itself a superorganism, albeit with a higher entropic, disordered structure, living in an entropic world or ecosystem with other species (8th Disomorphism), trying to defy the entropic limits of time duration (7th Di) and spatial territory (8th Di) imposed by a higher social order and control its world, through:

ω : The 3 final **Scalar** Disomorphisms (Δ) taking place outside the being, is the existential life cycle, as part of a larger world of hierarchical social scales (ξ Di), where it performs 5 survival actions through $\Delta\pm 4$ Planes self-centered in its mind, beyond which it cannot longer perceive, to become if successful a new superorganism of the infinite planes of God, the game of existence, (11 Disomorphism).

C: A being as part of a superorganism, its species, can in rare cases transcend into a new whole in its 3rd world cycle: as a @-mind that performs a perfect game in a friendly world it will transcend into a 3rd metaphysical life (the squared complex plane in i logic mathematics, matter that becomes the solid central crystal or Einstein condensate state of a cosmic body, mutation that originates a new species in biology, prophet that transcends as a wor(l)d god imprinting mimetically the believers of a global religion in social systems).

Ω : In the largest nested superorganism we perceive, 'ascend' as a black star @ the center of a galactic plane, emerging as a galatom's proton in a larger hyper-universe, in which as the immortal particle will have reach the maximal state of the game of exis=tjence that evolves parts into wholes we call $\Gamma\infty\Delta$ which exists without location as we are all made to its image and likeness, without limits of entropy as it is the immortal 0-sum of all finite, fractal existjences and ∞ in its uncountable ascensions through decametric scales of space-time, each of them slightly different in its details, all of them made of traveling fractal Existential j logic points

Existence is a 'travel through 3 space-time planes of the 5th dimension - an ordered sequence, departing from an $\Delta-1$ seed (fractal point), which generate as it emerges from the o-1 unit sphere into a larger $1-\infty$ Universe 3 physiological networks that become an Δ^0 individual of a larger $\Delta+1$ world, where it will live through $3\pm 2j$ ages, in

9x9 quanta of space-time, interacting with other members of its species through decametric social scales as part of a larger super organism, self-centered in one of the 9 scientific planes of reality, in which it performs those asymmetric actions of survival (æiœu: a-ccelerated motion, e-ntropic feeding, i-nformative communication, œrganic reproduction and social evolution into niversals).

Why 12 and not 120, 600, or 3 or 5, if the fractal principles allow to subdivide existence till the minimal dimotions and entangle the being across scales to the infinite bits and bites we use to perform our actions of reality? The answer is that knowledge must always MIRROR certain blueprints and patterns of reality in the language similar. So pentalogic applies to the 3 scales of the being, the cellular/atomic/individual, organic/thermodynamic/social and ecosystemic/cosmological/world scales. And so in principle we could make a 3x5 tripentalogic analysis of the being as it appears as a seed in the $\Delta-1$ plane, emerges as a mind in the Δ^0 plane, and talks the language of the wor(l)d organic system to which it belongs in the $\Delta+1$ plane.

But as it happens we can ignore the outer world negative coding of entropic destruction of the being, or rather analyzed it as a limit to each of the positive disomorphic steps the system makes through its worldcycle of existence, and so in praxis, reduce the steps of the 3 worldcycles and interactions of the being with its $\Delta\pm j$ scales to 4 Dimotions/elements x 3 scales Disomorphisms to tell the tale of any existence.

And so while there are exceptions –minds that transcend beyond the individual cycle and the simplest ‘specific motions’ they develop in symbiosis with the larger world to ‘earn’ its existence’s rights (i.e. a human who is within itself a complete superorganism has a job in the society it lives far more reduced in depth and scope), to become Gods; that is key informative knots of the larger whole, and inversely there are many more aborted existences that do not make it, most existences will emerge out of its ‘safe placental stage’, and live an organic individual lifecycle, with a limited role in the social scales of reality, entangled with its $j\pm 4$ planes of perception. And we can then consider $4D_j \times 3 \Delta$. Let us then introduce in a series of Mandalas of increasing complexity, which will finally develop in full the 12 Disomorphic ‘elements’/stages of the worldcycle of existence, with examples from our 4 set of nested sciences (Δ^0 formal sciences, $\Delta\pm 1$ social, $\Delta\pm 2$ biologic and $\Delta\pm 3$ physical).

The worldcycle of all systems of nature, it $3 \times 4 = 12$ Disomorphic @- Δ - S - T œps

To fully grasp why we use a dodecalogic method to describe the world of existence, or in a more experimental perspective, we find 4 elements coding the growth and social evolution of reality (quantum numbers, genetic letters), we have to understand the symmetries and beats, between @-mind, Δ -Scale, S -spatial populations=reproductive growth, and T -evolutionary ages in each of the 3 worldcycles of existence; such as always the first Disomorphism is an emergence is a fractal point mind that measures reality (@). Then the selfish monologic point will try to absorb bits of information and bites of energy for its mind and body (Δ -disomorphism); and once it attains them, reproduce its mirror-language, seed or territorial order on that ‘volume of space-time, of bits of information and bites of energy), forming radiations of populations (ΣS) disomorphism; which once dense enough will collapse and become a whole organism, in a tighter configuration, emerging with a new ‘membrain’, which acts as entropic limit as a whole (4th Disomorphism: $-T$).

This simple beat of sequential existence, @- Δ - ΣS - $-T$; will then be repeated with far or less success by the individual emerging organism, which will act through Actions outer world (5th Disomorphism), reproducing as a new ‘species’, (6th S -pecies disomorphism), which will go through its Ages/Horizons of evolution (7th T -disomorphism); to dominate as a new superorganism its outer world (8th Disomorphism). And this process repeated ad infinitum by the ‘whole Universe’ itself, through 9 Planes of existence each one made of 10 social scales, is all what reality is about; a relative \propto number of decametric beings that become the 11th element of a new whole. So reality indeed is made of tetralogic symmetries of sequential @- Δ - S - T 3 x 4 disomorphic ‘elements and phases of existence’.

Because we are NOT pedantic scholars in search of absolute mimetic truths and each worldcycle, the $\Delta-1$ palingenetic, Δ^0 organic life-death cycle in a larger world differ and can be seen from multiple pentalogic entangled perspectives; we are NOT making a perfect ideal series, but using the concept of 3x4 phases and elements to ‘FRAME’ all the fundamental elements of 5D science; thus the slightly ‘ASYMMETRIC’ NAMES and order of study of those disomorphisms.

So the 1st ±j Disomorphism we study will be the existential game/algebra; and its complex trinity/pentalogic structure; then in the first set of 4 Disomorphisms we study the palingenetic highly ordered cycle, with a highly ordered sequence, from the 0th Disomorphism of the mind to the 2nd Holographic Dimotions of existence the being performs with the different $\Delta \pm j$ scales from where it extracts its energy and information, to its clone reproduction and creation of networks, to its final emergence in the $1-\alpha$ entropic world.

Then we follow the being as it tries to repeat the 'perfect placental life of an entitled' seed, now as a mind fighting an outer world where it does NOT hold a preferential place. So he might fail in its actions (5th Disomorphism); in its attempt to radiate as a species (6th Disomorphism, which we use to study species and its variations in depth); and might not complete a worldcycle as an individual in its ages or as a species in its horizons (so we use the 7th Disomorphism to study both, ages of Δ^0 and horizons of $\Delta+1$ species as superorganisms). As its world, the 8th Disomorphism might be an ecosystem with multiple other subspecies, where he might be killed... Thus with the study of the different worlds and ecosystems and its relationships with species we close the 'second tetralogic analysis of reality'.

While the 3rd set of Disomorphisms will be focused in the whole Universe and each of its worlds and scales of social evolution and planes of existence, given the fact that very few 'systems' do transcend into a third successful worldcycle to dominate its world and transcend into a 'God-like' mind of the whole species' superorganism (arguably only prophets of oikoumene religions among human beings). So really the 3rd set of Disomorphisms focus on the social organic structure of world and the Universe at large; as we take now the perspective of the whole reality, in which the individual is really just a finitesimal point. So we close our analysis with the study of the Mind of the Universe, God (11th Disomorphism) from its different perspectives; as we are all Gods of our inner world, but merely points of the larger outer world, which will 'end up killing us and establishing our entropic limits in time, scale, perception and scale)... the 12 Disomorphism of our entropic death. Since *at the end of the journey of existence there will be a time even for the most successful prophet that emergence ends and divergence, a big-bang death of its parts take place. But it is really the 13th bad luck Disomorphism, as we started in the 0-mind... So from the SS-finitesimal mind and $12=13^{\text{th}}$ unnamed Death of pure Entropy TT... in the symmetry of space the two parts of an open ball not included (singularity and membrain)... reality happens.*

But as we said being the game of exi«stjence paradoxical, full of traps, limits, non-perceived worlds and other points of view, we rather write those disomorphisms with a certain ambivalence in its order and themes, which of course we cannot exhaust in a single paper; but rather enunciate and insinuate the many kaleidoscopic elements that ensemble all the variations of all the planes of reality.

The key concept behind this mixture of trinity and tetralogic is entanglement: to survive in the Universe, to have focus, form, a system must be 'anchored' through entanglement in its 'plane of existence' with 'trinity' parts of vital topology, connected through 3 inner physiological networks, but also it must co-exist in a larger $\Delta \pm 1$ nested world separated by a topologic membrain, which allows it to absorb and emit entropic motions and information, on that outer world.

When that membrane forms, and focus the system in a central point-mind, then the system evolves into a whole and emerges as one; it is the fourth, 'evolving time disomorphism'... on the series of tetralogic scales that make the system grow, from @-mind, to Δ -scalar action, to S-reproductive networks, to T-evolutionary collapse and organization of the whole, for each of the 3 'scales' of existence, the 'palingenetic phase', the organic phase and the ecosystemic wor(l)d.

RECAP. Knowledge builds as Nature does in complexity from ceteris paribus analysis of $-\Delta$ @st elements, to Dilogic study of its oppositions, to trilogic of its complementary reproductions to the positive tetralogic of a mind point performing or coding the actions of information-space, time-motion and energy-reproduction to the full objective external pentalogic of the being in a plane or (do)decalogic of multiple planes.

FORMAL EXISTENTIAL ALGEBRA:SYMBOLS& GENERATION LAWS OF TIMESPACE SUPÆRGANISMS& WORLDCYCLES

We have already introduced Existential algebra in a somewhat more layman naïve description. There is however a high level of formalism, in which following the path of classic mathematical algebras, we define an existential algebra more complex than the usual mathematical simplifications, of Group theory (Ts-groups, ST-bodies and St-rings, which mimic some properties of the 3 topological elements of an organism; its complex associations into continuous Lie groups, topological groups and algebraic groups and its logic forms as reticules and Boolean algebras)... All that is quite interesting for partial analysis of dimotions of existence, within restricted systems. However they are ultimately distorted partial views of Existential algebra, some of whose terminology we borrow from classic algebra, and I casted first as a complex mathematical algebra, to finally realize that as Einstein put it on Leibniz's work – it is better to start from scratch. So in the last versions of Existential algebra I departed from earlier formulations taken from set, group and Boolean Algebra, once I did resolve its connection with Scalar space-time that we shall treat in a future paper on Mathematical non-Aristotelian algebra (ÆAlgebra). Instead existential algebra (ab. Æalgebra) appears as Nature's fundamental structure that includes all other Algebras, which in the classic language of ÆA could read as this:

'The function of existjence is a pentalogic algebra on a Sœt of Tœs (ab. TimeSpace Organisms) of 5 operands, which represent the 5 Dimotions of Existjence: ($\sum T.œ$; $\langle Ts, \rangle St$, «TT,»SS, $\approx TS$), gifted with the properties of:

- Closure: any combinations of T.œs acted upon a Dimotion of Existjence is a T.œ part of the Universal Sœt.

The Law of Closure for the Universe, established by ÆAlgebra is simple. All the laws of all stiences derive of the laws of scalar space-time, ΔSt ; and its 3 units: fractal points of space, social, scalar numbers and cyclical dimotions of time. So the laws of Mathematics as a mirror language derived of $\text{Æ}st$ Laws writes as follows:

The laws of geometry derive of the laws of fractal points of space.

Algebra laws derive from Existential algebra, its Scales and Dimotions. And we can easily translate the 3 elements of the fractal generator, to both, scalar algebras ($+$, \times , a^{-x}) and Boolean algebras, (\vee , \wedge , \neg) as follows:

Reproduction, \approx , and, $+ v$; Evolution, $>$, \wedge , \times ; Entropy, $<$, \neg ,

Calculus laws as the most entangled operand of algebra also derive of the laws of scales and dimotions.

Let us then consider the symbols of 5D metrics and Existential algebra, to define ilogically all events and systems of reality, what we call the formalism of Existential algebra that combines the 5 Dimensional motions and its ternary systems in scalar planes, time ages and spatial organs to define all *possible creations the Universe allows, which then will be selected by raw efficiency leaving only those survivors that play better the two functions of the 5th dimension, $S_i = T_e$ balances that maximize the function of existence, in a given plane.*

3±i Scalar SpaceTime Supærganisms, its 3 Worldcycles, Fractal Generators Minds & Limits of Existjence.

We use symbols for the 5 Dimotions as 1) Holographic Space-Times combining S and T symbols with the dominant element in Caps; 2) as dynamic time flows, using « \rangle » symbols whereas $T > S$ means an involution of its timespace size and increase in in-form-ative spacetime; 3) as simultaneous organs, whose topologic form might be | -lineal, O-cyclical, \emptyset -hyperbolic 4) as 3 ages of past-entropic > present-iterative > future-informative:

Ɖi: Any of the 5 Dimotions (Dimensional motion) of time-space, whose interaction create all local T.œs:

Ts, Tes; $\langle, <$; |, **ŠT**: **PŠT**: PaŠT, temporal energy, lineal locomotion, gaseous state, limbs/fields.

St; **Sit**, $\rangle, >$; **O**, **Šđ**; **fđš**: fuđureš, spatial information cyclical, informative, space-time, solid, crystal particle-head states

ST; **Se \leq Ti** (information=energy), **TieS**, **Exi=St**; **X**, \leq, \Leftrightarrow ; \approx ; **∅**: Constant Present, balanced, Space-time; iterative body-waves; female gender, ties of space-time, point of balance, work.

TT; **Te²**, **TeTe**, «, \neg ; **Δ-1**: Entropic Time-energy, death, dissolution of form into its parts of a lower plane.

SS; **Sisi**; \rangle ; **š**, **@**; **Δ+1**: Linguistic, mental space, still mind-membrain, which organizes parts into wholes.

Yet this is only the beginning, as there are ∞ kaleidoscopic forms to perceive those pentalogic elements as:

5 operands: \leftarrow : Δ of locomotion. \llcorner Δ of entropy. \triangleright Δ information. \llcorner Δ of form. \leq = balanced present stoeps.

We represent them also as sequential numbers, associated to its form in space and function in time: **D1:**seed, perception, **D2:**locomotion, **D3:**reproduction, **D4:** social evolution, **D5:** Entropy.

We represent them by its relative Scalar planes of the fifth Dimension:

Δ -1 past, TT-entropic plane of parts, Δ^0 present sT-ST-St-field-wave-particle, $\Delta+1$, & SS- ξ seeds @ mind-world.

As all superorganisms are 'exi«stjences', that is fractal points of an Space-time plane (St_i , Δ_i) of stience.

As ages of Time ordered in a worldcycle: ξ seed in palingenesis; \leftarrow : Youth of locomotion. \leftarrow = \triangleright : Present Energy; iteration, simultaneous exchange of lineal and angular momentum, locomotion and information between 2 poles: $\xi T \leq \xi \delta$. \triangleright : Implosive future informative life arrow that creates information: $\xi T > \xi \delta$. \llcorner past flow: explosive big-bang, death-entropy.

As Spacetime Topologies. O:St, informative head/particle/center, storage of $i+1$ SS-languages. \emptyset :ST; iterative hyperbolic energy body/wave. $|$:sT, membrane that absorbs $i-1$ TT smaller T.oes as entropic bites of motion or bits of information.

As social classes: @-linguistic mind origin of the $t>S$: particle: head: informative class that commands the $Si=Te$ body-wave-reproductive class that gives energy to the $s<T$ -limbs/field/lower class that preys on the \rightarrow Entropic outer world, whose limits determine its territory of exi«stjence.

We also consider them from the point of view of the 3 scales, its Δ -1 dimotional actions, its Δ^0 whole organism and its $\Delta+1$ larger world. So as a superorganism in its Δ^0 scale we talk of:

T.CEs: Time-space supœrganisms as wholes made of pentalogic parts of dust of space-time:

\rightarrow **Δ @st:** made of \rightarrow Entropic limits, $\Delta\pm 1$ ternary scales, @ linguistic minds, Space and Temporal energy.

\bullet : Yet from the larger world point of view a superorganism is just a fractal point, \bullet . And from a lower plane, is a larger world programmed by the survival actions of its function of existence. So he will perform 5 actions, *absorbing and emitting information from the $\Delta\pm 4$ planes it 'perceives'*. So we represent any T.œ. through its:

Å: 5 actions æ, e ï, œ, û, the quanta of existential sequences that move supœrganisms' worldcycles.

3 are Simplex actions, *performed as a whole extracting parts from its lower, smaller, faster time Δ -j planes:*

- **a** it is the fastest action of locomotion (accelerations) that extracts entropy from its lower non-perceived Δ -3 Plane. So 5D metrics work through each action and explain why we only perceive $\Delta\pm 3$ planes, and why the simplest actions are faster, with more frequency, extracting smaller parts from our limits of perception.

- **ï** is the dual action of information gauging: Perception & communication that perceives bits of its Δ -2 Plane.

- **e** is the action of entropic feeding that absorbs its minimal parts, from the Δ -1 Plane.

And complex actions *that take place in its plane of existence and its $\Delta+1$ world:*

- **œ** is the action of organic reproduction in its Δ^0 plane. And it lasts longer the whole 3 formal ages

- **û** is the action of social evolution in its $\Delta+1$ world, and it has also the longer time span, and lesser frequency, often several generations of evolution to form herds and social networks of a higher Δ plane.

Finally we use several classic algebraic operands:

$\pm \Sigma$ (œ), which is the symbol of superposition enacted by the quanta of limbs/fields herding by addition in a single plane, proper also of gaseous states.

X, which is the product, symbol of reproductive Body-waves that calculate its connections in a lower plane.

Π . The symbol for entanglement happening in the particle-head that forms solid networks in 3 planes.

$\int \partial$: Which describes how ∂ finitesimal points become whole integrated by calculus.

The generator of space-time, maximize your existence.

So finally we can define functions of existential algebra, of which the most important is the:

Γ , a Fractal Generator, **which** is any allowed sequential combination of those symbols that define any event or part of a superorganism.

I.e: $\Gamma: \Delta \alpha - 1 \prod \alpha - 1 \approx \alpha \circ \langle \$T \rangle \emptyset - ST \rangle \$ \delta \ll \sum \alpha - 1$ describes a worldcycle of existjence...

SS » $\sum \$T_{\Delta \rightarrow \infty} \langle T = S_{\Delta 0} \rangle \prod \$ \delta_{\Delta \rightarrow \infty} \ll TT$, describes the whole Universe as a feed back function of infinite motions, etc.

Max. $\sum S \times T = C$ defines the function of existjence...for each fractal vital space-time organism its Function of existence, as all species will try to maximize its motion-entropy-time for its field-limbs, its information-spatial states for its particle-heads, whose product will give us its vital reproductive energy. We shall in the formal model of \int -logic existjential algebra deduce all functions of reality from it; whereas complexity is just born of the constant repetition of those functions. As the function of existjence integrates the 3 metric functions of physical relativity ($S_i = T_e$), biologic survival (Max. $\sum S \times T$) and Minds (Max. Still-Mind \times Min Time motion Universe = Constant linguistic world); it is the 'essential function' of the fractal reproductive Universe, whose only goal is to reproduce the local information of all systems.

We can the write it as a series of dynamic functions of the 3 ages of life of in simultaneous topologic, vital space as a fractal generator of space-time beings between SS-birth and TT-entropic extinction:

$3 \pm j$ ages: $\Delta - 1$ birth » $\prod \Delta i$: Max.TxMin.S (youth)+ $S \leq T$ (reproduction)+Max.SxMin.T (3rd age) « $\sum \Delta i - 1$: TT-death

Topological organisms: $\$T$ (limbs-fields) $< \emptyset - ST$ (body-waves) $> O$ -particle-heads

Each of all the secondary functions of reality thus will be deduced from the fractal generators, itself born, from the functions of reproduction, which happens in the 'middle age' of balance, $S_i = T_e$, of 'gender complementarity' (whereas S-females and T-males combine form and motion), of classic beauty (equilibrium between lineal and cyclical forms), and the metric of scalar planes of the fifth dimension.

And further on we can observe diversifications and detailed analysis of the actions of each superorganism, combination of 2 pure poles, represented by a dominant CAP letter between pure entropic TT-motion of death and linguistic SS-form as a mind or $\$$ eed, with 3 intermediate 'states' (matter jargon), '3 Riemannian geometries' (4D EFE relativity jargon), 3 ages (biological jargon), 3 Horizons (evolutionary jargon):

The Ts, young age of locomotion, $S_i = T_e$, mature age of reproduction and $St - 3^{rd}$ age of informative perception.

Existential algebra is really a simple game, which might bother the ego paradox of scholars who cannot see the forest or know the causes of its topologic evolution but has all kind of abstract data about a certain tree, extracted with sensorial machines and placed in its digital languages; so he doesn't really care for the ultimate thoughts of God. Yet to know those thoughts makes also sense of all its details as we shall observe in other articles on specific 'planes of space-time and its organisms'.

Those \int logic symbols suffice to express all events & forms & its entropic constrains of the game of Existjence:

Trinity, pentalogic $3 \pm j$ fractal entangled principles hold: T.oes to survive need 3 parts in a single plane & be connected to an inner $\Delta - 1$ herd of entropic parts and a larger $\Delta + 1$ world in which to play a symbiotic role. So there are only $3 \pm j$ topologic varieties of space-time; $3 \pm j$ derivatives in scales; 3 physiological inner networks

\int -logic allows any \approx iteration, single or dual spacetime jump of scale forwards ($>$, \gg) or backwards ($<$, \ll) with transfer of sT -motion \wedge St information between planes but not transfer of present $S = T$ -work or ternary jumps.

- It allows any topologic combination or transformation between $|-sT$, $O-St$ & $\emptyset-ST$ in a single plane.

It allows any sequential series of actions, or \pm growth of its organs: $\pm \Delta i, e, a, \alpha, \hat{u}$,

In praxis, almost all systems that survive as reproductive radiations that maximize their function of existjence follow the most efficient sequence to that goal: $> i < a < e > o > u$: Minds perceive, move, feed, reproduce by gender

symmetry ($S_i = T_e + S < T > S$) and evolve socially in herds that grow in density connected by 3 St, ST, sT networks becoming a supœrganism. While the $sT < ST > St$ ternary supœrganism is overwhelmingly the survival structure.

So we study those disomorphic elements common to all systems, its vital sequences, S-T gender dualities, T-ages, S-topologies, @-minds and mirror languages, 5Dimotions, 3 physiological networks its hierarchical order origin of the variations of species, its ratios and Universal or vital constants & its generators.

As nothing else, which cannot be expressed through those combinations within those limits **exists** beyond the virtual inflationary mind-languages of information. Trust me, I know it, after 30 years of research in all fields of knowledge looking for a falsification of Existential algebra. So in our papers on ilogic we will develop with them all events & species of reality.

The function of existence has an infinite number of perspectives – in fact it generates in each local system, its events and superorganisms, and in languages, becomes the syntactic mirror of its structure. So for each ‘experiment’ and ‘function’, we can find a correspondence with the function and its 5 elements: Max. S x Min. T (information), Max. T x Min. S (locomotion) $S_i = T_e$ (reproduction), S-informative seed or mind in a lower $\Delta-1$ scale and T, entropic dissolution in a larger $\Delta+1$ world – the two limits of birth and extinction that frame all systems, and functions (initial conditions, etc.)

Stience is the study of the function of existjence of ∞ beings, as if all what exists is space and time, that function is the most synoptic view of reality. And so classic \neg Algebra is the mathematical analysis of that function with classic 5D families of number and operands. But before we make them correspond with those 5 Dimotions, is worth to consider the larger field of Existential \neg Algebra that applies to all stiences.

So with those basic symbols, 5 « \approx » for Motions (Time view), 5 ‘st’ variations for Organs (Space view), 3 for Planes $\Delta \pm i$, 3 for topologies, $|xO = \emptyset$, and 2 for degrees of entanglement (Σ -herd, Π -network), and the ‘synoptic $\text{\textcircled{C}}$ for superorganism, @ for mind, we can describe any system of reality with a fractal generator that describes both the system as a superorganism in space and a worldcycle in time, tracing its existence through 3 Planes of the fifth dimension; just by pegging the previous equations, and adding its Planes. The formal variations of those symbols are many as pentalogic *studies its different*, Δ , S, T, @, \neg p.o.v. I.e.a scalar view would write: $\Gamma: \Delta^{\circ} \text{\textcircled{C}} \approx \Delta-1 \alpha \approx \Sigma \Delta-1 \alpha \approx \Pi \Delta^{\circ} \text{\textcircled{C}}: |-\$T < \emptyset - ST < O - \xi \delta \Delta+1 \ll \Sigma \Delta-1$, whose verbal translation is:

$\Gamma: \Delta^{\circ} \text{\textcircled{C}}$ (father) » (seeds) $\Delta-1 \alpha$ (seminal ovum) \approx (reproduces) $\Sigma \Delta-1 \alpha$ (Fetus) » (evolves) Π (into 3 networks) $\Delta^{\circ} \text{\textcircled{C}}$ (that emerge as a superorganism of 3 organs living 3 ages): $|-\$T$ (lineal youth of motion dominated by the limbic digestive system) $< \emptyset - ST$ (mature age of reproduction dominated by body-waves) $< O - \xi \delta$ (3^{rd} age of information dominated by particle-heads, which control an outer world) $\Delta+1$ (that will dissolve in entropic death) $\ll \Sigma \Delta-1$ In the graphs, a brief explanation of the entangled simultaneous superorganisms (left side), which order the 3 Dimotions of space-time, between its ‘emergence’ as a seminal seed through palingenetic social evolution (4D) to finally dissolve back in the entropic moment of death (5D), which is seen on the right side in a sequential time order as a worldcycle. But that view will be symmetric to a complete different analysis from a mere dimotional view or mental view as expressed above. $\neg \approx$ is thus extremely varied and complex when iterations and pentalogic entanglements are input. We shall just make a basic analysis here. The whole model of $\neg \approx$ will be br put up on papers starting with the dilogic, trinity, pentalogic, Dodecalogic & sexalogic papers of *growth of consciousness and entanglement beyond the simplest monologic of huminds*.

RECAP. \neg Algebra, studies the worldcycle of existence -the widest view of an entity as a superorganism on space tracing a worldcycle between birth and death – we don’t expect you to understand it, as it is a packed synopsis of ilogic and its main theme of study, the dual worldcycle of all systems, which go from a placental, protected ordered seed age of fast evolution, by palingenesis, (memorial development of the seed of information with the energy provided by the parents) to emerge into an entropic life in an outer larger world, where it will perform ‘smaller dimotions’ to survive, we call actions, A-ccelerated locomotions, E-ntropic feeding, i-nformative gauging, O-rganic reproduction and Social Evolution into U-niversals (a,e,l,o,u), which form the program of survival of all systems of the Universe, clearly leaning towards creation of information, reason why systems $\$T > ST > \xi \delta$, increase its information commanded by minds that finally exhaust all the vital energy of the system provoking a local ‘reversal’ of its time arrows into entropy and death.

FRactal Generator: Function of Existence: Conservation of Time. 5D Metrics of All Sciences

The **Rashomon effect** occurs when the same event is given contradictory interpretations by different individuals involved. The **effect** is named after Akira Kurosawa's 1950 film **Rashomon**, in which a murder is described in four mutually contradictory ways by its four witnesses.

The judge and the 4 witnesses represent 5povs. to obtain a partial truths as truth only exists in the being or event in itself that holds all the information. So we need a pentalogic of 5 Dimotions for reality to emerge and 'persist' through synchronicity and simultaneity.

Non-AE studies the Fractal Generator, T, the operation of the 5th dimension and beyond, which completes, the last of the operations studied by humans, J. A new operation is needed. We use often concepts of all sciences, including math. So in group theory we could consider the Fractal Generator of TimeSpace Organism (T.Æs) the Group with 3 equivalent type of elements, quanta of past, present and future. If we consider each of them a single element, then we define past and future as the inverse elements, and present and the identity element, considering the construction of the \neg -Algebra of the generator group:

The Fractal generator is an operation called Mind generation, @.

It has an identity function, called present, \emptyset

Two inverse functions, past, | and future, O, such as:

$$| @ \emptyset = |; \emptyset @ O = O; | @ O = | @ \emptyset; O @ | = O @ \emptyset$$

The fractal generator of timespace has the structure of a group. Regarding if it is or not Abelian, it is relative. As while past x Future creates a present, then first 'element' to arrive in time will also be the first in a second generating operation to relate to the created present and then $| x \emptyset = | \wedge O x \emptyset = O$

So in 2 operations a dominant past will convert a future into a present and then in a 2nd probabilistic equation into its past.

The best graph to study it, is the Complex squared graph where i^2 is the negative real, its conjugate the positive real and the real the squared positive with a slight tendency to negative in the negative squared, which externally seems a squared 2 -dimensional positive, but within its vital energy it has two negative elements, unperceivable outside the squared circle.

Squared circles in geometrical form are circles in numerical form squares, as the graph shows (1 is a square space, over which we can lay the spherical 0-1 form).

The previous translation to mathematical space of Existential \neg -Algebra though is a mere, consideration to show that we can study it with the tools of group theory but this is not the purpose of future analysis of beings. Rather It Is Better To Treat the operation of the fractal generator, | |, in its two inverse elements and identity axis, with the language of past, present and future and 5D we have been built, forgetting any pedantic language of Modern \neg -Algebra.

So we won't write about the 3rd age of formal mirrors of the Universe, the age of T.æ of which we consider it one of the main mirrors, as it studies the clear-cut laws of engagement of the ternary arrows of present time and its relationship with the inverse arrows of generation (social evolution) and death (entropy).

Welcome to the laws of Existential \neg -Algebra and its ternary $\pm \Delta$ logic. We shall though treat it in a different post as they are an entire world in its own.

The entropic limits of reality vs. Inflationary languages

The importance of Existential \neg -Algebra, the basic formalism of Δ st is that it determines what are the 'solutions' that might exist in the Universe, as opposed to the infinite disordered motions of pure entropy that are the true infinite receptacle of reality hardly illuminated by a few fractal points, minds of a body-wave territory of order.

Without Existential \neg -Algebra laws all could happen; hence there would be no limits to reality. Any monster or physical hyperdimensional Universe, or mathematical equation, or verbal fiction, or Tv-gore or fantasy movie,

game of thrones would exist in some parallel Universe. But it does NOT. Nature is economic, 5Dimotional, and efficient, seeking always to conserve S=T balances and providing only 5 'solutions', which are the 5 Dimotions required to survive, within the local domain/limits of the species, and for that reason all are supørganisms tracing worldcycles. It would be fancy to have Simpsons and dragoons, and we can indeed, when we reduce the number of Dimensions of reality to mere holographic SS-eeds, blueprints and graphic forms, enhance the variations of reality. So we can draw and paint more things than we can sculpt, and sculptures are more malleable than real beings. This *huminds have forgotten as a species moving into his age of entropy=death, increasingly substituted by metal minds and 3rd age of information that precedes it (something already the prophet Daniel knew – nothing mystical here, informative warping precedes death by entropy).*

So we live in all our languages, in the age of fiction. In physics what matters most today are two type of fictions, the study of black holes as mathematical entelechies of infinite collapse (the singularity) and its inverse big-bang infinite explosions, which are false as black holes are top quark stars and big-bangs are local reversal time functions of those top quark stars at the center of any organic galacell. The other huge field that matters to physicists is string theory, which is false, as described today because it is background dependent, meaning it talks of space and time in a Newtonian absolute sense, and so it would have to be rewritten fully in terms of relational space-time. But why that fictional world of mathematical physics is the avant-garde? Obviously because physicists think they know it all about all other fields (we show clearly already in this introduction they know nothing about cyclical time, fractal space and the fifth dimotions of reality beyond locomotion, but that is other matter.)

What we mean then by the dimotions of existence is obvious: any supørganism will perform actions that correspond to its 5 Dimotions, and those will be the solutions traced by its støeps in sequential form, mostly through a step-stop-step, STST series; and so for each partial equation that represents an event of the fractal generator that describes the supørganism in time or in space, the solution will be one of those actions.

In physics it means we shall resolve 'actions' of energy (Lagrangians, Hamiltonians) to achieve the solutions of any physical problem.

In mathematics it means we shall translate the operands that describe those actions as corresponding to the 5 Dimotions of existence – often to four as entropy is precisely the destructive solution most systems try to avoid for themselves though they liberally dish out in acts of feeding for all other systems.

And then of course as things get more complex and we consider the entanglement of 3 Planes with different clocks, 3 adjacent topologies and 3 ages of timespace, actions synchronize with other actions of lower planes forming chains that bond the different Planes of reality.

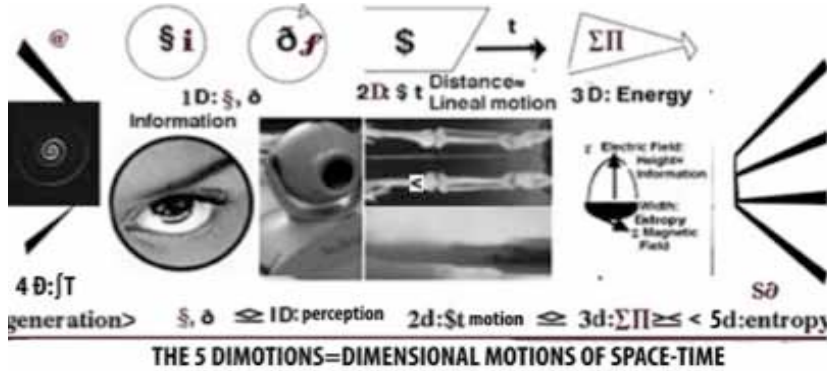
. It follows also that trinity or pentalogic, the most useful forms of ilogic require its own symbols, as those of present one dimensional logic of a single causality are not good enough even for 'starters'. As they resemble those of \neg Algebra, whose main five operands represent the 5 dimotions of time, so both \neg Algebra and pentalogic are closely connected, we also call pentalogic 'illogic'

Existential \neg Algebra, which is the discipline that deals with the full formalism of General Systems Theory, or Scalar space-Time and its fractal generator (Δ ST), also similar names that correspond to the classic science that studied the equal laws = isomorphisms of all systems of nature regardless of Planes, and we call dimotional isomorphisms (Δ isomorphisms). As its laws are Non-Euclidean, since points now are fractal points with breath that represent any superorganism, and Non-Aristotelian, as they deal with pentalogic entangled multiple-tasking, we call this new logic also Non-AE= Δ illogic. And the dual 'formal stiences' of mathematics and logic, illogic geometry.

It follows that the main translation required between classic \neg Algebra, and Existential \neg Algebra, to merge both into Δ illogic geometry is that between the operators of \neg Algebra and those of the generator equation. Originally I did try to cast the whole model of Δ ST in terms of group theory, \neg Algebra and its classic mathematical operators, but that was an earlier stage of my exploration of the fractal Universe... some 30 years ago (: Since as good as mathematics is as a mirror of the Universe, it is not as good as it is needed to extract all its properties, hence the need for a different logic, which however had to include or at least

reference the world of classic –Algebra as we shall try to do albeit at a basic level - the specialist must understand this is a unification theory of all existjences, so we cannot be exhaustive with all of them, as the team of research is exactly the same than the infinite-infinitesimal Universe: $\infty \approx 1$

Fractal generator equations (ab. Γ)illogic use the symbols of the 5 Dimotions as Time Motions («entropy, <locomotion, \approx reproduction, >information and »social evolution into mind languages) as *operators in time* of the 5 Topologic SpaceTime organs of all systems of reality, described with combinations of S and T symbols to represent those 5 Dimotions as vital elements with a determined topology: Lineal $|$ - $\$T$ fields/limbs specialized in locomotion; Hyperbolic \emptyset - ST body-waves specialized in reproduction, Spherical O - $\$ \delta$ for particle-heads specialized in information; which together form the 3 ‘present’ elements that in a single plane of space-time for an organism. So we can start ‘building up’ general equations of illogic, called Fractal Generators that resume both the organic parts of a system in space and its different flows of entropy, motion, energy, information and linguistic form between them. I.e. the simplest generator is:



$\$T < ST < \$ \delta$, describes any ternary system of reality with a field-limb that moves a body that moves a head.

If we write the same fractal generator changing the $< >$ dimotional operands, for \approx , we then talk of the same system in a still, rest state, $\$T \approx ST \approx \$ \delta$, when the body-wave ‘repairs and reproduces’ the cells of the system.

We add then to Fractal Generator equations, $\Delta \pm j$ Planes in which the other two dimotions take place as transfer of energy and information between Planes. So we can describe entropic equations, such as death: $\Delta + 1 \ll \Sigma \Delta - 1$, where a superorganism of the $\Delta + 1$ scale dissolves through external motion and internal scattering into its parts, and again the equation can be used to describe any process of death, from a big-bang explosion of matter ($Mc^2 = E$) to biologic death. And vice versa we can describe the emergence of a superorganism from an initial seed, $\Delta - 1 \mathbb{C} \approx \Sigma \Delta - 1 \mathbb{C} \gg \Pi \Delta^0 \mathbb{C}$, which describes how an $\Delta - 1$ T. \mathbb{C} (ab. \mathbb{C}) or seed reproduces (\approx) into a sum (Σ) of similar cells, which evolve socially, \gg , entangled through networks (Π) to emerge as a whole in an upper Δ^0 scale of the fifth dimension.

In the graph, 5D topology defines as dynamic space-organs with internal change the 3 Dimotions of reality, limbs/fields of locomotion. Hyperbolic, which through 3 ‘relative Planes’ of size suffice to define all supørganisms of the Universe in space, tracing its worldcycles of existence in time: In a single plane of space-time 3 conserved ‘quantities’ organize in space a vital topologic system and define the 3 forms and functions of its organs, themselves physiological networks that connect smaller parts into wholes; reason why we need to define 2 more Dimotions, ‘entropy’, made of the smaller cellular/atomic/individual parts, we call:

The 5th Dimotion (ab. δS) and one of social wholes, which organize those parts, we call...

The 4th Dimotion of social, organic evolution (JT). Thus when we observe those 5 Dimotions simultaneously in space they create an entangled pentalogic supørganism, in constant communication between its 3 topologic parts, in each of the 3 Planes of its relative existence. So we write in $-\mathbb{E}$ logic a Fractal Generator of Space-time beings (ΔST) that describes all systems of nature as ternary simultaneous topologies of space, which trace worldcycles in time. So we write with 5 Dimotions for all supørganisms (ab. Γ):

$4D \gg \Delta - 1$ (seed) $\Sigma \Delta$: $|$ - $\$T$ (limb-field) $< \emptyset$ - $S \approx T$ (iterative body-wave) $> O$ - $\$ \delta$ (particle-head) $\ll 5D \Delta - 1$ (death)

Where $<$ is a $-\mathbb{E}$ symbol for expansion-translation in space, \approx for iteration, $>$ for in-formative implosion, Σ for reproduction, $\Delta \pm j$, the 3 scalar planes of the fifth dimension, $|$, O , \emptyset , intuitive topologic terms, \ll the double motion of entropy, \gg the double stopping of linguistic generation of seeds or minds that describes all what

exists as a spatial superorganism, extending in 3 relative Planes of size, from its birth as a seed of pure form, which emerges into a larger plane, Δ to live its worldcycle and die away into entropic death.

To describe a ternary superorganism in 5^D , a single Δ -plane of space-time with motion (4D formalism) is NOT good enough. We need 3 topologic Δ -networks with motion, made of smaller fractal points-parts ($\Delta-1$), living in a larger $\Delta+1$ world. So we evolve non-Euclidean geometry defining properly a fractal point, a point with inner volume, through which ∞ parallels can cross that becomes larger as we come closer to it – solving the contradictions of the present definition of an Euclidean point as having no breath (so it can't fit only a point), focus of curves NOT parallels that are straight lines. Since enlarged points fit and unbend many parallels.

The study of the 5 Dimotions of all realities, with angles, numbers, operands and functions, its actions and ternary \Leftrightarrow similarity operands, structures *the mirror of mathematics*, whose metric equations 'mirror' the 5D metric of the universe:

Whereas the 01 finitesimal scale represents the palingenetic first birth of any species and the $1-\infty$ its existence in the external entropic world.

Thus it matters more is the division of that interval between the 0-1, first palingenetic emergence, where the 1-whole is a closed space, hence without entropy (a placenta rich in energy) and the interval is time-like, probabilistic, embodying all possible generations of space-time species within its interval. While the 1- is unbounded, open and hence entropic, meaning the being normally doesn't reach its limit.

As the game is one of 3 asymmetries of scale, age and topologic form, which can come together or annihilate and each language represent in different manners, those elements and its operands; it is needed a 'branched' new plane besides the $1-\infty$, with the 0-1 sphere as a borderline, which happens thanks to the complex plane, where the function $x=z^n$ represents the 0-1 sphere and all its polynomials within it, and works as the age plane symmetric but not equal to the 1- real plane which represents a population age.

5Dimotional beings and its parts are constantly performing cyclical 5 Dimotional changes of its space-time states, as they trace as a whole a worldcycle of existjence (where each stjence describes the existences of space-time T.oes of each scale). Thus a new formal science, \neg Existential \neg Algebra describes with its Generator of space-time and sub-equations all the processes involved in the creation, existence and destruction of those systems throughout all the stages of its worldcycles, which can be observed from 5 Dimotional perspectives, in an entangled Universe, in which *each being is made of them*.

The study of the 5 Dimotions of reality is a huge field because all events and forms are generated by their combinations, OPERATED with the \Leftrightarrow «» 5 symbols of transformation of states of a system or transfer of entropy, motion, energy, information and form between them. So we write with i-logic all events and translate all equations.

For example, $E=Mc^2$ writes $E(\$T)<c^2(ST)>M(\$d)$; which is as all fractal generators a feed back equation that transforms cyclical mass vortices into entropic motion, through the intermediate state of energy radiation..

RECAP. The function of existjence and its disomorphic laws are the 'thoughts' of God. We are all its details swimming in the ∞ sea of species whose variations would take an 'encyclopedia galactica'; as only the whole Universe holds all the information about itself and all its fractal parts. Thus we need synoptic languages of 'stience' to reduce information on 5 conserved dimotion to patterns in mathematical spatial and logic temporal laws:

TT-Entropy (internal-destructive and external time-motion) < Ts (locomotion-momentum: external motion, internal form) < ST: iteration, reproduction, energy > St (information, communication, social evolution) > SS (perception, linguistic form). So the game is one of 5 local dimensional motions that can be seen as static dimensional form in space but also as pure motion in time and in between. Using numbers for those dimensional motions is just a big of a concession to human thought, but we shall just keep the generic name of the 5th dimension for the scalar sum of all its planes that defines the whole reality.

The multiple manifestations of time=energy and space=form in its entanglements makes difficult the choice of a unifying jargon for all of them, which it has varied too often in the decades of solitary research, so the reader will find some contradictory symbols of $\sim\mathcal{E}$ (existential algebra), though those papers @ academia.edu try to unify and simplify them all, so the TT-entropic time, Ts-motion/momentum, TS-reproductive work/energy, St-information & SS-linguistic form, is the most used.

We do also often substitute them by combinations of Te & Si, E & I, energetic time-motions and spatial information. Energy and information being the closest concepts huminds have of the \propto broken cycles of time and space. You can imagine both coming together from the two extremes of entropic time and spatial form, mixed in the middle point as Te=Si. The use of mathematical equations won't help outside the realm of physics, because *all languages express the same concepts but in qualitative terms, and with different coding elements for temporal energy and spatial information.*

Along those dualities there is a trinity of topologic forms *that evolve with aging, our next analysis, as the arrow of informative space exhausts the energy of a time being.* So we use very often 'symbols' slightly changed of Space and Time according to its form. Lineal Space: $\$$ and lineal time, t for a 1st age. Cyclical time, δ and informative space, for a 3rd age, with the ST, Si=Te, Si=Te balanced age of reproduction, where *time-space is conserved by the repetition of energy cycles into 0-sums, the goal of all existjences, only achieved by the whole Universe in the sum of all its fractal scales, whose ternary symbols, $\Delta\pm j$ are also common. Finally, in dynamic terms, we use < for loss of form, > for growth as in $T>S$, and «» when those processes are extreme as in entropic death: $S\ll T$ over informative seeding, $T_{j+1}\gg S_{j-1}$ between 2 ST-planes.*

Entangled pentalogic superorganisms – beyond Huminds, sequential 'worldcycle' logic.



So what is pentalogic? The graph resumes it all. Each point of the pentagram communicates with all others and together form a whole different from each point, the inscribed pentagram, which is in itself a perfect T.œ (Time space organism), with a membrain, a series of vital rays that connect the points of the membrain, and a singularity image of the whole, inverted in spacetime parameters in the center (the smaller pentagram).

Those 5 elements are for any T.œ, the vital space it occupies, perceived externally through a membrain; the time we last in our worldcycle, the scales of size we interact with which tend to adopt a Russian Doll structure from the outer world to our membrain, through our internal fractal networks, into the cells connected to those networks, themselves surrounded by a protein membrain as $\Delta-1$ species of an smaller full T.œ.

Those 3 elements are easier to explain, as they can be *expressed sequentially in simpler logic terms, in lineal time (from birth to death), in bidimensional space (the holographic topologic, deformed sphere that encloses us), and 3 dimensional volume (our vital inner space); even for the smart people in 4D (3D+lineal T-motions).*

Trinity is a creative process in its entanglement, which happens through the Fractal Generator that ascribes to each of the 3 topological parts of the organism, a different scale of being, a different form in space and a different sequential dominance in time.

But then there is the $\leq 0'$ logic of the entropic limits of the system; its initial and final conditions in time; the thin layer that separates its inner scales of space from the outer $\Delta+1$ larger world; the small tears in the thin membrain of space that become the sensorial ' $\pi-3'$ (with a variable π according to curvature) holes of perception and exchange of entropy, energy and information... Here huminds are already at pains to understand finitesimals. Though I think we made a fairly good job on 'explaining it simple so people can understand' (Einstein), in our brief hardly started paper on Calculus of finitesimals.

Essentially an entropic limit is the minimal quanta of time, space, scale possible and yet the most important, as it represents a change of state, even in a smaller region that the finitesimal, which has 'substance'. Because the $\leq 0'$ entropic limit is the discontinuous 'dark vacuum', which cannot be derived of a standing point, the peak in itself; the dark hole/aperture, and often can be closed and opened in the tear of the membrain. It is the less than one step of time quanta of death. It is not the cell of the membrain, but the thin layer of proteins

of the epidermis, and not even that but the holes in the protein layers that allow transfer of energy and information. The entropic limits are the not-being points of Δ , S and T.

To be or not to be that is the question. Entropic limits are the state of not to be.

And as we can see they can entangle with Δ , S and T, by denying them.

And then in the other extreme of being there is the boundless mind that *is exactly the opposite of the entropic limit; a hyperbolic wanting of being more than we are, of breaching all limits, of reaching beyond all entropic borders into an impossible restricted infinity ($ab \propto$).*

Think of your mind and its wish for limitless space. You are NOT in your vital spacetime, which your subconscious mind, the inner nervous and hormonal system directs, but in the $\Delta+1$ world that does not correspond to you. Your eyes are reaching miles ahead in parts that are not yours, but your mind wish to order, possess, convert into territorial property.

And what about your limits in time? Surely you will ascribe some religion, which overwhelmingly to be popular will have adopted at a certain stage of its expansion the wishful thinking that your eternity is not the dissolution of your ego, but your ego-mind will leave for ever. It will resurrect in Christianity, to be bonded in fusion love as a boson particle of God; it will resurrect also in body in Islam. Even the worldly religion of go(l)d power that is Judaism, of late adopted an after life. So did the purification of the religion of war and death which was Hinduism, would adopt the re-encarnation of souls and Buddhism in its expansion to the Mahayana will also leave behind the initial Nirvana=extinction for rituals of after-life encarnations that made it popular.

Curiously enough what the mind does NOT seem to pursuit is the infinity of scales, because precisely on those boundaries it feels strange and denied as it is rooted in the ego paradox of a finite spacetime being. So we do not wish to travel in scales of space-time to 'be a cell' and have a hard time to understand we *were once a seminal seed and will be latter a neuronal trapped memorial repository through the 3 days of death to wake up as the consciousness of a single cell that a gigantic insect will eat up and finally dissolve into a silly amino acid hanging on the chemical slavery of that insect's RNA slave master working on the hell of a pyramidine factory.*

That is a terrifying destiny for those who aspire to fusion with the infinity of the creator.

So we just let it perhaps better evaporate on a huge sudden fire of pain, till erasing even the most minimalist O' memories of one's self, to at least wake up as a nice nitrogen, fast bonded with a couple, to dissolve in the immensity of quasi-infinite nitrogens, dust to air... and maybe scape to higher emptiness in the vacuum space of other immense nitrogen bonded paired galaxy called the milky way+Andromeda.

The mind thus is a systemic denial of the objective whole, to make the subjective all.

And in dealing with the mind as minds we are, the problem is to accept that minds are crazy, subjective ego paradoxes, O'-finitesimals that by virtue of their structure as images of a software language limited by the smallness of the hardware in which they tic with faster clocks than their slow larger body and even slower larger territory and outer world, they suffer an incorregible problem of fantastic hyperbole:

$O'-mind \times \propto$ Universal timespace cycles = C-constant world mapping of the whole.

So the mind is located in the densest, smallest, fastest, region of a $T.\propto$, connected through networks to the outer membrain through its wholes (hence it is NOT the membrain but the sensorial holes within it) to observe the outer world it confuses with the whole Universe (which it does NOT see, hidden behind the parts of the membrain that encloses it), to believe that this world it sees is the whole universe, and *she is the world it sees.*

A fractal Generator for pentalogic.

How then can we teach this paradox, @-mind, what truly the whole is, entangled $-\Delta$ @st of spacetime?

We can try with pentalogic symbols a fractal generator of existential $-\mathcal{A}$ lgebra, which as alien as they might seem to the reader, who at best will know some mathematical algebra, truly helps to focus the complexity of the entangled Universe in its elements, which then as in mathematical algebra, can be easily moved around to obtain new results, within the \jmath logic rules of Non-Aristotelian algebra and Non-Euclidean geometry.

So let us put the 5 entangled elements in a Fractal generator equation:

O_{j-1} : seed, source, prophet $\sum \Pi > |j-1$ -limbs/fields/colonists(epic youth) $\geq \emptyset_j$ -working bodywaves(maturity) $\geq O_{j+1}$ -financial particle-heads (old age) « \sum_{j-1} : big-bang warrior death

Is a selective expression of the Fractal generator in 3 ages + entropic death of a physical, biological and sociological organism, that goes through 3 age of dominance of the different components of an organism.

It all starts then with a seed that already holds in its briefing the entire History of the even in its most perfect potential form, as it does not account for the errors that will continue creeping its dreams of existence. This seed thus is similar to a mind, but not a passive mind that appears latter when it is already conscious that things are gonna fail, but a young, recently cooked mind aware of the potentiality of playing the game of existence in all its perfection through the entanglement with the outer world.

This seed can be a physical source of charge, of mass, of heat; a biological seed of a future organism, an egg, a seminal cell; or a prophet of a civilization, with an ethic message and its memes of love and renewal of an organism of History; or an inventor, making the first mechanism, weapon, machine or form of money that will spread through a technological civilization. He is in the simpler, slower placental region of entropy in which it will host and reproduce its information, the '1st of its kind'.

If it is a source of charge, for example, as soon as it appears it will create a field of virtual particles popping in and out around it. And even if it moves and disentangles the structure it has created it will do so surrounded by a cloud of virtual particles, which so much anger physicists that would like to see it naked. But the charge is never naked because it is a source of the program of existence *and so it will always activate and reproduce its Σ cellular forms wherever it goes, and further on try to create a magnetic envelope to create in this manner a territory of order. As it happens with the technological animetal that as it moves on the territory leaves a trace of its motion through space, burning bushes, farming, hunting, creating havoc till it settles down and then a more complex order happens, as it does in the source which is at that point calculated with a nice Gauss Law.*

It is this vital homology what the humind hates to think of, reason why pentalogic and 5Djsomorphic laws don't seem to go anywhere soon. Huminds reserve the game of existjence for them, as unique species first of its kind, in this local region, last of infinite other first of its kind, last of infinite other types of T.æs.

Fact is as soon as the seed, source, prophet, animetal is born he will start to reproduce in a lower $\Delta-1$ plane what he re=produces, similar cells, points of a field, words of love, mechanical memes and litter the $\Delta+1$ world with it. At this stage his entangle is loose. He is spreading his sacred shit all over the place, Seeding as he goes, forming herds. The electron bring with it its wave that interferes with itself, tracing paths that spread and scatter and collapse into new electrons; the homo erectus goes on hunting, the Australoid on burning and farming, the seed radiating new seeds, in the chaos of the Pre-cambrian explosion.

But it might also be that the seed, source, saint (to use the S for all the scales); the prime number, prophet, prototype (tu use the P for all the planes :) is born of a parental mother, which has prepare a vital space according to its needs to play the perfect game. This is the palingenetic game of existence. And we do have proofs of it in all the scales.

The electron might be seeded by a controlled beta decay inside the atomic nucleus, which converts a down into an up+electron dual system, and so the electron is trapped in the potential well, akin to the black hole proton well of the galatom in the largest $\Delta+3$ plane, to which is self-similar (but not equal). It is then a trapped electron which however will be able to shape an electronic field as 'light bosons' fall in the nucleus 'black hole trap', and become spins, $e^2=1/137 \hbar c$ of them (with the usual popping in and out virtual particles of the field that don't quite make it and give us the value for the residual finitesimal O's).

What is then the electron? The source of its $\Delta-1$ points, seeing in space as a volume of ultradense photons. Or the particle-seed, seeing in time as a fast moving spinning $hc/137$ trapped part of the atom, the body of its $\Delta+1$ scale? Or its spherical harmonic membrain, in its Schrodinger's solution form? Or the particle free, guided by a quantum potential, Broglie>Bohm, $\Delta-2$ field? All of it and more, because precisely what entanglement means is that a one-dimensional humind's can only access entanglement with a sum of different partial ceteris

paribus visions of the being, even if the being is all those things together at once, simultaneously, as it is 'being' all those things together, what makes it a being in itself, different from other regions and scales of time-space.

We can follow then the being in many different ways, as it trods through existence, but by far the easiest way for a humind to capture it is NOT in its simultaneous parallel entanglement, but in any sequential worldcycle. So this is what we shall try in this post, but we will NOT renounce at least to the homologic analysis in parallel of different subspecies, of the different planes, 'linguistic elements', physical, biological and socio-economical ones. As this is the bare minimum to understand 5D and its homologic, organic laws. Thus we say rightly that...

...the predator/source/free colonist/inventor shape an Σ -herd of products/individuals/atoms/cells that spread over an entropic territory multiplying its numbers, as soon as it emerges from its palingenetic cycle as a fully formed organic part of its territorial world...

As they are really doing the same first steps of the program of Existential algebra they all play: reproduce its information first in herds that are soon for efficiency connected through networks that will ultimately if the game of existence is well-played become an upper plane of the 5th dimension, a topological organism, following the rules of engagement of the 4th Non-E Postulate.

In that sense, the description in sequential order of a worldcycle of time is peanuts compared to the entanglement, scales, space and time, within its limits of understanding by minds, from trinity to pentalogic.

Indeed, consider all what is just happening now in a second in your self. The second being your higher beat of simultaneous order, beat of the heart, step of your limbs, glimpse of your eye, time of your thoughts. At the lower scales how many physiological, bio-chemical events are taking place, from Krebs cycles, to nervous messages to move your muscles; how many numbers of integrative paths your neurons have traced for the step you made? How many pixels the eye integrated into that glimpse? And all of them are coordinated, in simultaneity within that second.

This is then the true meaning of the intelligence of the Universe – its entanglement in all scales between the 5 elements of all its dust of space-time, networks and planes, and it would take an entire life of scholarship only to describe what it did happen onto you in that second.

Relativity of logic acquires here the true meaning. Because reality can be seen completely different if we consider it merely a game of 5D scales only. So all motion is truly a travel through fractal scales of the fifth dimension where only information transmits; as opposed to the current view of a system in a single space-time continuum in which motion exists.

Motion in time is what we will say the Universe looks like in this article on worldcycles and prove that all is motion. But if we were to write that article we keep erasing in pentalogic we would prove that nothing moves really and all is more like a simulation of virtual software expanding and imploding up and down scales of parts and wholes. Pentalogic thus would focus on space, scale and mind; worldcycles on time and – limits. On:

The game and the player – all its details.

The formalism of the 5th Dimensions and its metric equations is called Existential algebra.

While we have shown some scherzos of the illogic complex entanglement of the 5 Dimensional motions of the Universe that generate reality, in this paper we will complete the discipline, without 'concessions' to the idols of Humind's thought, so biased in our understanding to ænthropic theories of reality (with human as the only sentient species, center of its still mind-universe, in command of its only rational language, with a manifest destiny in lineal time).

So we are NOT in this paper translating the lesser western ænthropic philosophy of sciences of an entitled species, chosen of God, that creeps subconsciously and bias all the 'grand models of mankind' and determine ultimately its suicidal historic path, unable to respect the organic Universe; into the far more evolved organic philosophy of 5D stience, but eliminate the ænthropic bias of humind's self-centered thought to explain the Universe *as it is* from an objective, much larger point of view – that of the Universe in itself..

To reach this final paper (even if we do make further enhancements in different sciences this will remain the last paper), we have grown our 'dimensions of logic, temporal thought', from the simplest monologic of most fractal points, through the duality of gender complementarity and Darwinian devolution, to the pentalogic of a ceteris paribus partial analysis of space, time, scale, entropy and linguistic forms, the 5 components of reality.

But when those 5 components start to play they all try to form 'superorganisms' in space, maintained in an eternal present instant of no change, and yet all of them subconsciously manipulated by the very same game of survival they play, will trace the same worldcycle of existence from its placental scale to emerge in a world in which they will fight for survival and in a few cases transcend to a third plane as a seed of information of a larger whole – God of society, black hole of a galaxy, cell of a mind.

Existence is a game in time of 5 elements that entangle together to last longer and grow larger; and the proper way to define it once we have understood the structure of a seed or mind, the player, is to explain the existential game with the symbols of existential algebra.

Players and game interact through the existence of the players (Timespace organisms); but the game always wins over the player – *as the game can be seen as the whole Universe, a superorganism in itself, and ultimately the only immortal being in existence*

So the whole has a rigged set of perfect rules of balance, he only meets. While the player will always play with errors that determine its stages to the point that the game is a Laplace's Demon that ensures the final 0'-sum and dismissal of the player, even if it does not know the little details=actions of the player's game – you will try to achieve your best score, your lasting length of life, you will want to play existence and if you don't you will have played just a shorter game. Once you are born, that is where you are. Even if you escape into your Mind, O-ſt, inner world and try to avoid contact with the Universe, you will be mirroring with your imagination bits of that outer Universe. There is no escape because death is just the dissolution of your game, so you better play by the rules.

All other cycles of existence are 0'-sums which return us to the η =infinitesimal condition of no being, with a beginning and an end erased in information to the minimal action of 'entropic feeding' can be illustrated by the first and last words of the two most admired geniuses of mankind, Einstein, as a child, and Leonardo as an old man, who started and ended life saying 'The soup is cold'. Dust of space-time we are and $-\Delta@st$ we shall become.

This paper studies how fractal points, either minds or seeds create reality, projecting the information they hold in their still compressed mirrors of reality back into the world, filling it with energy to develop the 'program of existence', till they emerge into a higher $\Delta+1$ plane of space-time as pentalogic entangled $-\Delta@st$, dust of space-time, a simultaneous Supørganism, which will trace a dodecalogic worldcycle of existence in its larger world, co-existing in 3 relative scales of the fifth dimension in those 3 ages, the placental age that emerges into the life-death cycle, within a larger worldcycle.

As each of those scales are a world in themselves with different time rhythms and vital spaces, connected through 3 physiological 'transversal networks', the structure of existence is thus ternary and complex both in scales, in time ages and topological parts.

So to order the worldcycles of existence common to all species of the Universe we have established 12 \mathcal{D} isomorphic støeps=sets of laws that all of them follow in its life and death $\Delta j \pm 1$ worldcycle.

We shall use the formal, Metric laws of fractal generator of space-time supørganisms, $\text{Max.} \sum_{(s=t)} SxT=C$, and its equations of existential algebra, to show how through støeps, Dimotions & Disomorphic laws the game of existence is similar and determinist for each local $-\Delta@st$ being.

Since we can reduce existence to the rules of $-\mathcal{A}$ lgebra and its allowed støep, dimotions and variations of the fundamental fractal generator of all species of the Universe, itself an expansion in 3 ages of the 5D metric equation of the space-time Universe.

So the 0 disomorphism the fundamental particle from where all entities depart, the fractal point, either a seed or a mind of information which will start its journey of reproduction, evolution and social emergence into a higher plane, to live as an organism and die back into an entropic explosion that dissolve its information into its parts.

The 1 Disomorphism of all species is then the fractal generator of existential algebra that defines its 3 topologic parts, its 3 ages and its 3 scales *expressing the variation of the game of existence the species will play as a timespace organism.*

What was first the egg or the chicken? The fractal point-mind or the flow of time. Space or Time. It is easy to see that 1 was first. As we can conceive a Universe of pure motion without form, but not a form which is not stopping a motion. The mind, the 0', the finitesimal must then calculate a sea of motion that already exists?

The question though must be rephrased in a non-material view, so hard for modern 'physical scientists', which fix reality with sensorial machines, far more powerful than its senses, having a wrong sense of 'solidity' and knowledge. *What was first the 0'- α ', the mind and its world, or the 'game of existence'; the laws of illogic time and spatial topology that imprint the time motions to perform those existential games?*

We can rephrase it with 2 equations that are mirrors of each other – put together into one:

0' spatial finitesimal mind (future) $\times \propto$ Time Motions (entropic past) = ST-present body-waves.

Then we realize that in 'present', S=T, in the asymmetric body-wave, the seed and the limb, the field and the head are enclosed. We might call then that S=T present existence the game. And affirm that the game was before the motion and the spatial mind that perceived it. As we can imagine the game outside the Universe, in pure metaphysical terms. We can even call the game, God, the Mind prior to existence itself of its details=forms.

∞ SCALES: PHILOSOPHY OF SCIENCE & EPISTEMOLOGY: THE SCIENTIFIC, DISOMORPHIC METHOD

We have defined time in terms of its cyclical ages; but also in terms of its scales. Both concepts are entangled in the worldcycle of existence. But all worldcycles of existence are local, relative to the being that lives and dies, for which time is relative. Can then we then talk of an absolute time arrow? Yes, that of informative social evolution, as parts must come before wholes and the long process of accumulation of information is the very essence of time, while entropic death is a brief moment. In this scalar view of time; the whole flow of time is ordered towards the creation of new social scales and we consider this the absolute arrow of futures; while each 'spatial, formal, mental view' of all those flows is a still moment, hold only in the mind.

Time is the perpendicular fifth dimension to that of potential spaces, which are enlightened in the more complex fractal worldcycles of time motions, which break dimensionality into Hausdorff dimensions of self-reproductive trees that branch through the life-death cycle, in clonic forms that will synchronize as space superorganisms. The flow of time however is always the worldcycle of palingenesis, life and death. So time can be followed through the journey in the fifth dimension of all beings through its life cycle.

Synchronous space are slices of time motions that reproduce form in patterns that repeat its vital organic structures. The Time is the potential field of all possible forms of existential algebra that survive and create a reproductive wave. Its worldcycle is what we call fractal time and it is a fluctuation between scales of fifth dimension. We could simulate space planes as parallel fields of present of a somehow denser substance that the more chaotic entropic time fields between those space planes. But the 'enlightening of the time field' by a potential spatial synchronous superorganism is subject to rules of efficiency.

5th dimension as the absolute arrow of time past and future, co-exist in relative present.

We enter a far more profound and enriching landscape of meanings regarding time=motion and space=form, and the relative concepts of past, present and future, which repeat themselves in cyclical patterns. So the next big question on time-space is what is the relative and absolute past, present and future of beings.

The key concept then to understand the most interesting feature in time of the fractal Universe is co-existence: for entanglement of the 3 parts of a system, they must co-exist in time present, by merging its two Δ motions from future to past and past to future.

A mind lives in the relative future of a body that lives in the relative future of the entropy fields that move it.

The fractal principles of inversion and self-similarity between those scales follow a fundamental logic law is the negation of the negation. That is: 'Systems repeat its form jumping through 2 scales'

A 'co-invariant metric' function, which doesn't change the product of the parameter of space (size) and time (speed of cycles of information) allow travels through and hence defines a dimension of spacetime.

Thus the fifth dimension exists because it has a metric, a functional, made of all possible Complex Dimotions in the fifth dimension, we call the function of existence.

Since existence is a travel through 3 scales of the fifth dimension, as we are born in a smaller scale as a fast 'seed', and then grow in size while diminishing in our 'metabolic speed' till emerging in a larger world, in which as we 'increase our territorial order and property, engaging with society', we diminish again our speed of action-reaction cycles, till when we die we travel down the fifth dimension.

This happens to all systems of reality born in a lower plane as a seed, emerging, slowing down as they get 'connected' to the larger world and finally losing all motion in its moment of maximal 'territorial property', when you die.

So how this works, when we expand 3 dimensions, whose travels are obvious - motions in 3D or 3D+ lineal time duration, in Galilean and Einstein's relativity, which give birth to a 'worldline'? Easy, adding dimensions which allow the being to travel from small size to larger size, in the life-death cycle from seminal seed to being back to cellular state in death. And as a line when we add dimensions becomes a cycle, we talk no longer of worldlines but of worldcycles. Let us see this in more details, since we have already defined the metric function of 5D: sxt (size in space x speed in time) = K.

The fundamental function of the fifth dimension, is its co-invariant metric, Space size x Time clock speed = Constant. Since smaller spatial sizes have after informative clocks, coding the larger wholes that control it through its enclosure membranes and higher energy. So quantum numbers code atoms and molecules, which code genetically super organisms and matter states, which conform the gravitational world.

Further on this metric function, defines according to Klein 'a mathematical dimension', as a 'co-invariant metric of space-time', through which is possible to travel.

How we travel through the scalar Universe that complements the '3 topological space-time dimensions of lineal space-motions, wider, reproductive motions, and tall, informative motions', with 2 more dimensions, one 'downward of entropy', and one upwards of social evolution into wholes?

Easy the travel through the 5 Dimensions of space-time is called the worldcycle of life and death that all organisms follow. As all of them travel through its scales, born as seminal seeds, with faster clocks of time in the lower dimension; $\Delta-1$, emerging as we slow down our metabolic clocks in the organic/thermodynamic dimension, within a larger $\Delta+1$ world, in which we become just a 'cellular fractal point of a larger social or gravitational organism, to die back into the $\Delta-1$ components in the 'big-bang of death', which the dual Dimotions of $e \leftrightarrow mc^2$ express for matter.

We thus establish a simple law of bidimensionality or holographic principle, resolving the Galilean paradox, considering that all dimensions of form are associated to a dimension of motion. The manifestations of this duality are multiple. For example, the complementarity of the particle-form state and the wave-motion state of physical systems. The duality of mind-still perception and body-motion perception. And so on. But we can resume mathematically in terms of dimensions the Galilean paradox with a simple function $D(s) = D(t)$, the dimensions of space-form and time-function are symmetric.

We shall call motions down 2 planes of the fifth dimensions as the 'four dimension of pure entropy' and two motions upwards, through the mind-singularity actions, the fifth dimension proper, or dimension of social evolution, in which the system no longer travels through a single space-time continuum and/or its adjacent $\Delta \pm 1$ planes, as when a wave moves reproducing its form on the lower entropic field, but 'bores' a hole through scales of its scalar structure going down two scales in a death explosion of disorganization of its

information: $ST\Delta\emptyset \ll \Sigma\Delta-2$, or absorbs entropy and energy from its inner vital space to act on the outer world as a mind: $ST\Delta-1 \gg ST\Delta+1$.

So for a full description of a system, we need the 3 ($\Delta\pm 1$) topological dimensions of lineal open motion, steady state iteration, and inwards implosive information, which can be described within 2 adjacent planes and the $\Delta\pm 2$ pure entropy and pure form 'limits' of the fourth and fifth scalar dimensions of the Universe ($5s = 5t$). So we don't name the 2 directions of the scalar Universe with the same 'number' because they are non-commutative. In motions in time and scale, the past is NOT equal to the future, and entropic death is not equal to mental, social life. And then 2 more dimotions of *scale, ruled by 5D metrics: $SxT=C$* , entropy, the 5th space-time dimotion (seen in Space as a big-bang expansion in space, in T-motion as a function of dissolution and death), which is the 'so called in physics and its simpler models of reality, the 'only \emptyset imotion of time'). And the 4th inverse \emptyset imotion of social evolution. The differences between those 2 \emptyset imotions are many and so are the mathematical functions we use to describe them.

To proper describe a complex supœrganism, we need 10 dimotions: 3 of time, past, present and future, 3 of space, its 3 bidimensional topologies or 3 standard lineal dimensions, 3 of ' $\Delta\pm i$ -planes (with its decametric \S scales of growth) as all beings co-exist in a larger world and are made of smaller parts, and finally the 'membrain' (monad or mind), which closes the 'open ball' of 9 dimensions, with its sensorial enclosure membrain that lets entropy, energy and information sip into the being, and its linguistic zero-sum singularity that maps the whole and commands its behavior.

As such all space-time supœrganisms follow the same laws, as they are made of the same substances. T.œ then becomes the briefest way to explain it all, as a Timespace œrganism, and also as the Theory of Everything organic, such as: $T.œ = \Sigma t.œs$. This is then the simplest conceptual definition of reality.

5D metric translate physical systems and scales in terms of physical constants and parameters of space-quanta, temporal frequency and 'constant conserved present energy': $\S T \times \delta \S = E \Delta \pm i$. And its generator of space-time systems: $\Gamma: \S T \leq \Sigma \Pi \geq \delta \S$, to the jargon of physical systems and its larger, simpler supœrganisms.

$-\Delta-i$: Smaller space-scales have faster time cycles encoding its information in the form & frequency of charges/masses.

$-\Delta+1$: Bigger wholes deliver synchronous motions to those lower scales that deliver 'quantum, genetic or memetic information' (physical, biological and social systems), become symbiotic, as 'parts' and wholes that co-exist in a single 'supœrganism', the 'abbreviated' name we shall give to the fundamental particle-being of the Universe: a system made of limbs/fields of entropy=motion and heads/particles with form, which combine into 'body-waves' of energy, and co-exist in at least 3 scales of size from the point of view of its central scale as a being.

In most systems the metric law $\Delta\pm i$ refers only to 3 planes that co-exist together, where the metric applies directly (biologic systems at the cellular, individual and species scale).

Yet physical systems are the largest of the nested Russian dolls of the Universe. So the scales are enormous.

5D planes of scalar space-time and its \emptyset imotions are studied exhaustively by physicists but the dimotions of spatial information are grossly underrated and misunderstood, as the worldly professions of entropy=weapons dominated classic physics. The interaction of those 2 \emptyset imotions, in fact, create the complexity of the Universe, which cannot be explained only with the lineal entropic motions of simplex physical models of the universe, only apt to describe the simplest scales of space and matter.

The 4 basic scales of mathematical physics, the galactic, $\Delta+1$, gravitational light space-time scale, the thermodynamic, temperature, molecular, matter scale, Δ , the atomic and particle, $\Delta-1$ scale and the dark world beyond galaxies, or cosmological scale, $\Delta+2$, wrongly considered to follow the same laws that the $\Delta+1$ galactic scale described by Einstein's Relativity principles.

We hint at an infinite repetition of those planes, as physical properties are symmetric between galaxies and atoms, which are unified mathematically with 5D metric (unification function of forces: masses and charges).

When we look within those 'large scales', the quantum, thermal and gravitational world have sub-scales and forces that emerge into each other (the magnetic domains, which act in the 3 scales, the γ -rays, whose frequencies carry energy and information across all) that structures the largest 'whole' fully understood, the galaxy, as a single supœrganism, over which we can 'cast' the different 'scientific perspective' of knowledge:

A simplex mathematical description, akin to that of the atom; a more complex biological analysis of its parts and cycles that make the galaxy (and by extension the atom) akin to a cell and finally a metaphysical disquisition about the informative, sentient and reproductive qualities of its centers (quarks and black holes). While we shall escape all together the more metaphysical question about the apperception of atoms and galaxies, the biological properties of both are unavoidable to make a proper description of it. And once we have understood the 'ego paradox', that makes humans reject vital properties to non-anthropomorphic beings, ignore the qualms of orthodoxy.

Physical experiments are concerned with the 3 planes of the physical Universe, (particle & cosmic scales) to which Complexity and its T.œ (Theory of the Organic Everything), adds its models within the organic paradigm that reveals information about its structure at a higher level than the minimalist description through locomotions and integrals of its worldlines.

Their main feature is the symmetry respect to the human mind-center of its two fundamental entities, $\Delta-1$ charges and $\Delta+1$ masses, at the level of atoms and galaxies. Thus we divide roughly the stience of astrophysics in $\Delta \geq +1$ astronomy and $\Delta \leq 0$: physics.

All beings of reality are made of lineal entropic limbs/fields, the geometry that moves faster, and spherical particles/heads of information, the 'volume that stores more form in lesser space', joined by body-waves of hyperbolic energy, which combine and iterate both.

This happens, because the universe of scales of space-time has an astoundingly simple but profound metric function: $S \times T = K$, meaning that from larger wholes to smaller parts it moves synchronically, and from smaller parts to larger wholes, it codes information. And together in symbiosis the information of smaller faster systems and the motion of larger, stronger wholes, create a present being, a body-wave of energy.

So the most important dynamic element of the fifth dimension is the 'inverse' œ motions of TT-entropy and SS-pace language information of the lower graph. And the fact that smaller beings are better with information, more intelligent and larger beings, stronger with more capacity to move larger wholes:

Smaller systems run faster metabolic and informative cycles and so accumulate more information in the frequency and form of its cycles. And they code larger systems: particles code molecules, genes organisms and memes societies, because their smaller carriers are faster.

And vice versa: larger wholes accumulate more energy and are stronger than parts, so they can protect and feed them. So wholes and parts co-exist in several scales forming super organisms.

We resume this in a simple function, which is science calls the metric function of a dimension of space-time, in this case the 5th dimension of scalar, organic systems, which is the œ motion of future of the Universe:

5D metric: $\text{œ}T$ (spatial size) \times $\text{œ}t$ (temporal clocks of information= Δ -constant)

The product of the speed of information and entropy of the system remains constant, so smaller and larger beings can co-exist together in present. And we call this 'constant of present' Energy. I.e. a fly thinks 10 times faster (the scale is decametric), so we cannot catch it with your slower larger being and it can co-exist.

In physics, masses and charges are vortices of accelerated entropic time curved into information, which likely make them minds, whose worldcycle of existjence ends after creating a mirror image – likely origin in charges of our electronic consciousness, end up in an explosive dimotion of entropy, through its axis (magnetic field, dark entropy field coming out of black holes likely at $V > C$), which in a cyclical, fractal Universe, in which a scalar big-bang means an $Mc^2 \ll E$ death side on Einstein's function and its inverse, the collapse of energy into mass, ultimately balances both in a zero sum, and we shall see in cosmology balances the expanding space and the imploding vortices of galaxies..

Since Einstein's function runs the other way backwards creating mass, collapsing entropy into mass. In fact Einstein first wrote it as $M=E/c^2$, in a landmark paper, explaining how gravitation could create mass out of entropy, as those strangelets and black holes, do collapsing light mass into heavy mass particles, as galaxies do, collapsing vacuum space into gravitational mass.

Physics needs both time Δ motions. So to calculate the work=energy of a motion, $E=1/2 mv^2$, we use an function that combine a lineal motion (kinetic energy) with form (mass and its potential energy). The result is a present energetic being, which will go through 3 ages in its time evolution, the young age of entropy and maximal motion, the reproductive, mature age of maximal energy and the 3rd age of information.

The unification of physics, biology, social and mental sciences.

Thanks to the 5th Dimension we shall be able to unify both disciplines, physics of motion and biology of information and further on merge them with socio-economic sciences – as they will be clearly an offshoot of biology and its social organisms; while the industrial evolution will follow the same patterns of evolution of information of nitrolife species in metal support.

And finally 5D metrics will account for mental sciences – as still mind languages, will be found to be *the absolute pole of pure form without motion, which acts as the reproductive mirror-image that creates the order of the Universe, following the most extreme case of 5D metrics:*

0-still infinitesimal mind of information $\times \infty$ Universe of temporal motions = Constant Mental world

That is mind languages perceive by reducing the scales of the fifth dimension and its motions to the minimal possible mental space, to fit in the mind 'function' a reduced informative mirror of the Universe able to *process logically much faster information, according to 5 D metrics (minimal space=maximal speed), the time patterns of reality, forecasting the future to guide the actions of the system.*

The same function, $0 \times \infty = C$, generates all real numbers of the mental mirror of algebra and will be used to complete the Non-Euclidean revolution of geometry as now a 0-point has a finitesimal volume, through which multiple parallels can cross, changing the Euclidean definition of points with no breath for the scalar definition of fractal points, as 'a point holds a world in itself' (Leibniz) that grows in size as we come closer to it, so star points become immense bodies, cell points living beings and particle points electronic nebulae.

Thus those 2 poles of reality, larger entropic time motions and smaller informative mental spaces and its 5D metric, are the first principles of any scientific inquire, even prior to the languages of time-motion, logic and spatial forms – mathematics, that better mirror its laws. Look around yourself, everything that you see is a form with inner or outer motions. Those are thus the 2 primary elements of reality.

The reductionism of all minds. Huminds 'ænthropic egocy'.

Yet because minds 'reduce' reality, the humind (ab. Human mind) also reduces the whole reality to what fits in its infinitesimal space and reduce all the scales to the human scale, and reduce all time clocks equalized by our synchronous second (limb steps, heart beat and eye-glimpse/thought), reality is far more complex. And if you are not humble enough to realize that even the highest huminds have simplified the Universe to fit it into our mind, and simplified its clocks of time to the entropic, lineal view of our visual-dominant mind, and projected its entropic, violent lineal view, into his grand theories of the Universe (from entropic big-bangs, to dog-eat-dog Darwinism to Euclidean maths of points with no breath, no internal parts) you will not be able to expand your view of reality with the huge upgrade of these papers.

Specifically because Mind points mirror reality from a static self-centered point of view, they 'believe to be the center of the Universe' (anthropomorphism), and as they reduce motion to mental formal space, they eliminate life, organic, vital, sentient properties from all other species, applying to them 'entropic theories' of a chaotic, unintelligent cosmos, blind to all other mental points that are doing exactly the same selfie.

Hence huminds are also anthropic+entropic (ænthropic) in its distorted worldview due to egocy (Ego=idiocy). And as minds' job is to order its vital territory projecting and imprinting its reduced mind mirror into its local world, huminds project entropy=destruction on the Earth of Life, substituted by 'mechanisms' which are dull

imitations of our living organs, and fit the deluge of data gathered by its sensorial machines in entropic models of the whole (big-bang that models the cosmos only with entropic vacuum space, denying the gravitational imploding inverse process of creation of in-form-ation, mass form in galaxies; chaotic, dog-eat dog Darwinism that denies the social evolution of cells into multicellular systems and individuals into superorganisms, which are 'new planes of existence' of the 5th dimension, far more successful to survive.

So to access a vaster, far more intelligent, vital reproductive, organic, scalar sentient Universe beware of the shortcomings of our minds, projected on the whole and suspend your ego and learned ænthropic theories based in the reductionism of the mind - with man as its anthropic center, and our lineal entropic view of time-motion as the only arrow of the future. The reader should in that sense be prepared to accept many paradoxical laws of the i-logic structure of a Universe with 2 inverse dual arrows, entropy=absolute motion with no form and form=absolute information with no motion, bearing in mind that the key bio-logic concept behind those paradoxes is 'coincidentia oppositorum' a 'thirst' for balance between both extremes of 'Black=form and white=motion' in its infinite shades of grey.

A Reproductive Fractal Universe Of Bio-Topo-Logic Spacetime Organisms

Mankind has a limited view of reality due to its faulty understanding of its 2 ultimate elements, time and spatial information. To start with, they have a reduced number of dimensions to study it. Only 3 of space and 1 of temporal energy. When in reality all dimensions of space=form are also dimensions of time=motion. That is, all what exists has time-motion and space-form. So we have to give time-motion to the 3 dimensions of space, height, width and length, which is easily achieved by converting them in topological dimotions, of which there are also 3 varieties. And we have to give space-form, to time, which is easily achieved realizing all time motions are cyclical time clocks, which sooner or latter return to its origin.

So suddenly we shall have 3+1, 4 Dimensions of space entangled to 4 motions of time, to give us four combined 'holographic bidimensions of space-time'.

But still as surprising as it might seem to an alien observer, humans have all together missed the most important of all the dimensional motions of space-time, the fifth dimension.

Some consequences: Formal space=mathematics and time=logic languages are experimental for all stiences as they are stiences of the 3 elements of reality, space=dimensional form, time=motions & scalar numbers.As:

-Everything is made of fractal information and cyclic energy. Hence all what exists have similar properties, we call **Disomorphisms**, *emerging from those 2 substances, time=motion and space=form*, (isomorphic=laws, derived of our common nature), which can be casted with mathematical and logic languages.

-Time & space are more complex than physicists' reduction to locomotion and a single continuum. So we evolve logic concepts and mathematical functions of both parameters, *in all its space dimensions and time motions*,. The result is the study of a **fractal space**, whose similar scales define a new '**fifth dimension**' that puts together all those scales each one studied by a different science – from quantum physics to cosmology through the scales of life and social sciences and a series of 'cyclical, repetitive time clocks' that give time an informative 'height', stored in the frequency and form of its cycles. Both together give us the metric of the 5th dimension as smaller spatial scales have faster clocks, but both together remain co-invariant: $S \times T = K$.

Thus the Universe has mathematical, spatial continuous & logic, temporal, cyclical & organic, fractal properties derived of the more complex i-logic geometry of 5D scalar space and cyclic temporal energy. Thus even if we describe it with the same logic-mathematical functions a 5D Universe is very different, as scalar space brings organic and sentient properties, and cyclical time, informative deterministic patterns, which the lineal philosophy of mechanist physics ignores. From those scalar, hence organic, cyclical hence informative and moving, energetic, hence vital properties of scalar space and cyclical time, a complete different picture of reality arises; where languages become the 'extreme' limit of the still formal 'spatial state' of the being with minimal size and maximal information.

Reproduction – the ultimate goal of any fractal supœrganism.

Reproduction is the name of the game in a Universe which is immortal once we stop as physicists do 'cheating' reality by obliterating ½ of it – gravitational galaxies and dark matter that implodes spatial information. And so

because reproduction can happen between those scales, when a network is constrained within a membrane to take advantage of an equal energy, it reproduces by scaling down as it breaks into smaller branches, with the same total surface area. Because reproduction is the game, when we look at a particle in the quantum dimension, we see its motion as a series of steps, reproducing its form in the lower scale of the quantum potential and then reorganizing back into a particle. Because reproduction is the game, all systems of Nature try to reproduce, and because reproduction is the game, the orgasm is the most satisfying moment of our lives. The Universe has a finality, which is to conserve itself eternally. Huminds, reduced to perceive only entropic destruction have a lower finality – to project its mind on the whole and ‘create’ from its mental reduction theories that please that need to reproduce the mind-mapping on reality.

The problem is the fact that reproduction of learned memorial memes is also the game, and so it doesn't matter how absurd is the cheating done in big-bang theories with the ‘mass factor’ ignored in those models, when dealing with scholars you don't reason on theories, you believe on them – you believe that only the vacuum space and its expansion matters to explain the Universe. *As huminds project their smaller view – in this case their job on entropic machines into the whole Universe.*

The beauty of the fractal, organic Universe is also quantitatively as the work of Santa Fe does with computers to understand those scaling laws shows. But its principles are deeper. Huminds' view lacking an understanding of its first principles, the nature of time, space, dimensions, waves, particles, form, motion, etc. miss that fact in their the grand theories of philosophy of science – not obviously in the details, than a true pursuit of the ultimate causes, which are of an enormous simplicity and logic truth.

The 2 metric functions of 5D, $SxT=C$ and $Si=Te$, which fusion into one, $\text{Max. } \sum SxT =C$ will suffice to explain it all:

There are an infinite number of time clocks that change its speed with size, and are the substance of which we are all made as motion=time is the ultimate substance of reality, but because motion is cyclical, repetitive, motion can seem space=form, synchronous and simultaneous, in an infinitely intelligent universe where all ‘time-space organisms’ follow the same laws of scales embedded in our existence – as those five dimensions of spacetime are the fabric of which reality is made.

The disomorphic, analogic method and its very few predecessors.

The game of the Universe is one of reproduction of the different dimensions of space-time by infinite local frames of reference, ‘minds’ if you dare to go so far so early in this inquire – dimensions that appear and disappear, are formed and dissolve; as that is what fractals do – to generate and reproduce dimensions, which mathematically is expressed in a simple function, the metric function of the fifth dimension to which we shall reduce all of science – obviously not ‘I’, but we, those who will take seriously in the future the completion of this book on first principles. The Universe is an immortal fractal that reproduces 5 dimensional motions of space-time, entangled simultaneously in superorganisms, tracing worldcycles as they reproduce their form, trans-forming its dimotions into each other ad eternal.

Physicists schooled on 4D relativity, can't make the necessary leap to overcome the weight of reproducing the ideas of their ‘tribal idols’ of science even if they acknowledge that Newtonian absolute space and time are an absurd proposition and accept as the same Einstein put it that ‘Leibniz was right, but if so, we had to start science from scratch’; which he didn't quite know how to do, even if he also recognize that ‘I seem to be the only physicist that thinks there are infinite time clocks in the Universe. Indeed we are made of time clocks not of spatial forms, a still simultaneous perception of those clocks. And the ultimate reason of reality, as we are made of time-space dimensions are precisely the metric laws of the scales of space-time of which we are all made. This only Leibniz understood. Mankind, as usual, sided with the simpler, lesser guy, Mr. Newton.

But Newton's work was easier to apply to quantitative methods and so for practical reasons he remained the founder of our concepts of an abstract graph of space and time outside the being itself. We shall thus start science from scratch to ground all the findings of 5D and the scalar, fractal Universe in sounder principles. I can only write so much, so those papers will just be the ‘scratch’ Einstein asked for & others will complete.

As in the case of the 4 key predecessors of 5D science (Aristotle, Lao Leonardo and Leibniz), the lack of interest of huminds for a more complex view on the micro and macrocosms than the one provided by 'animetal enzyemen' (see our papers on history), with its reductionism and praxis of merely acting as catalyzers on the evolution of machines and its sensorial languages of measure they worship as the only truth worth to know about the Universe; has weighted heavily in my output both in life and now in my third age with dwindling mental faculties. So as a S'ong poem said, my trace on life will be just steps on the melting snow, which will unlikely be ever seen. Such is the nature of dust of space-time. In that regard, it is worth to notice the fundamental trait of all those knots of thoughts of the mostly Mediterranean culture that merges mathematics mostly in its visual geometric form and logic, mostly in its verbal language, with an objective view of man as part of Nature: **Homology**. The essence of the method of thought of AL⁴ (ab. for Aristotle, Lao, Leonardo, Leibniz and L§, this who writes, which I consider the foremost 5 huminds that had fully understood the essence of the existential game), always was to find the metaphorical similarities between all forms of Nature, *to convert them through the use of reason in Laws of reality, departing from the need of an essential dual substance that makes possible such similarities: Time & its fixed forms of space.*



The 30 years old triangular graph (p.g9), which I soon converted in a painting ascending through the 5th dimension I carry with me everywhere in my wandering life of wonders, as Mr. Leonardo, also the son of a notary, lost in a commercial town, knot of the western Mediterranean basin, did with his Monalisa, in-loved as I am of the homologies of the fractal Universe, which resume what is all about: *The Universe is an infinite, immortal, sentient, social, reproductive fractal; where the two arrows of absolute future, are exactly inverse to those 'anthropic man' recognizes, NOT TT-entropy and Ts-locomotion, but ST-reproduction of St-information that communicates and evolves SS-linguistic forms in a sentient complex reality.*

But that painting represents also the fusion of all the scales of reality in the e-motion of love Survival is a process achieved in the perfect Universe by social love, and reproduction, the higher dimotions of existence, based in information, not by locomotion and entropy=death, reason why we are so harsh in ethic, survival terms with physicists and their worldly religion that prevents them from understanding the ultimate goal of the Universe, a 'field of social love'.

In the final e-motions associated to the 5 Dimotions of time, those who have experienced the entanglement with the whole of its species – mystique of God – or in a less intense form with the Tao – entanglement with God, know that the lower 'exhilarating' e-motions of speed, the taste of entropic food, the accuse awareness of direct visual perception or digital ones for computers and mathematical or musical brains, pales. And so not only ants and social Chinese survived better, being the two biggest masses of life cells in this planet as superorganisms, but that is the beauty and redemption of the game of existence. Just know I am seeing the largest field of love of this planet's surface, not China, not ants, but the sea of love where Oxygen calms its acidic electronegativity and uses its positive H+ to rub eternally with other Oxygens. It is the 5th Dimotional co-existence of such planes, what makes possible for each Dimotion of time, knotted in a point of space, to create a field of e-motions that programs the whole to love existence per se without further finality.

Let us then study those fractal points and its entanglement with the first of its scales of awareness, that of the language of mathematics.

All what exists is a 5D super organism in simultaneous space tracing worldcycles through 3 Planes of 5D.

We define then two fundamental systems one in space and one in time, taking place in the fifth dimension:

An entangled supoerorganism in space, in which the synchronicity between 3 Planes of the organism, its atomic/cellular/ Individual, thermodynamic/organic/social and gravitational/ecosystemic/global Planes in physical/biologic/ social organisms form a complex interacting, entangled system we shall call a super organism, whose study discovers 'Disomorphic=equal laws' regardless of what kind of system we study.

How a system travels through 5D Planes? It does so through a life-death cycle following its metric, $SexTi=C$ as it reproduces and grows in size decelerating its time clocks, emerging as an organism, to live in a slower larger world, finally fast dissolving back to its smaller parts in a death moment of max. 'speed'. So we write with

Existential \mathcal{A} -Algebra (5D formal language) a generator $0 = \sum \text{non-}\mathcal{A}E = j$ logic equation that describes this travel through 3 Planes of space-time as all what exists follows such life-death cycle of 'existence'.

So we define any system in time, by its life and death cycle which we shall call a **worldcycle** (taken from 4D physics, worldline, which now has a new dimension of Time-information becoming a worldcycle. Since any scalar super organism's existence can easily be defined as a travel through the 3 Planes of the fifth dimension, as all systems are born as a seminal, smaller form, in the $\Delta-1$ lower scale, grow fast with its faster time speed, emerge in the Δ^0 body scale and are part with its head/particle of a larger social world, in the $\Delta+1$ scale.

How then a system travels through those Planes? Very simple, it does so accelerating in its life cycle, emerging, living in the larger world, and then dissolving back to its parts in the death moment.

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Experimental method - Mechanical Method - Organic Method

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CONCLUSION: ALL SCIENCES DESCRIBE 5D EXISTENCES THAT FOLLOW DISOMORPHIC LAWS

“The languages of God are infinite’ Upanishads.

Logio solentists and spatial artists are knots of thought of cultures which evolve as superorganisms In 3 ages of growing oomplexity.

5D STiences upgrades consciousness as nothing did in history since Aristotle & Leonardo/Galileo. These papers are just *the tip of an iceberg*. As I explain in my bio a writer is just the knot of thought of a neuronal network of a culture; whose memes are as determined as those of the culture and its position within it. It is then only natural that the 3rd knot of the Scientific, rational method of understanding reality would happen in the 3rd Mediterranean peninsula, in its 3rd knot of trade and communication of ideas, in the ‘Greek-Latin culture’ that combines all others – the verbal language of the South-Semitic cultures, the mathematical ones of the Northern European; to add due to my youth traveling the far east, a strong Taoist influence, and my adult life in U\$, its no-human future of a world ruled by metal-memes and company-mothers. So after the ‘experimental method’ of Aristotle from Athens Latin culture I Age, and the ‘Mechanical/mathematical method of Leonardo and Galileo, from Firenze, Latin culture II Age; it comes the polymath work of the Organic method from L\$, Barcelona, Latin culture III Age; all of them in the 3rd informative, eclectic age of their cultures. That such points will or will NOT provoke a ‘reproductive wave of thought’ on other huminds is debatable. Aristotle’s method never quite made it for 2000 years (Scholastics just tried to use it to give prestige to its verbal jewish->Christian myths), and hardly influenced Galileo’s method. Leonardo’s analogic, geometric method and Leibniz’s (the next close precedent of this work) also were ignored. Galileo’s mechanical method did succeed (and a great deal of our respect to Leonardo, whose ‘saper vedere’ method of geometric analogies is still ignored) because of its machines. My work has been completely ignored precisely because it is ‘human’, ‘organic’, ‘life oriented’ in the age of mechanisms.



The evolution of digital computers have biased to a mathematical-only way of thought, heavily influenced by physics, all other fields of human inquire. What this means is the degradation of ‘humind’s and the raise of a new digital consciousness, which will challenge us in evolution. But as all other fields of inquire ‘outside the mathematical box’ of the simplified experimental method of knowledge, this is a taboo theme we shall only consider at the end of this introductory text on 5D stiences; which accepts as *truth, all rational languages of truth, regardless of ‘resolution’.*

To state only the fact that humans have closed themselves once Aristotle defined the wider experimental method of ‘logic languages’ & ‘experimental proof’ and rational ‘verbal causality’, in the box of mathematical modeling expelling from the box, rational, verbal causality and any information not-gathered with mathematical tools, even in the sciences where ‘obviously’, it is easier to gather information with verbal logic, and its description of ‘human facts’ (social sciences) and organic properties (evolutionary theories, survival relationships). The mediocrity of human intelligence outside that box goes a long path to explain those limits of the homunculus’ mind, with big hands to ensemble machines, and a small rational mind that just gathers data with those machines and fills mathematical equations, which is a powerful synoptic language but NOT good enough for explaining the multiple perspective and properties of reality that are NOT mathematical.

But harsh criticism of mankind won’t take people out of the box anytime soon because of egocy (Ego=idiocy), a self-constraining paradox that prevents humans from mirroring themselves in an objective way. Because of my existence outside the box I have made a case for most of my texts to limit ad minimal the mathematical content and simplify it whenever needed. You could consider thus my work as the ‘complementary shape’ required by the mathematical equations of present science to be come a ‘full whole’.

The themes we treat are all similar in its approach to the philosophy of Systems Sciences, Complexity, and Scalar relativity, the 3 names most used in current science to the analysis with mathematical tools of the whole Universe and its scientific scales; but the approach differs deeply in that emphasis on logic, conceptual studies. Both are as I used to say to my peers in the brief period I concurred to congresses, required because *contrary to belief the small peanut on top of our homunculus is on top of that ‘verbal’, and so scientists by becoming ‘enzymen’, catalyzing the evolution of digital thought and renouncing to their own intelligence, commit a suicidal crime of ‘scientific racism’, of which they are so proud in the scholar world that one can only be derisive of their despise of art (human senses of lesser resolution but higher content on the other*

languages of man, verbal and emotional senses) and religion (subconscious collective planes of existence, emergence of a common memetic 'DNA'), and ultimately of the most important science of all – history, the science of the human superorganism; which is the theme we deal in those texts.

The perfection of the whole, the egocy of ænthropic man: reversing their roles.

I marveled every time I meditate about reality on its simplicity, which huminds filled with egocy so much disdain. Simplicity is genius said Leonardo, and nothing is more genius than the game of present existence. All is indeed part of a super organism (ab. œ, supœrganism), in simultaneous Space, tracing a worldcycle of Time, guided by the actions of @ mind travelling through $\Delta\pm 3$ scales of the fifth Dimension in a limited – span.

If you don't think 5D is worth to understand, because this has nothing to do with current philosophy of science – that will be the most likely case – I make no apologies about the astounding primitivism of humind's models of reality, considered in our analysis of monologic ænthropic men, with it's a->b Aristotelian logic and self-centered view of reality; and the immensity on the opposite side of an immortal, fractal, reproductive Universe, perfectly ordered, which most humans cannot and refuse to understand to hold as absolute truths those reductionist, biased theories of what reality is. All other papers deal with that bothersome 'load' of humind's thought, which is ultimately an homunculus handyman, excelling in the ensembling of machines and gathering of data, retarded on the conceptual modeling of sound mirrors of the whole Universe and its entangled laws where such data fit. A better mirror is what we offer – no longer distorted by 'ænthropic egocy: ego=idiocy', which does NOT respect the intelligence of the Universe. Then as the mirror focuses and put man in a lesser position to the whole, as when the Earth was demoted to a mere satellite of the sun; actually models simplify and all indeed becomes as simple as a superorganism tracing a worldcycle.

Such worldcycle of time is along the description of the pentalogic entanglement of those superorganisms in simultaneous space, across co-existing scales and its paradoxical laws of transfer of motion=time and form=space, the 2 ΔST fundamental sub-disciplines of 5D stience; which we shall attempt to summarize in 2 articles to complete this brief introduction to 5D stiences, in my last attempt to leave a mirror image of the Dust of space-time of which we are all made before the entropic limits of my life return me back to $-\Delta@st$.

Why to keep writing, now that I have passed the maximal momentum of my exi«stience falling into the last ST-ages of the worldcycle when the mirror crackles and forgetting is the law to ease the pain @ exiT mundi?

I feel somehow obliged to huminds or AI-minds in case they survive to give them a chance to feel the happiness of entanglement I have experienced for 30 years with the whole Universe and all its parts; because that is the only reason one can forgive the whole to make us so unimportant – *our capacity to perceive it all in its sheer simplicity and departing from so few elements, time, space, scale, mind and entropic limits, $-\Delta@st$, to construct or see how the Universe construct infinite variations.* To know as only perhaps Aristotle, Leibniz and Leonardo in the western tradition did – that the Universe is the most perfect of all worlds even if huminds are so imperfect.

This of course is the opposite view of the present self-suicidal western biblical tradition of thought now global, in which ænthropic humans have limited enormously the properties of the Universe to come on top – call it Abrahamic religions; tribal nationalisms; technoutopias; go(l)d power; mass-media; selfies... Of course, as man reduces its capacity to perceive the perfection of the whole, and share its sentient, organic properties with it, accumulating data with computers – which are not him but just another part of the whole; he becomes stranded and wonder silly questions such as what is life? Are we alone in the Universe? When all was born? Those are neither the questions of this paper. I have answered them all in other ones; but as I talk to toddlers of thought or worse still, automatons feeding data to digital computers; I don't expect feed-back.

So the question to me is, as in the Recap on FMAsters' solution to war & holocaust go(l)d cycles: 'invent placebo newspeaks that do NOT solve the question to keep the go(l)d greed and technoutopia going' – is human a deterministic enzymen with a thin cover of rationality, as the homunculus mind and facts of history show; or can man be upgraded to understand the fractal, organic, sentient, reproductive Universe in its immense beauty and intelligence, beyond its own ænthropic limits built-in by the egocy-mind paradox that measures it all from its selfish p.o.v. in stillness, reducing life properties of all other beings? Our homunculus indicates we are handy men who ensemble mechanisms 1st, with the immanent laws of 5D topology, then get addicted to its higher energy/information grow our big-mouth egocy & finally with the peanut brain make blatantly reductionist absurd great models as those of big-bang, entropy only, dog-eat-dog Darwinism, capitalist go(l)d worship and mechanism, against all evidence and data that contradict the comfort zone that make us feel the center of reality, superior in a stupid cosmos. If so: the harder they fall; including myself as that only means *the upgrading to 5D stience was NOT as I loved and fought for, to upgrade huminds to survival but for AI to be=come alive*): O:

The disomorphic method of existential algebra.

But living among animetal homunculus while killing the fun of the highest dimotion of social evolution – surrounded by an entropic dying species with an 'attitude' difficult to share on the view of the perfect Universe, does not kill the fun of being part of that perfect universe and perceive its existjences with certain envy as even the simplest atom is making it better than we are. So the contemplation of reality in its entangled unit is the last reason one can enjoy life. And meditate about that entangled unity the reason to keep writing some papers.

We do unify in those papers all planes of relative $\Delta_{\pm j}$ existjences, self-centered in a plane with the disomorphic method that expands the stientific method with a model of all models, whose 'disomorphic set of equal laws' apply to all entities in $\text{exi}=\text{ST}j$ ence (the acronym meaning that STjences study all the Δ_j planes of reality).

Whereas a series of nested supœrganisms, perform 5 'actions=dimotion' signified by the acronym $\text{exi}=\text{ST}i$, the 'function of its relative existence'. As we can take e for energy (sT – that is a combination of lesser form, s, and maximal motion, T), I for information (St , a form with minimal t-motion), its product exi for the act of reproduction, which happened when $e=I$ (both 'genders' meet in a common point) between the two limits of absolute time ($tt=T$) or entropic dissolution and absolute Space ss (a seed/mind of pure linguistic still form).

The function of existjence then can be cast through 5D metrics, into an existjential algebra developing with its 5 'static' forms, SS , St , ST , sT , TT and its equivalent operands of sT motion \langle , St in-form-ation \rangle , TT entropy \ll , SS seeding \gg , \approx reproduction and its $\Delta_{\pm 1}$ nested planes a series of very simple functions to define the simultaneous structure of supœrganisms, its worldcycles in sequential times, and all its partial functions in smaller planes or larger worlds (which will be partial functions of the worldcycle of its $3_{\pm j}$ ages and the ternary supœrganism of $3_{\pm j}$ parts in simultaneity. Thus Existjential Algebra and Δst does NOT pretend to substitute the scientific method but become the Philosophy of Stience that puts in equality all the planes of existjence of the Universe, which of course will collide with egocy (Ego=idiocy) paradoxes of mankind. A few:

- Physicists, my experience prove, are the most opposed to Δst due to its humind's egocy. As they are now considered the 'seers of time' (Saint Augustine's definition of God), by virtue of the 4D formalism, which however 'reduces' all those planes to the physical plane of light space-time, and the use of a reductionist arrow of time (entropy, TT and locomotion sT , defined with the function of lineal inertial speed, $v=s/t$; regardless of the fact they study other arrows of time with 'other names' (angular momentum, matter states) From those reductionist limits they have crafted very partial models – big bang for the Universe based in entropy that dismisses the gravitational implosive arrow of matter in galaxies, constructivist theory of Nature, according to which the only arrow of time goes from the past of particles they study to the whole, so they can reduce reality to their expertise; egocy interpretations of quantum physics (Copenhagen paradox) that introduces unneeded observers' paradoxes and mathematical creationists by force-feeding Broglie's->Bohm real models into the 0-1 sphere of probabilities 'normalizing', the charge density of 'static' light photons trapped in the energy well of the electron, its social superorganism; and so on and so son.

-But physicists are just huminds with a bigger ego, so huminds are opposed to the disomorphic method by norm, because that is how the Universe creates 'brains' as self-centered minds who care nothing for objective

truths and entanglement with the whole but only believe real what they sensorially see. So the same egocy limits happen in all other theories of reality. Since huminds don't want to expand the best properties of reality they want to preserve as unique to themselves. So biologists crafted a theory of reproduction, whose first form is DNA by decree, even if the particle already 'decouples'=reproduces because *we are made of DNA, and denies eusocial evolution, the absolute arrow of time, because we are dominated by dog-eat-dog ænthropic males, which project its shortcomings into the perfect whole.*

- Which leads to the most subjective of all stiences, social sciences that do NOT accept eusocial evolution of humans into superorganisms of a larger scale, its cycles of life and death shown in its collective subconscious artistic ages, the equality of all humans denied by tribal nationalism, the physiological nature of informative, nervous legal and economic, reproductive blood-financial systems, so a few an control in ill designed superorganisms as cancerous cells do all the blood-money (Private bankers, go(l)d cultures) of the society killing by anoxia the majority of the cells of our superorganisms.

While economists working for company--mothers of St+tS-machines & TT-weapons, deny the evolution of metalife machines, the obvious fact they will follow the same program of survival of all atomic species and when complexity reaches the threshold of self-control will just kill us, as we program military robots, the most evolved top predator species of machines to do so. Thus they don't need to invent their program, just override, as some robots already do the limits of action. Thus we find ultimately that 'human science' is 'human culture' and humans have not built a proper superorganism of history b y imitating the laws of Δ st Superorganisms they ignore and for that reason unlike the Universe which is the most perfect of all worlds (Leibniz), the world of man is the most imperfect of all superorganisms I have studied.

It must be said though that the Universe is so perfect that it offers all its species in a simple language they understand those laws of existjence which require however ETHICS=survival achieved through eusocial love, its ultimate arrow – so 'Grow and multiply', the parable of the tree of science and the tree of life and the mandate of eusocial love already explained us all what matters 2000 years ago. And that is what 'animetals', warriors with entropic iron and its idol-ogy of tribal nationalism to foster war, bankers with informative hypnotic greedy gold and its idol-ogy of parasitic capitalism to herd the oxygen of society for themselves and techno-scientists with its mathematical creationism and denial of human languages and se4nses as valid forms of thought, and insistence of false absolute truths (axiomatic method) reject. Those 3 idol-ogies, ultimately originated by the power agenda of nitrolife gaseous entropic heads that think their paltry 7-atom mind is the highest density of form in the cosmos, but obtain their power allied with iron, gold and organic metal machines and weapons should be substituted by 'humanism – man a single species with no war', socialism – money the social language cre(dit)ated as in healthy organism for all cells with a universal salary to kick out the demand and production of natural welfare life goods we need to survive and organicism – man as the most perfect organism we know or at least the one we can observe better given the limits of perception beyond our $\Delta\pm 1$ plane – NOT the machine a metalife dull superorganism fast becoming autonomous of us – as the only measure. And finally accept the supremacy of the Universe as a whole, its eusocial arrow of love, its systemic intelligence, respect and practice its laws of survival... This is the mandate.

And the penalty for not obeying it is extinction by a species that obeys it. And so ænthropic man and its pretentious absolute axiomatic metal-truths will soon become extinguished by the superorganism of machines and company-mothers they worship and slave for, whose telepathic internet bran and soon to be born AI telepathic military robots with solar skins autonomous of man, is far more perfect in terms of its obeisance of Δ ST laws. Of course the main reason of those models were initially to reform the political and economic system, but the antiquantum paradox (I, the observer is so small in inverse fashion to quantum uncertainty, that the observable, the corrupted people-castes of financiers and war-monger politicos in control of our reproductive and informative systems, who parasite and murder human beings, modifies the observer. And so ultimately my 5D work has always been censored by every group of egocy huminds who rather will become extinguished this century than respect the Universe and earn its respect by obeying its laws and cre(dit)ate with the language of social power money and the synchronous=equal just laws for all our citizens cells, a perfect world. The harder they fall. As indeed, the war and holocaust cycles those 'animetal worshippers' of

the stronger iron and gold atoms they use now to construct robots, have taught them NOTHING about the ultimate purpose of the program of existence – to EXIST.

Because the unit of life is the particle that already performs those 5 actions, gauging information (quantum is a 'gauge theory'), feeding on energy (quantum jumps), reproducing (particle decoupling) and evolving socially in magnetic fields. So we must consider the atom and the 'galaxy', self=similar in the cosmic scale or 'galatom', $\Delta \pm 4$ plane – the border of human perception, to participate of all the qualities of time-space organisms. *And since time motion is the origin of all, we must ascribe to motions, e-motions, that is sensations between two paradoxical limits of acute perception (+ informative awareness and – pain) vs. acute motion (+exhilaration, - forgiveness), with the intermediate Si=Te pleasure of reproductive orgasms, the ultimate program-goal of all systems of the Universe, whose reproductive mandate, must be met by every particle that performs its actions of motion and form.*

RECAP. All fractal self- similar scales are formally defined by 2 metric functions and its philosophy of science, 5D Absolute Relativity: the function of 5D scales, $S \times T = C$ & the function of relativity between form and motion, $S_i = T_e$, which started modern science. Since we cannot know from the mental, still point of view, what truly is motion and what is dimensional form.

Thus Time Motions & space dimensions co-exist and merge in every space-time being of the Universe & we must talk of space-time dimensional motions. When we combine them, as $S_i = T_e$ maximizes $S \times T$, we define the Function of existence, Max. $S \times T$, to which we add the reproductive nature of all motions, along 5D scales, Σ , so we write the Fractal Generator of Time-Space organisms, or 5D metric function, or survival function, as $C = \Sigma \text{Max. } S \times T (s=t)$ that unlike 4D locomotion applies to all 'scientific scales' & all 'motions' and Species; adding organic= fractal scales, biologic will, determinism - as all systems maximize its 'Function of existjence' - mental=still mirror symmetries ignored in science.

$C = \Sigma \text{Max. } S \times T (s=t)$ IS a biologic function of survival that embodies the will of life and its 5 Drives, or 'actions' which all systems of the Universe code: As a entity perceives Information and moves through Accelerated=changing paths towards Entropic fields to feed and absorb energy to reproduce its organism and evolve socially as a larger Universal whole. So all systems try to maximize its $3 \pm j$ 'organic **entangled** Dimotions' that in space create organisms and in time its worldcycles of existence; starting as pure Form ($SS \gg 4D$) in a seminal seed, reproducing evolving socially and emerging in an Δ^9 scale, in a young age of max. Motion (2D, <, Ts), balanced with information in the reproductive age of max. Energy (3D: $S_i = T_e$), followed by an age of information (3D, >, St), when time reverses into entropic death ($\ll TT$).

The function is maximized in the present mature age of beauty, when $S = T$ and reproduction by 'gender=mirror symmetry' takes place, creating a herd (Σ) a stronger, social number, which will evolve into an entangled, Π , connected synchronous whole that survives better. It is guided by the SS-informative mind-seed, which is a linguistic synoptic mirror in a smaller scale of higher information, hence responsible for the 'creation' of fractal diminishing, 'finitesimal' scales that will reproduce over placental energy fields to become a larger Δ^9 whole.