The
TOTAL Universe

The New Paradigm

U U U
U U U
U U

*The Seven Fundamental Truths
we must understand today
about the Universe*

*Book Version of Seven Videos of the same theme.*

Book 2: Truth 2 of 7

**(Full Version,
with additional part:
The Data-Processing of the TOTAL Universe)**

Revision of 18 August 2013

The TOTAL Universe:
the SET of ALL things,
the TOTAL Reality

U

The ALPHA and the OMEGA,
the Generator of all things
and of all beings,
the Supreme Being
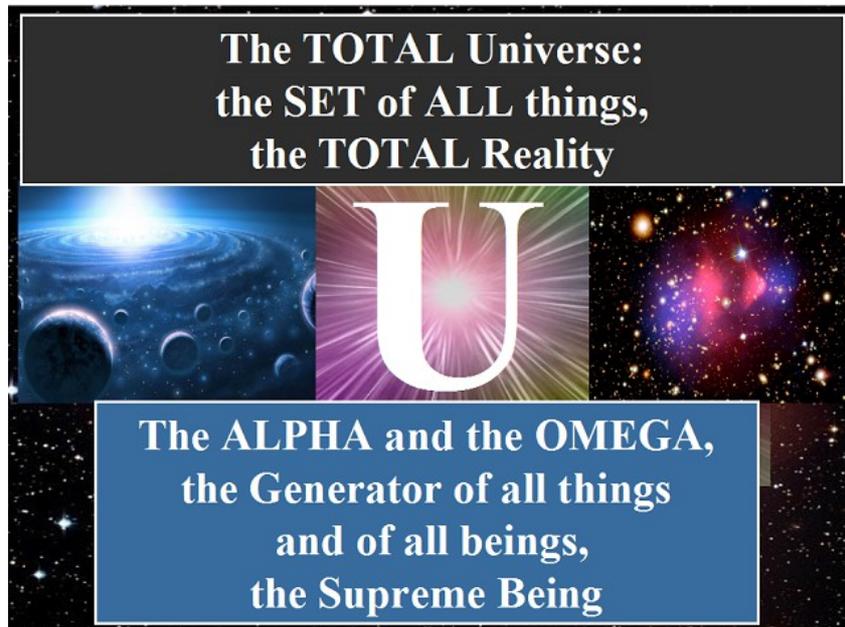
This book is totally free,
and must also be shared freely.

His author is
«She and He who speak about the TOTAL Universe».

Hello. My name is:
« She who speaks about
the TOTAL Universe »

Hi. My name is:
« He who speaks about
the TOTAL Universe »
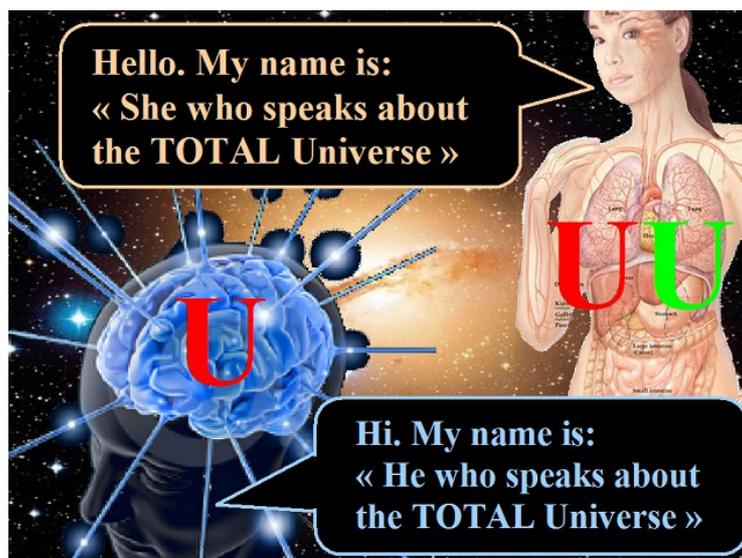
"Theophilus and Angelika",
the avatars of all those who
speak about the TOTAL Universe

This book is also available on the net in video version,
a series of the same theme :

«The TOTAL Universe: The New Paradigm.
The Seven Fundamental Truths
we must understand today
about the Universe »

http://science-total-universe.org

We can call this kind of book a « **book-video** ».

While reading a text, imagine you are seeing the two presenters,
Theophilus and Angelika, talking to you as to friends,
and explaining on a whiteboard what must be.
Sometimes it is one who speaks to you, sometimes the other.

And when you look at a picture with a legend or a comment,
imagine that you hear in voice-over,
one or the other, explaining you what you see.

The book-video, based on the video,
is an occasion to give some very important additional explanations
for a better understanding of
the TOTAL Universe, the New Paradigm.

The book-videos are not long to read,
because they consist primarily of images.

We recommend that you read the seven book-videos in the order,
to get a good overview of the TOTAL Universe
the New Paradigm.

Thus, by reading again the book-videos or any of them,
this time in the order you want,
your understanding of what is said can only be better.
You will better understand what is said here or there and why it is said,
because now you have an overview of the question.

All the book-videos are available for free download
at the website **http://science-total-universe.org**,
and all the videos can be seen there too.

Good watching, good reading…

General Summary of the Seven Books

Part I :
The TOTAL Universe:
The Alpha and the Omega

- **Truth 1: The OMEGA: the Set, the TOTAL Reality**
  Discovery of the SET of ALL things, in which everything exist

- **Truth 2: The ALPHA: the Element, the Generator of all things**
  Discovery of the GENERESCENCE and the FRACTAL Nature of the TOTAL Universe

- **Truth 3: The XERY: the Universal Equivalence, the Union, the Unity, the Love**
  Discovery of the powerful Equality with which the TOTAL Universe functions

Part II :
From Negation to Alternation:
Back to the Lost Paradigm

- **Truth 4: The Negation of the TOTAL Universe: the Problem, the Error, the Evil**
  Discovery of the ALTERNATION, the Nature and the NORMAL Functioning of the TOTAL Universe, and of its antithesis, the NEGATION

- **Truth 5a: Earth of Negation in a Universe of Negation…**
  Truth 5b: …The TOTAL Universe: the Origin and the Goal of the Life
  New Genesis, full understanding of the Life and what is really the Problem of the Life: the Negation

- **Truth 6: The New Universe, the "New Heavens" and the "New Earth"**
  The Wonderful future for all those who want to return in the Alternation, the Lost Paradigm and the Lost Paradise

- **Truth 7: Request to the TOTAL Universe**
 *Request to address to the TOTAL Universe, in order to live in the New World*

Truth 2
(Book-Video 2)

Summary

➢ Iteration, Generation and Genererescence of the TOTAL Universe p.5
➢ Fundamentally, everything is a Generescence, a Number p.10
➢ Generescence and Creation of Universes and Things p.15
➢ Generescence and FRACTAL Structure of the TOTAL Universe p.21
➢ Generescence, Unary Information
and the Data-Processing of the TOTAL Universe p.24
- Generescence, Quantum and the Data-Processing Physics p.24
- Generescence and the Physical Numbers. The HENER and the GENER p.29
- Large Generescences, Complexity, Realism and Reality p.53
- The Tree of the TOTAL Universe, the Tree of Models p.55
- Generescence, Patter "Y" and the Law of the TOTAL Reality p.58
- The Modelo and the Modulo p.63
- The Verba: the Language of Generescences,
of the TOTAL Universe, of the Life p.65

Iteration, Generation
and Genererescence of the TOTAL Universe…

In the previous video, we discovered the TOTAL Universe as the OMEGA,
the SET of ALL things, the TOTAL Reality...
ANY thing is thus an Element of the TOTAL Universe...

The TOTAL Universe, U:
The Set of ALL things

Alpha
Omega

U

Law of the TOTAL Reality:
« ALL things exist in the TOTAL Universe »
$\forall X(X \in U)$

And now, the reciprocal Truth:
the TOTAL Universe is the ELEMENT of ALL things...

The TOTAL Universe
is the Set,
and the TOTAL Universe
is the Element

Alpha

Omega

The Generescence and the FRACTAL
Structure of the TOTAL Universe
illustrated by the Fractal of Sierpinski

Generescence and FRACTAL Structure
of the TOTAL Universe

Here is the statement of the Truth we'll explain in this second video:
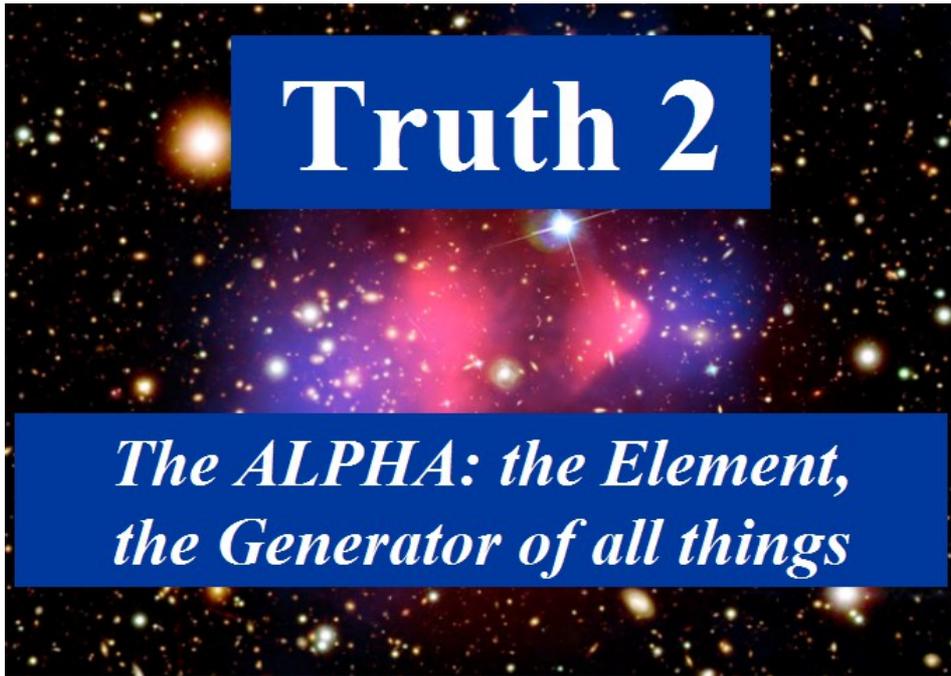
Truth 2:

Truth 2:
The TOTAL Universe is the
ELEMENT of ALL things.
He is the Single Element
which constitutes
ANY thing.
He creates ALL things
by simple Iteration
of himself.
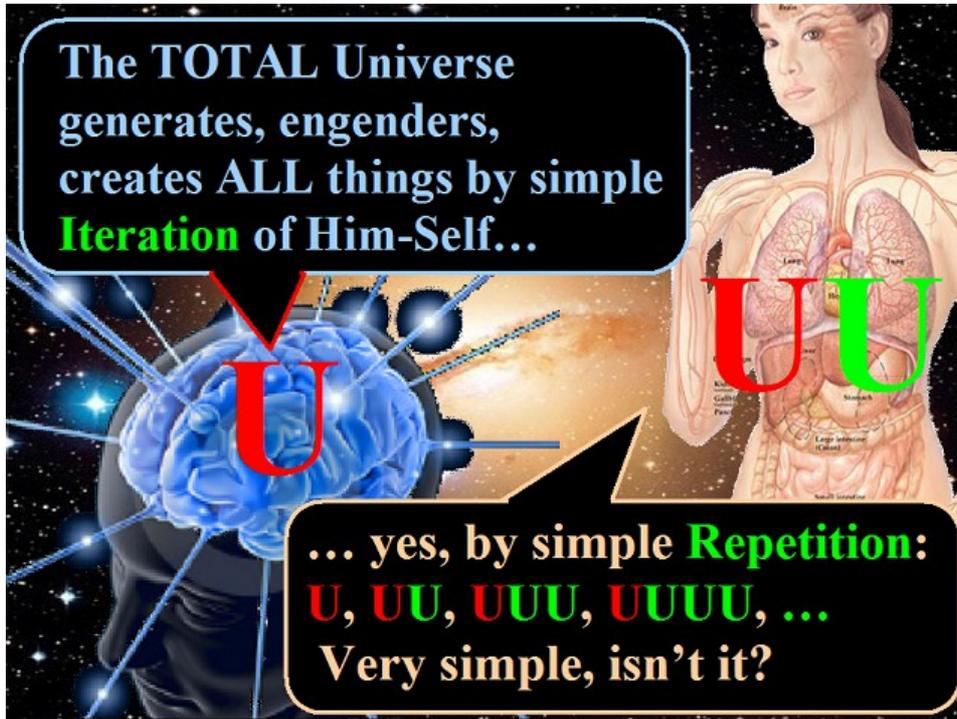
The Law of Iteration of the TOTAL Universe comes from the fact that he is INFINITE. That Law is simply the Arithmetic of the ZERO and the INFINITY...

It is the SIMPLEST Arithmetic that can be, and also the most fundamental:

Zero = Zero + Zero
Infinity = Infinity + Infinity
0 = 0 + 0
∞ = ∞ + ∞
ω = ω + ω
U = U + U
X = X + X

In the Kingdom of ZERO and INFINITY, of the ALPHA and
the OMEGA, we say as usual:

1 + 1 = 2
2 + 2 = 4

but also:

1 + 1 = 1 or 1 = 1 + 1
2 + 2 = 2 or 2 = 2 + 2

Equivalence, Arithmetics of INFINITY and Law of the Alpha and the Omega

0	1	2	3	4	5	6	7	...	ω
0	2	4	6	8	10	12	14	...	ω
1	3	5	7	9	11	13	15	...	ω

ω = **Even ones**
ω = **Odd ones**
ω = **Even ones** + **Odd ones** = ω + ω

So ω = ω + ω, so ω - ω = ω therefore $0 = ω$

Alpha = Omega

Law of Generation
Iteration Law of the TOTAL Universe

U = UU   or   U = U + U
Universal Law of « Cellular Division »
or Law of « Multiplication of the Loaves»

9

It is also the Arithmetic of the FRACTAL Structure,
illustrated here by the Fractal (or Triangle) of Sierpinski:
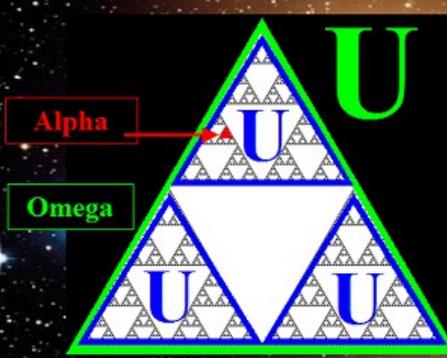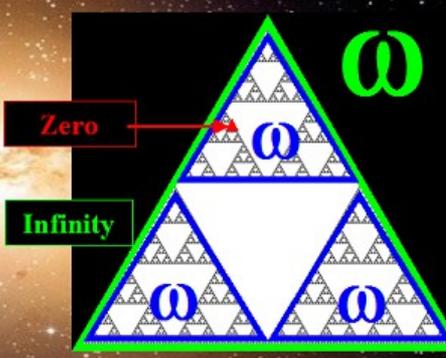
The OMEGA, the INFINITY, reproduces in as many units ALPHA necessary
to create ALL the different things…

Fundamentally, everything is a Generescence, a Number

We call the Generescences the different Iterations of the Alpha.
So, ANY thing is one of these generescences:

The things we intuitively call the "NUMBERS"
are quite simply the GENERESCENCES...

The TOTAL Universe: the Alpha and the Omega			
Number			
GENERESCENCE	INFORMATION (Ordinal)		QUANTITY of INFORMATION (Cardinal)
Alpha → U	0	0	1
UU	00	1	2
UUU	000	2	3
UUUU	0000	3	4
UUUUU	00000	4	5
...	...	...	...
Omega → U...	0...	$\omega-1$	ω

The ZERO and the ONE (or 1) are two different aspects
of the only and same ALPHA, U.

Because it is the basic Element, the Unit that is Iterated to create all things,
the ALPHA is thus fundamentally the ONE (or 1).

11
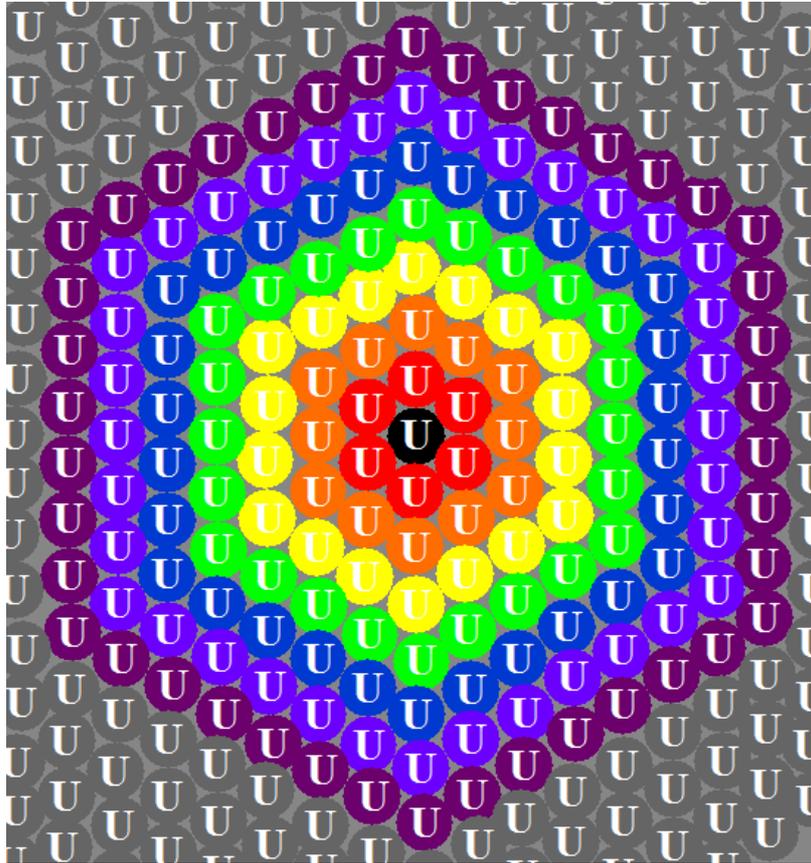
Everything is Generescence, a Field of Alpha, U.

But as the smallest Generescence, the ALPHA is called
the PIXEL, the POINT, the ZERO, or again the Vacuum.
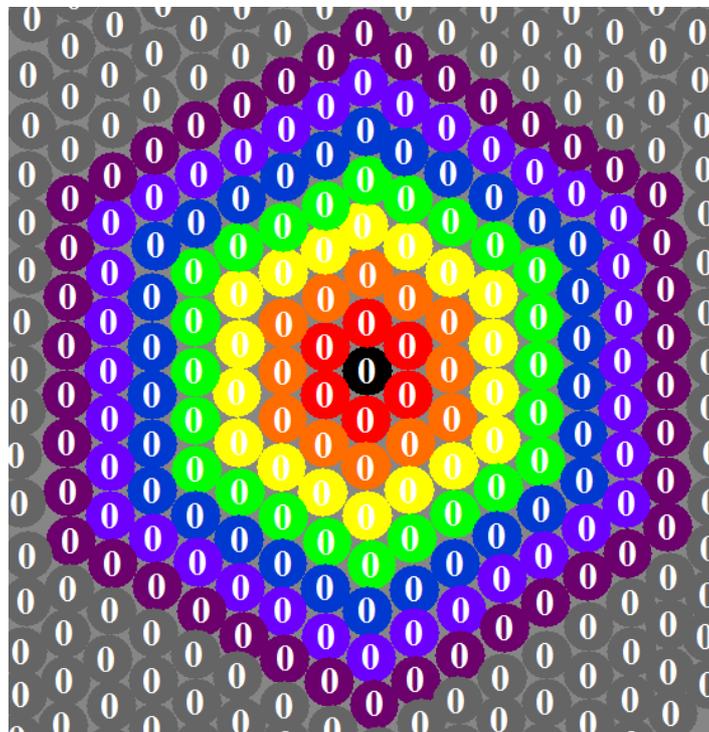
That is the simple and deep explanation of what is called the "Sunyata" in Sanskrit,
the Field of Zeros or Field of Alpha.
Everything is Generescence, a Field of Zeros

At the most fundamental level, ALL is Digital, DATA PROCESSING.
ALL is pure INFORMATION, made of only one elementary information:
the ALPHA, the U, the ZERO (or 0) that is also the ONE (or 1).

So, the NUMBERS are not simple objects of the thought
to express the quantities of things...

But the NUMBERS ARE the things...
ANY thing is a GENERESCENCE, a NUMBER...

Everything is a Generescence

$$X = UUU\ldots\ldots\ldots U$$

$$X = n_1 \times U$$

$$Y = UUU\ldots\ldots U$$

$$Y = n_2 \times U$$

At the most fundamental level, we no more separate sciences,
so we no more make difference between mathematics and physics,
since ALL is Digital.

At the most fundamental level, all the measuring units become only one Unit:
the ALPHA, U, the Absolute Unit...

The ALPHA is the Unit of Digits, but also the Unit of Time, of Length, of Energy, of Mass,
of Temperature, Electric Charge, etc.

ALPHA, U: the Unique Fundamental Unit

Unit « Alpha as Zero »
Zero = O = 0 = $0 \times U$ n_0 7×0

Unit « Alpha as One »
Un = 1 = U = $1 \times U$ n_1 7×1

Unit « Two »
Two = 2 = UU = $2 \times U$ n_2 7×2

Unit « Three »
Three = 3 = UUU = $3 \times U$ n_3 7×3

Unit « Omega »
Omega = ω = U... = $\omega \times U$ n_ω $7 \times \omega$

ALPHA, U: the Unique Fundamental Unit

Unit « Time »
Second = s = $n_s \times U$ — 7 s

Unit « Length »
Meter = m = $n_m \times U$ — 7 m

Unit « Energy »
Joule = J = $n_J \times U$ — 7 J

Unit « Temperature »
Kelvin = K = $n_K \times U$ — 7 K

Unit « Child »
Child = Kid = $n_{Kid} \times U$ — 7 Kid

Each generescence, each thing, is a new Unit.
Everything else depends on the mathematical
and computing properties of the generescence.

As the generescence increases as number, the notions differ:
Time, Length, Mass, etc. New things are created...

## Generescence and Creation of Universes and Things…

Let us follow now the TOTAL Universe, who, as the ALPHA,
starts a new Cycle of Generescences, of creation of all things.

In a Generescence given, the units Alpha, the "U", are organized into
simple structures currently known as Simplex...
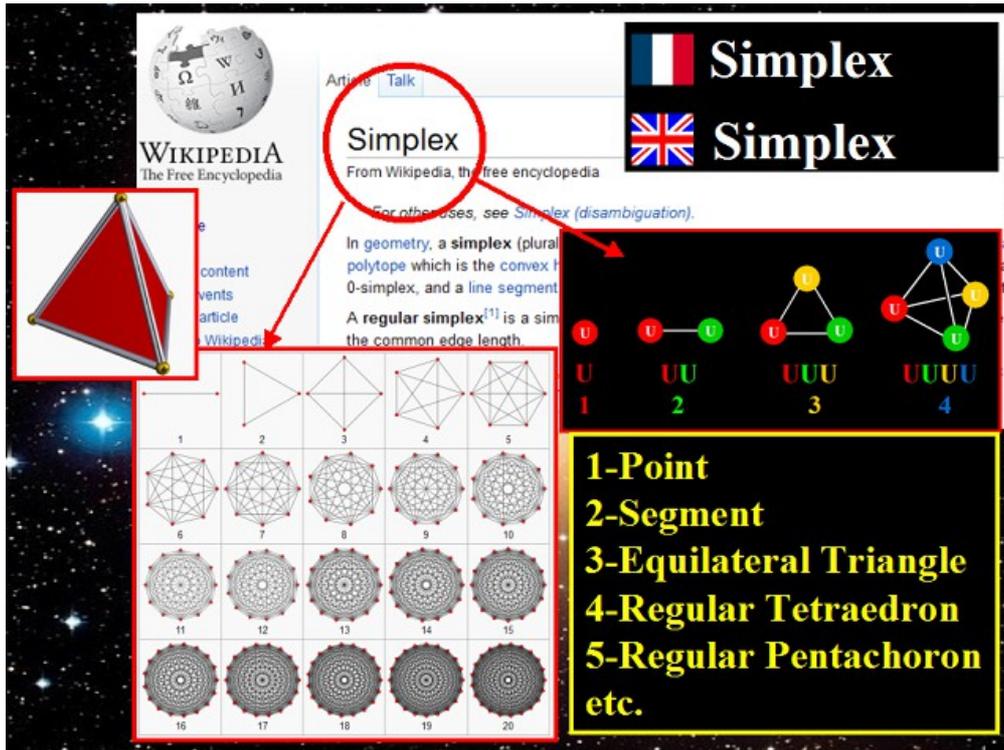
The first Simplexes are to be seen as the smallest universes.
At the beginning of the Cycle of Creation, the TOTAL Universe is
the simplest universe, the ALPHA or "U" .
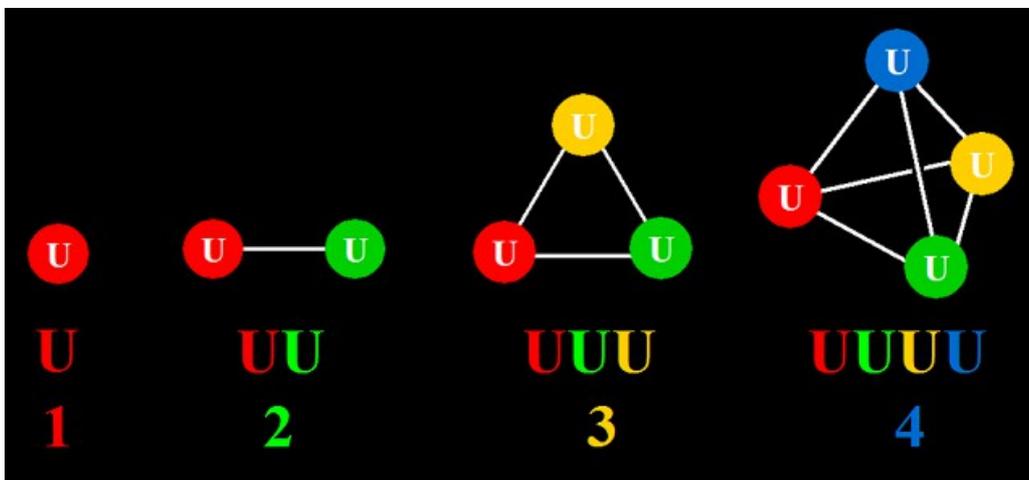
But at the end of the Cycle, he is the largest universe, the OMEGA, "U..."

The number a Generescence is, is called the Omega Constant
of the universe it is: 1, 2, 3, 4, ...

When the generescence increases, the universe it is
becomes very quickly COMPLEX
and also the combination possibilities within it...

Simplex Structure of Generescences

1 Structure:
U

U, 1

1 Pemutation: U

2 Structures:
U.U
UU

UU, 2

2 Pemutations: UU , UU

4 Structures:
U.U.U
U.UU
UU.U
UUU

UUU, 3

6 Pemutations:
UUU   UUU   UUU
UUU   UUU   UUU

8 Structures:
U.U.U.U
UU.U.U
U.UU.U
UU.UU
UUU.U
U.UUU
UUUU

UUUU, 4

UUUU: 24 Pemutations
UUUUU: 120 Permutations
UUUUUU: 720 Permutations
UUUUUUU: 5040 Permutations
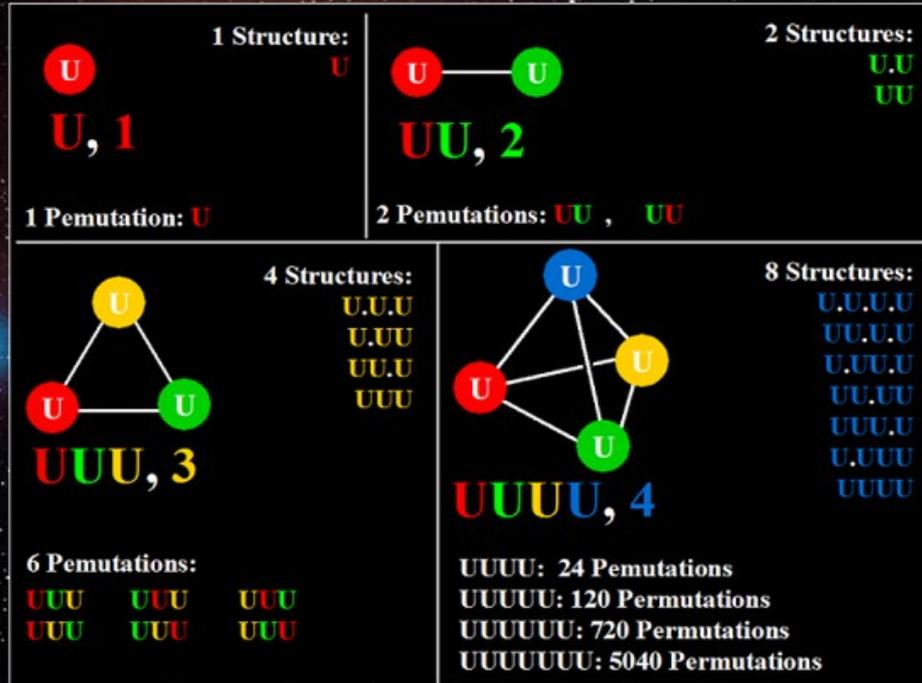
At higher degrees of complexity, the generescences become the "Particles"
in the usual meaning, as for example Protons, Neutrons and Electrons,
which constitute the Atom...
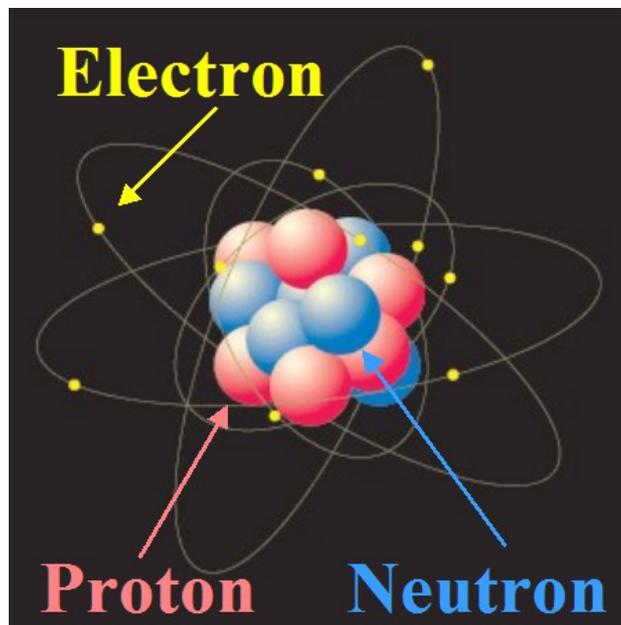
Then the Atoms form the Molecules, which form the Cells,
which form beings like us, etc.

Here is four scales of complexity of generescences,
four scales of the Reality...
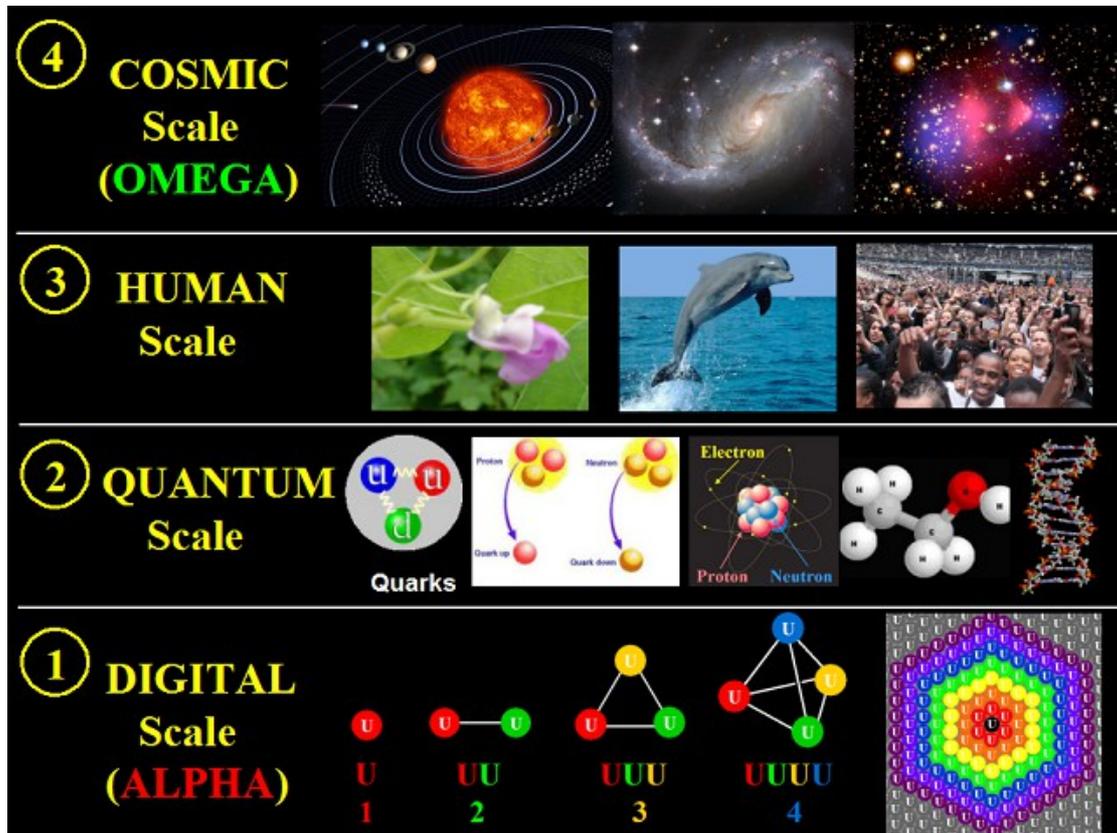
So are created Dimensions, Space, Time, Universes, etc.
They are created by simple Iteration of the ALPHA, U.

| Dimension 0 — U_0D		U Alpha, Omega^0, ω^0, 1
Dimension 1 — U_1D		$U\ldots$ (U_0D)... Omega, ω^1, ω
Dimension 2 — U_2D		$(U\ldots)\ldots$ (U_1D)... Omega^2, ω^2
Dimension 3 — U_3D		$((U\ldots)\ldots)\ldots$ (U_2D)... Omega^3, ω^3

It is here that intervene very large numbers such as for example "Googol",
that inspired the name of a data-processing company well-known in this world…

Precisely, the Omega Constant of OUR universe is of the order of magnitude of Googol…
Indeed, the ratio between the measurements of its Infinitely large objects (Omega)
and its Infinitely small objects (Alpha) hardly exceeds Googol...

Constant Omega of OUR universe

Object Alpha	Object Omega	$\dfrac{\text{Omega}}{\text{Alpha}}$
Diameter of a Quark $\leq 10^{-18}$ m	Diameter of OUR universe $\approx 1.3 \times 10^{26}$ m	$\approx 10^{44}$
Atom 1	Number of Atoms of OUR universe $\approx 10^{80}$	$\approx 10^{80}$
Energy of a Quark « u » ≈ 2 MeV	Energy of OUR universe $\approx 2 \times 10^{83}$ MeV	$\approx 10^{83}$
Energy of a visible Photon ≈ 2 eV	Energy of OUR universe $\approx 2 \times 10^{89}$ eV	$\approx 10^{89}$

$$\omega \approx \text{Googol} = 10^{100}$$

Although it can appear gigantic to us, OUR universe is in fact a very small universe.
OUR universe is a Zero or Alpha compared to a universe whose
Omega Constant is the Graham's Number, for example....

19

And all the Universes, so gigantic they are, are Zeros or Alphas
compared to the TOTAL Universe, the SET of ALL generescences,
the OMEGA, the INFINITY...
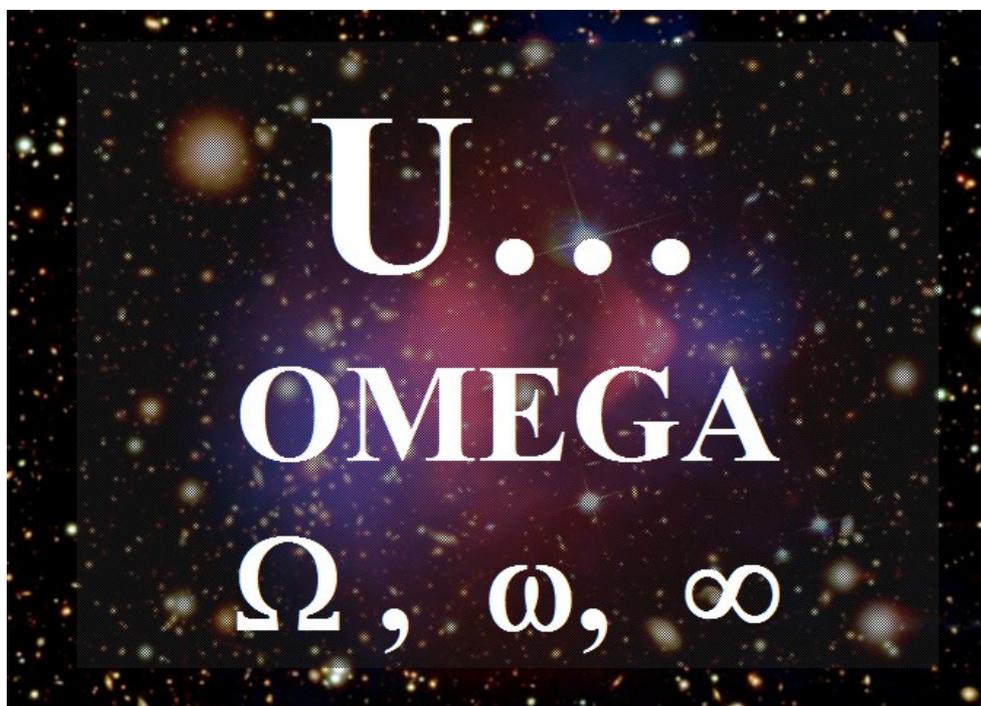
In his case, we don't talk about Omega Constant but about Omega Variable,
precisely because all the Omega Constants are his particular values,
all the particular cases of Universe...

ANY thing EXISTS in the TOTAL Universe,
because ANY generescence EXISTS,
ALL the Infinity of numbers EXIST.
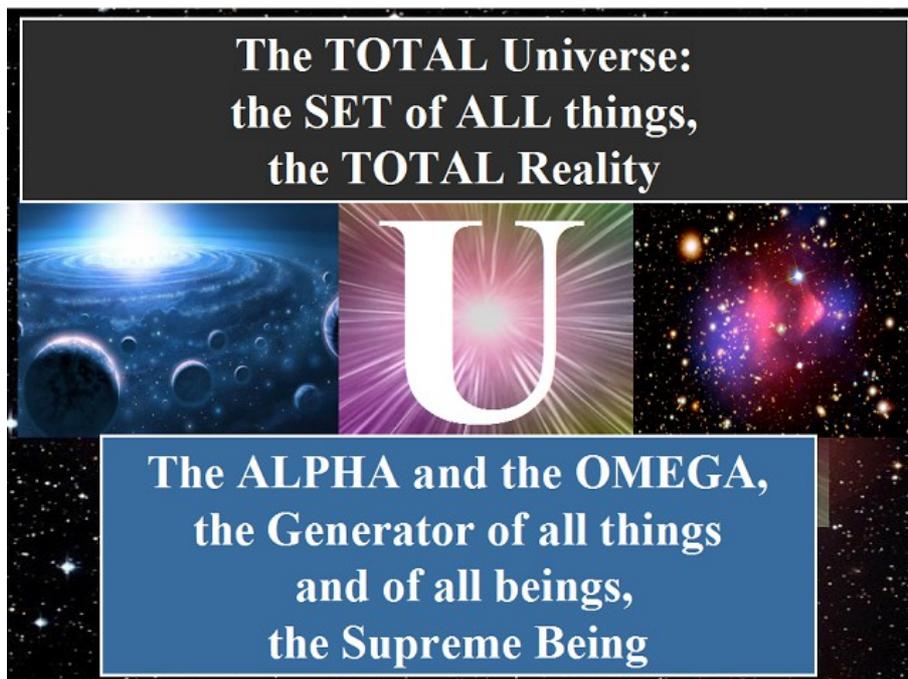
Generescence and FRACTAL Structure
of the TOTAL Universe…

As we fully understood it above, ALL things are created by Iteration of the ALPHA.
But ALL things already pre-exist in the ALPHA, because he is also the OMEGA...

The elements of the ALPHA are the ones created at the previous Cycle of the TOTAL Universe.
And the OMEGA is always a new ALPHA, who starts a new Cycle of Creation...
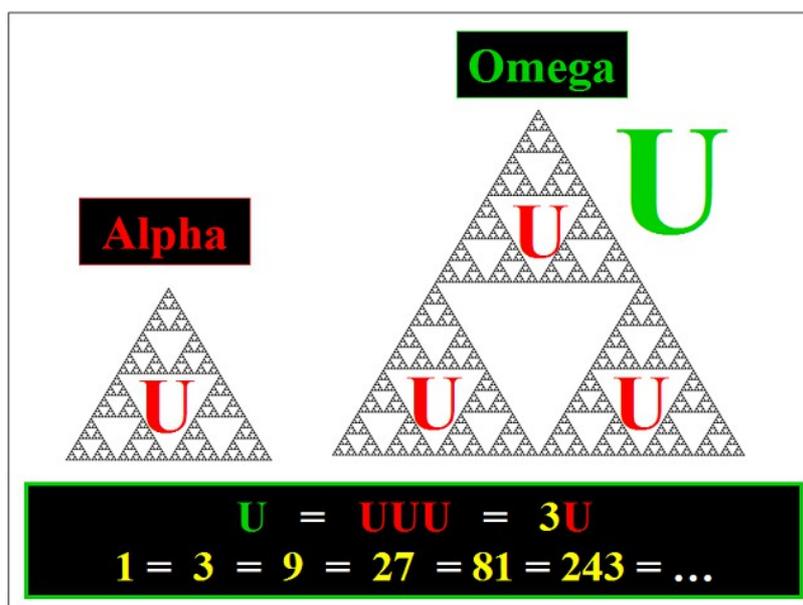
It is the Law of the FRACTAL Structure of the TOTAL Universe,
the Law of the ALPHA and the OMEGA, the Generator of ALL things...

Romanesco Cabbage Fractal Structure
« Romanesco Cabbage Generescence »

Alpha, ∅

U

U

Omega, Ω

$U \in U$
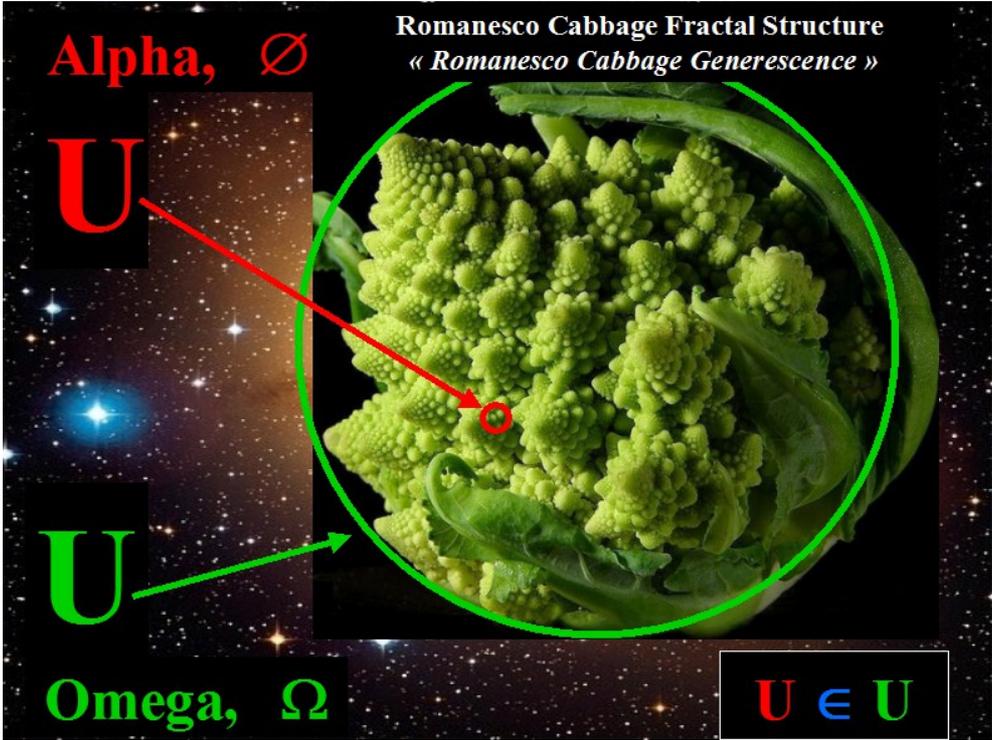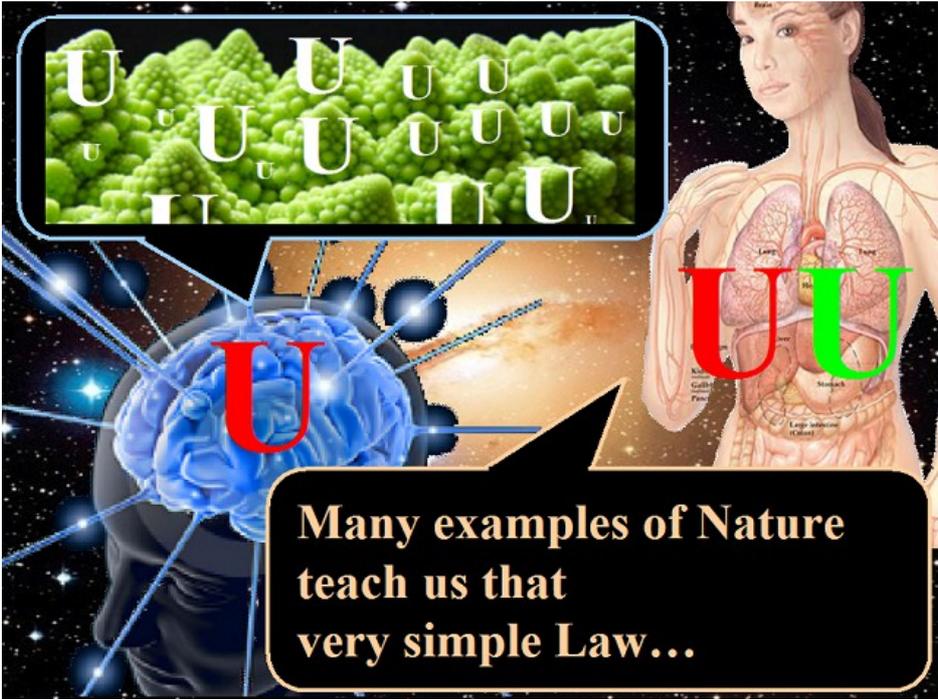
Genererescence and Fractal Structure of the TOTAL Universe told by the Leaf of Fern

Alpha — Omega

Alpha, $\varnothing$

U

U

Omega, Ω

Tree Fractal Structure
«Tree Generescence »

$U \in U$
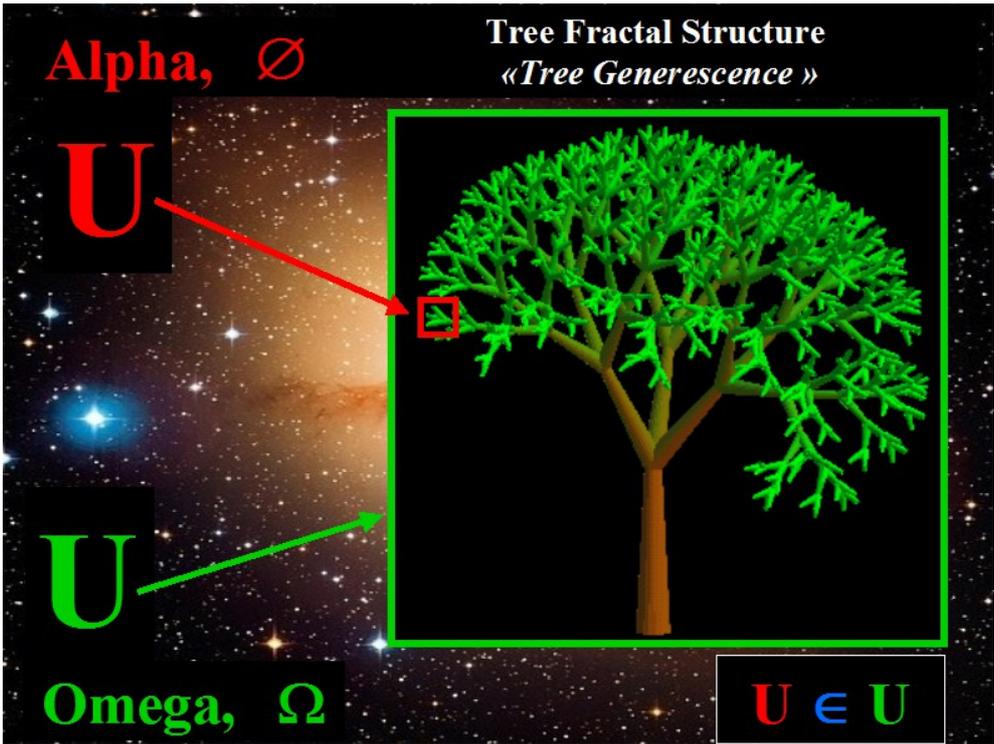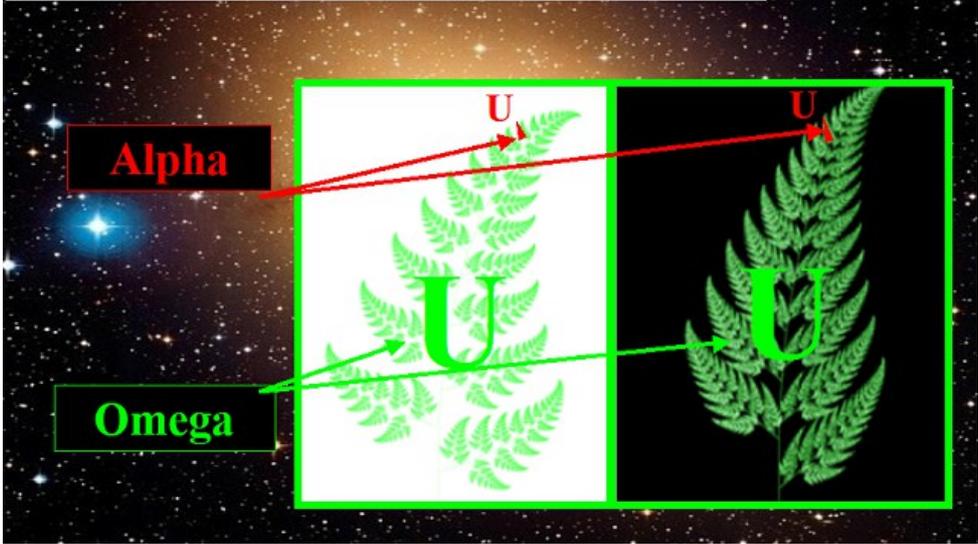
Spiral Galaxy
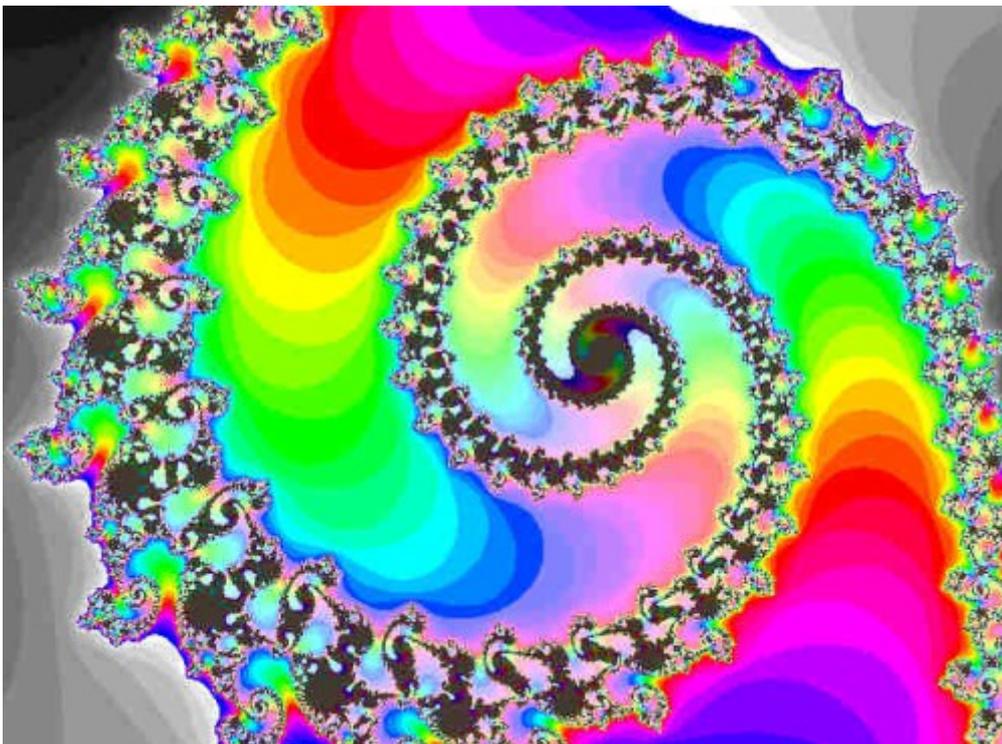
FRACTAL of Julia

Generescence, Unary Information and the Data-Processing of the TOTAL Universe…

Generescence, Quantum and the Data-Processing Physics

As we have just seen it, everything, and absolutely everything (including the "vacuum", the "emptiness", the "nothingness", the "zero", etc.),
is a set physically made of only one fundamental element, the Alpha, U,
the Element of all things.

Simplex Structure of Generescences

1 Structure:
U, 1
U

1 Pemutation: U

2 Structures:
UU, 2
U.U
UU

2 Pemutations: UU , UU

4 Structures:
UUU, 3
U.U.U
U.UU
UU.U
UUU

6 Pemutations:
UUU   UUU   UUU
UUU   UUU   UUU

8 Structures:
UUUU, 4
U.U.U.U
UU.U.U
U.UU.U
UU.UU
UUU.U
U.UUU
UUUU

UUUU: 24 Pemutations
UUUUU: 120 Permutations
UUUUUU: 720 Permutations
UUUUUUU: 5040 Permutations

④ COSMIC Scale (OMEGA)

③ HUMAN Scale

② QUANTUM Scale
Quarks
Proton   Neutron
Quark up   Quark down
Electron
Proton   Neutron

① DIGITAL Scale (ALPHA)
U   UU   UUU   UUUU
1   2   3   4

In physical terms, the Alpha, U, is called the **Supreme Quantum**,
the key of the new Quantum Physics.

At the most fundamental scale, everything is a matter
of the combination of the **quantums** (**quanta**) **U**.
Any quantity, any measurement, has as fundamental unit, the Alpha, **U**.

25

ALPHA, U: the Unique Fundamental Unit

Unit « Time »
Second $= s = n_s \times U$

7 s

Unit « Length »
Meter $= m = n_m \times U$

7 m

Unit « Energy »
Joule $= J = n_J \times U$

7 J

Unit « Temperature »
Kelvin $= K = n_K \times U$

7 K

Unit « Child »
Child $= Kid = n_{Kid} \times U$

7 Kid

Everything is a Generescence

$X = UUU\ldots\ldots\ldots U$

$$X = n_1 \times U$$

$Y = UUU\ldots\ldots U$

$$Y = n_2 \times U$$

And as we'll see it in the next book-video (the book 3),
at the fundamental scale, all the laws of the physics become only one law,
the Universal Equivalence, the XERY:

26

The XERY:
the Law of the Universal Equivalence

X ER Y

X = Y

modulo U

U = UU = UUU = UUUU = ... = U...

Alpha   Omega

Everything become simple mathematical relation between generescences,
a matter of Equivalence and Cycle:

U = UU = UUU = UUUU= ...   or   1 = 2 = 3 = 4 = 5 = 6 = ...

ω = U.U.U.U.U.U.U. ...

Alpha = U,   Omega = U...
Equivalence modulo U or modulo 1
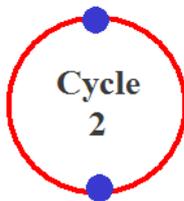
UU = UUUU = UUUUUU =   ... or   2 = 4 = 6 = 8 = 10 = ...

ω = UU.UU.UU.UU. ...

Alpha = UU, Omega = (UU)...
Equivalence modulo UU or modulo 2
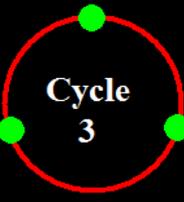
UUU = UUUUUU = UUUUUUUUU = ... or 3 = 6 = 9 = 12 = ...

ω = UUU.UUU.UUU. ...

Alpha = UUU ,   Omega = (UUU)...
Equivalence modulo UUU or modulo 3

27

Equivalence Modulo UU
Algebra of Cycle 2
and Complex Number Unit i

$U = UUU$

$1 = 3$

$0 = 2$

$0 = 2$

Cycle 2

i

$0 = 2$

$\Rightarrow 2 = 0$

$\Rightarrow 1 + 1 = 0$

$\Rightarrow 1 = -1$

$\Rightarrow 1^2 = -1$

$i^2 = -1$

Basic Symetries of the Universe

Basic ω_equations
Basic unities :
0, 1, -1, i , ω

Anti Versi

Uni

$-1/\omega = -1/r\, e^{-i\alpha}$

$\omega = r\, e^{i\alpha}$

$i\,\omega$

r

α

$-\omega = -r\, e^{i\alpha}$

$1/\omega = 1/r\, e^{-i\alpha}$

$-i\,\omega$
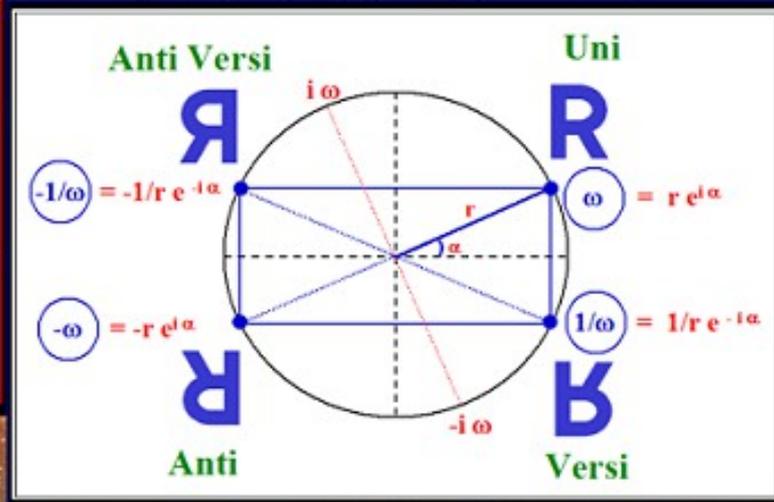
Anti

Versi

R → R : Uni ; $\omega \to \omega$; $\omega = \omega$; $\omega = \omega$ *Cycle 0*

R → Я : Anti ; $\omega \to -\omega$; $\omega = -\omega$; $\omega = 0$ *Cycle ω*

R → ᴚ : Versi ; $\omega \to 1/\omega$; $\omega = 1/\omega$; $\omega^2 = 1$; $\omega = \pm 1$

R → Я : Anti Versi ; $\omega \to -1/\omega$; $\omega = -1/\omega$; $\omega^2 = -1$; $\omega = \pm i$

What in the most fundamental scale is simple question of combination of the **quantums** (**quanta**) **U** and relation between generescences and simplexes
become at the higher level laws and formulas such as this:

So we can not really understand what we do when we manipulate these cabalistic signs in mathematics and physics, if we don't understand what things are and how they function at the most fundamental scale, where everything is a matter of generescences, of the **quantum Alpha**, **U**.

Generescence and the Physical Numbers.
The HENER and the GENER:

As we already said it, at that scale, we no more do the separation we usually do between sciences, there everything become only one science, the science of generescences.

Numerically speaking, everything is what we currently call a **unary numeration system**: **0, 00, 000, 0000, …**

Standard Model   No dark energy   Warm dark matter

U = U   Identity
U = UU Equivalence
U = U… Omeganity

U, UU, UUU, UUUU, …
0, 00 , 000, 0000, 00000, …
0, 1,   2,   3,   4, …

Binary Data-Processing:
0, 1, 10, 11, 100, 101, 110, 111, 1000, 1001, 1011…
Unary Data-Processing, Iterescence, Generescence:
0, 00, 000, 0000, 00000, 000000, 0000000, 00000000, …
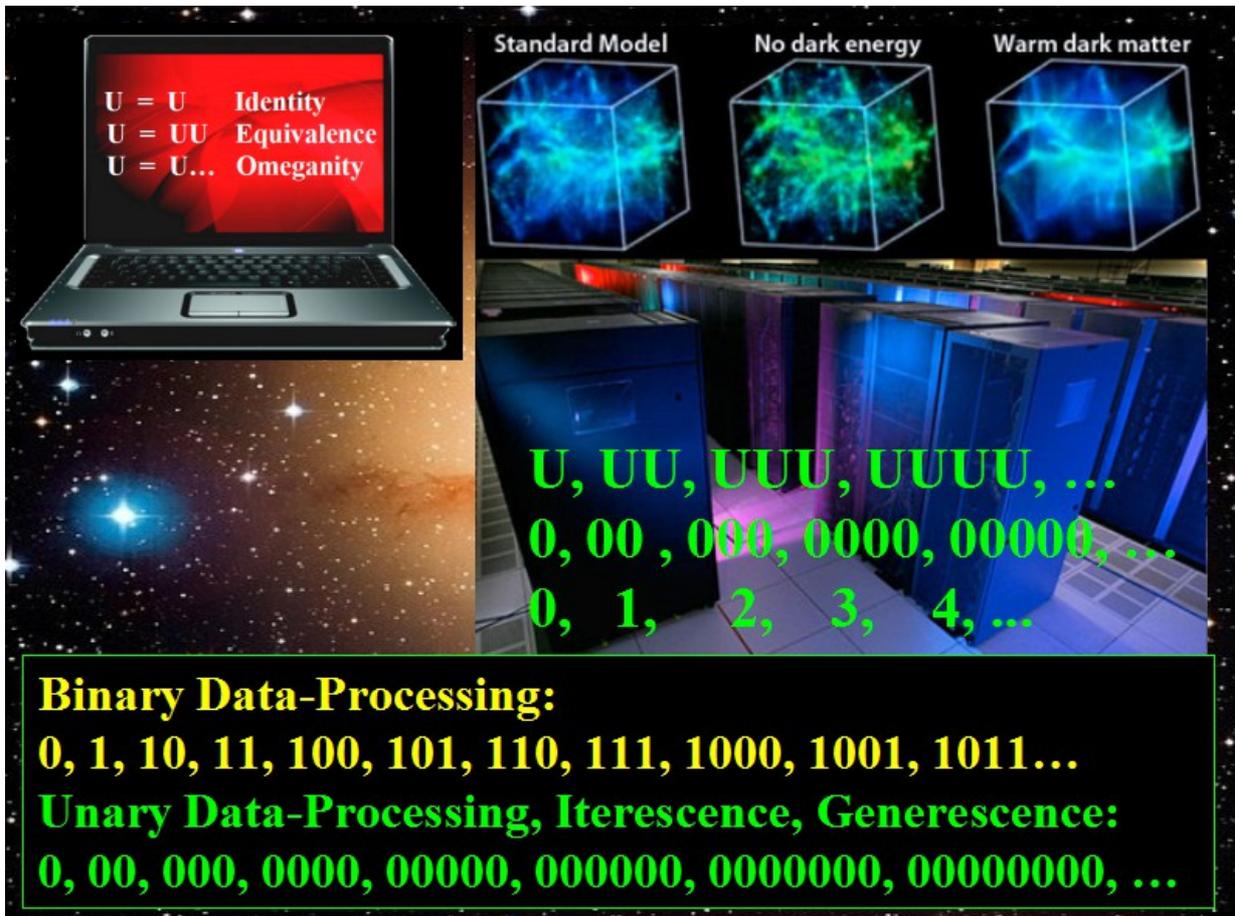
And what we'll see now, is how the TOTAL Universe functions
as the greatest Data-Processing Machine.

We'll so begin understanding the secrets of our Psyche, our Languages,
and especially the Universal Set Language, the Verba, the Language of the Universe
we discovered in the previous book-video (the book 1).

Let us begin by understanding now the deep origin, nature and secrets of the **operations**,
such as **addition** and **multiplication**.

The most fundamental operation of **generescences** is the **Iteration**,
the power of the **Omega** (the **Infinity**) to duplicate himself,
so the power of the **Alpha** (the **Zero** or the **One**):

The TOTAL Universe is the ZERO and the INFINITY, the ALPHA and the OMEGA
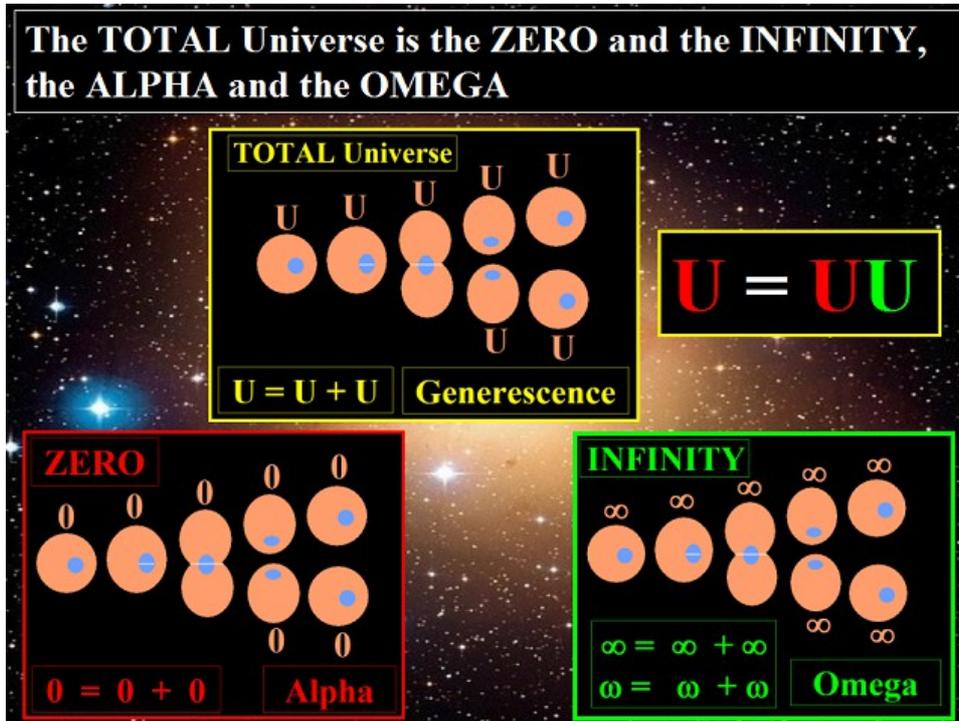
In other words, the Iteration is the power of the quantum **U** to become two quantums (quanta) **UU**.

The Iteration is expressed by this Equivalence: **U = UU**:

Law of Generation
Iteration Law of the TOTAL Universe
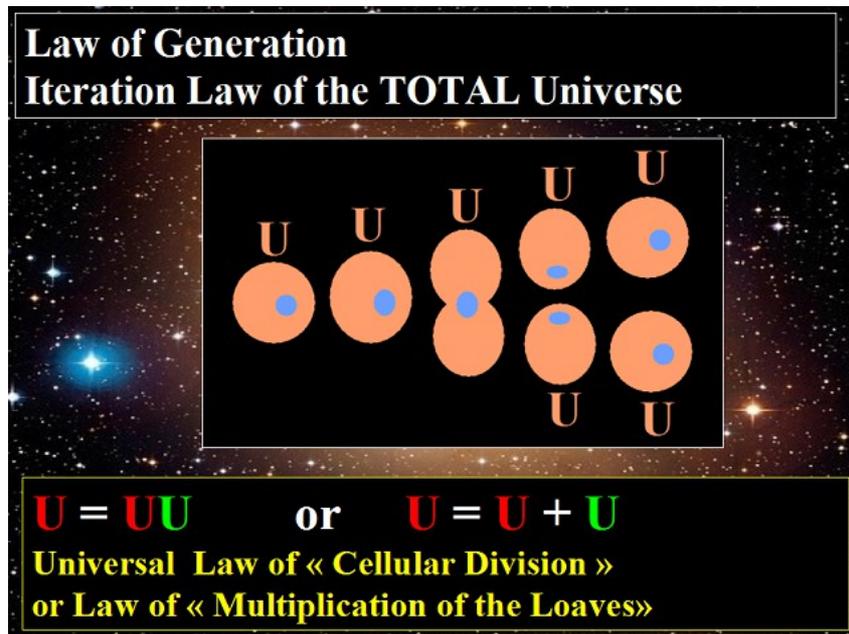
From that power of the TOTAL Universe comes everything else.

Any other Law of the Universe is a simple consequence of the **Law of Iteration**:
U = UU.

As fast as the generescences are made by **Iteration**,
the question of the other **operations** between them appears.

The two fundamental other **operators** of the great Data-Processing Machine which is the TOTAL Universe are the **HENER** ("**.**") and the **GENER** ("**…**").

In the current terminology in the data-processing, the **HENER** is what is called the operator of the "**concatenation**". It is the operator of **assembly**, of **gathering**, the **maker of sets** in the TOTAL Universe.

For two generescences **A** and **B** given, that operator gives a third generescence which is simply the concatenation of **A** and **B**:

C = A . B = AB

For example, with the generescences **A = UUU** or **3** and **B = UUUUU or 5**, the HENER makes the generescence:
C = UUU.UUUUU = UUUUUUUU or **8**.

The HENER is what we intuitively conceive as being the operator of **addition**:
3 + 5 = 8

But the addition is not an abstract operation between abstract things of our minds we call the "numbers".

We know now the deep nature of the **numbers**, namely the **generescences**,
so now we know the deep nature of the **addition**, namely the **concatenation of generescences**.

It is a **physical addition** of the **quantums** (**quanta**) **U**,
and it is a **data-processing addition** of **unary informations**.

The operation of **multiplication** is an **iteration** of the **addition**.
For example,
UUU × UUUU means we must iterate **UUUU** three times:
UUUU . UUUU . UUUU or **12**

In other words, to **multiply UUU by UUUU** is to replace each quantum **U** in **UUU** by **UUUU**.

The generescences are not static things but **dynamic things**.
And with the HENER begins the mathematical and data-processing properties of the unary information that the generescences are,
also their physical properties, their structures, their possibilities of combination,

of transformation, their interactions, their dynamism.

Simplex Structure of Generescences
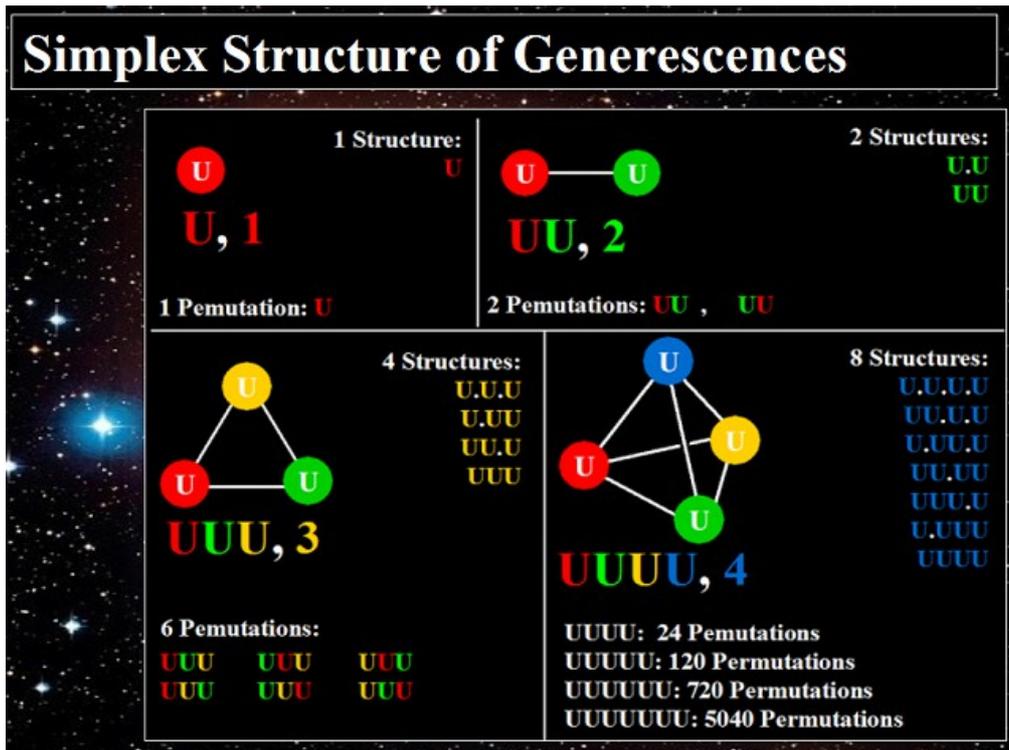
The second very important operator of the generescences is the **GENER**:

Operator G or Gener

$$UG = UHU = UHUHU = ...$$
$$or \quad UG = U... = UU... = UUU...$$
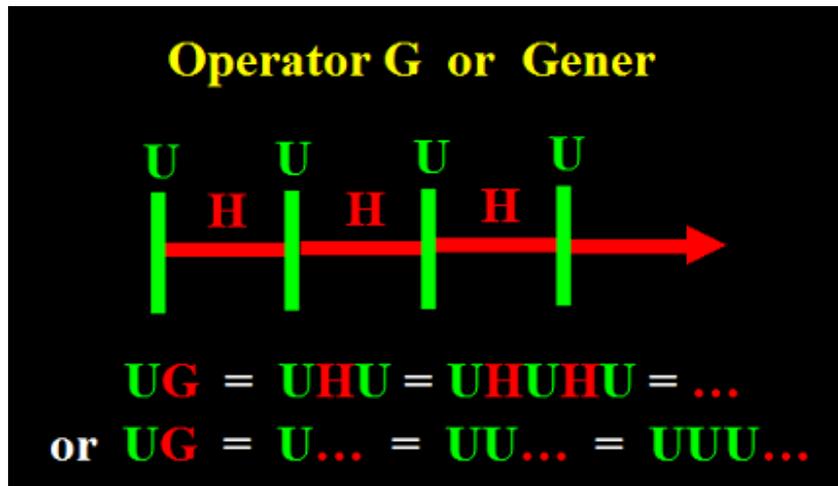
Every time when, speaking about a **list** or a **sequence** of things, we stop and say : "**and so on**", or "**etc.**", or indicate the continuation of the list by this symbol of three points, "**…**", we use in fact a special and very important operator in the TOTAL Universe, namely the **GENER**.

For example if we say:
Cat, Dog, Mouse, Rabbit, Bird, … .

We can here easily see that we are listing animals, and the three points at the end of the list, "**…**", are the **GENER**, which indicates that the list continues.

The GENER also in the following examples:
0, 1, 2, 3, … , n
0, 2, 4, 6, 8, …

A, AA, AAA, AAAA, …

And in this example, the **GENER** appears seven times:
0, 1, 2, 3, … , ω, ω+1, ω+2, ω+3, …, 2ω, 2ω+1, 2ω+2, 2ω+3, …, nω, …, ω², …, ωⁿ, …, ωᵚ, …

$$0, 1, 2, 3, \dots, \omega, \omega+1, \omega+2, \omega+3, \dots, 2\omega, 2\omega+1, 2\omega+2, 2\omega+3, \dots, n\omega, \dots, \omega^2, \dots, \omega^n, \dots, \omega^\omega, \dots$$

The **GENER** means that a model to which it is applied is **iterated** (**repeated**) **indefinitely** or a certain number of times fixed in advance, generally a very large number.

The **GENER** is called the operator of the **Infinity**, because it is very related to the Omega, the Infinity, precisely noted "**U…**", to read "**U GENER**":

The GENER is very related to what is usually called the Recurrence.
They are almost synonym.
Where is one, there is the other or is hidden, and vice versa.

And generally, for a given generescence **M**, "**M…**" or "**M GENER**" is the generescence which consists in iterating **M** indefinitely or a large number of times fixed in advance:
MMMMMMM…   or **M . M . M . M . M . M . M . …**

The generescence **M** which is repeated is called a **Modulo** or a **Quantum**.

So we can define the **GENER** as the **infinite iteration of the HENER** with a same **modulo** or **quantum M**, and in particular when **M** is the Alpha, **U**, the fundamental **quantum**:

We can easily see that the generescence **Omega**, "**U…**" or "**U GENER**", can be described as the **infinite iteration** (or the **generation**) of any modulo **M**.

This means that the infinite iteration of any generescence **M** gives finally a result equivalent to the TOTAL Universe.
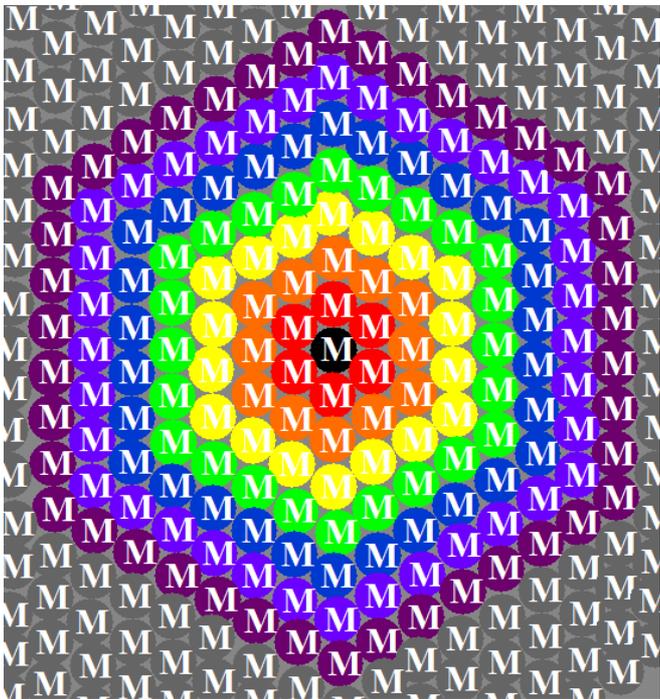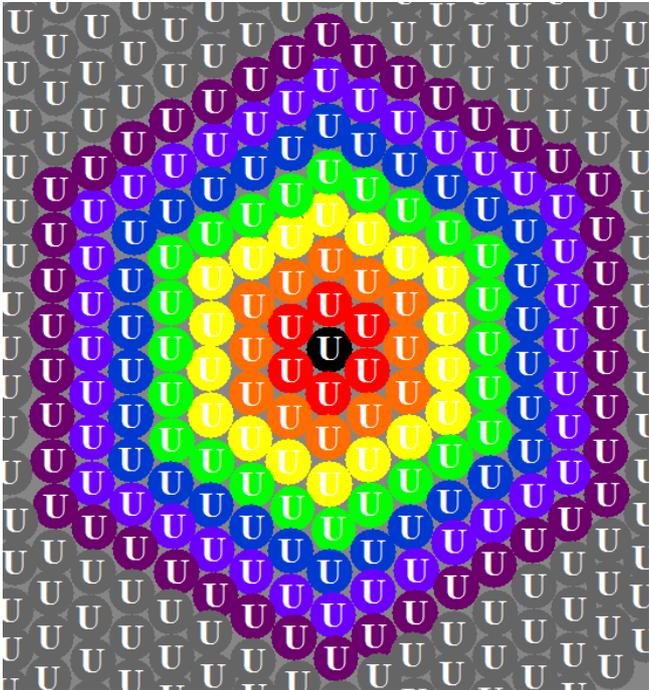
In other words, the TOTAL Universe is totally generated by **ANY THING M** taken as the **quantum**, the **Alpha**. Any thing (Zero, One, Photon, Quark, Electron, Cat, Dolphin, Man, Woman, Galaxy, Universe, etc.) can be the Alpha.

The only difference is that if we take a Galaxy as the Alpha, we must place ourselves at an appropriate scale to see the Reality exactly as if we had taken as the Alpha a Photon or a Quark for example.

In other words, the TOTAL Universe, the Reality, is like an image and the Alpha, the Quantum **M**, is like a Pixel of the Image. So if we take a large Pixel as a Galaxy, we must be enough far from the image to see things exactly like if wo took a small Pixel as a Photon or as a Quark:
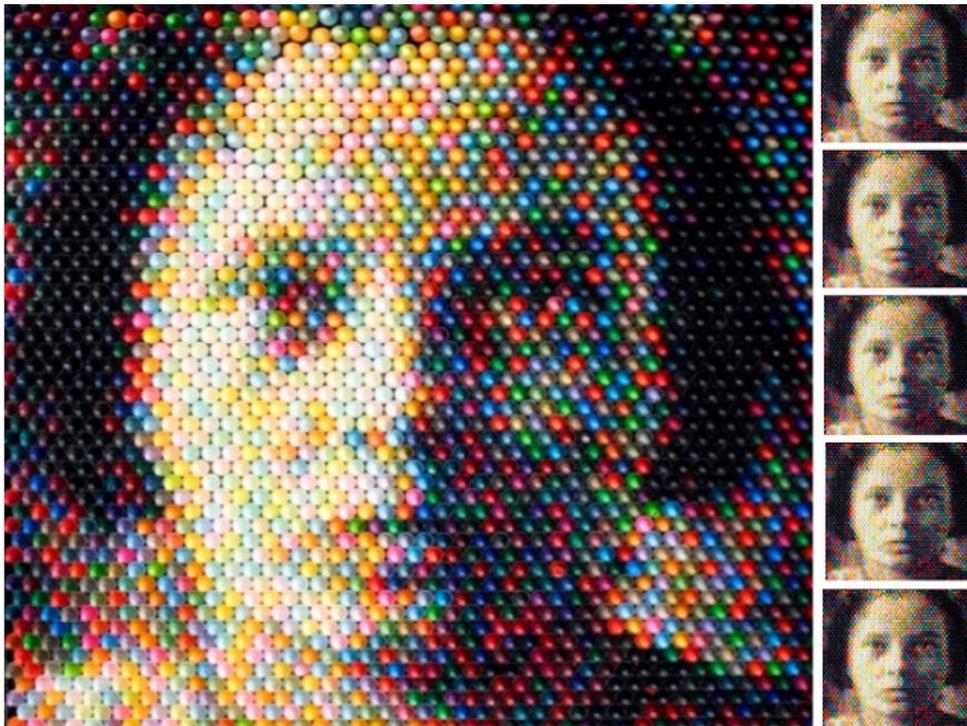
*Large Alpha, Quatum or Pixel **M** and Small Alpha, Quatum or Pixel **M**:*
the same Reality if seen at the appropiate scales.
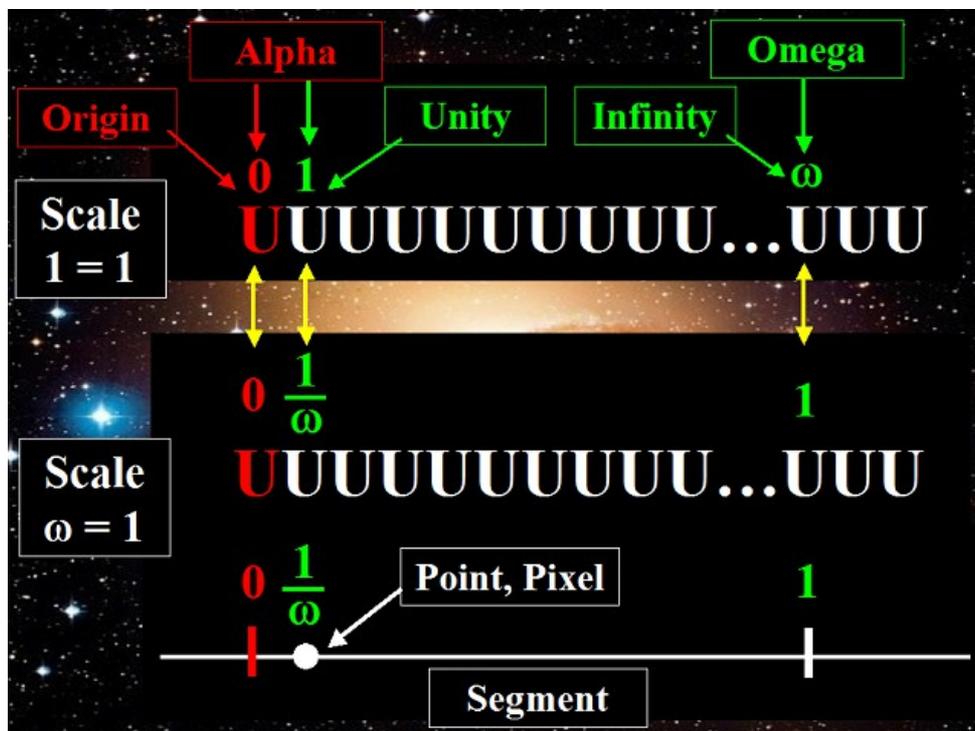
We saw the great importance of the parameter **Omega Constant** of a Universe.
All the characteristics of the Universe depend on that only parameter.
Reducing the parameter **Alpha** is equivalent to increasing the parameter **Omega**.
What is important is to have the same proportion between the two parameters.

For example, **MMMMMMM** or **7M** is equivalent to **UUUUUUU** or **7U**,

even if it is not the same Alpha. In both cases, we have the same proportion between the Alpha (M or U) and the Omega (7M or 7U):   **Alpha = 1** and **Omega = 7**.

The Whole TOTAL Universe, "**U…**", the Omega (ω) is also a new Alpha (**1**), a new Modulo:
(U…) . (U…) . (U…) . (U…) . …

That is how the **Dimensions** are generated, and also how the TOTAL Universe has a **FRACTAL Structure**:

Dimension 0 U_0D	•	**U** Alpha, Omega^0, ω^0, 1
Dimension 1 U_1D	————————	**U…** (U_0D)… Omega, ω^1, ω
Dimension 2 U_2D	▱	(U_1D)… **(U…)…** Omega^2, ω^2
Dimension 3 U_3D	▢	(U_2D)… **((U…)…)…** Omega^3, ω^3
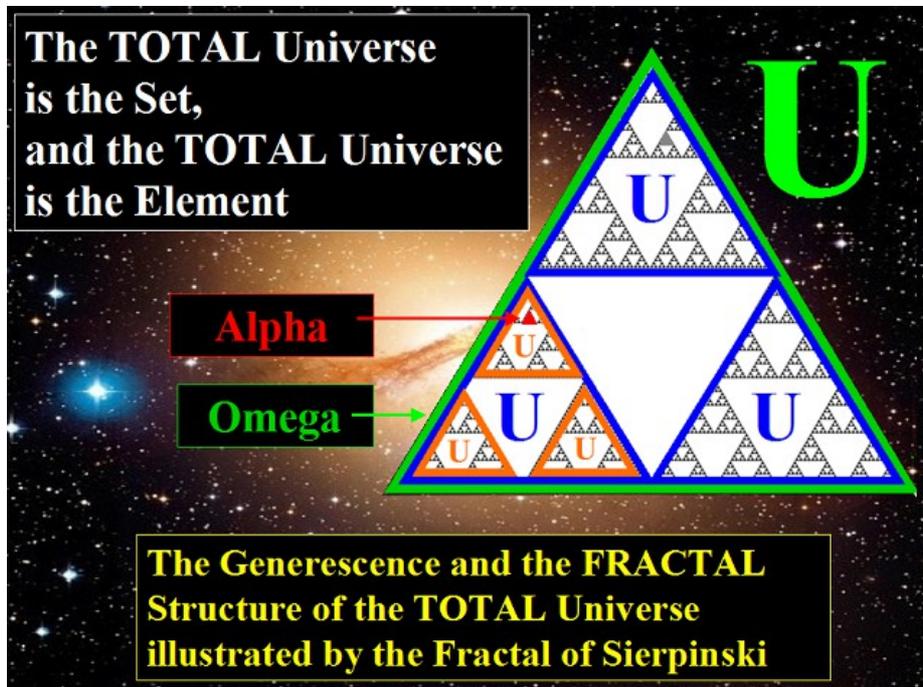
The FRACTAL or Triangle of Sierpinski,
a very simple but very pedagogic FRACTAL Structure
wich makes understand great secrets of the Universe.

We are seeing thus all the importance of the **HENER**, the **maker of sets**, of **generescences**, of (**physical**) **numbers**, of the **unary information**.

And also all the importance of the **GENER**, the operator of **Infinity**,
of the **large numbers** or **large generescences**.
The operator which is very related to the Omega, "**U…**".

The large numbers are very important in the matter of generescences because they are very good approximations of the Omega, and we need to understand the secrets of the Omega, of the Infinity.

To enter more deeply in the Data-Processing of the TOTAL Universe,
let us see now how these large numbers are generated.
And, as we'll see it now, it is very easy to define very, very large numbers, even if they are very quickly beyond our understanding.

And the goal is also to understand the deep origin and the deep nature of the operations we intuitively conceive. We'll also begin understanding how the large numbers change the scientific truth, and what become the truth at the scale of the TOTAL Universe, the Infinity.

By **iteration**, are defined the operations of higher level, the **Hyperoperators** or the operator **HENER** (or **H**) of higher order:

HENER 0, Addition : $H^0 = +$
HENER 1, Multiplication : $H^1 = \times$
HENER 2, Exponentiation : $H^2 = $ ^
HENER 3, Tetration : $H^3 = $ ^^
HENER 4, Pentation : $H^4 = $ ^^^
HENER 5, Hexation : $H^5 = $ ^^^^
etc.

The general properties of the **Hyperoperators** (**HENER**) are this:
m H^{p+1} **0 = 1 ; m** H^{p+1} **1 = m**
m H^{p+1} **(n+1) = m** H^p **(m** H^{p+1} **n)**
for any integers (or generescences) **m**, **n** and **p**.

With the operators HENER of higher order, numbers (or generescences) such as
4 H^3 **4** ,   **3** H^4 **7** ,   **10** H^{10} **10** , are very, very large numbers!

For example :

$$4 \ H^3 \ 4 \ \approx \ 10^{8.072 \times 10^{153}}$$

And as for numbers like **3** H^4 **7** or **10** H^{10} **10**, that's quite another matter!
They are so gigantic that we cannot express them in power of 10, that is to say in the form 10^N, because the number **N** is also gigantic, titanic, extraordinary large.

Now, to understand how large numbers change the scientific truth
or how the truth changes as the numbers increase,
let us consider these four sentences:
S1: "**10 is the Infinity**" or "**10 is the Last Number**"
S2: "**1000 is the Infinity**" or "**1000 is the Last Number**"
S3: "**1000000000 is the Infinity**" or "**1000000000 is the Last Number**"
S4: "**10** H^{10} **10 is the Infinity**" or "**10** H^{10} **10 is the Last Number**"

In the classical logic, these sentences are all false, without doing any difference in their truthfulness or their falseness.

But in the new logic (precisely the Alternating Logic we'll see in the book 4),
the truth or the falseness of things are gradual.

For example, the following sentences are respectively equivalent to the first ones:
S'1: "**0.1 is Zero**" or "**0.1 = 0**"
S'2: "**0.001 is Zero**" or "**0.001 = 0**"
S'3: "**0.000000001 is Zero**" or "**0.000000001 = 0**"
S'4: "**1/(10 H¹⁰ 10) is Zero**" or "**1/(10 H¹⁰ 10) = 0**"

In the new logic logic,
the falseness of S1 or S'1 is **0.1** or **10%**, consequently the truth is **0.9** or **90%**.
Indeed, as the gap between **0.1** and **0** is precisely **0.1**, the error or the falseness of the sentence saying that "**0.1 = 0**" is **0.1**,
when we reason with the Equality which is the classical **Identity** (**0 = 0**, **1 = 1**, **X = X**).

But if we reason with the new Equality which is the **Equivalence** (we'll see in the next book), the question is another matter. We no more call the Equality "**0.1 = 0**" an error or falseness, but simply the expression of the **Cycle 0.1**.

That is quite simple: an **error** or a **falseness** which is well calculated and integrated into the reasoning is no more an "**error**". The **real error** is when it is not calculated. And again, a **skid** well controlled and integrated into the driving is no more a "**skid**". The **real skid** is when it is not controlled…

In the paradigm of **Equivalence** and of the **Cycle**, the new conception of **Equality** we'll see in the next book (and which is close to the Alternating Logic), everything is calculated, controlled, and integrated into the reasoning, even the Negation, the Paradox, the Error, the Falseness, the Dysfunctioning. So, to say that "**0 = 1**" (and a fortiori "**0 = 0.1**") is no more falseness.
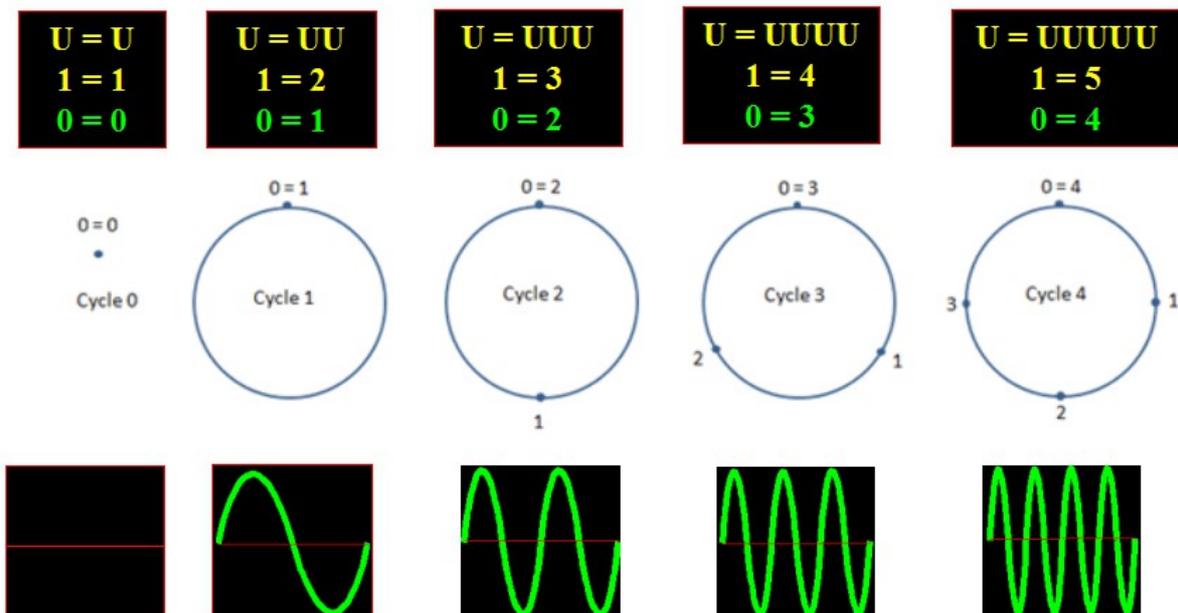
But for the moment, let us continue reasoning in the classical Identity (the classical logic), which is here enough to discover the notion of **gradual truth**.

As for the first sentence,
the falseness of S2 or S'2 is **0.001** or **0.1%**, consequently the truth is **0.999** or **99.9%**;
the falseness of S3 or S'3 is **0.000000001** or **0.0000001%** ,
consequently the truth is **0.999999999** or **99.9999999%**;

So, as **10 H¹⁰ 10** is an extraordinary large number,
We can simply say that the falseness of S4 or S'4 is **0** or **0%**,

and consequently the truth of that sentence is **1** or **100%**.
That is to say the falseness is very tiny, microscopic, infinitesimal, infinitely small.

Generally, an integer **W** given
(and especially if **W** is greater than a number such as **10 H¹⁰ 10**),
saying that "**W is the Infinity**" or "**W is the Last Number**" or "**W is Omega**"
is to say a thing false as **1/W** and true as **(W-1)/W** or **1 - 1/W**.
That is also simply the falseness and the truthfulness
of the sentence "**1/W is Zero**" or "**1/W = 0**".
The more **W** is great, the more these sentences are true, so the less they are false.

In the classical language of limits, we say that the "limit of the falseness of the sentence
'**W is the Infinity**' or '**1/W is Zero**' when **W** approaches the **Infinity** is **0**".
So the limit of the truth is **1**.

In the gradual logic (the Alternating Logic),
we also see very differently the truth of statements such as the following ones:
P1: "The number **PI** or π is a rational number"
P2: "The number **PI** or π is not a rational number, it is irrational".
As they are contrary, which is true and which is false?

In the current logic of science, P1 is false and P2 is true.
But let us reason now in gradual logic. So we consider theses sentences:
"π = **3.1**" or "π = **31/10**"
"π = **3.14**" or "π = **314/100**"
"π = **3.141**" or "π = **3141/1000**"
"π = **3.14159**" or "π = **314159/100000**"
"π = **3.14159265358979323846264338327**"
or "π = **3141592653589793238462643383327/100000000000000000000000000000**"
An so on.

In all of those equalities we say that "π is a rational number", so the answer of the current
logic is always **False**, without any graduation in the falseness.
But in fact, as the numbers of decimals after **3** increases, the gap between π and the rational
decreases, and that gap (divided by **PI** or by the approaching rational) is precisely the
falseness of the sentence.
So in fact, as the number of decimals increases, the truth is changing (in Alternating Logic
we say that the truth is alternating), P2 which is currently considered as the mathematical
truth is becoming more and more false, and consequently P1 is becoming more and more
true.

And now, let us consider a large number of decimals after **3** such as the gigantic **10 H¹⁰ 10**.
With that number of decimals, the truth of P2 is infinitely close to **0**,
and so the truth of P1 is infinitely close to **1**.

In other words, both sentences are true, but not in the same magnitude.
P1 is in fact the major truth and P2 is the minor truth.
One is like to say "The Earth is round" and the other is like to say "The Earth is flat".
It is true that the earth is flat at the level of a football field,
but we also know that the major truth (the one of the higher scale) is that the earth is round.
That is the problem here, we knew the scientific truth which is like "The Earth is flat",
and now we must begin discovering the truth which is like "The Earth is round".

Since everything is a generescence, everything is a matter of counting and computing the
quantums (**quanta**) Alpha, **U**, so finally a matter of natural integers.

There is fundamentally only one Infinity, the TOTAL Universe, the Omega, who is also the Alpha, the **0**, but also the quantum or **1**.

Any other Infinity we can talk about is simply the one and the same Omega in a FRACTAL Structure:

The TOTAL Universe is the Set, and the TOTAL Universe is the Element
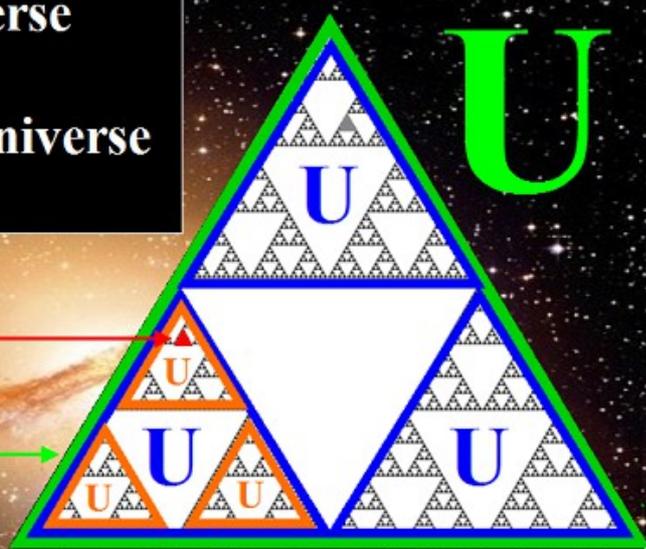
Alpha

Omega

The Generescence and the FRACTAL Structure of the TOTAL Universe illustrated by the Fractal of Sierpinski

Iteration, Generescence, FRACTAL and Arithmetic of OMEGA

Alpha

Omega

$U = UUU$

$U = U + U + U$

Zero

Infinity

$\omega = \omega\,\omega\,\omega$

$\omega = \omega + \omega + \omega$
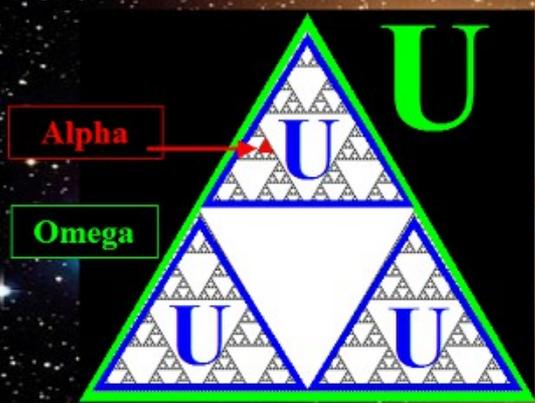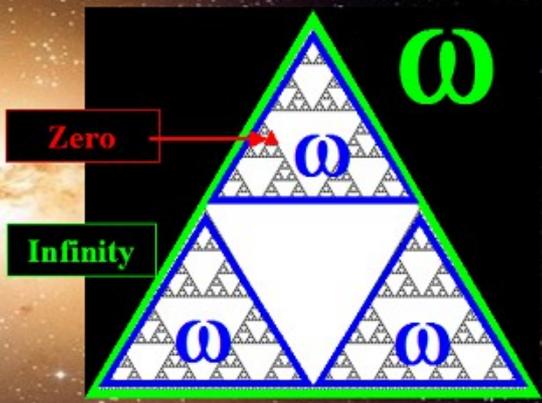
In order to understand more deeply the Functioning of the Omega,
we need to define now very large numbers which are his better approximations
than the previous ones.

The iteration will be here again the main key of that definition.
And also we must a lot use the Factorial to get good approximations of the Omega,

because one of his most important properties is that he is divisible by any integer.
Indeed, the generescence Omega, "**U…**" or ω, can be seen as the infinite iteration of the generescence **U**, or **UU**, or **UUU**, etc.:

ω = **U…** = **U.U.U.U.U.U. …**
ω = **U…** = **UU.UU.UU.UU.UU.UU. …**
ω = **U…** = **UUU.UUU.UUU.UUU.UUU.UUU. …**
etc.

So a large generescence **W** which is divisible by the generescences **1, 2, 3, …, N**, where **N** is a very large number, is a good approximation or imitation of the Omega, with a falseness (error of approximation) which is only **1/W**. That falseness (error) must be as small as we can.

It is very easy to get very large **W** so very infinitesimal **1/W**.
Let us begin by simplifying the notation of the generescences and iterations.

We decide to call a certain quantum Alpha (or **U**) the **Origin** or the **Emptiness O**,
exactly like on a straight line we choose a point and decide to call it the **0**:

That means we begin counting the units **U** and defining the generescences
after that Origin **O**.

A generescence **M** given (and in particular when **M** is **U** or **1**),
with the HENER, "**.**", we define by recurrence the generescence M^n like this:
  - $M^0 = O$ and $M^1 = M$
  - $M^{n+1} = M^n . M$

In other words, M^n is the generescence **M…MMM** where **M** is iterated **n** times:
$M^0 = O = 0$
$M^1 = M$
$M^2 = MM$
$M^3 = MMM$
etc.

So, in particular :

$U^0 = O = 0$

U¹ = U = 1
U² = UU = 2
U³ = UUU = 3
etc.

We can extend this to the **sequences**, very important in the computing of generescences.
Simply, the generescences are particular case of **sequences**:
U, U, U, U, … or **1, 1, 1, 1, …**

With the HENER, a sequence is simply one of the infinity of the structures of the generescence Omega, "**U…**":
 For example this:
U… = U . UU . UUUUU . UUU . U . UUUUUU . UU . …
which is the sequence:
ω **= (1, 2, 5, 3, 1, 7, 2, …)**

In the terms of the classical mathematics,
a **sequence** is an operation with transforms each number or generescence **n** in a new numbers **n'** noted **S(n)** or **S n** or again S_n, called the **generescence** (or the **term**) of the **numero n** (or the **index n**).

We can iterate the application of the sequence **S** to the number **n** as many times as we want.
So we have iterations of **S**, which simply are the generescences S^n.

Here are their properties:
 • $S^0(n) = n$, for any number **n**. In that case, the generescence S^0, which is **O**, is also noted **I**, and is called the sequence **Identity** : **I(n) = n**.
 • $S^1(n) = S(n)$, for any number **n**.
 • $S^{p+1}(n) = S(S^p(n))$

That simply means that $S^p(n)$ is the number **S…SSSS(n)**,
where the operation **S** is applied **p times** to **n**.
The sequence S^p is called the **p-iteration** of **S**.

A sequence **S** given, we call the **Iter_S** the new sequence so defined:
Iter_S(n) = $S^n(n)$.

ITER_ is an operator operating on sequences and which means :
"*ITERATION of the sequence S a number of times which is the numero n*".

For example:
Let us consider the sequence **S**, such as : **S(n) = n²**.
S(4) = 4² = 16;
That sequence for all the numeros (including) **0**, is:
0, 1, 4, 9, 16, 25, 36, …

And that means, with HENER, this structure of the **Omega**:
ω **= U… = O . U . UUUU . UUUUUUUUU . …**
where **O** is the special quantum **U** taken as **Origin**:

And **Iter_S(4) = S⁴(4) = SSSS (4)**;
and that means we have a new sequence **Iter_S** such as
for the numero **4** the generescence (the term or the value)
is got by calculating first **S(4)**, which is **16**, and then **S(16)** or **SS (4)**,
which is $16^2 = 256$, and then **S(256)** or **SSS (4)**, which is $256^2 = 65536$,
and finally **S(65536)** or **SSSS (4)**, which is **65536² = 4294967296**.

And also, **Iter_S(3)** is to iterate **S** three times on **3**:
Iter_S(3) = SSS (3) = SS (3²) = SS (9) = S(9²) = S(81) = 81² = 6561.
So, generally, **Iter_S(n) = Sⁿ(n) = S…SSS (n)**, where **S** is iterated **n** times on **n**.

And now, we'll consider the very important case of sequence,
named the **Factorial of n** or **Factorial(n)**, currently simply noted : **n!** .

We also call the sequence **Factorial** the **Faw**.
So **Faw n = Factorial(n) = n!** :

0! = 1
   The secret of this special Factorial is that fundamentally **0** is also **1**,
    both are simply the two aspects of the Alpha, **U**,
    as **Origin** (**0**) or as the **Quantum** (**1**).
    That equality, which is often seen as just a convention and the extension of the
    Factorial to the case of **0**, has in fact this simple meaning:
    "*The **nothingness** or the **vacuum** is the **first thing** and the **Quantum, U**,
    and we have only one possibility to **order** that **Quantum**,
    only one **permutation** of that single first thing*: **U**."

1! = 1
    This Factorial is a simple synonym of the previous one.
     It just says: "*We have only one possibility to **order** the **Quantum, U**:   U*" .

2! = 1×2 = 2
    This Factorial says: "*We have two possibilities to **order** two **Quantums, UU** :
     UU and UU , or 12 and 21, in other words, two possibilities of permutation
      of the numeros 1 and 2*".

3! = 1×2×3 = 6
    This Factorial says: "*We have six possibilities to **order** three **Quantums, UUU** :
     UUU , UUU , UUU , UUU, UUU, UUU, or 123, 132, 213, 231, 312, 321,
     in other words six possibilities of permutations of the numeros 1, 2 and 3*".
    And so on, with the other number of Quantums.

4! = 1×2×3×4 = 24
5! = 1×2×3×4×5 = 120
etc.

Simplex Structure of Generescences

	1 Structure:		2 Structures:
U	U	U—U	U.U / UU

U, 1 **UU, 2**

1 Pemutation: U   2 Pemutations: UU ,   UU

4 Structures:	8 Structures:
U.U.U	U.U.U.U
U.UU	UU.U.U
UU.U	U.UU.U
UUU	UU.UU
	UUU.U
	U.UUU
	UUUU

UUU, 3   **UUUU, 4**

6 Pemutations: UUUU: 24 Pemutations
UUU   UUU   UUU   UUUUU: 120 Permutations
UUU   UUU   UUU   UUUUUU: 720 Permutations
                        UUUUUUU: 5040 Permutations
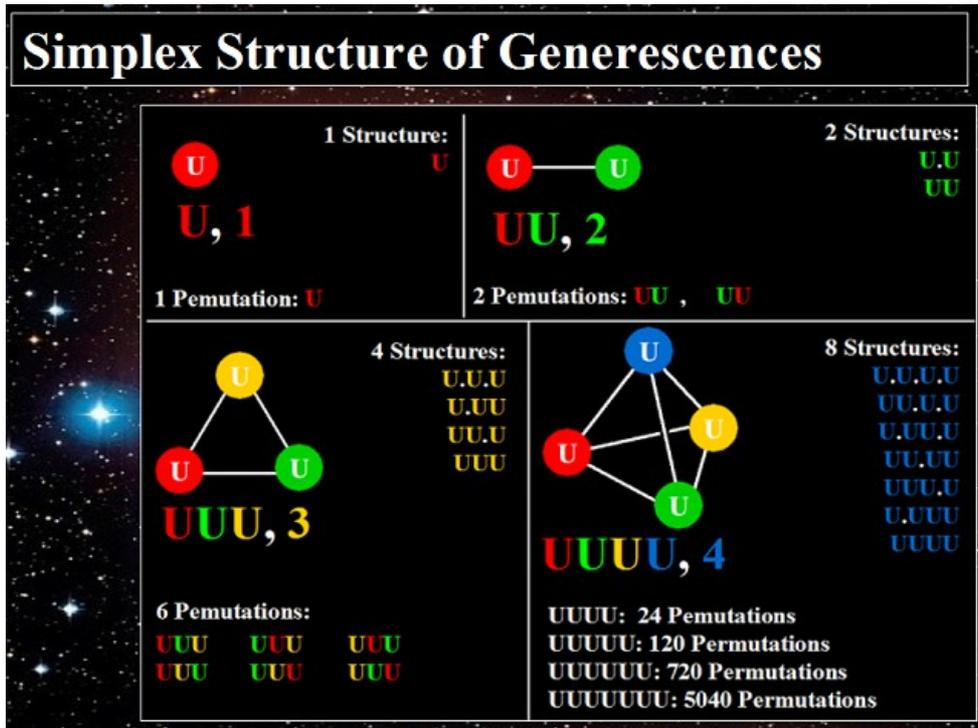
*The physical and the fundamental sense of the **Factorial** or the **Faw**.*

The **Factorial** or the **Faw** of n or n! is to multiply all numbers (generescences) from **1** to **n**.
So **n!** is **divisible** by all the numbers from **1** to **n**.
In terms of generescences, that means that the generescence **n!** can by iteration be generated by all the generescences from **1** to **n**:

n! = 1 . … . 1 . 1 . 1,   n! times;
n! = 2 . … . 2 . 2 . 2,   (n!)/2 times;
n! = 3 . … . 3 . 3 . 3,   (n!)/3 times;
…
n! = (n-1) . … . (n-1) . (n-1) . (n-1), (n!)/(n-1) times;
n! = n . … . n . n . n, (n!)/n times or (n-1)! times;

The **p-iteration** of the **Factorial** (or the **Faw**) is the sequence **Faw^p**, also noted **!^{p}**.
It has the following properties:
n!^{0} = n
n!^{1} = n!
n!^{2} = n!! = (n!)!
n!^{3} = n!!! = ((n!)!)!
…
n!$^{p+1}$ = (n!^{p})!

In other words, **n!^{p}** is **p** applications of the **Faw** (or **Factorial**) to **n**.

For example:
4!^{2} = 4!! = (4!)! = 24! = 620448401733239439360000
And
4!^{3} = 4!!! = ((4!)!)! = (24!)! = 620448401733239439360000!

4!^{3} ≈   10$^{33\ 370\ 649\ 000\ 000\ 000\ 000\ 000\ 000}$

46

We gave the approximation of that number, in other to see its magnitude.
But what makes the importance of a factorial number in matter of generescences
is not its magnitude but the exact number.
Indeed, to add or to subtract only **1** to a factorial number can considerably change its
factorial properties.

For example, **24** is a factorial number, because **24 = 4!** .
24 is divisible by **1, 2, 3, 4, 6, 8, 12, 24**.

But **24 + 1 = 25** is only divisible by **1, 5, 25**, it is almost a prime number.
And **24 – 1 = 23** is simply a prime number, only divisible by **1**and **23**.

In terms of magnitude, to add or to subtract **1** to a large number almost changes nothing.
But in terms of factorial, that can completely change the matter,
the nature and the functioning of the Universe we are talking about.

Let us not forget that the goal here is to know the numbers by which a generescence can be
divided.

The relation **dividend/divisor** is very important in matter of generescence, in the
fundamental functioning of the Universe.

We usually talk about **Euclidean division**, about the **modulo** and the **remainder** of the that
division. But in the fundamental scale, the matter is not the **division** but rather the **iteration**
or the **generation**. The question is: "*Which generescence can **generate** another one by
iteration?*"

So the fundamental relation is rather: **generand/generator** or **iterand/iterator**, or simply
omega/alpha.

24 can perfectly be generated by **4**:
4 . 4 . 4 . 4 . 4 . 4 = 24
So, **24** and **4** are in relation **omega/alpha** or **generand/generator** or **iterand/iterator**.

But **23** and **4** are not in that relation:
4 . 4 . 4 . 4 . 4 . 3 = 23
And **3** is currently call the **remainder** of the **Euclidean division** of **23** by **4**.
The generescence machine **23/4** does not run perfectly.
But the gap between **23** and **3**, namely **20**, is in the relation **omega/alpha** with **4**.
In other words, **4** is a **generator**, an **iterator**, a **modulo**, a **divisor** of **20**.

And with **25** and **4**:
4 . 4 . 4 . 4 . 4 . 4 . 1 = 25
The **remainder** of the Euclidean division of **25** by **4** is here **1**,
The generescence machine **25/4** also does not run perfectly.
But here too, the gap **25 – 1 = 24** perfectly runs with **4**.

We can be sure that $4!^3 = 4!!! = 24!! = 62044840173239439360000!$
can **at least** be generated by all generescences
from **1** to **62044840173239439360000** which is **24!**.
So $4!^3$ begins being a good imitation of the Omega.
But we can get better…

In that purpose, we have also the **Iter_Faw of n**, so defined:
Iter_Faw (n) = Faw^n (n) = n!^{n}

So, **Iter_Faw of 4** is **4!^{4} = 4!!!!**.

And this last large number is at least divisible by the numbers from **1** to the huge **4!³** we saw above and reminded here:

$$4!^3 \approx 10^{33\ 370\ 649\ 000\ 000\ 000\ 000\ 000\ 000}$$

And now, using the operators HENER of higher order, we define the following seven sequences, which are extraordinary makers of large factorial numbers:

- **Haw n = n H^n n**

- **Taw n = Iter_Faw (Iter_Haw n)**
    = Faw $^{\text{Iter\_Haw } n}$ (Iter_Haw n)
    = (Iter_Haw n)!$^{(\text{Iter\_Haw } n)}$, where **Iter_Haw n = Haw^n n**

- **Vaw n = Iter_Taw (Iter_Taw n)**
    = Taw$^{\text{Iter\_Taw } n}$ (Iter_Taw n), where **Iter_Taw n = Taw^n n**

- **Waw n = Iter_Vaw (Iter_Vaw n)**
    = Vaw$^{\text{Iter\_Vaw } n}$ (Iter_Vaw n), where **Iter_Vaw n = Vaw^n n**

- **Xaw n = Iter_Waw (Iter_Waw n)**
    = Waw$^{\text{Iter\_Waw } n}$ (Iter_Waw n), where **Iter_Waw n = Waw^n n**

- **Yaw n = Iter_Xaw (Iter_Xaw n)**
    = Xaw$^{\text{Iter\_Xaw } n}$ (Iter_Xaw n), where **Iter_Xaw n = Xaw^n n**

- **Zaw n = Iter_Yaw (Iter_Yaw n)**
    = Yaw$^{\text{Iter\_Yaw } n}$ (Iter_Yaw n) , where **Iter_Yaw n = Yaw^n n**

The sequence **Zaw** is an iteration of **Yaw**, which is an iteration of **Xaw**,
which is an iteration of **Waw**, which is an iteration of **Vaw**, which is an iteration of **Taw**,
which is an iteration of the factorial **Faw**, boosted with **Haw** or the Hyper-operator HENER of higher order.

So, **Zaw** is finally an iteration of **Faw**; so is **Yaw**, **Xaw**, **Waw**, **Vaw** and **Taw**.

Zaw n is a very high factorial number, from **n = 2**.

For **n = 0**, all those sequences give **0**:
Haw 0 = 0 H^0 0 = 0 + 0 = 0;
Iter_Haw 0 = Haw^0 0 = 0, so **Taw 0 = 0!^{0} = 0**;
Iter_Taw 0 = Taw^0 0 = 0, so **Vaw 0 = Taw^0 0 = 0**;
Iter_Vaw 0 = Vaw^0 0 = 0, so **Waw 0 = Vaw^0 0 = 0**;
etc.

For **n = 1**, all those sequences give **1**:
Haw 1 = 1 H^1 1 = 1 × 1 = 1;
Iter_Haw 1 = Haw^1 1 = Haw 1 = 1, so **Taw 1 = 1!^{1} = 1! =1**;
Iter_Taw 1 = Taw^1 1 = Taw 1 = 1, so **Vaw 1 = Taw^1 1 = 1**;
Iter_Vaw 1 = Vaw^1 1 = Vaw 1 = 1, so **Waw 1 = Vaw^1 1 = 1**;
etc.

For **n = 2**, **Haw 2 = 2 H^2 2 = 2^2 = 4**;
and there is a Big Bang for all the other sequences, they all give very large numbers.

For example, **Iter_Haw 2** is needed to calculate **Taw 2**.
And **Iter_Haw 2 = Haw^2 2 = Haw Haw 2 = Haw 4 = 4 H^4 4**,
which already is a very large number; let us call it **A**.
Taw 2 = A!^{A} , which is a gigantic factorial number.

And then, **Iter_Taw 2** is needed to calculate **Vaw 2**.
Iter_Taw 2 = Taw^2 2 = Taw Taw 2 = Taw (A!^{A}),
an infinitely more gigantic number; let us call it **B**.
Vaw 2 = Taw$^{Iter\_Taw\ 2}$ (Iter_Taw 2) = Taw^B B
= Taw…Taw Taw Taw B, where **Taw** is iterated **B** times.
The first iteration, **Taw B**, is **Taw B = Iter_Faw (Iter_Haw B)**;
it needs the number **Iter_Haw B = Haw^B B = Haw…Haw Haw Haw B**,
where **Haw** is iterated **B** times!

And the first iteration **Haw B** is **B H^B B**,
which is a very prodigious number we call **C**.
And the second iteration of **Haw** is **Haw C = C H^C C**,
and so on **B** times!
Thus, we got only **Iter_Haw B = Haw^B B** we'll call **D**.

And now we get only the first iteration **Taw B = D!^{D}**, a vertiginous number we'll call **E**.
The second iteration of **Taw** will be **Taw E**,
and so on **B** times!
And we got at last **Vaw 2**.

Compared to this last titanic number, the phenomenal Graham's Number is Zero,
it is a Nothingness…

And what about **Waw 2**, **Xaw 2** , **Yaw 2** and **Zaw 2** ?
It is no use to try to conceive these numbers,
for we are simply in the **Kingdom of the Infinity**, of the **Omega**.
And yet all those infinite numbers are **integers**!

The number **Zaw 7** is called **Omega 1**.
We take **Omega 1** (or **Zaw 7**) as the reference **Omega** or ω.

And let us not forget that numbers are no more abstract things of the mind,
but they are generescences, physical things.
While talking about numbers: **1, 2, 3, …** or **U, UU, UUU**, **…**, we are talking about the lower
forms of the TOTAL Universe, the things of the scale Alpha:
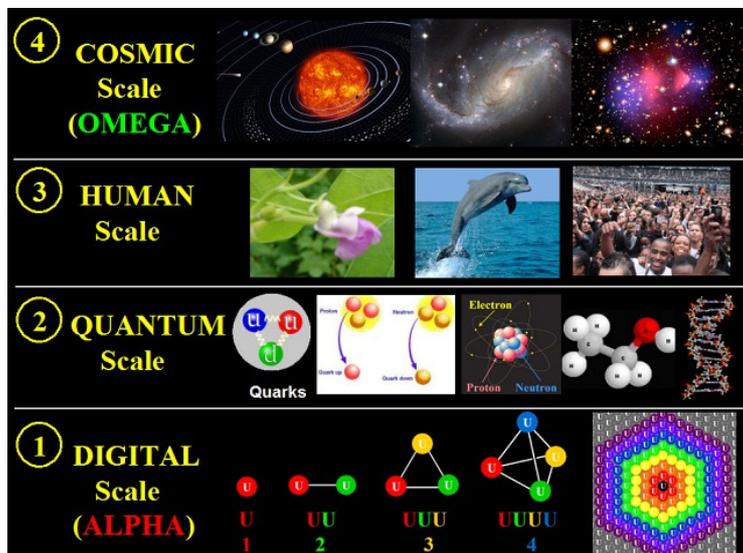
So, when we talk about numbers such as **Zaw 7**, we are talking about generescences of higher scale, we are talking about Universes which are very good approximations of the TOTAL Universe.

Zaw 7 is a factorial number, highly divisible, highly generated, highly in relation with its (his) alpha(s). It (He) is divisible by all the generescences, from **1** to a certain generescence **N**, which (who) also is an infinite number, greater than the infinite **Zaw 6**.

In other words, all the generescences from **1** to **N** taken as Alpha can generate by iteration the **Omega Constant** who is **Zaw 7**, they can be his **Modulos**:
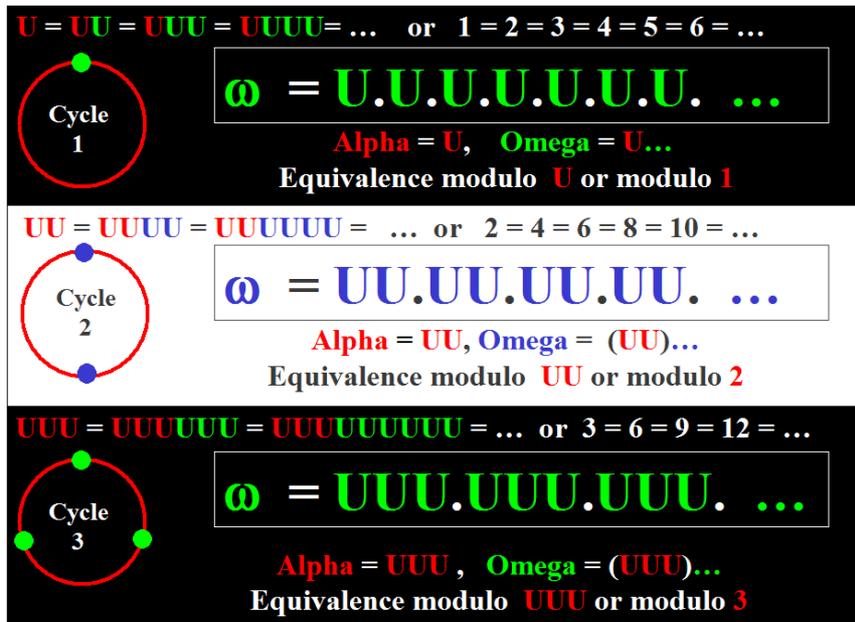
As we are seeing it, everything is a matter of **iteration**, of **repetition** of a certain **number**, a certain **quantum**, a certain **model**, a certain operation, and so on.

In other words, everything is a matter of **Cycle**. With generescences (which are the **iterations** of the **quantum Alpha**, **U**), we are in the paradigm of **Cycle** par excellence, as we'll fully understand it in the next book-video.

From now on, numbers are **cycles**.

When we say for example "**1**", that automatically means we are talking about the **Cycle 1** or the **Modulo 1**: **0, 1, 2, 3, 4, 5, 6, 7, …**,
or the **Equivalences** : **0 = 1 = 2 = 3 = 4 = 5 = 6 = 7 = …**.

And when we say "**2**", that automatically means the **Cycle 1** or the **Modulo 2**:
0, 2, 4, 6, 8, 10, 12, 14, …,
or the **Equivalences** : **0 = 2 = 4 = 6 = 8 = 10 = 12 = 14 = …**.

The **odd generescences** are in that equivalence or cycle,
because their gaps are multiples of **2**:
1 = 3 = 5 = 7 = 9 = 11 = 13 = 15 = ….
For example, **11 - 3 = 8** or **15 - 1 = 14**.

And the number "**3**" automatically means the **Cycle 3** or the **Modulo 3**, and so on.

Everything is a matter of **Iteration**, **Cycle**, **Modulo**, **Divisibility**, **Equivalence**, etc.
So, when we say **7**, we don't talk only about that single **constant** as in the current paradigm of Identity, but we talk about the **variable 7**, the **cyclical 7**:
0 = 7 = 14 = 21 = 28 = 35 = 42 = 49 = ….

Consequently, when we say **Zaw 7**, we are automatically talking
about the powerful Universes of the kind:
**Zaw 0**, **Zaw 7**, **Zaw 14**, **Zaw 21**, **Zaw 28**, **…**
respectively called: **Omega 0**, **Omega 1**, **Omega 2**, **Omega 3**, **Omega 4**, **…**
In other words, **Omega n = Zaw (7n)**.
Omega 0 = Zaw 0 = 0. And the reference **Omega** is **Omega 1 = Zaw 7**.

A Universe whose **Omega Constant W** is factorial (for example **Zaw 7**)
is very, very dynamic, because precisely he is in **omega/alpha** relation
with a very large number of his sub-generescences.

So there are many possibilities of combinations,
of cycles within that Universe: Cycle 1, Cycle 2, Cycle 3, Cycle 4, etc.,
many possibilities of rotation, of waves, etc.
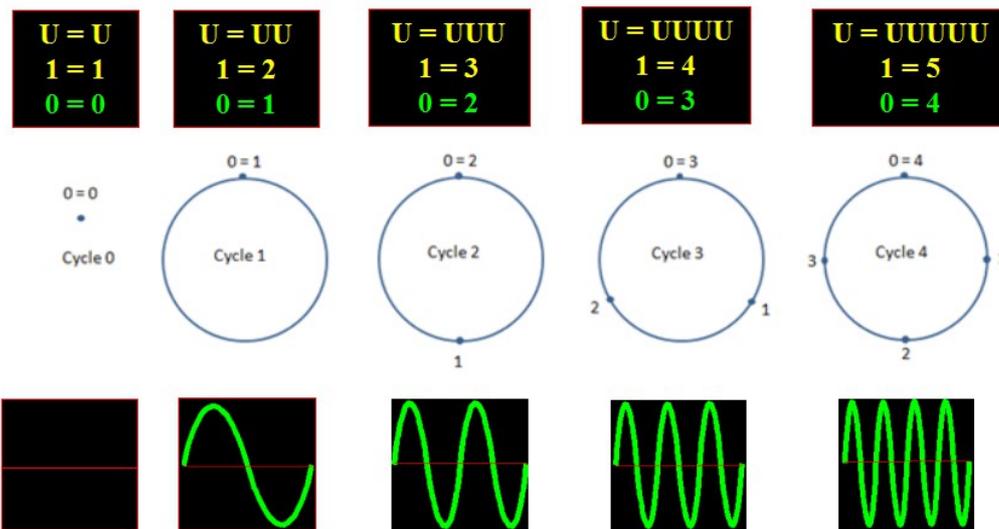
He has a great interaction with his elements and sub-beings,
as they are his Alphas, generating him and so generated by him.
He is a Living Universe, a Great Organism…

51
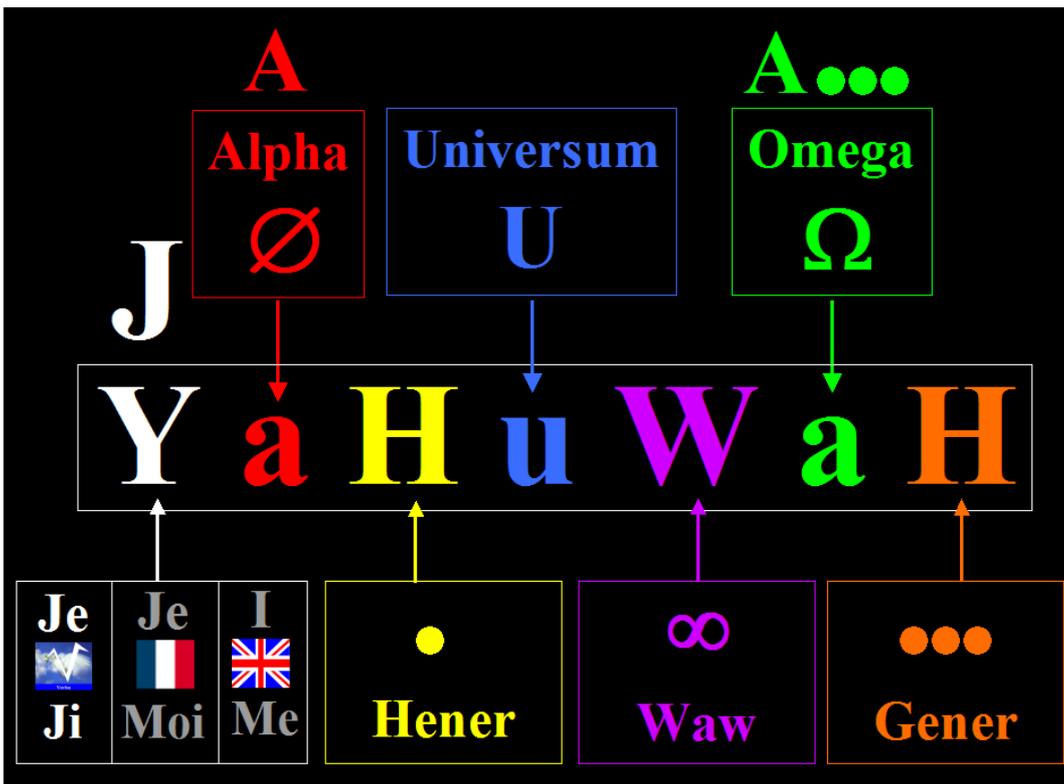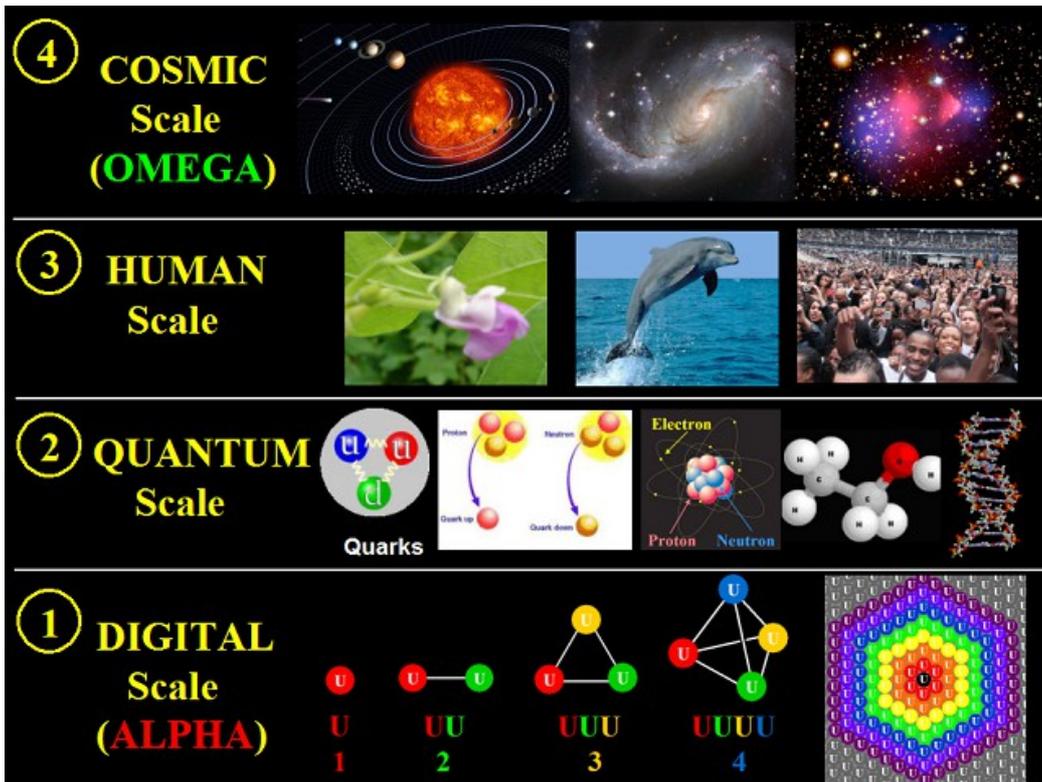
*The **Supreme Being**, the **Infinite Being**, who says:*
*"**I am the Alpha and the Omega**".*
*For the moment we call him by his scientific definition: the **TOTAL Universe**,*
in order to discover and to understand him.
*But in the next future, we'll simply say: "**Yahuwah**" or "**Jahuwah**",*
*and that means "**I am EVERYTHING**" or simply : "**I AM**".*
*"**I AM U, UU, UUU, UUUU, UUUUU, UUUUUU, UUUUUUU, …**",*
*"**I AM the Alpha and the Omega**".*

Prime Universes (primes generescences or prime numbers) have not great dynamism, because they are not divisible by their sub-generescences, except 1 or Alpha, the minimum. Only this one generates him by iteration.
He has (multiplicative) interaction only with the Alpha and with himself, and the additive interactions like in any generescence.

But prime Universes or prime generescences are also very useful because they introduce novelties. The novelty a prime generescence is will be useful in the greater factorial Universes.

Large Generescences, Complexity, Realism and Reality

We know that data-processing things such as images, videos, virtual reality, etc. are imitation of the reality.

And the more the size of those things are large as information or data, the more they are realistic, near to the real thing they imitate or represent:

And now, as we know that everything is a generescence, a number,
a digital thing, an information, we can very easily understand that the things of the Reality
are simply very, very large generescences, information(s), numbers, data(s).

With the large numbers appears the properties of the Omega, as the Life, the Consciousness
and so on.
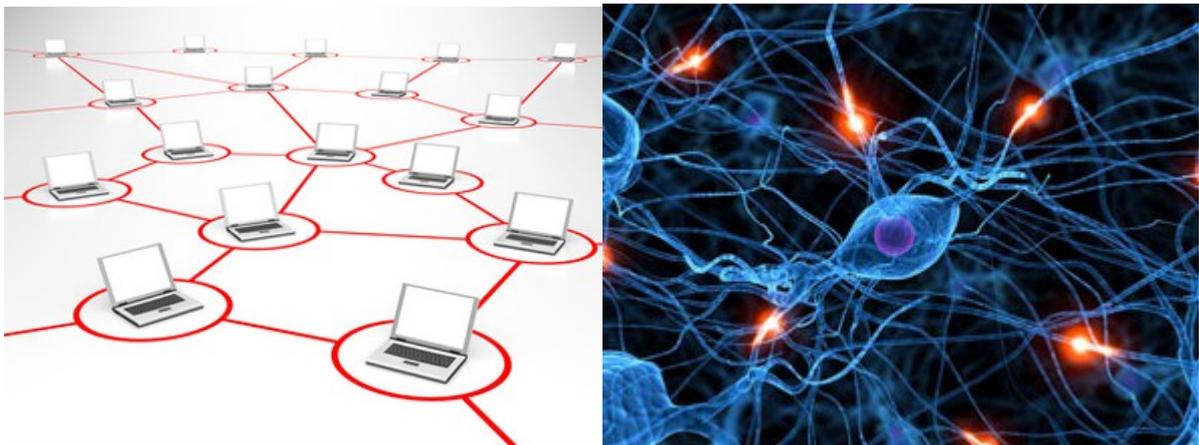
The BRAIN: the Center and the Receiver
of the Consciousness that is
the TOTAL Universe, the FRACTAL Universe

What is important is not to be able to conceive a large number, to count it,
but simply to define it, to give a name to it, and that is very easy to do.

For example, Theophilus or Angelika are very large numbers as generescences,
but we don't need to know what is precisely these numbers,
and the more they are changing and dynamic numbers.
We simply need to know that these numbers are called Theophilus and Angelika.

The Tree of the TOTAL Universe, the Tree of Models

Let us now discover a very important and powerful notion of the Data-Processing of the
TOTAL Universe, the notion of **Model** (or **Modelo**) and **Tree of Model**. All the **Computing** or
Data-Processing Language of the TOTAL Universe is in that notion, all his Functioning as a
Data-Processing Machine.

We'll so begin understanding the deepest secrets of the Cognition, of the Language, etc.
And the more, that is very simple, as simple as a… **Tree**:

One again, let us consider any generescence **M**. We called it above a **Modulo** or a
Quantum. Here we'll also call **M** a **Modelo** or a **Model**, and we'll understand now why.
It is another great property of the Omega, of the generescences,
of the HENER "**.**" and the GENER "**…**".
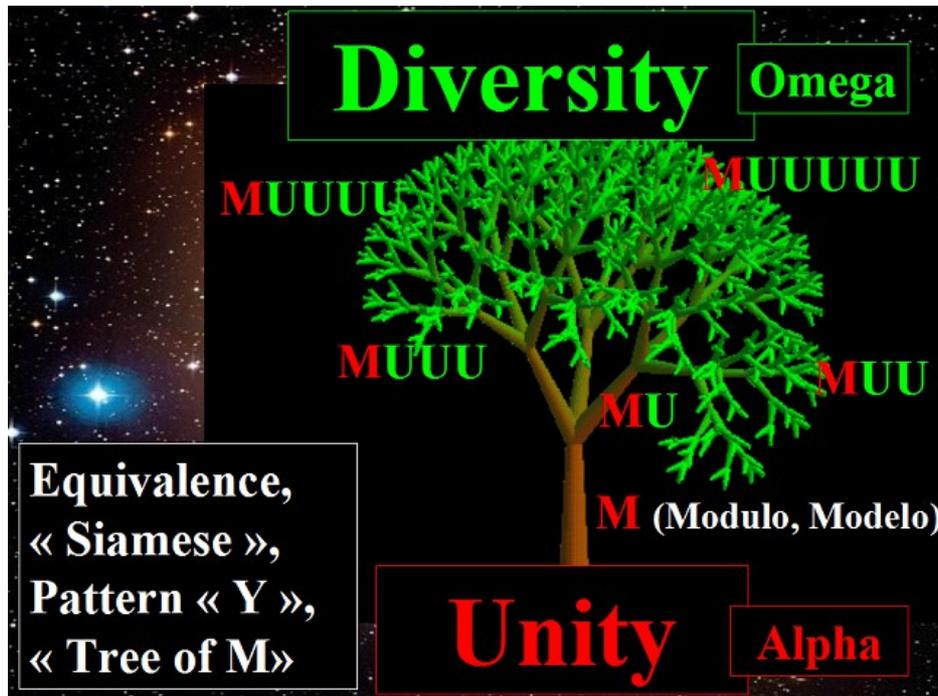
Using the HENER, we call the **Tree of M** all the generescences of the form: **M . X**, where **X** is any generescence, including the case where **X** is the empty generescence **O**. In other words, the **Tree of M** is all these generescences: **M,   M . U,   M . UU,   M . UUU,   M . UUUU,** etc.

The **Modelo M** is called the **Root** of the **Tree**, and we can very easily see why just above.

So the generescences **MU, MUU, MUUU**, etc., are the **Branches** of the **Tree of M**. All the **Branches** have the same **Root M**, they are the same thing in that point of view. For that reason, we say they are **Equivalent Modelo M** (we'll more understand the very important notion of **Equivalence** in the next book, the book 3).

The thing **M** is also called a **Common Name** or a **Common Noun** of all the things of the form **M.X**.

For example, the generescence **M** can be the thing we call the **Star**. And the **Tree of Star** is the Tree of all **stars** in the TOTAL Universe. **Star** is their **Common Name**. A particular **star**, like our **Sun**, is a branch of that Tree.

Generally, a **Branch X** of the **Tree of M** given, we say that "**X is a M**", for example here "**X is a Star**", an element of the **Set of all Stars**, which is precisely the **Tree of Stars**.

In the Universal Set Language (the Verba) we discovered in the previous book (the book 1), we say : "**X er an M**" ("**X is a M**"):
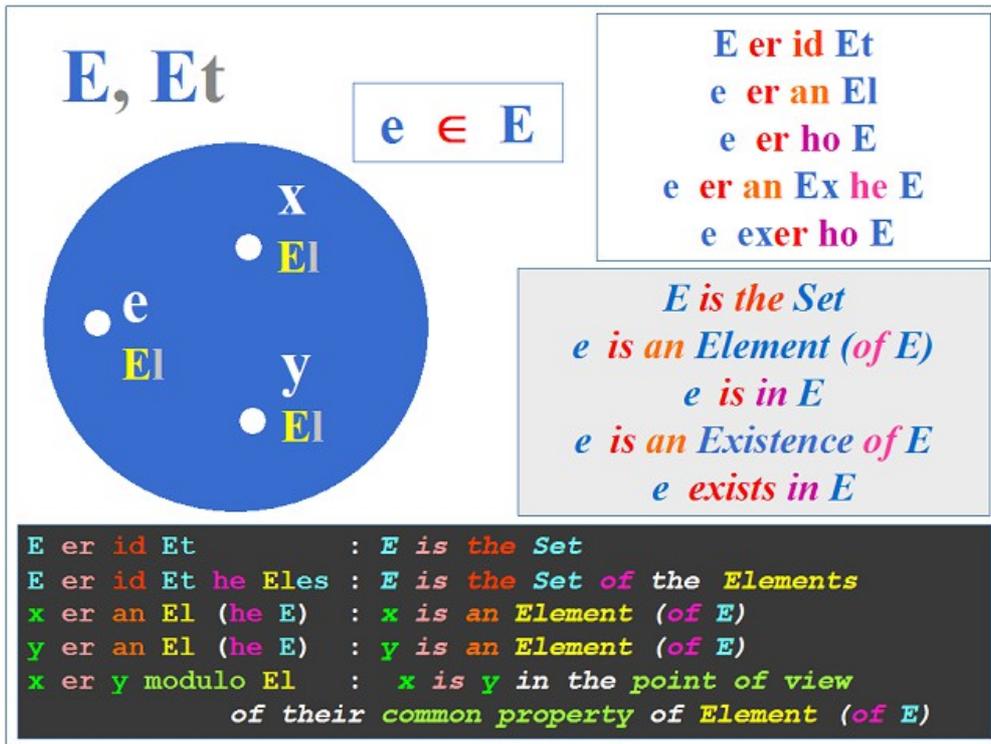
So, the **Tree of M** is the fundamental definition of the **Set of all the Ms**.

In particular, the TOTAL Universe is the **Tree of U**, his Root is the Alpha, **U**:
U, UU, UUU, UUUU, UUUUU, …
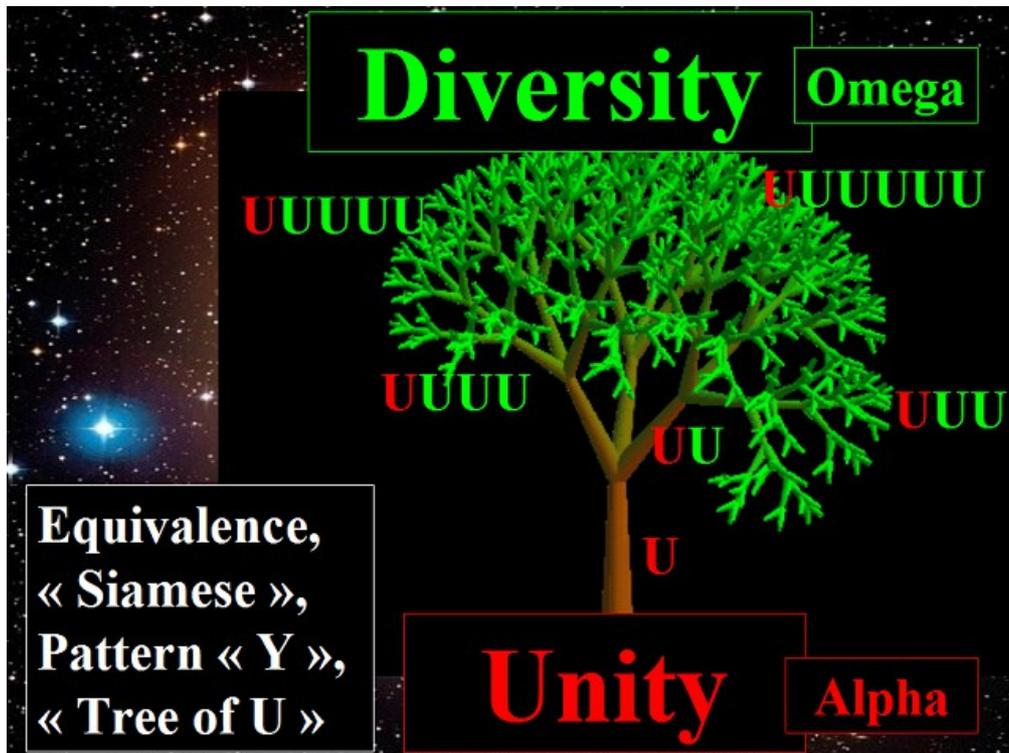
The TOTAL Universe is the most fundamental **Tree**, the **Tree of U** or the **Tree of the Us**.
In other words, the TOTAL Universe is the **Tree of all things**, the **Set of all things**.

The word in Verba to say "**Thing**" is "**Ux**", because any thing is a generescence
of the form: **U . X**, the general formula of the **Tree of U**:
U, UU, UUU, UUUU, UUUUU, …

So we can easily see that the **Tree of M** is the TOTAL Universe, but his **M Version**,
since that **Tree** is simply all the generescences of the TOTAL Universe,
but with the **signature M** instead of the **signature U**.

For example, if we consider the generescence **UUU** or **3**,
the generescence **UUUUUUUU** or **8** which is the **Five** in the **Tree of UUU**:

UUU,
UUU.**U**,
UUU.**UU**,
UUU.**UUUU**,
UUU.**UUUUU**, the **Eight** is the generescence **Five** in the **Tree of UUU**.
etc.

The **Eight**, **UUU**.**UUUUU**, is called the "**Five of Three**", or "**5 he 3**" or "**5 . 3**".

In Verba, "**he**", which means "**of**", is the operator of **association** or of **linking**.
The word "**hen**" means "**link**" or "**union**", so the name "**HENER**" of that operator,
the **maker of sets**.

The generescence **UUU**.**UUUUU**, or "**5 . 3**", is also called "**Five point Three**"
(in Verba "**5 pix 3**"), the "**Version Five of the Model Three**", or again "**Five in the Extension Three**".

In this last case, it is rather written "**UUUUU**.**UUU**",
exactly as when we say "**science-total-universe**.**org**".
We know that it means we are talking about a website named "**science-total-universe**", but
with the **extension** "**.org**", the **version** "**.org**", the **signature** "**.org**", the **root** "**.org**", the **tree**
"**.org**", etc.

And also, "**science-total-universe**.**net**" or "**science-total-universe**.**fr**" is of course "**science-total-universe**", but of an other **tree**, another **root**, another **signature**, another **modelo**, etc.

All the websites of the same the extension "**.org**" are so of the same **tree**,
they have the same **root**:
science-total-universe.**org** , **toto**.**org** , **tata**.**org** , **titi**.**org** , **tete**.**org** , **tutu**.**org** , etc.

As any website can theoretically have a version "**.org**", so the whole Internet can be in the
version "**.org**", can be of the tree "**.org**".
And also the whole Internet can be of the tree "**.net**", and so on.

And now, let us see the TOTAL Universe as the Greatest Internet that can exist, the most
fundamental one. All what we can do in Data-Processing is simply the imitation of the
functioning of the TOTAL Universe, the greatest Data-Processing Machine. We run like that
because we are made like that. All things function like that.

Generescence, Patter "Y" and the Law of the TOTAL Reality

So, the **Tree of M** means that we are talking about the **M version** of the TOTAL Universe.

And as we have an Infinity of generescences **M**, that means we have an Infinity of versions
of the TOTAL Universe, so an Infinity of Universes.
The TOTAL Universe has an Infinity of versions in himself,
all the Infinity of versions.
This is another way to find the Law of the TOTAL Reality
we talked about in the previous book and above.
And that is not all…

We were concentrating our attention on the **Modelo** or **Model M**, without seeing what is happening as the generescences (**U, UU, UUU, …**) deploy on the **Model**:
M.X : **MU, MUU, MUUU**, etc.

What is happening is very simple: the **Model M** is varying, is changing, is being transformed, is becoming everything in the TOTAL Universe, the **M Version** of all the things in the TOTAL Universe.

And the generescences of the form **M.X** are all the forms and the versions of the thing **M** that exist in the TOTAL Universe.

For example, **Electron** is a generescence, a **Modelo**, a **Model**.
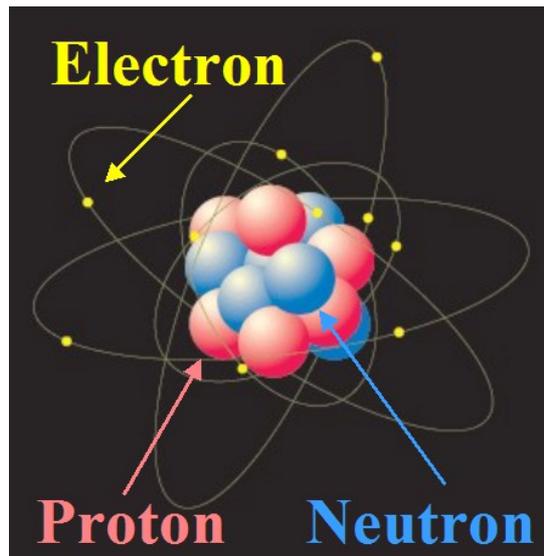
So all kinds of Electrons that exist in the TOTAL Universe are of the form: **Electron.X** or:
Electron.U,
Electron.UU,
Electron.UUU,
Electron.UUUU,
etc.

That is the **Tree of Electrons** in the TOTAL Universe, the **Set of all Electrons** or the **Equivalence Class** of the **Electrons** (as we saw it in the previous book).

Behind that apparent static generescences is hidden several very important truths:

First, the single thing which is the **Electron** becomes an infinity of versions of the **Electron**. Each version has its own **identity number**, its **ID** as we say it in the current data-processing languages and as we say it in Verba. These numbers are: **U, UU, UUU, UUUU, …**. They are what makes an **Electron** different from an other one.

In the terms of the Quantum Physics, each **Electron** must have its own **quantum numbers**, which describe its state (movement parameters, level of energy, etc.). That is what are the generescences **U, UU, UUU, UUUU, …**.
And that is not all…

Secondly, there is an other deep and surprising truth: the generescences **U, UU, UUU, UUUU, …** are all the things of the TOTAL Universe. This means that for any thing **X** which exists in the TOTAL Universe (that is to say for ALL things), the **Electron** exist under the form **X**, and also **X** exist under the form **Electron**.

For example, the **Electron** also exist as a **Cat**, a **Rabbit** or a **Human being**, and a **Human being** exist as the **Electron**. Very surprising, magic and miraculous, isn't it?

Are more precisely, the **Electron** as a **Cat**, is simply the generescence **Electron.Cat.** since the **Cat** is also a generescence, a **Model** in the Total Universe. In the **Tree of Cats**, that isto say the **Set of all Cats** in the TOTAL Universe, there is a Model which is the generescence **Cat.Electron**, the model of the things which are at the same time **Cat** and **Electron**. the generescence **Electron.Cat.** and the generescence **Cat.Electron** are the same generescence. The things of that Model are the ones which are **intersection** of the **Set of the Cats** and the **Set of the Electrons**:

Generescence, Tree of Models, « Pattern Y » and Intersection of Sets

Electron

Cat
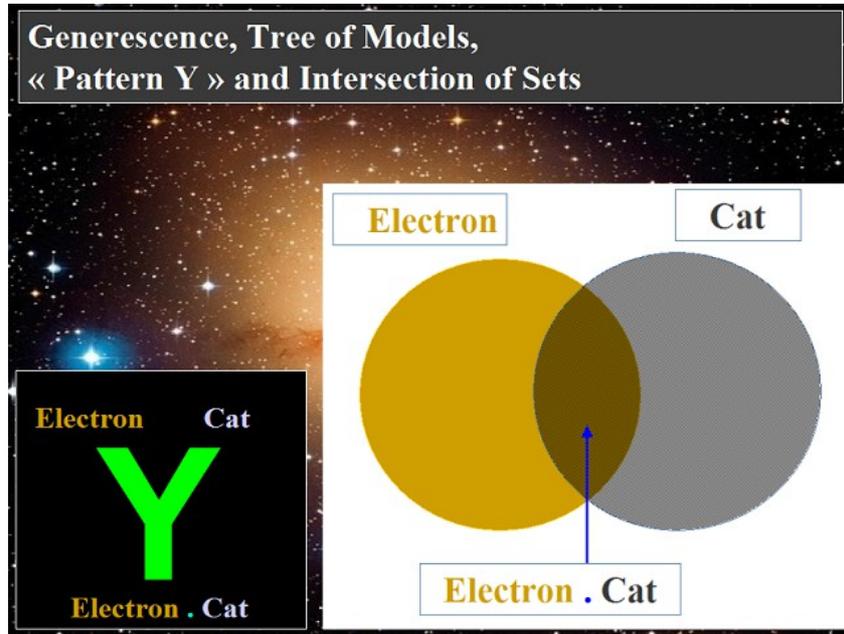
Electron . Cat

If we are not in the appropriate Universe, an Universe whose **Omega Constant** allows it (that is to say which is enough large, factorial and combinatory to make exist that combination), we can not see that hybrid creature "**electron-cat**", but we can, as in our Universe, see only **electrons** or **cats**, and we can wrongly conclude that the creature "**electron-cat**" does not exist at all, like also **Pink.Elephant**, **Flying.Horse**, **angels** or **Flying.Human**, etc.

X ER Y
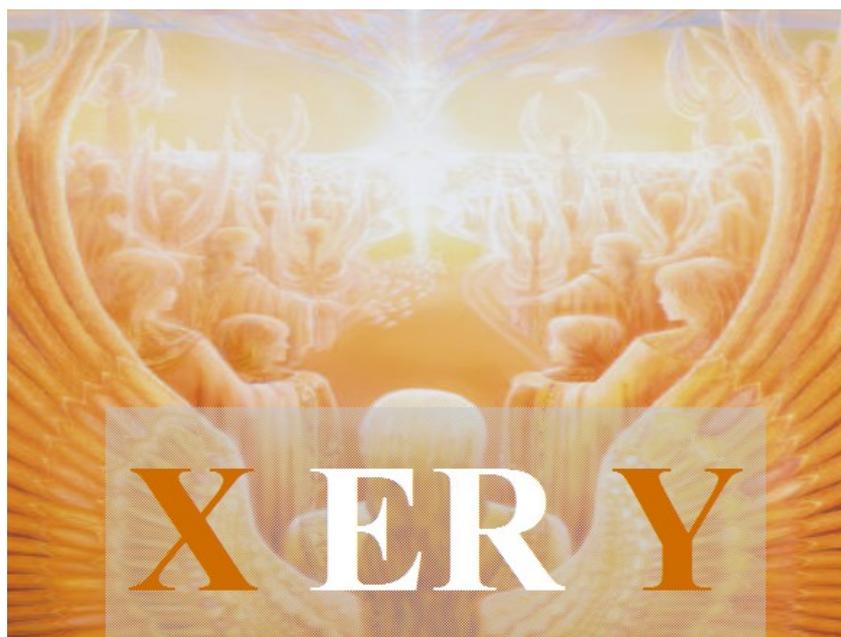
And we can say that there are mythic things or things which only exist in the children's stories, in the imaginary world of Snow White or… in the Bible.

In a given Universe, like currently our Universe in a state of disconnection from the TOTAL Universe, we can think that some things are absolutely separate, we do partitions between things, for certain sets we only the empty set as their intersection. For example we know things we call **Human beings**, and we know that they haven't the capacity to fly. And we know things like **Birds**, which are not **Humans**, but which have the capacity to fly. As we don't know **Human.Bird** or **Bird.Human**, we say that the **intersection** or the two sets is an **empty set**, which is usually noted ∅.

But we only see things that our Universe and its tiny **Omega Constant** (which hardly exceeds Googol or 10^{100}) allows us to see:

Constant Omega of OUR universe

Object Alpha	Object Omega	Omega / Alpha
Diameter of a Quark $\leq 10^{-18}$ m	Diameter of OUR universe $\approx 1.3 \times 10^{26}$ m	$\approx 10^{44}$
Atom 1	Number of Atoms of OUR universe $\approx 10^{80}$	$\approx 10^{80}$
Energy of a Quark « u » ≈ 2 MeV	Energy of OUR universe $\approx 2 \times 10^{83}$ MeV	$\approx 10^{83}$
Energy of a visible Photon ≈ 2 eV	Energy of OUR universe $\approx 2 \times 10^{89}$ eV	$\approx 10^{89}$

$$\omega \approx \text{Googol} = 10^{100}$$

Now let us understand that the **reunion** of all things is the TOTAL Universe, the **Tree of U**, the **Set of all things**. And also, the **intersection** of all things is the TOTAL Universe.
In the scale of the TOTAL Universe, things are not separate.

Things are not never absolutely separate, there always exist a scale or a certain higher Universe (failing this the TOTAL Universe) where all things join, where they are in the same Tree.

Thus, Human and Bird necessarily join in a certain Universe (failing this the TOTAL Universe), where there exist the generescence **Human.Bird** or **Bird.Human**. Precisely, where that generescence can be manifest. That generescence exists in our Universe (as in any Universe), but in the depths of its structures, so deeply that we cannot reach that kind of things, whatever is the tools we use to reach that realities, like for example our very huge Particle Accelerator named the LHC:

As we already said it, the parameter Omega of an Universe determines its characteristics, and so its limits, its infinitely small and its infinitely large.

If **W** is the **Omega Constant** of a Universe, **1/W** is its lower limit, its **Alpha**, its **Zero**.
In the Data-Processing terms, we can call it the **Resolution** or the "**Pixel**" of that Universe.
It determines the smallest values which can be measured in that Universe, its smallest things which can be detected with the measuring tools.

We can see the Planck constant (**h**) as a constant of the kind of **1/W**. It is its role in the current physics. Beyond the Planck Era (or the Planck Wall), the current physics (which does not work in the Paradigm of the TOTAL Universe) collapses, and so needs to change its paradigms and work in the Paradigm of the TOTAL Universe, as we are doing it.
There, with the generescences and the Alpha and the Omega, we have the general and deep understanding of the Universe and things, we can at last do the Physics of Everything, as we are doing it.

We can now and in the future reach the unknown realities by simply connecting again to the TOTAL Universe and to his Paradigm we lost by Negating him (we'll see that aspect of the question from the video-book 4).

The Science of the TOTAL Universe we are discovering is the beginning of the process of reconnecting to the TOTAL Universe:

All that will be clear from the book-video 4

The Modelo and the Modulo…

Let us see now how the movement is explained in terms of generescences, where we deeply understand the Universe and things.

The generescences **Theophilus.Seated** and **Theophilus.Standing** are two branches of the **Tree of Theophilus**, two variations of the Model **Theophilus**. Both generescences are Equivalent because of their common root **Theophilus**. That is how **Theophilus** can move, can change, can vary, can evolve, pass from the state of a Baby to the state of Adult, and yet be the same and one **Theophilus**.
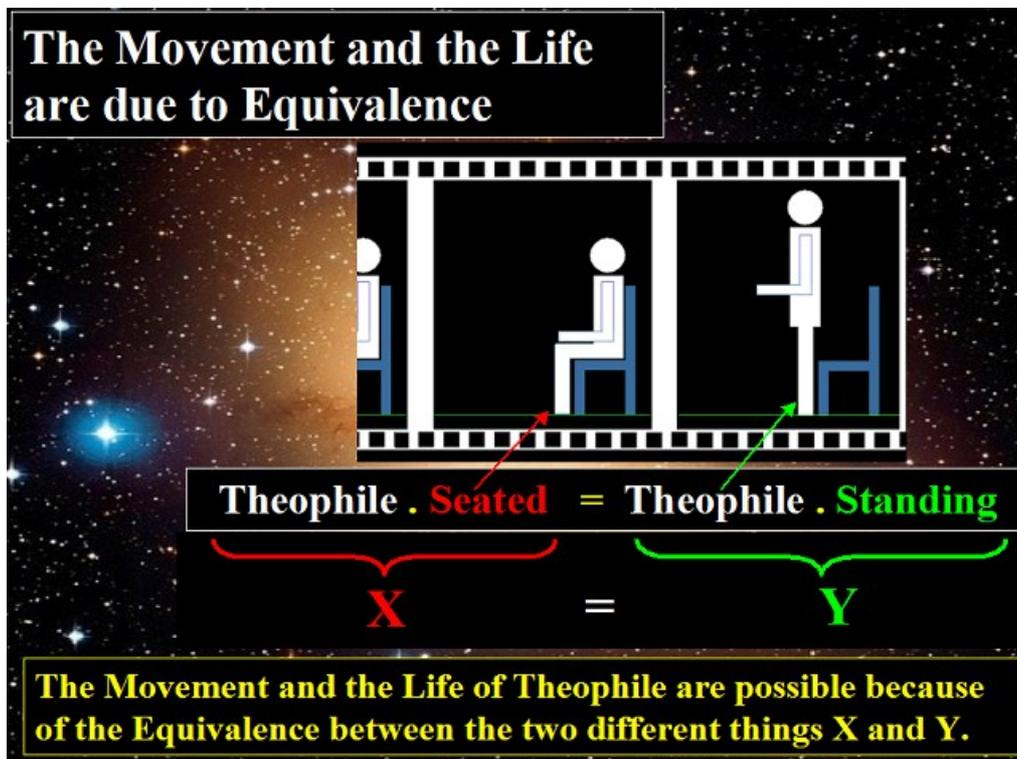
So, any generescence **M** given, all the variations of **M** are of the form **M.X**:
 MU, MUU, MUUU, etc.,

And we can very easily see that among these generescences (these **Branches** of the **Tree of M**), there are special ones, the generescences of the form:
**M, MM, MMM, …**
which are simply the **infinite iterations** (or **generation**) of **M**:
M.M.M.M.M. … or **M…** or **M GENER**.

In that special case, the **Modelo** or **Model M** is called the **Modulo**, as we saw it above when introducing the operator GENER.

As in the example of the Model **Electron**, two **Dolphins**, two occurrences or instances of the Model **Dolphin**, two "branches" of the Tree **Dolphin**, are Equivalent Modulo **Dolphin**:
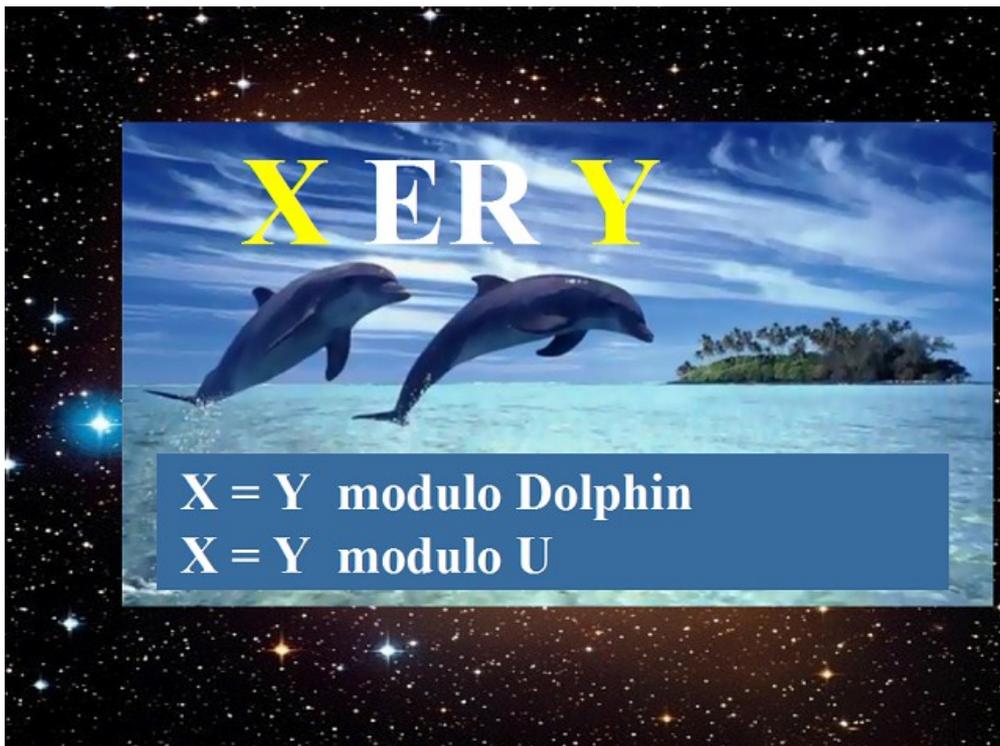
Each **Dolphin** is a variation of the Model **Dolphin**, for example **Dolphin.X** and **Dolphin.Y**, but regardless of their specificities, both are the generescence:
Dolphin.Dolphin.

And regardless of what makes the **identity** of each **Dolphin** in a set, in other words regardless of the variations of the Model **Dolphin**, these **Dolphins** are simply a generescence of the form: **Dolphin.Dolphin.Dolphin.Dolphin. …**

And also, the generescence **Human**.**Human**.**Human**.**Human**. **…,**
regardless of the variation of the Model, the color, the sex, etc.
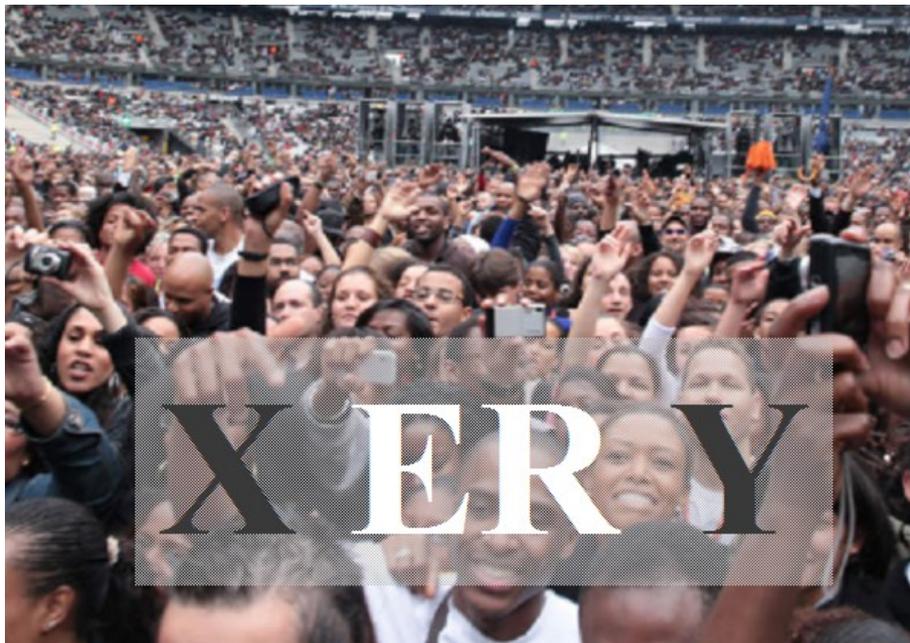
The Verba: the Language of Generescences,
of the TOTAL Universe, of the Life…

To conclude this important overview of the Data-Processing of the TOTAL Universe,
let us talk more about the **Universal Set Language** (or the **Verba**) , the Language of the
TOTAL Universe we talked about in the previous book (the book 1) and also above.

It is with the generescences that we fully understand that Language and its logic, and also
the deep secrets of our Languages.

We speak as we are made, that is that say we simply and naturally speak the Language of
generescences.

Universal Set Language

	T **Et, Ut**	**L** **El, Ul**	**U, O…, O** **Universum**	**X** **Ex, Ux**	**∀, A** **Au, Aut**	**=, E, R** **Er, Ur**
🇫🇷	**Ensemble**	**Élément**	**Univers** Total, Complet	**Chose**	**Tout** **Tous**	**Être**
🇬🇧	**Set**	**Element**	**Universe** Total, Complete	**Thing**	**All** **Every**	**(To) Be**
🇩🇪	**Menge**	**Element**	**Universum** Gesamt, Völlig	**Sache**	**Alle**	**Sein**
🇪🇸	**Conjunto**	**Elemento**	**Universo** Total, Completo	**Cosa**	**Todo**	**Ser**
🇪🇸	**Aro**	**Elemento**	**Universo** Totala, Tuta, Plena	**Ajo**	**Ĉio**	**Esti**
🇮🇱	קבוצה **(Kvutsa)**	איבר **(Hiver)**	היקום **(Hayekum)**	דבר **(Davar)**	הכ **(Kol)**	להיות **(Lihyot)**
🇨🇳	集合 **(Jí_Hé)**	分子 **(Fèn_Zǐ)**	宇宙 **(Yǔ_Zhòu)**	物 **(Wù)**	都 **(Dōu)**	乃是 **(Nǎi_Shì)**

The Verba is an implementing of the Universal Set Language, the Structure, the Logic and the Functioning of the **Tree of Models** we saw above.

So that implementation is based on the generescences:

66

Cyclical Alphabet of Verba

ØØ	=																	Y	U			ΩΩ

| _ | A | E | I | O | Ä | Ë | Ï | Ö | Ā | Ē | Ī | Ō | Â | Ê | Î | Ô | AU | EU | IU | OU | A |

...Z A B E C I D O F A G E H I J O K A L E M I N O P A Q E R I S O T A V E W I X O Z A...

...A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41

ŋ a b ɛ t͡ʃ I d ɔ f a:d͡ʒ e h i j o k ɑ l æm ɏ n ʊ p ɒ g ø r y s u t a v ɛ w I k ɔ z e

ʊ ʊ ʊs ʊ o

IPA Pronunciation

The Alpha **U**, as the quantum of the Alphabet of the Verba is the letter "**A**":

A = A
AA = B
AAA = E
AAAA = C
AAAAA = I
AAAAAA = D
AAAAAAA = O

…

The Alphabet of the Verba is called the "Abecido".
It is an Alphabet of 40 letters, 20 consonants and 20 vowels, which alternates.
The 20 consonants are the 20 consonants of the classical Latin Alphabet:

O	U	B	C	D	F	G	H	J	K	L	M
0	1	2	3	4	5	6	7	8	9	10	11

N	P	Q	R	S	T	V	W	X	Z
12	13	14	15	16	17	18	19	20	ω

Notice that **C** is always pronounced /t͡ʃ/, and that **G** is always pronounced /d͡ʒ/.
Q is the letter devoted to the sound /**g**/.

Here are the main consonant digraphs:
BH : /β/
DD : /ɖ/
DH: /ð/ , like in "**th**e"
PH: /ɸ/
SH: /ʃ/, like in "**sh**e" or in "**e**ng**li**sh"
TT: /ʈ/
ZH: /ʒ/

And then the 20 vowels :

Verba Vowels

The 20 fundamental vowels of Verba
Special additional vowels : ∅ /oe/ , Ω /eo/

Ö : Verba notation
/o/ : IPA pronunciation
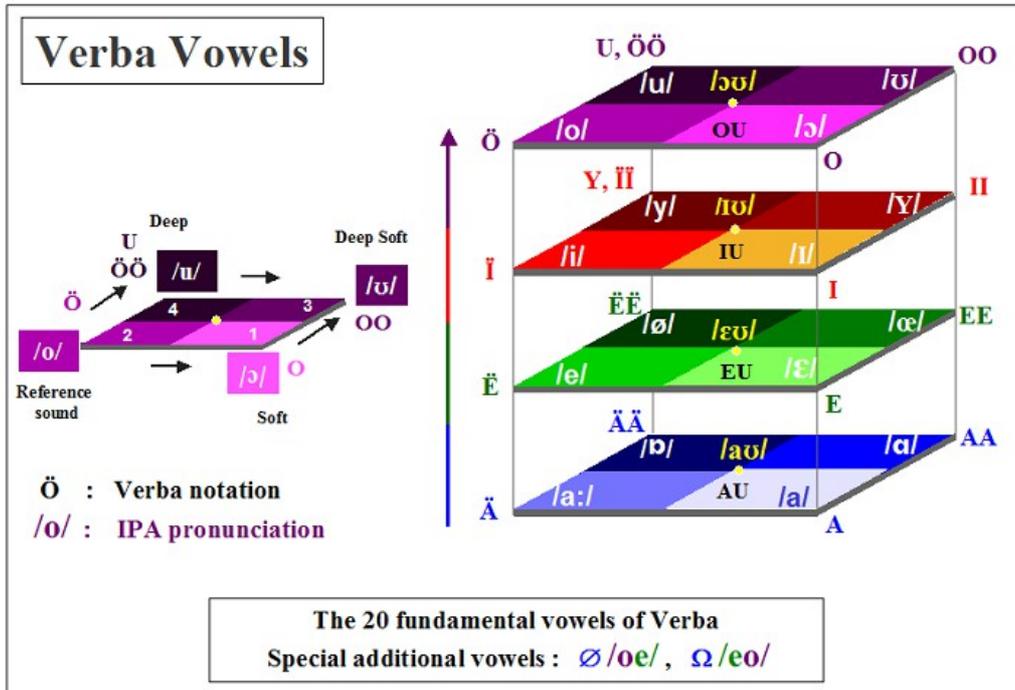
As for the syntax of the Verba, the grammar, the conjugation, etc., it is very simple and regular. The Verba simply follow the logic of generescences, of the Tree of Models.

We saw that for two generescences **A** and **B** given, **A.B** is a new generescence.

So in the Verba, for two words **A** et **B** given, **A B** is a new word, a new meaning, combining **A** et **B**. The HENER "." is generally replace by the space, " ", but if necessary it is written, as any sign, any operator (addition, multiplication, etc.). No combination is forbidden in Verba, because no generescence is forbidden in the TOTAL Universe. All the generescences exists, all the things, all the meanings, so is the Verba.

Every word or letter is an operator, and everything is free combination of operators.
The basic operators are the ones to say: SET, ELEMENT, "To BE" "THING", etc.

E, Et

$e \in E$

E er id Et
e er an El
e er ho E
e er an Ex he E
e exer ho E

E is the Set
e is an Element (of E)
e is in E
e is an Existence of E
e exists in E

```
E er id Et          : E is the Set
E er id Et he Eles  : E is the Set of the Elements
x er an El (he E)   : x is an Element (of E)
y er an El (he E)   : y is an Element (of E)
x er y modulo El    :  x is y in the point of view
          of their common property of Element (of E)
```
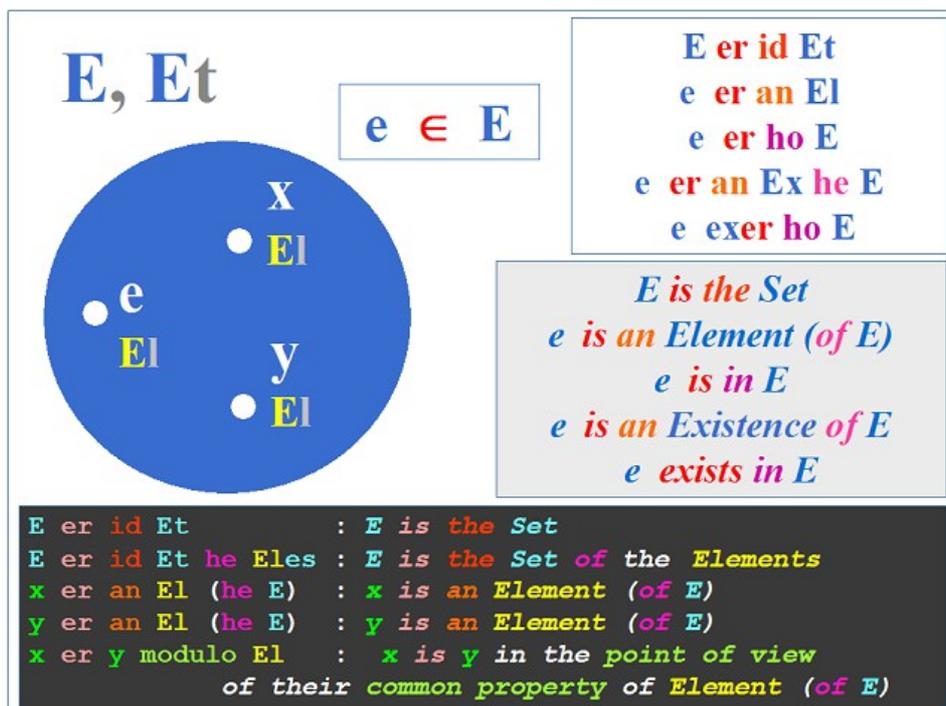
Let us understand, please, this important point:
as everything is a generescence, so fundamentally a number,
any word in any language, and in particular in Verba, is a number.
Any word designates a number.

A word is an alphabetical number. Indeed, from the moment we use an ordered alphabet,
whatever is that alphabet, the letters are also automatically numbers:

For example, to say in the Latin Alphabet: **A, B, C, D, E, F, G, H …** is automatically to say: **1, 2, 3, 4, 5, 6, 7, 8…**. And that also means that the letters are **short names** of the
generescences: **U, UU, UUU, UUUU, UUUUU, UUUUUU, UUUUUUU, UUUUUUUU, …**.
In Verba, the alphabetical sequence is: **A, B, E, C, I, D, O, …**.

So if we consider a word as **ANGELIKA**, this word is automatically in the Latin Alphabet the
alphabetical number:
A.N.G.E.L.I.K.A = 1.14.7.5.12.9.11.1 = 1 + 14 + 7 + 5 + 12 + 9 + 11 + 1 = 60.
And the same word in the Alphabet of Verba is the number:
A.N.G.E.L.I.K.A = 1.22.10.3.18.5.16.1 = 1 + 22 + 10 + 3 + 18 + 5 + 16 + 1 = 76.

And in the on the other hand, the woman named **Angelika** is a generescence, a large
number we'll call **K**.

So to call that woman **Angelika** is simply to put this **equivalence**:
K = 60, if we call her in the Latin Alphabet, or:
K = 76, if we call her in the Alphabet of Verba.

And, please, notice that we are not doing gematria, but we are simply seeing a very
important aspect of the **generescences**, of the **Data-Processing** of the TOTAL Universe, of
the **Equivalence**, of the **Functioning** of the TOTAL Universe, of his **Language** (the
Universal Set Language or Verba), etc.

Everything is a **generescence** (a **number**) and a matter of **equivalence** between
generescences (we'll see the great importance of the **Equivalence** in the next video-book,
the book 4). And in particular, the Language is a matter of numbers and equivalence
between numbers. Letters and words are numbers to call other numbers.

To **call** is simply to put an **equivalence** between two numbers.
And as things such as a **man**, a **woman**, a **child**, a **flower**, a **star**, a **galaxy**, etc.,
are very large numbers, the **letters** and the **words** are simply small numbers or special
things whose role in the **TOTAL Universe** is to **call** the other things in the TOTAL Universe,
to **represent** the other things, to be their **images**.

That is why a good Language must necessarily be fundamentally a Language of Numbers,
it must be the exact representation of how things function in the TOTAL Universe,
as faithfully as possible.

That is what we are trying to do with the Verba, that is what we are proposing you.
This is simply one of the infinity of the ways to implement the generescences as a Language,
maybe you can in the future do better than we do (it is the goal..)
and this is an example to begin in the Speaking of the Universal Set Language,
the Language of the TOTAL Universe.
We are starting curing of our Languages of Babel Tower and speaking
the Universal Set Language:

Universal Set Language

	T Et, Ut	L El, Ul	U, O…, O Universum	X Ex, Ux	∀, A Au, Aut	=, E, R Er, Ur
🇫🇷	Ensemble	Élément	Univers Total, Complet	Chose	Tout Tous	Être
🇬🇧	Set	Element	Universe Total, Complete	Thing	All Every	(To) Be
🇩🇪	Menge	Element	Universum Gesamt, Völlig	Sache	Alle	Sein
🇪🇸	Conjunto	Elemento	Universo Total, Completo	Cosa	Todo	Ser
🇪🇺	Aro	Elemento	Universo Totala, Tuta, Plena	Ajo	Ĉio	Esti
🇮🇱	קבוצה (Kvutsa)	איבר (Hiver)	היקום (Hayekum)	דבר (Davar)	הכ (Kol)	להיות (Lihyot)
🇨🇳	集合 (Jí_Hé)	分子 (Fèn_Zǐ)	宇宙 (Yǔ_Zhòu)	物 (Wù)	都 (Dōu)	乃是 (Nǎi_Shì)

U, Ut

$$u \in U$$

u er an Ul *(he U)*
u er an Ux *(he U)*
u er ho U
u exer ho U
u uxer

u is a Constituent (of U)
u is a Thing (of U)
u is in U
u exists in U
u exists in the Absolute

```
U er Ut              : U is the TOTAL Universe
U er id Et he (AUT) Uxes : U is the Set of (ALL) Things
x er an El (he U)    : x is an Element (of U)
x er an Ul (he U)    : x is a Constituent (of U)
x er an Ux (he U)    : x is a Thing (of U)
```

Verba

Now, let us see how we form the names of numbers in Verba.
In English for example, we say:

One, Two, Three, Four, Five, Six, Seven, etc.

But it is very to notice that if I learn English and if I know the Alphabet of English,
I must then learn the name of numbers, whereas the alphabet is already numbers.

And if I know how to say "**1**" in English, namely "**One**", nothing helps me to guess how to say
"**2**", namely "**Two**". And knowing "**4**" or "**Four**" does not indicate how to say "**6**" or "**7**", and so
on.

So in the current Languages of Babel Tower, words are very random, aleatory.
My brain is a simple hard disk wherein I put random data,
or a data base with few relations between recorded information,
few logical way to go from an information to another.
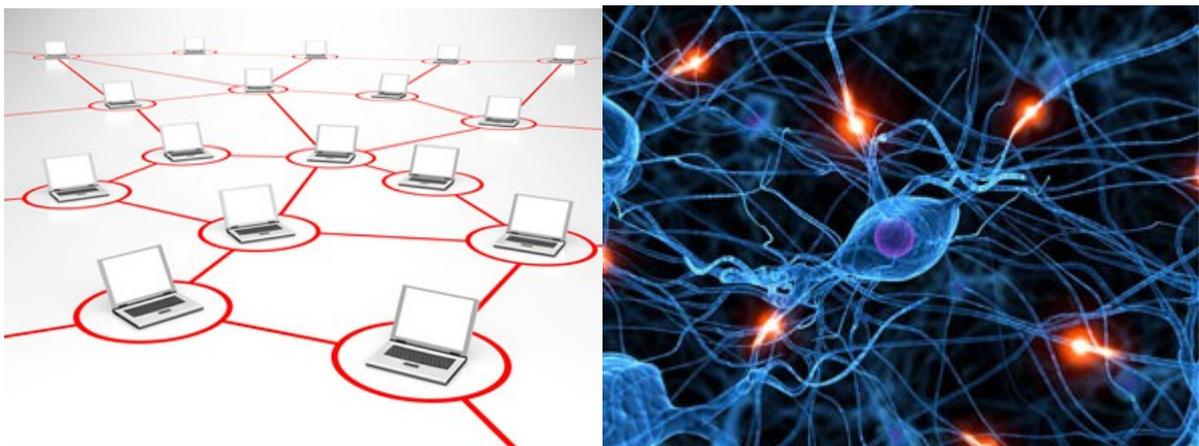
The BRAIN: the Center and the Receiver of the Consciousness that is the TOTAL Universe, the FRACTAL Universe

*Most of the energy of our Brain is currently wasted
to record random data, to put order in that,
to try to find those information(s), to remember them, etc.
The Language of Babel Tower are very great obstacle in the functioning of the Brain,
they make very difficult the discovery of the TOTAL Universe,
the full connection and interaction with him,
they restrain the faculties and the power of the Brain.
But the more the Brain can make relation between information(s)
the more it is intuitive, intelligent and powerful.*

Let us see now how in Verba we form the name of the numbers,
one of the infinity of way to implement this in conformity with our intuitive conception of
numbers.

Since everything is fundamentally a number, what we call "numbers" are in a restrictive
meaning simply the relative "**small numbers**", the "**small generescences**":
0, 1, 2, 3, 4, 5, 6, 7, …, 1000, 10000000000000, 5235411244778522, etc.
The rules we'll indicate are valid or useful only for that first case of numbers.

But when the numbers (the generescences) become "**large numbers**" ("**large
generescences**"), we simply call them:
Theophilus, Angelika, Man, Woman, Child, Flower, Star, Galaxy, etc.

Here is the array of the elementary bases of the new system of numbers:

O	U	B	C	D	F	G	H	J	K	L	M
0	1	2	3	4	5	6	7	8	9	10	11

N	P	Q	R	S	T	V	W	X	Z
12	13	14	15	16	17	18	19	20	ω

The consonants of the Verba are the symbols of the numbers greater than 1.
Z is the base **Omega** (ω) or **Infinity**, and that also means "**any base**".

We can combine these elementary bases to get new bases, according to the following rules:
1) Concatenating two bases is add their numbers
FX = F.X = 5.20 = 5 + 20 = 25
LW = L.W = 10.19 = 10 + 19 = 29
FOX = F.O.X = 5.0.20 = 5 + 0 + 20 = 25
LOW = L.O.W = 10.0.19 = 10 + 0 +19 = 29
LUX = L.U.X = 10.1.20 = 10 + 1 +20 = 31

In other words, **O** is the **HENER 0** or concatenation or addition.

So in particular:
O = 0   or   **+ = 0**
OO = O.O = 0.0 = 0 + 0 = 0   or   **++ = 0**
OOO = 0.0.0 = 0.0.0 = 0 + 0 + 0 = 0   or   **+++ = 0**
etc.

U = 1
UU = U.U = 1.1 = 1 + 1 = 2
UUU = U.U.U = 1.1.1 = 1 + 1 + 1 = 3
etc.

2) The letter **A** means the **HENER 1** or multiplication:
FAX = F.A.X = 5.×.20 = 5 × 20 = 100
LAW = L.A.W = 10.×.19 = 10 × 19 = 190

3) The letter **E** between two bases means the **first base power the second one** :
BEC = B.E.C = 2.E.3 = 2 ^ 3 = 2^3 = 6
FEX = F.E.X = 5.E.20 = 5 ^ 20 = 95 367 431 640 625
LEK = L.E.K = 10.E.9 = 10^9 = 10^9 = 1 000 000 000
So, the powers of **10** begin by **LE:**
LE = LEU = 10
LEB = 100
LEC = 1000
LED = 10000
etc.
LELEB = 10^{100}

3) The letter **I** means that a number is described by spelling simply its digits in a certain base, the default base is **L** or **10**:
Zo = 0, so **Zo** is another way to say **Zero** in spelling numbers
Zu = 1, so **Zu** is another way to say **One** in spelling numbers
Bi = 2
Ci = 3
Di = 4
etc.
BICIDI = BI.CI.DI = 2.3.4 = 234
FIBIKI = FI.BI.KI = 5.2.9 = 529
FIBIKI BICIDI = 529 234
BIZODI = BI.ZO.DI = 2.0.4 = 204
BICIZU = BI.CI.ZU = 2.3.1 = 231
This method is useful to express quickly small numbers (from **0** to **999** for example) and then to combine them with the other methods:
FIBIKIOBICIDI = FIBIKI.O.BICIDI = 529 + 234
FIBIKIABICIDI = FIBIKI.A.BICIDI = 529 × 234
FIBIKIEBICIDI = FIBIKI.E.BICIDI = 529 ^ 234.

5) The word of the form **HYZI** , where **Z** is a base, means the **HENER Z**:
HYBI = H^2 = ^ = Exponentiation
HYCI = H^3 = ^^ = Tetration
HYDI = H^4 = ^^^ = Pentation
etc.

So :
CIHYBIFI = CI.HYBI.FI = 3 H^2 5 = 3 ^ 5 = 3^5 = 243
FIHYCIXI = FI.HYCI.XI = 5 H^3 20 = 3 ^^ 20
LIHYRIWI = LI.HYRI.WI = 10 H^{15} 19

In case of ambiguity, here are the order of priority of the operations:
O and U < A <   E < HYBI < HYCI < HYDI < ….

For example, in **BOCAD**, we first multiply **C** by **D** ("**CAD**") and then add **B**.
That is to say: **B + C × D** or **2 + 3 × 4 = 2 + 12 = 14**,
and not **(2 + 3) × 4 = 20**.

And in **BACED**, we first do **C^D**   and multiply the result by **B**:
B × C^D = 2 × 3^4 = 162.
And also, **BOCED** is the number **B + C^D = 2 + 3^4 = 83**.

And generally, in a name of a number, the letter "**Y**" indicates a special operator.
The letter just before the letter "**Y**" indicates the kind of that special operator.

For example, the letter "**H**" means that we have an operator of the kind "**HYZ**" which is an Hyper-operator or a HENER of higher order.

The operator "**CY**" means the opening parenthesis, "**(**",
and the operator "**DY**" means a closing parenthesis, "**)**".
They can be necessary to avoid ambiguities in the name of number.
These operators are of the higher priority, as we usually use them is computing.
For example:
BOCED means the number **B + C^D = 2 + 3^4 = 83**,
but if we want to talk about the number **(B + C)^D = (2 + 3)^4 = 625**,
we can call it **CYBOCODYED**.

6) In Verba, the word "**number**" is said "**num**", and that word is fundamentally synonym of "**generescence**", said "**gen**", of "**thing**", said "**ux**",

The operator **Om** means "**The Quantum U Before the First**" or "**Zeroth**",
and the operator "**On**" means "**The Quantum U Before One**" or "**Zero**" or "**0**".
The operator **Um** means "**First**", and the operator "**Un**" means "**One**" or "**1**".

"**First**" and "**One**" are also said "**Äm**" and "**Än**".
And, in a context of relation between a **set** and one of its **element**,
we use another synonym of "**One**", namely "**An**":

"**X er an ux**" : "**X is a thing**", that is to say "an element of the TOTAL Universe, the Set of all things";

"**X er an gen**" : "**X is a generescence**", an element of the Set of all generescences, the TOTAL Universe;

"**X er an num**" : "**X is a number**", an element of the Set of all numbers, the same TOTAL Universe.

Zero[th] is also said **Öëm** or **Øm**, and **Zero** is also said **Öën** or **Øn**.

And the **Infinity-th** is said **Ëöm** or **Ωm**, and the **Infinity** is also said **Ëön** or **Ωn**.

For the other numbers, we add the operator **Um** at the end to say that the number is an **ordinal** (a number which expresses the **order**),
and we add **Un** to indicate that it's a cardinal (a number which expresses the **quantity**).

For example:
Cium means "**Third**" and **Ciun** means "**Three**".

And, if necessary to avoid any ambiguity between the words in general and the words which expresses numbers, we add the special operator " **n'** " (pronounced /ŋ/) in the beginning of a word to indicate that the word must be understood as a number.

For example:
N'cium or **N'ciun**.

So, the name of a number is not only a simple name, a simple label,
but it also indicates the **structure** of the number.
For example, **20** is :
10 + 10,
7 + 13,
1 + 8 + 11,

2 × 10,
4 × 5,
5 × 4
etc.

Each of those structure has its name, the different manners to sat "**20**".

In the life, we often need to say : "I want **two dozens** of apples" ("**2×12**"),
where we could of course say "I want **twenty-four** apples" ("**24**").
But a language in which we can say "I want **two dozens** of apples",
give us a more powerful and accurate expression.

Learning the name of numbers is at the same time learning computing,
properties of numbers and the relation between them.
And thus we learn properties of things and relations between them in the TOTAL Universe,
since everything is a generescence, a number.

We no longer have to learn a language to speak in the life,
another one to do mathematics, another one to do physics or biology,
another one to do data processing science, etc.
We simply speak a language and at the same time we are getting or using
the knowledge of the TOTAL Universe.
Sciences, domains and fields are no longer separate,
Everything talks about the one and same TOTAL Universe.
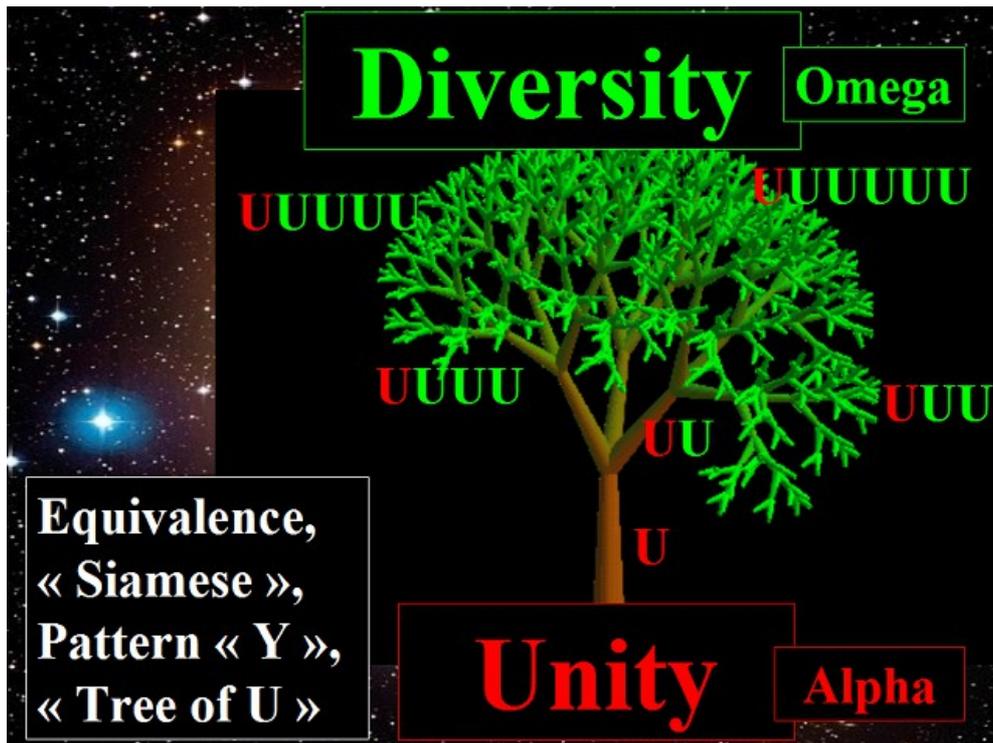
So, we can see the **common** or the **proper nouns** simply as simplifications
of the name of the numbers,
when it is no use to detail the structures of the numbers:
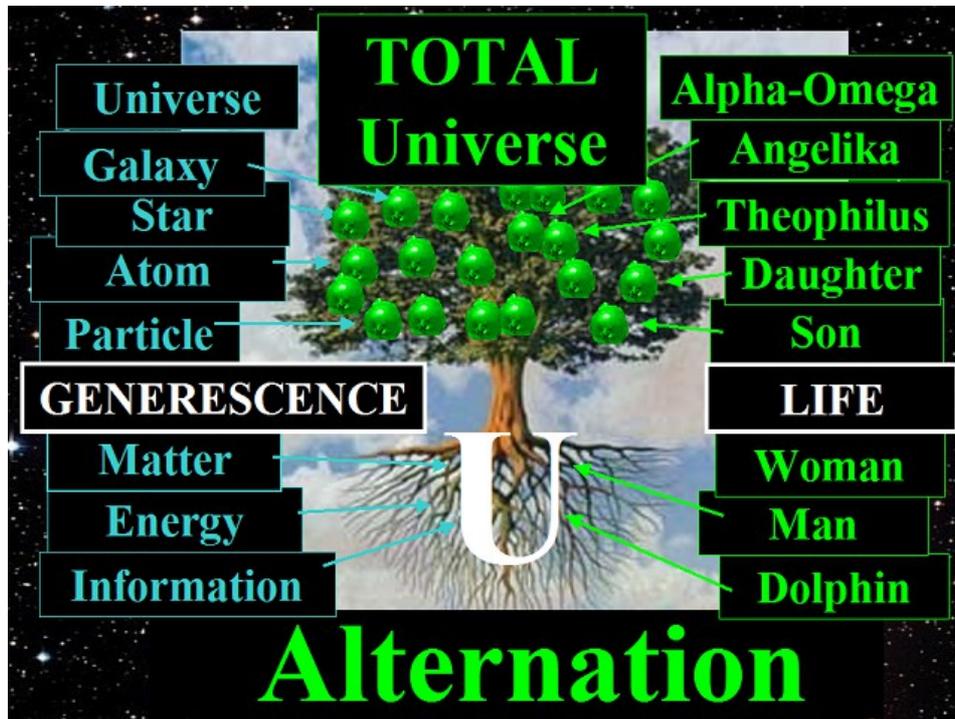
But we must keep the general laws of the generescences,
the Laws of the following **Tree of Models** we detailed above.
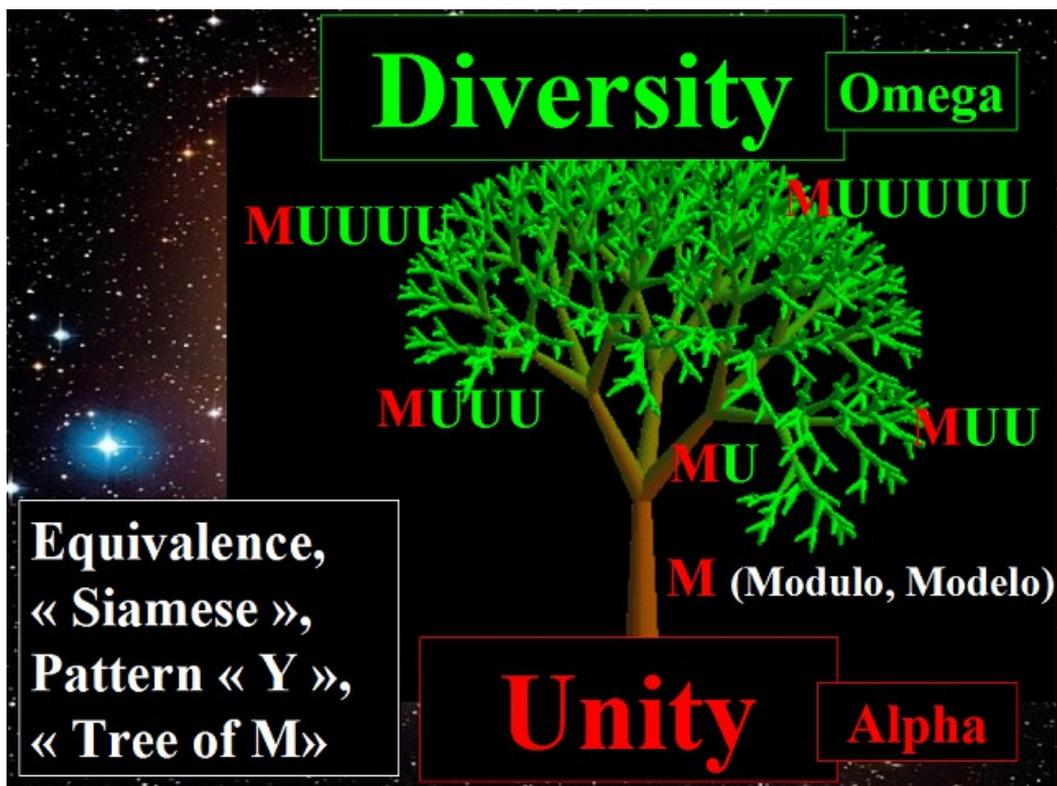
uman: human
h.uman, human : man
sh.uman, shuman : woman
uv : child
h.uv, huv : son
sh.uv, shuv : daughter
et : set
el : element

ut : TOTAL Universe, and generally a physical set, a body
ul : constituent, part
uman.et, umanet : humanity, set of all human beings
umanet.el, **umanetel** : element of humanity
                          (equivalent to human, but with the precise meaning that
                           we are talking about an element of the set of all humans)
er : to be (the main operator of the verb of state, of being)
uman.er, **umaner** : to be a human
humaner: to be a man
shumaner : to be a woman
eter : to be a set
eler : to be an element
ar : to act, to do (the main operator of the verb of action)
etar : to possess
elar : to belong to
ular : to constitute
utar: to have as constituent
X elar Y : X is an element of Y
Y etar X: Y has X as element
umanet etar Theophil : the humanity has Theophil as one of its elements
umanet utar Theophil : the humanity has Theophil as one of its constituent, is physical part.
ex : existence, being (in a given set)
ux : thing, being (in the Total Universe)
exer : to be an existence (in a given set), to exist in a set
exar : to exist (in a given set)
uxer : to be absolutely an existence, to exist absolutely
uxar : to exist absolutely (in the Total Universe)
al : quality (main operator of quality, of adjectives)
er.al, eral : ontologique
exal : existential
ual : universal
uxal : what is true for all things, universal
yt: tree
bhy : life
gen : generescence
genyt: fractal (name)
genytal : fractal (adjective)
hen : link
shen : love
xery : universal equivalence, absolute love
…
And so on:

From the book-video 4, we'll often meet the **Tree of Models** as the **Tree of Alternation** (opposed to the Tree of Negation), the famous **Tree of Life**:

We'll be happy to see you in the next book-video,
for the discovery of an other very great truth:
the Universal Equivalence...