Mathematics and Cosmic Geometry

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Mathematics and Cosmic Geometry

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Summary

Mathematics and Geometry are the disciplines that in our school, from the first grade onwards, are used in order to lead us towards the understanding of reality. The advent of quantum physics, for a period of time, has given us hope that we are on the right track. Today we realize that even it is insufficient too to justify the birth and evolution of universal life. In the near future, terms such as: border science, metaphysics, etc. will have to be filled with clear meanings, and well demonstrated even in the laboratory. But before entering the laboratory, is necessary to have innovative and courageous ideas, in looking beyond the hedge. In this article, some parts are very evident and well demonstrated and, instead, other parts still belong to the innovative intuition, which I developed through many good chats, made with the friend Engineer Francesco De Santis of Rome, who left us on January 6th2022. Driven by a passion for discovering and knowing, Francesco had also developed his knowledge during his working period in Africa, where, attending some areas of African virgin forest and meeting some indigenous tribes, he learned to connect mathematics with nature. I would therefore like to dedicate this article to the memory of this great man of science, which I was lucky enough to know and collaborate with.

Index:

1. Introduction

Mathematics and geometry are two indivisible and complementary disciplines, coming to us from our deepest roots, and which we, human beings, use to represent the reality where everything and everyone are immersed. It is clear that we are descendants of Greek thought, that we appeal with Plato on one hand, and Democritus on the other, looking for the future truth, since the current one is full of questions and unknowns and therefore, instead of truth, proposes us the "doubt". In this context, the Turin scientist: **Regge, 2007**, developed important concepts on the role of geometry in the Universe, where emerged an extended interpretation of Gödel's incompleteness theorem. From this principle we can deduce the reason of Regge's doubt about the “Theory of Everything”, a doubt not mainly dealing with its contents, but about the way it was proposed as a definitive theory.

In Plato's Timaeus, the geometric vision of the Cosmos, based on the harmony of the golden section, and on the Platonic solids, connected in correspondence with air, water, earth, fire, and ether seen as a "fifth essence", represents a milestone in the age of Platonic thought. The blind belief in the immutable and "real" existence of a matter, as a defined substance, and subject to the "principium individuations", disappeared with the advent of quantum physics. Two of the protagonists of quantum mechanics, Heisenberg and Schrödinger, having abjured the hegemony of Democritus, and profitably reconsidering Greek philosophy, decided to follow the path of an immaterialist atomism like that of Plato. In his memoir: "Der Teil und das Ganze” (The part and the whole), Werner Heisenberg, tells us about having read for the first time, Plato's Timaeus in the original language, to practice in Greek for the final exams. This early encounter excited him about the thesis supported by Plato, where it is said that the tiny particles that make up matter correspond to mathematical figures, which in reality are not matter, but geometric representations of groups of "symmetry of space." Heisenberg writes: "In the beginning there was symmetry", which is certainly an expression closer to reality than that of Democritus: "In the beginning was the particle".

The Platonic theory, due to its not very intuitive character, was less successful than the atomistic theory of Democritus. Heisenberg takes in the anti-intuitiveness of the Platonic theory, a profound assonance with the quantum description of reality, accused of illogicality and incongruity precisely because of its distance from our "materialistic logic". The problem of the ultimate consistency of reality, and of the dissolution of the concept of matter, is faced by Erwin Schrödinger, who as a physicist challenged the corpuscular interpretation of reality in favor of the wave one. As a philosopher he has converted his vision of the "continuum of reality" into a reference to Plato, and to Eastern philosophy.

With Heisenberg, quantum mechanics begins to support the idea that contemporary physics must be based substantially on the hypothesis that the fundamental laws of nature are symmetrical, and are invariant, with respect to the use of certain groups of symmetry, even if they are different groups symmetry from those Plato had dealt with. It should be remembered that at the beginning

of the twentieth century Max Planck was the first to investigate this vision of the process of life and introduced the concept of "quantum", seen as the basic building block of energy and mass.

In our scientific history, we have passed from the pre-modern era of "narratives", in which our feeling towards the knowledge of nature came from entities external to man, to the era of the "Galilean measure", within which, the power of "narrative" has been fatally weakened in favor of "determinism", where we humans become a junction point between thought and the outside world. From where we can perceive with our senses, the infinite possibilities of being that atoms allow to form, precisely because we know them as separate objects.

We come from the culture of atomism, which we are overcoming in the name of "dynamic holism", leading us to be aware that we live in a "Holistic" Universe; where there is no separation between "Space" and "Matter", and where Space with the properties of a neural superfluid represents the "raw material" and the archive of all the experiences that have been, are, and will be all over the universe. By transmuting the fluctuations at the base of every form of experience, into information that fills a "point" of the Akashic memory, which is Information or conscious Energy, with properties of development, and unpredictable and infinite free organizations, where every condition of being, maintains always your own individuality.

2) The intimate nature of the Universe

The Universe is Space, with properties of a neural superfluid. The solid and fluid things that we perceive with our senses are "quantum field fluctuations". A particle exists only through the effect it creates itself, defined as "field effect": gravitational, electromagnetic, and nuclear. Reality is nothing more than a set of fields that continuously interacting each other. The observer and the observed are part of the same "Whole" interconnected at multiple levels in real time, where an "evolutionary arrow" is hidden, to which science still not yet knows how to give answers. Thermodynamics explains the phenomena concerning inert matter belonging to the world of "Force", which in relation to energy always has a dissipative behavior, defined entropy (measure of the disorder of the system). But it enters into crisis if it has to predict the behavior of living systems, which use the energy they take from the surrounding environment, to continuously reorganize and evolve one's life, belonging to the world of the "Phase".

We can therefore observe that every structure, from the micro-cosmos to the macro-cosmos, in order to manifest itself as a mass, must be supported by a continuous flow of etheric energy, which is the same energy that intervenes in the creation of the Earth, and that fluctuates within us, where we become entangled in the current of the river of energy that flows within the Earth and the Universe, as mosquitoes get stuck in a mosquito net, while the air continues to flow through the grid.

Observation is of vital importance and leads to wonder how the whole universe works and communicates. Louis de Broglie teaches us that it works in waves, and therefore in vibrations

characterized by frequencies, assonances, dissonances and harmonics; which, as it can be seen from the studies of David Bohm and Rupert Sheldrake, interact with each other and develop through the phenomena of "intrinsic order" and "morphic resonance", where everything is governed by some constants, such as: Planck's, fine structure, the golden ratio, etc.

If we think about how we represent the waves that is with sinusoidal lines and we observe a projection on two dimensions of a spiral, or rather of its involutes, we see that both the wave and the projection have the same trend. Following this reasoning, and increasing the number of dimensions, we can hypothesize that we perceive a wave that propagates in three dimensions, which then continues in the fourth dimension with a spiral-like trend, which we do not perceive, but of which we catch a reflection at one size smaller. From this it can be deduced that the gravitational field and the electromagnetic field coincide, as can also be seen in the "Symmetrized Maxwell Equations" of: **Scala, 2022.**

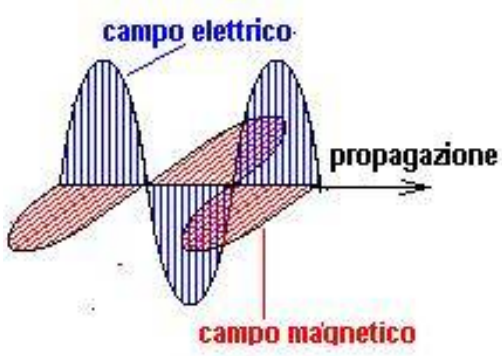


Figure 1: Propagation of a transverse orthogonal electromagnetic wave

As it can be seen in ***Figure 1***, the electric wave and the magnetic wave are joined by a spiral wave in an extra dimension. This extended dimension could explain to us why two twin electrons, if separated, seem to be connected to each other in a non-local way, as we find in the famous experiment of **Aspect, 2002.** We also know that if we try to suppress one of the two twin electrons, it regenerates automatically from Space. The fourth dimension represents the plot of the universe, where in the "mass" areas made up of "atoms" around them, on the basis of two different theories, a "depression" or "pressure" is created, which we perceive in the as "Gravity".

With reference to the theory based on "pressure", the studies by Engineer **Schuchewytsch, 2021,** are interesting: here it is hypothesized that the potential energy of a motionless particle in empty space is mc^2**;** when it approaches matter, it begins to orbit, and gains kinetic energy by losing potential energy. In this way the "particle" reaches its minimum possible radius. When its speed reaches the speed of light c, its total energy drops to $mc^2/2$**,** made up exclusively of kinetic energy. It can be deduced that to return to space, the particle needs an external energy boost, equal to $mc^2/2$**.**

In the space there are many "particles" of "dark matter" which, located in a shell around matter, move towards matter; therefore it is assumed that: all shells in space around matter contain the same amount of "dark matter"; their radius is reduced as they approach matter, and consequently the density of "dark matter" increases.
Therefore, in the vicinity of matter, there is a decrease in the energy of the individual "dark matter" particles, with an increase in their density. From this hypothesis, it can be deduced that a mass does not move towards another mass because it is attracted to it, or because every matter is surrounded by a gravitational pit around it, but because the bodies are pushed towards each other. By the pressure of space, which can be represented as the potential energy of space.

Our classical physics is not yet able to describe the phenomenon of "dark matter", as it does not explain to us how galaxies, in addition to forming, remain intact. An embarrassing situation in physics remains open here, for the reason that with its means, it cannot find an explanation, about 94% of the matter that should be used to hold galaxies together, see: **Khoury, 2021.**

In the Universe there are two modes of being: one belonging to the world of "Force" (disorganizing entropic), and the other one to the world of "Phase" (organizing anti - entropic). These two worlds coexist everywhere, and as a metaphor we could see that in a vase of flowers, the world of the "Phase" is represented by the plant with its flowers, and the soil represents the world of "Force", waiting to meet the water, to generate other forms of life, belonging to the world of the "Phase".

The whole Universe in reality with its form of intrinsic intelligence, see: **Ivaldi, 2021,** and also, **Meijer and Ivaldi, 2022,** belongs to the world of the "Phase", where the passages in the various forms of existence converge in the Akashic memory, in order to enrich the "harmonic garden" of the One, from whose apparent dualism life is born. The Chinese understand this dualism with Yin and Yang, the Japanese with Ki, up to Maxwell and Faraday, who describe the phenomenon of Positive and Negative charge, as a state of tension, in a calm sea called "Ether ".

3) Relationship between intelligent intellectual process, consciousness, and limits to our free will.

We can define our "intelligent intellectual process" as the ability to reason, solve problems, adapt to the environment, take action, evaluate, analyze, measure, define and study ourselves and the world in which we live. While we can say that consciousness is intimately linked to the state of being, to which the I am, to the sense of self. This intelligent intellectual process of ours is perceived as an active process in continuous evolution, which implies causes and consequences and relates our inner world with the external world. While the conscience is perceived as an intimate and subjective feeling, able to make us aware of our existence.

These two "entities", intelligence and consciousness, seem disconnected from each other, in fact we, as children of the "atomist culture", perceive ourselves as "separate individuals", made up of

50,000 billion cells, which: are born, reproduce, die, and are equipped with all the fundamental vital functions. The functioning of the WHOLE cannot happen by "chance", but needs to be governed by a conscious network, having its own "intrinsic intelligent process", which organizes the interactions between every single particle of the Universe.

Within this Universe, any separation is purely illusory, so our thinking, our behavior and the way we exercise our free will directly affect our "Being" and the reality in which we live. Modern science has shown that the state of Consciousness is to be considered Universal, see: **Meijer and Geesink, 2019**, where Consciousness is seen as deriving from the interaction of vital systems with the holographic space, in which the importance of information, towards the birth and evolution of life. David Bohm, with his model of the holographic Universe, hypothesized that it was precisely this state of Universal Consciousness that governed the behavior of matter, comparing it to a sub-layer, which governs reality with the function of a radar, which guides the ship. towards your destination.

Universal Consciousness belongs to the fifth dimension, where the phenomenon of entanglement is represented by information that travels at an enormously higher speed of that of light (it is hypothesized at the speed of light raised to the fortieth power, to be demonstrated in laboratory). When an intelligent intellectual process, through a stimulus, manifests itself in the network of universal Consciousness as matter, it has a two-zone configuration; the first of whose to be formed is the external electronic zone that to find its stability in space, dives towards its center where neutrons and protons can be considered as two faces of the same "proton zone".

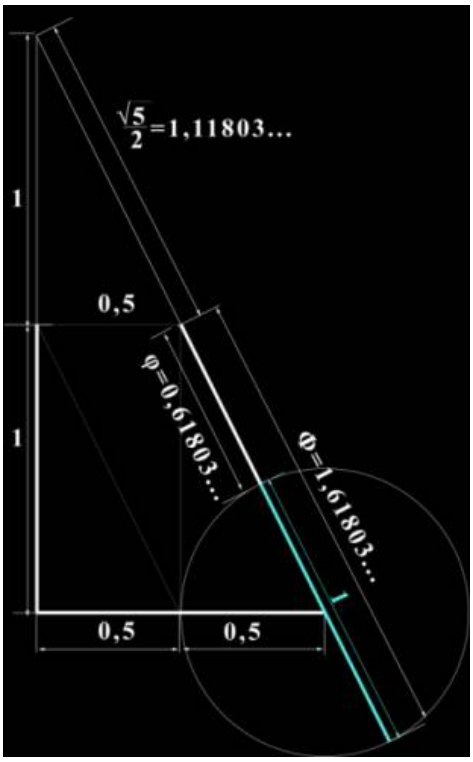
The first "Atom" that is formed in the Universe is the Hydrogen Atom, from which all its progeny descends by adding electronic orbitals and proton centers. A maximum of two electrons can coexist in each orbital, with opposite "spin". Each orbital represents a principal quantum number, which corresponds to its energy content, which increases in relation to its distance from the nucleus. In this context all our chemistry develops, with its Mendeleev periodic table of elements, which reports 90 chemical elements, to which the so-called 17 “rare earths” must be added.

The primordial One, which resides in the sixth dimension, from where Everything comes from and Everything returns to, through an "apparent bipolarity", see: **Faixat, 2011**, has generated the conditions from which any other entities of being in the Universe can arise. Such entities manifest themselves through a generating wave, which in order to "self - sustain" without being "self - destructive", must share space through the shape of the golden Fibonacci spiral. The generating wave has limits both in the upper and lower part of the Golden spiral, mathematically investigated by the Francesco De Santis in Chapter 8, through Riemann's Zeta function. That "counts" prime numbers in a still mysterious way for science, since even if the hypothesis formulated by Riemann, regarding the location of prime numbers on the geometric plane of Argand - Gauss, considered valid by the majority of mathematicians, does not exist at the moment an irrefutable demonstration of its truthfulness. Francesco De Santis, with his book "Algorithms and geometries

of prime numbers", see: **De Santis, 2019**, has made a good contribution to deepening this knowledge.

As is also illustrated on Page 13 of Chapter 6) Harmonic Elegance in Mathematics and Geometry, De Santis explains to us that in order to understand the functioning of these mechanisms, it is first necessary to clarify the meanings attributed to the term Golden Ratio (Golden Ratio or Golden Section), which is the basis of everything that moves in the Universe, where the problem would be solved if the large Phi (in English Capital PHI), were the greater value or 1.618033. Here, wanting to assign some vulgar names "Small letter", phi would also historically be 0,618033 ..., and Capital PHI 1,618033 ... could finally be called "Golden number", which was actually the number 235 of the Meton cycle, engraved in gold letters on the columns of the temple of Athena in Greece: 2; 3 and 5 which are then the numbers of the Fibonacci series formed by the constructor triad 0; 1; 1.

De Santis, ***Figure 2***, teaches us that the problem comes from far away, from the religious secret of Pythagoras of not wanting to reveal the irrationality of the root of 5 divided by 2 and which is 1.118033.to which adding and subtracting 0, 5 we get our two numbers. Pythagoras, (the guru of penta would play in Calabrian dialect: u pintaguru and by elision of nu pitaguru, the Pythagoras) of the pentagon, in the form of a 5-pointed star, had made the emblem of his school in Crotone, and knew very well the fact that the equilateral triangle of sides 1 and 2 leads to the root of 5 etc.



Metone			Fibo	Lucas		
0	0	0	0	0	0	0
13	3		1	1	5	
13	3		1	5	25	
48	10		2	4	20	
35	7		3	15	75	
125	25		5	11	55	
90	18		8	40	200	
325	65		13	29	145	
235	47		21	105	525	
850	170		34	76	380	
615	123		55	275	1375	
2225	445		89	199	995	
1610	322		144	720	3600	
5825	1165		233	521	2605	
4215	843		377	1885	9425	
15250	3050		610	1364	6820	
11035	2207		987	4935	24675	
39925	7985		1597	3571	17855	
28890	5778		2584	12920	64600	
104525	20905		4181	9349	46745	
75635	15127		6765	33825		
54730	10946		24476			
39603	17711					
	28657					

Successioni di Fibonacci: La colonna Metone contiene il Numero d'Oro Scritto in lettere in Oro sulle colonne del tempio di Athena. 235 lune corrispondono a 19 anni solari

Figure 2. The secret of Pythagoras on the left, and on the right the numbers of the sequences connected to that of Fibonacci

These mathematical passages lead us to understand that the game of universal apparent duality, see: **Faixat, 2011,** generates the illusion of the passage of Time, deriving from the oscillation or pulsation present everywhere from the micro to the macro cosmos, see: **Lindberg, 2012**, and also: **Pletser V, 2017**, which ranges from the primordial One universal, which at the top resides in the sixth dimension where perfection is located, and at the bottom towards 0.5.

Exactly in the middle we find the egg, where the power of being is concentrated, which to be born is divided into + and -. With this separation the generating Power is fragmented into a harmonious and balanced polarity, where the power of the individual is not in conflict with the power of the other, but both feed and support each other, in harmonic resonance with the "Evolutionary Arrow" of the universal Consciousness. At the level of an intelligent intellectual process, the power of being can be found in the orbital of the electron, which can be compared to information, identifiable by means of two "judgments", having the same energetic weight, but with opposite sign (power +/-), where the judgments in addition to having a +/- sign, have a different energy weight, which increases with increasing distance from the "evolutionary arrow" of the Conscious.

To understand the function of the "judgment" element, it is necessary to immerse ourselves in a vision where in this Universe, which "appears bipolar" to us, the energetic weight of the "judgment" in relation to the resonance with the "evolutionary arrow of consciousness", can be interpreted as: everything that "unites" goes towards the + sign, and instead everything that "divides" goes towards the - sign. The degree of judgment can only be triggered when the state of awareness appears in the various processes of life, which is based in the fifth dimension. For example, in the state of life inherent at the age of the dinosaurs, which lasted millions of years on Earth, the degree of judgment was not present.

In the conditions of Being linked to conscious life, the "power of judgment" element finds its reason for existing; only if the existence of the sixth dimension is admitted, where, for example, observing nature, De Santis found that sometimes there are interventions from the outside in the natural flow of certain areas of life. As a metaphor we could imagine that when we are floating inside a large tank, where, through a tap, the water flows gradually allowing us to rise uniformly, if at a certain point we realize that this flow changes in intensity, this fact would show us that there is an outside, an "entity" that operates on the tap.

This "entity", or primordial One, based in the sixth dimension, is the one that establishes the degree of judgment, deriving from the free will present in conscious life, where:

A) When it is in resonance towards the sign - (where our conscious work goes towards division), it triggers a descending scale that can lead to the cancellation of the state of being.

B) When it is in resonance towards the + sign (where our conscious work goes towards this unites), it triggers the evolution of life towards the primordial Universal One. Where every form of life contributes to embellish and enrich its garden, in which the forms of life that have developed a state of Consciousness, represent the noblest part.

At this point we become aware that: the first five dimensions are of an "operational character", which, on the basis of statistical science, could justify the existence of a "static Universe". While to justify the function of the "Evolutionary Arrow" (at the basis of the birth and evolution of universal Life), the existence of a sixth dimension is needed from which the generative and managerial inputs of the "All" start, from where our "free" arbitrariness "receives" encrypted limiting inputs ". So when with our free will, we direct ourselves towards behaviors against the state of universal harmonic resonance, we weaken our state of "Being", moving inexorably towards a process of self- destruction.
The primordial One, representing perfection, and residing in the sixth dimension, if it generated a perfect creation, it generated a copy of itself, and this would not make sense. So the One, to generate new evolutionary memories, had no other way to go through the ballot of imperfection, which represents the price we have to pay in order to exist, as it can be seen in the article: "A Tribute to the publication of Fibonacci's Liber Abaci 820 years ago ", Page 5: **De Santis and Ivaldi, 2021.** The enjoyment of our freedom lies precisely in that imperfection, which is below the limit of the perfect, where the possibility of self exists - take shelter.

4) Cymatics: the sound that generates matter

"In the beginning was the Word," says the Bible in the Gospel of John. In Indian culture, in Sanskrit, the following statement appears: "Nada Brahma" = "The world is sound". The term Cymatics derives from the Greek “chima”, which means wave. Cymatics is an ancient science, which studies the forms produced by sound waves and frequencies, which can be of vibratory, sound, electromagnetic origin, etc.
This fact is mentioned in ancient Veda texts, and it clearly demonstrates that the Universe is a symphony of vibrations, sounds, lights and colors, in which the individual parts interact and come together by means of the physical phenomenon of "Resonance".

Cymatics proves the relationship between form and frequency, at the basis of Everything that appears in the Universe. In ancient Greece, music was considered the mother of all arts, and one of the most powerful medicines. There were temples where music, as well as being taught together with geometry, astronomy and arithmetic, was used to heal people, harmonizing their body and spirit.

Pythagoras who was a great scientist and philosopher, whose thought is still relevant and influential today, thought that the universe is governed by harmony, and geometry is crystallized music.
In the sixth century B.C. Pythagoras was the first to discover the harmonic relationships existing between musical notes. For his experiments he used the "Monochord", a simple instrument consisting of a wooden sound box, on which a single string was fixed, by means of which he demonstrated that the musical notes correspond to portions of the string, and that the harmonics follow precise numerical ratios. Our musical scale derives from the Pythagorean scale, as well as

our understanding of harmonies. In the Pythagorean vision, the entire Universe is an immense monochord, and through the study of music as an exact science, Pythagoras believed that he could explain the relationships existing even in elements such as planets and constellations; furthermore he argued that the movements of the planets generate a music, which he called "Music of the Spheres".

In 1787, the German physicist Ernst Cladding, published "Entdeckungen ùber die Theories des Klanges" (Discoveries on the theory of sounds), see: **Salerno, 2017.** With this and other works, he set the foundations of that discipline of physics, which he would later assume the name of "acoustics", the science of sound. Chladni also invented a method to make visible what sound waves generate, thus demonstrating the morphogenetic power of music. Chladni demonstrated how sound affects matter, through the use of a violin bow, which rubbed perpendicularly along the edge of a slab covered with fine sand, creating the patterns and forms, which today go under the name of "figures of Chladni ".

The most typical examples of this concept are linked to the philosophy of sacred geometry, as well as to the harmonic-astronomical doctrines of Pythagoras, later taken up by Plato, and to the philosophical-mathematical concepts further developed in more recent times, by men of science such as Schrodinger, Heisenberg and Bohm.

In the twentieth century, the studies on "Cymatics" resumed thanks to a Swiss scientist: Hans Jenny, who, using modern equipment, measured, photographed, and continued to experiment the effects of sound vibrations, discovering that certain sounds always correspond to the same figures. He also discovered that the sounds of ancient languages, such as Sanskrit and Aramaic, produce the alphabetic symbol that is pronounced. Therefore, a precise symbol or geometric pattern corresponds to each frequency or sound. It seems there is also a connection with the notion of "sacred language", often including the Tibetan, Egyptian and Chinese languages.

The drawings that were formed during his experiments, some were reminiscent of the cellular structures of living organs. So Jenny became convinced that life is the result of the specific vibrations of each cell. In other words, each cell has its own sound, its own frequency, and this has also recently been confirmed by the studies of Russian researchers: **Garajev, Birshtein, Iarochenko, Marcer, Tertishny, Leonova, Kaempf, 2018,** who investigated the vibrational-frequency behavior of DNA, discovering that DNA is similar to an Internet network that is continuously remodeling.

Some researchers, **Maruani, Lefebvre, Rantanen, 2003**, on the research line of the French physicist Joel Sternheimer, have discovered principles and practical applications of the music of proteins towards biological life, where it is evident that amino acids assemble themselves following the indications of a code present in the DNA, which is copied into the RNA Transfer where, once the various amino acids connect to each other, they emit a specific frequency proportional to the mass of the amino acid molecule.

Our traditional medical science has also begun to invest in the search for therapies through the application of particular sound frequencies. In this context he highlighted the deleterious effects on biological life, of the din of "modern civilization" in dissonance with nature.
It is therefore desirable to recover the teachings of the great sages of history, who have shown us the way forward for a lifestyle in "harmonic resonance" with the environment in which we all live.

5) Brief history of mathematical language and its symbolism

Mathematical language is not just a set of oral signs, but a form of symbolic representation, of which numbers are an example. In the end, the important thing is the relationship between the various symbols, which represent the need for synthesis on complex concepts, with the advantage of being adaptable with the progress of knowledge, and the ability to stimulate new investigations.

For the Babylonians it was a contradiction to use "something" to mean "nothing". It was probably astronomers who introduced the symbol "0" to represent fractions in sixtieths, that is, in symbolic form. Later the Greek astronomers indicated zero with a small circle, and replaced the cuneiform notations with letters of the alphabet.

The positional system was present in various cultures: for example, in Central America in the ancient Maya civilization, zero was represented with a symbol that resembled a closed eye. The ancient Chinese invented a decimal system with horizontal signs, but the "0" symbol was added later imported from India, where they developed a positional system that became the one used today throughout the Western world.

In the thirteenth century, Leonardo Pisano called Fibonacci, considered negative quantities only in financial problems, negative numbers were then used till the sixteenth century, but they were indicated as "false", contrasting them with "true" positive ones. Without a positional system, it is impossible to carry out the calculation systematically. With the Roman numbering, the sum can be obtained only with primitive methods and with the aid of the abacus. The notation has no intrinsic algorithmic efficacy, and the problems become even more complex for the other operations.

Throughout the late Middle Ages, when numbers were indicated with the letters of the Roman alphabet, the symbol gave rise to complex combinations and calculations, which paved the way for the success of the positional system of Indian origin, due to four characteristics:
1) The numbers from 1 to 9 are represented with unique and abstract symbols
2) It is a system with a single base 10
3) It is a positional system
4) It makes use of zero

The Hindus were the first to use abbreviated positional notation orally, and their numbering system can be considered the most successful intellectual innovation. The Arabs gradually altered

the Indian symbols, which then took the forms we use today. In the meantime, the Arabs had played an important role in the Mediterranean, and in the period between 800 and 1200 they had been the link between western and eastern civilizations. In the mathematical field they inherited the Hellenic papyri, and collected Persian and Sanskrit writings which, translated, have been handed down to the present day. The term "algorithm" is due to the Persian mathematician Al-Khwārizmī, see: **Duran, Samanci, 2018.**

In the thirteenth century, it was Fibonacci who contributed to the spread of Indo-Arabic numeration, underlining the role of zero, which in India was associated with the concept of nothing, and could represent both an empty space in a numeral system, and both the result of operation 10 -10.

The history of mathematical symbology in more recent times, with the development of ICT (Information and Communication Technologies), brought new problems and new opportunities also for the standardization of mathematical symbology, where industrial actors also have a significant influence, which tend to impose their symbols, in particular abbreviations that correspond to identifiers of their common use.

6) Harmonic Elegance in Mathematics and Geometry

Since ancient times, mathematicians and philosophers supported the thesis that mathematics and geometry represent the language with which man represents the poetry and harmony of the universe that made Galileo say: "The book of nature is written with the characters of geometry ".
Observing nature, unrivaled expressions of elegance and harmony can be discovered; shapes are the first intuitive aspect of reality that the human eye perceives the trait that defines them is generated by rigorous and unequivocal forces, which obey to precise mathematical and geometric laws, see Academy of Flora: **De Santis, 2020.**

Man has always felt the need to examine and observe the phenomena that surround him inside, what Galileo called the "sensible experience". This need is realized in a method of interpreting nature, in search of a commonality between a terrestrial and a cosmic symbol, in the regularity of structures that are repeated between macrocosm and microcosm.

In mathematics, one of the concepts that has most attracted and even caused suffering and death is the understanding of the concept of "infinity", which has deeply influenced the thinking of mathematicians, philosophers and religious of every age. Starting with Zeno, Pythagoras and Archimedes, the Jewish kabbalists who first associated him with the Divine essence, Dante and Thomas d'Aquino, Galileo Galilei and Bernhard Bolzano, up to Georg Cantor, father of set theory, who spent part of his life with severe psychic sufferings (that is supposed to be partially due to his work and to the conflicts with other personalities of the mathematical world, who did not like his innovative thinking). Curiously, Cantor before his illnesses, worked on set theory, a mathematical concept known as "Cantor's continuum hypothesis", see: **Koellner, 2011,** which contains an

infinite number of elements, indicated with "alef", which is the first letter of the Hebrew alphabet. This mathematical concept is represented by the underlying mathematical equation, whose properties and consequences are still unknown today: ***2 alef 0 = alef 1***

If the infinite, until the nineteenth century, was considered a problematic, absurd concept, capable of undermining the foundations of mathematics, Cantor was the first to overcome this psychological obstacle, conceiving an infinity almost on human scale, on which he could work through mathematical formulas. In support of Cantor's work, came then the works of Kurt Godel and Paul Cohen, considered Cantor's heirs, which ranged from philosophical and religious interpretations, to problems of mathematical logic; linking the search for the infinite as the great human adventure which, for the first time, sees science and faith close together, in a common research path.

Godel used mathematical reasoning to explore mathematical reasoning itself. This idea of making mathematical logic introspective was found to be so powerful that it led him to formulate the famous "Gödel's Incompleteness Theorem", which says: "All coherent axioms of arithmetic contain unspeakable propositions". Paradox that originates from the ancient statement of Greek philosophy, where Epimenides, who was a Cretan, pronounced this immortal quote: "All Cretans are liars". He sentenced that can be interpreted in two different, but equally logical ways:
A) "I am lying, so this statement is true".
B) "This statement is false, as I am a liar".

The revolutionary concept of mathematical logic developed by Godel, (which shows us that the ancient conflict between finite and infinite we find between rational and irrational numbers) finds interesting similarities in the works carried out in other fields such as Bach's musical one, who in one of his fugues moves one octave higher, without letting the listener notice the tonal changes. The same harmonic path, we find it in Escher's painting, with its strange infinite rings, see: **Masera, Vasquez, Salatino, 2017.** From these works we can deduce the hypothesis already elaborated by Georg Cantor, of the sense of" continuum ", which leads us to conceive a spiral of infinite upper rings, called by Cantor the" alef ".

Parallel to the works on the search for the understanding of the concept of "infinity", the works on the search for the geometric shape, which is more reminiscent of universal physics, overlap. Which we find in some geometries used by some ancient peoples to build their monuments, such as the tetrahedral star, well represented in the Pyramids, especially those of Giza and Teotihuacan, which repeatedly have an angle of 19.5 °, also called tetrahedral constant.

The tetrahedral shape is composed by two superimposed pyramids, which are the three-dimensional representation of the six-pointed star, also known as the seal of Solomon, which can be represented in a circle that touches three times at 19.5 ° north, and three times at 19, 5 ° south of the equator. The tetrahedral star, formed by two opposite triangles, superimposed, and reported in three dimensions; it represents a perfect and balanced unity, made up of two halves

that underline the universal dualistic nature. This geometric vision of the Universe leads us towards a modern interpretation of Time, see: **Ivaldi, 2020**; seen as our illusion of superimposed succession of events, "pulsating" at the center of the two inverted Pyramids, which could also lead to a different interpretation of Einstein's restricted relativity. The tetrahedral star is also attributable to the shape of the energy field of the human being, and of any other biological and non-biological being existing in the cosmos; starting with the molecular structure of carbon, which represents the shape of the basic molecule from which our biological life has developed here on Earth.

The origin of the magnetic field of a planet, or any celestial body, is due to the amount of energy imprisoned in its mass: the greater the mass, the greater the energy; energy then oriented according to the position of its tetrahedral star. Two realities come together in man, in perfect balance with each other, which can also be seen as two inverted Pyramids, referred to: one to the spiritual reality intended for the noblest and / or subtle energies, represented by the pyramid facing upwards; and the other to material reality destined to return to the Earth, represented by the downward facing pyramid.

We have seen that the geometric shape of the tetrahedral star, from the infinitely small to the infinitely large, is present in all the elements existing in the universe. It is based on the value of 1.618, common to all objects that have a spiral movement; in fact, we note that it is present from the Spins of the energy strings, to the DNA molecule, to some sea shells, to the flowers of the sunflower, to the horns of some animals, to the motion of cyclones, up to some galaxies. The spiral shape is also found in the studies of great mathematicians of all times, starting with Archimedes, with its shape defined as "uniform spiral", up to the logarithmic spiral shape, studied in 1638 by Descartes.

Unlike the spiral of Archimedes, which has a starting point, the logarithmic spiral continues indefinitely both inwards and outwards. The curve wraps around the pole without ever reaching it; so the center of the logarithmic spiral observed with a magnification constantly appears as an infinite spiral, the same that would be seen by continuing the curve in the opposite direction, which grows until it reaches the dimensions of a Galaxy and beyond. The logarithmic spiral is a figure that Aristotle would have explained as a space divisible to infinity, since the result of the division is always a further divisible quantity, which does not change, except for its size.

The logarithmic spiral is also referable to the sequence of Fibonacci numbers, whose discovery and application dates back to the year 1202. It is made up of a series of integer numbers placed in relation to each other, since each subsequent term is equal to sum of the two immediately preceding. The peculiarity of these numbers is that the ratio between two successive terms very quickly approaches the decimal number 0.618; defined as the ratio of the golden section, considered as the universal law of harmony.

In this field of mathematics, Francesco De Santis, see ***Figure 3.*** (as already illustrated above in chapter 3 on Page 8), clarifies to avoid the confusion created by the terms: golden section, golden section, golden number, silver number etc. As well as the different interpretations still existing in Western cultures, on what Euclid and Plato called: "relationship between extreme and average" (not relationship between average and extreme). Let's put the lowercase Greek phi ϕ = 0.61803 ... and the uppercase Greek phi Φ = 1.61803 ... where it is unnatural for the human mind to believe that the value of the lowercase symbol is worth more than the value of the uppercase symbol Φ. It is known that according to Kepler (letter to Michael Mästlin of October 1597); we can consider the Pythagorean theorem as a certain "quantity of gold"; and the golden section, or Euclid's ratio of a segment according to "extreme and medium reason", like a "precious gem". We recall that Kepler was the first to notice that in a defined position of the Fibonacci sequence the ratio of a term with the following one: as the position increases it quickly reaches the theoretical value of ϕ, which is: 0.618033989 ...

Pythagoras kept in religious secret both the "golden jewel" and "the precious gem". The Pythagorean theorem and the two phi (lower and upper case) are closely associated in the right triangle of sides 1 and 2: where half of the diagonal takes the value of the maximum of irrationality: 1.11803 ... represented by half of the square root of 5. By subtracting or adding 0.5 to this value, we obtain lowercase phi ϕ = 0.61803 ... and uppercase phi Φ = 1.61803 ... These relations are the basis of all the geometry of the parts of the five star tips, and of the Pentagon, of which Pythagoras was the Guru, as his very name seems to suggest (Penta Guru).

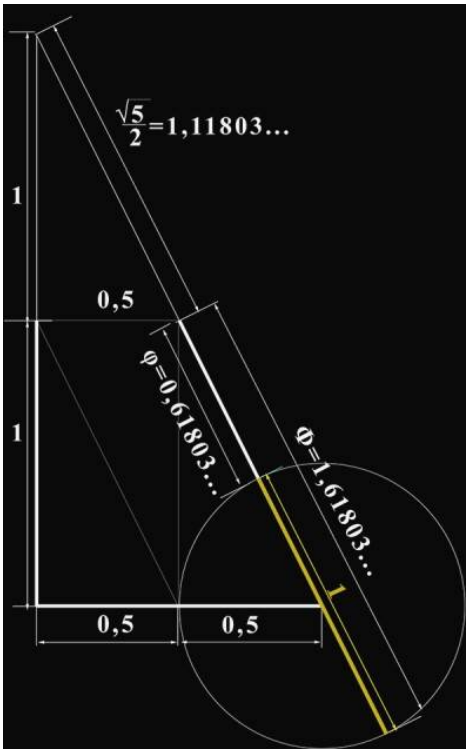


Figure 3, The religious secret of Pythagoras. The "gold jewel with gem".

The irrational quantities, lowercase phi ϕ, and uppercase phi Φ, representing in mathematics the most illogical and irrational numbers that exist, seem a serious warning to the rationality of man, especially as a key to cosmic harmony, see "the Timaeus" of Plato and Kepler's “Armonice Mundi”.

As well described by **Armienti, 2015,** in a marble inlay, ***Figure 4,*** the great work of Fibonacci is engraved on the main entrance of the church of San Nicola in Pisa. The presence of many symbolic references makes the inlay an icon of medieval philosophical thought, revealing aspects that pave the way for modern scientific thought.

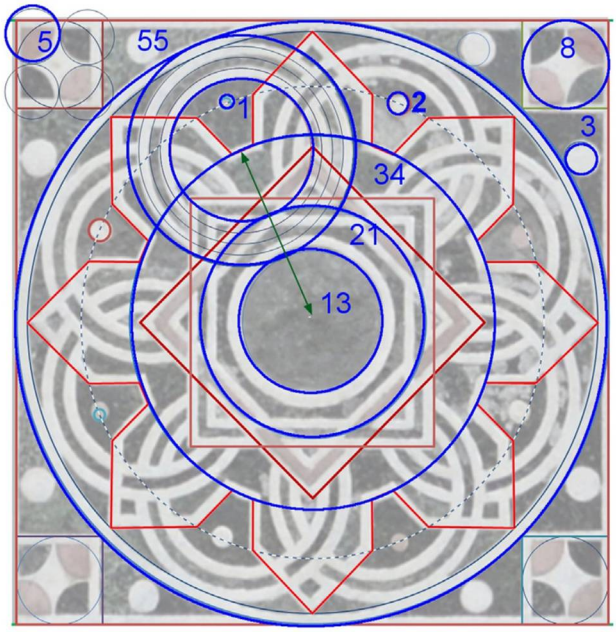


Figure 4. Representation of the first 9 elements of the Fibonacci sequence based on the increasing diameters of the circles found in the inlay.

It seems that from the infinitely small to the infinitely large, everything is regulated by mathematical perfections, by precise predefined calculations, applied from the small snail that lives in the undergrowth, to the immense spiral galaxy that contains billions of stars, where we can observe that the Nature does not like neither the concept of zero, nor the concept of infinity, it likes three, see: **Ivaldi, Scala, 2022.**

Zero as a concept that in itself does not exist, as we have already filled an area of space since we think of it. Infinity does not exist, as the universe is huge, but it is finite, just as prime numbers that have an enormous sequence, closed on the "limit of the universe", as can be seen in the Riemann function Z, illustrated in Chapter 8.

In the "universal continuum", as explained in his book "Algorithms and Geometries of Prime Numbers": **De Santis, 2019**, nature, to avoid zero, has a positive time component, seen as a sort of inertia that represents the past, and a negative time component, coming from the future, already passed in the successive ages of the entity itself.

n \ m	0	1	2	3	4	5	6	7	8	9	10	11	12	13
30	832040													
29	514229	1149851						Fibonacci	$F_n=S_{m=0,n}=\frac{\Phi^n-[(-1)^n\times\varphi^n]}{\Phi+\varphi};$					
28	317811	710647	1589055											
27	196418	439204	982090	2196020				Lucas	$L_n=S_{m=1,n}=\Phi^n+[(-1)^n\times\varphi^n];$					
26	121393	271443	606965	1357215	3034825									
25	75025	167761	375125	838805	1875625	4194025								
24	46368	103682	231840	518410	1159200	2592050	5796000							
23	28657	64079	143285	320395	716425	1601975	3582125	8009875						
22	17711	39603	88555	198015	442775	990075	2213875	4950375	11069375					
21	10946	24476	54730	122380	273650	611900	1368250	3059500	6841250	15297500				
20	6765	15127	33825	75635	169125	378175	845625	1890875	4228125	9454375	21140625			
19	4181	9349	20905	46745	104525	233725	522625	1168625	2613125	5843125	13065625	29215625		
18	2584	5778	12920	28890	64600	144450	323000	722250	1615000	3611250	8075000	18056250	40375000	
17	1597	3571	7985	17855	39925	89275	199625	446375	998125	2231875	4990625	11159375	24953125	55796875
16	987	2207	4935	11035	24675	55175	123375	275875	616875	1379375	3084375	6896875	15421875	34484375
15	610	1364	3050	6820	15250	34100	76250	170500	381250	852500	1906250	4262500	9531250	21312500
14	377	843	1885	4215	9425	21075	47125	105375	235625	526875	1178125	2634375	5890625	13171875
13	233	521	1165	2605	5825	13025	29125	65125	145625	325625	728125	1628125	3640625	8140625
12	144	322	720	1610	3600	8050	18000	40250	90000	201250	450000	1006250	2250000	5031250
11	89	199	445	995	2225	4975	11125	24875	55625	124375	278125	621875	1390625	3109375
10	55	123	275	615	1375	3075	6875	15375	34375	76875	171875	384375	859375	1921875
9	34	76	170	380	850	1900	4250	9500	21250	47500	106250	237500	531250	1187500
8	21	47	105	235	525	1175	2625	5875	13125	29375	65625	146875	328125	734375
7	13	29	65	145	325	725	1625	3625	8125	18125	40625	90625	203125	453125
6	8	18	40	90	200	450	1000	2250	5000	11250	25000	56250	125000	281250
5	5	11	25	55	125	275	625	1375	3125	6875	15625	34375	78125	171875
4	3	7	15	35	75	175	375	875	1875	4375	9375	21875	46875	109375
3	2	4	10	20	50	100	250	500	1250	2500	6250	12500	31250	62500
2	1	3	5	15	25	75	125	375	625	1875	3125	9375	15625	46875
1	1	1	5	5	25	25	125	125	625	625	3125	3125	15625	15625
0	0	2	0	10	0	50	0	250	0	1250	0	6250	0	31250

Figure 5. The sequence of the first 11 Fibonacci - Lucas sequences obtained from the numerical sum of the first 31 terms of the Fibonacci sequence.

The "Evolutionary Arrow" that always pushes everything forward: **De Santis and Ivaldi, 2021**, also emerges in the Fibonacci - Lucas sequence, ***Figure 5***, which leads to the creation of an infinite series of numerical sequences aiming at "perfection". As with the increase in the value of m and n (column and row number), the ratio of a term Sm, n with its subsequent Sm, n + 1, gets closer and closer to the ratio of perfection ϕ. Here we become aware that: when in terms of increasing position, the difference between the Sm Ratio, n / Sm, n + 1 and ϕ, turns out to be less than the minimum dimension referred to our reality, (Planck length), we are in inherent perfection in the sixth dimension where the One resides, which with our humble senses we find it hard to perceive.

7) Order of things, at the basis of the presence of an intrinsic universal intelligence

Until 1980s, science was convinced that a simple system behaved simply, and that predicting its behavior was quite simple. On the other hand, a complex system behaved instead in a complex way, and that therefore the prediction on its behavior was quite complex. Today all this has changed, in the last forty years, mathematicians, physicists, biologists, chemists, astronomers, etc. became more and more aware that simple systems give rise to complex behaviors, and that the Laws of Complexity have a universal validity, on which the structure of the atoms that make up any system have no impact.

The various statistical sciences, which studied the mathematical rules of behavior, and therefore the predictions of the various systems used to define as "system fluctuations" the variables that presented themselves to their working patterns. A small way to provide an explanation to phenomena which in reality represented the real important part of how the system of "All" is

regulated. Only recently the various scientific disciplines have learned to work together on this important behavioral aspect of the Universe; discovering that in reality every ordered system tends to chaos, and every chaotic system has its own order of things, which underlies the presence of an intrinsic system intelligence, see: **Ivaldi, 2022,** and also: **Meijer and Ivaldi, 2022.**

This reflection leads us to think that when we reason within a univocal linear dimension of time, accepted as a measure of the duration of phenomena, observed by an external observer; the whole Universe appears to be chaotic, as it is organized as a dispersed system in a sea of different material entities, held together by the gravitational system; which, moreover, is still lacking (and should include) an invisible "dark mass". If, on the other hand, we add as a cognitive variable, “an interactive intelligent information system”, as can be seen from the studies on "syntropy" by: **Ludovico, 2008** the Universe appears to us as a perfectly ordered system in its components of matter, energy and information.

One would then think, and therefore deduce, that within this immense and beautiful game of harmonic vibrations, which is the Universe known and unknown to us, evolution is chaos plus counteraction, and the Universe is chaos plus dissipation. , and again that chaos has an arrow that leads it to produce complexity of amazing beauty and harmony. We could then say that the dissipation of Energy or Entropy, in reality is an agent of an order, which cannot mathematically arrive only from the law of "chance", as the biologist Jacques Monod tries to define, in his famous book " Chance and necessity”, see: **Ullmann, 2011.**

The calculation of mathematical probabilities, supporting the thesis that the Universe was generated by chance, is therefore practically null. This calculation, on the other hand, strongly argues in favor of a Universe governed by a perfect project, and therefore an intrinsic order of an infinitely high degree, which is what defined the cosmological constants that have always governed the evolution of 'universe.

Science, in order to better delve into these enormous meanders and allowing itself to be helped by philosophy as well, should investigate more deeply on the "why", and on the causes that generated the effects in which we are all and all immersed. From the day we were born, they teach us that we must have a common sense in perceiving the things of the world in which we are immersed. In reality, what we see, hear, touch, taste, etc. is nothing but transducing electrical signals that reach our brain through our sensors.

Once again, the objective reality escapes us, and we return to the concept that tells us that we are immersed in energy fields composed of waves and frequencies of all kinds, which interacting with each other at various levels, bring us the "sensation" of mass, information and conscience. We are "eternal flashes" of energy, inside the "Eternal brilliant garland", enunciated by: Gödel, Escher and Bach. In summary, the Universe is a great mind, which uses its errors of path, for its own continuous evolutionary remodeling.

8) Prime numbers and Riemann function Z.

The Riemann Zeta function has deep connections with our world, and lives its odyssey with humanity, without yet knowing whether in its future it will pass from "hypothesis" to "truth". In this aspect towards the understanding of reality, the great man of science Francesco De Santis, who left us on January 6th 2022, and with whom I had the burden and the honor of collaborating, faced the investigation on how the Riemann Zeta function "counts" prime numbers, in a way still poorly understood by current science.

The appearance of the prime numbers still remains mysterious, even if the hypothesis formulated by Riemann on the position of the primes in the geometric plane of Argand-Gauss is accepted by most mathematicians. At present there is no incontrovertible proof of its veracity. From the logical point of view, the process of counting the Primes is potentially subject to errors, and in the current state of the art, this is one of the still open problems in mathematics.

With his book "Algorithms and geometries of prime numbers" **De Santis, 2019**, made an important contribution towards the knowledge of prime numbers, and also underlined the fact that there are inaccurate mythologies on the "Theory of numbers", and related writings of great mathematicians such as: Euler, Gauss, Legendre, Goldbach and others. One of the most striking statements, turns out to be the carryover of Euler's sentence: "The human mind can never penetrate the secret of prime numbers". The great Swiss mathematician Legendre actually wrote it, but in reality he meant that in spite of this thought, at the time, he had found extraordinary relations in the prime numbers, and in essence their algorithm of two sequences, as many as 25 distinct. In fact, his writing bears the title: "Discovery of an extraordinary law of numbers, in relation to the sum of their divisors".

Regarding the formulation of Gauss's prime number theorem, another false myth circulates, according to which this other immense genius reasoned on a statistical basis, according to his insights unfathomable to us, the relationship between the order number of the primes, and the logarithm of natural numbers. But if the Zeta function, which with its zeros would count the primes, turns out to be the extension of the Harmonic Series, which approximates to less than the Euler - Mascheroni constant to the logarithm of natural numbers: what does statistics deal with it?

In his book, Francesco De Santis exposes two methods for validating Legendre's conjectures, one of which is for Goldbach's conjecture who did not err in believing that every even number corresponds to the sum of at least two prime numbers. Briefly, Francesco De Santis was unable to believe that no mathematician of the past had noticed the potential of the formulas, which he had found in counting the flower petals of "Camelia traviata" ***Figure 6***, also present in Michelangelo's large drawing at the Campidoglio in Rome.

Figure 6, Flower of Camelia traviata

Legendre knew the problem, in fact in his Essay on the theory of numbers of 1797, it can be read that any prime number, except 2 and 3, is included in the formula: 6 x ± 1. In fact, if we divide an odd number by 6, the remainder can only be one of the numbers 1, 3, 5; or (since the remainder 5, it should be equal to the remainder -1), 1, 3, -1. So any odd number can be represented by one of the formulas: 6 x + 1, 6 x + 3, 6 x - 1. The second cannot be a prime number, since it is divisible by 3, except for the number 3. So any prime number, excluding 2 and 3, is included in the formula 6 x ± l. It follows that, conversely, no number included in the formula 6 x ± 1 is a prime number. We would find that this does not happen when x = 4, 6, etc. In general, there is no algebraic formula that represents only prime numbers. Formulas of type 6 n ± 1 will therefore be called “Legendre's Formulas”. Note also that Euler's Zeta function can be expressed through Legendre's formulas, or the product of prime numbers indexed by the number 5 included.

9) Relationships between geometric shapes, mathematics and resonance frequencies in history

Speaking about geometric shapes, we know that for the Pyramids of Egypt there is a line of thought that dates the construction of the Pyramid of Cheops between 2686 and 2181 B.C. and considers them as funerary monuments for the Pharaohs. According to another line of thought, the construction of the Pyramids is dated many millennia before, and is affirmed that the reason for their construction is not referable to funerary monuments, but rather to a way to transmit ancient wisdom of peoples of the Earth, once they reached levels of advanced civilization, culture and science. For reasons, still unknown to us, they suddenly disappeared, leaving us as witnesses to interpret and understand.

This second line of thought affirms that only with the scientific and technological knowledge of the Egyptians at the time of the Pharaohs, it would have been impossible to work and position the

stones with the precision the Pyramids were built; even today would be difficult to achieve that despite our advanced technology. It also remains to be explained how the Egyptians managed to position the Pyramid of Cheops perfectly with respect to the North - South axis of the Earth, with the geographical position perfectly at the center of the continents emerging from the sea; and because the relationships between the dimensions of his geometric figure are all traceable to mathematical concepts of a high scientific level.

Once again we face the fact that if we want to understand, rather than look at the effects, we must analyze the reasons. In this regard, Henry C. Monteith, analyzing the geometry of the great Pyramid of Cheops, deduced that the message contained in it could consist in the concept of a Universe composed of two fundamental types of cosmic geometry: static and dynamic. Static geometry, to determine its dimensions and elements of volumes, does not require the numbers PI (3.14) and PHI (1.618), while dynamic geometry, to determine its dimensions and elements of volumes, requires the use of PI and PHI values.

The ancient philosophers believed that the universe was full of what they called the "cosmic network", in which each cell of this network was considered to have a geometric shape of a cube; which turns out to be the most perfect and balanced shape that can be obtained from static geometry; while the sphere is the most perfect and balanced geometric shape, which can be obtained from dynamic geometry. The geometry of the Pyramid of Cheops contains within it the two principles of static and dynamic geometry, as its square base recalls the cube, and therefore the static geometry, while being its height equal to the side divided by PHI, it represents the dynamic geometry of the sphere.

This fact shows us that: in the Universe every static system tends to become dynamic, and then return to static, and so on. Concept referable to the two universal ways of being, described on Page 4 of chapter 2: world of "Force" (Entropic), and world of "Phase" (Anti-entropic). We also note that the geometric shape with a perfect "golden rectangle", of the King's room, is referable to series of Fibonacci numbers, which leads to the formation of the logarithmic spiral, which we find present from the spins, to certain shells, up to the spiral galaxies.

Speaking about acoustic resonances, see chapter 4) Cymatics: the sound that generates matter. It is clear that in some ancient peoples, there was a deep knowledge on the harmonic relations of frequencies. For example they were used to move masses, acting directly on the nuclear structure of the mass, where using an exact sub-frequency, they were able to cause the passage of some energy strings, from positive to negative, obtaining as a rebalancing of the internal atomic system, the release of an energetic charge, used to levitate the mass.

Under this point of view, it is reported that some Tibetan monks raised and crushed huge blocks of stone, using the sound produced by particular drums, and by particular trumpets three meters long. In 1939, the Austrian filmmaker Linauer, in a conference claimed to have witnessed in the thirties in a monastery in Tibet, extraordinary phenomena that revolutionize some basic concepts

of our classical physics. Linauer spoke of a three and a half meters gong, composed of three metals, with: gold in the center, around an iron circle, both enclosed in a brass ring. When the "gong" was struck, it made a low, short sound. There was also a second instrument one meter wide and two high, similar to a large shell, also composed of three metals, and which had strings under tension on the surface. It was not played, but emitted an inaudible resonant wave when struck. A couple of screens were placed in front of these instruments, so as to form a triangle, with the function of containing the wave produced in the circumscribed space. At the moment sound was produced, a one-handed monk could lift a gigantic block of stone. The monks told Linauer, that with this system they had built the wall that delimited Tibet, and with the same system they could disintegrate physical matter.

A technique similar to that used to move the masses, was found among the Indios of Tiahuanaco where it is said that about twenty thousand years ago, the Inca city was built by men capable of lifting stones and transporting them from the quarries located in the mountains, with the sound of a trumpet; in fact, among the ruins of Tiahuanaco, monoliths with multi-layered sections at right angles and dug into the sides were found. This fact leads us to hypothesize that they could be used to define the exact resonance frequency of the stone blocks.

Even the history of the Maya civilization presents similar stories, where it is said that a race of dwarf men, using a particular sound, was able to place the stones in the desired place. We must consider that the Maya knew much more than is credited to them, and the production of those sounds of equal intensity, from east to west, day and night, is one of the many outstanding engineering achievements achieved thousands of years ago. from the ancient Mayan techniques.

In 1996 Paul Devereux and Robert Jahn listed a number of ancient structures existing in England and Ireland, where mantras were used to chant them, in order to obtain the effect of increasing the low frequencies of the tones of voice: why? Even the stones of Oseiron have sound properties; in fact it is known that the monoliths of Stonehenge amplified the sounds produced during the ceremonies that took place among its stones.

Summarizing, from these quotes taken as an example, it is clear that geometric shapes and sound frequencies (in particular low frequencies) have always been present in the history of man on Earth. These extraordinary discoveries on the achievements of man and his past, as well as surprising us, should make us reflect on the fact that, once again, science is evolving towards paths already traveled by other civilizations, which then disappeared from the Earth in a sudden way, and perhaps also painful way.

10) Conclusions

The languages of mathematics and geometry describe a Universal reality, intimately linked to the cosmic Consciousness; which, out of "time", represents all the infinite possibilities of being possible in the universe we live in that evolve and expand through their experience gained during the passage into imperfection. In other words, intelligent information feeds itself, through the experiences that lead it to the continuous overcoming of its limit and evolves through the precious errors of the previous path; useful and indispensable, in order to find the "right path", through the "Law of Occam's razor", which always chooses the simplest and shortest way, to continue its unstoppable path, inherent in the algorithm of the "Evolutionary Arrow".
In this way, each of us is the custodian, and the manager of a fragment of "intelligent information", chosen among infinite and unpredictable possibilities of being, which through its own life experience, develops its own box in the Akashic memory, thus contributing to embellish and enrich the garden of the universal primordial One.

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