

Nikola Tesla - the founder of the physics of the future

A collection of texts presented in a series of episodes dedicated to the legacy of Nikola Tesla on "TV Svetlo" in the period October 2020. - January 2021 in which it is pointed out to his far-sighted intuitive insights, amazing technical solutions, key remarks on the "wireless energy transmission system" and the complete agreement of Tesla's "theory and practice" with the latest insights of modern science. ☺

1. Lesser known Nikola Tesla, page 1

<https://www.youtube.com/watch?v=mYI1qW-p2M> , 22.47 min

About the lesser-known period of Nikola Tesla's work, about his second part of life and work, from 1900 to 1943. "Tesla used vibrations that are significantly different from Hertzian and can really be called a Non-Hertzian energy form"...

2. Tesla's greatest discovery - "Stationary waves", page 3

https://www.youtube.com/watch?v=-n_WbW8p_Oo , 25.20 min

About Tesla's greatest discovery - stationary waves, which Tesla himself says that this discovery, which happened in 1899, was his greatest discovery that made him happier than anything ...

3. Basics of Tesla's Ethereal Technologies, page 6

<https://www.youtube.com/watch?v=RzpZCdTeFUM> , 24,29 min

On the basics of Tesla's ethereal technologies. For Tesla, "*light is a sound wave in the ether*", and the ether, as a hypothetical carrier of electromagnetic vibrations, was thrown out of science "...

4. About the ether, page 8

<https://www.youtube.com/watch?v=kx5bGuloazA> , 38,51 min

About ether, as the basis of Tesla's technologies. Although today's science does not recognize ether, Tesla designed all his principles and machines on the basis of the structure and parameters of ether. Ether is the fifth element in which all the elements of the cosmos are immersed ...

5. Tesla's "Magnifying Transmitter" - the most perfect machine of our civilization, page 12

<https://www.youtube.com/watch?v=FDQA8EDCofQ> , 32,30 min

About Tesla's "Magnifying Transmitter" - the most perfect machine of our civilization. This machine, although very simple, is conceptually and structurally different from all other machines that uses completely different principles in its work. Tesla believes that this machine will be the most important machine of this civilization and will cause the greatest interest of future generations ...

6. Tesla's key notes on the wireless power transmission system, page 15

https://www.youtube.com/watch?v=u-qKn_tVEh0 , 25,46 min

About Tesla's key notes for the wireless power transmission system. By building the Wardenclyffe Tower, which is a unique building to this day, Tesla emphasized the importance of choosing the operating frequency, design, device geometry and harmonizing each individual element of his machine with each other, and especially their overall compliance with the planet Earth ...

7. Exclusivity of Tesla Technologies, page 18

<https://www.youtube.com/watch?v=LNGq01D6euM> , 28,34 min

Tesla's machine from Colorado Springs - in its sophistication - is completely analogous to the Pyramid of Cheops and is a true masterpiece of knowledge and insight into the technologies of perfection and cosmic harmony. It is only a matter of time before people manage to connect their machines to the "Working Wheel" of nature ...

8. Tesla's "Magnifying Transmitter" - Fractal of Holographic Reality, page 21

<https://www.youtube.com/watch?v=da1JUalUNmU> , 37,23 min

For Tesla, light is "sound in the ether" and the latest insights of modern science are completely in line with his intuitive insights from 120 years ago ...

1. Lesser known Nikola Tesla

From the aspect of my research, Nikola Tesla had two phases of scientific and research work - before and after Colorado Springs. It is more than interesting that both phases lasted exactly 43 years.

His life and work from his birth on July 10, 1856, until his departure for Colorado Springs on May 17, 1899, are well known to us. Tesla's childhood and schooling in Smiljan, Gospić, Karlovac and Graz have been described in many books by domestic and foreign authors. Also his encounter with Edison, Westinghouse and Morgan, as well as the "war of currents" - the struggle between Edison's concept of direct current and Tesla's alternating current system - which ended with Tesla's victory - the lighting of the Columbian Exhibition in Chicago in 1893 on much more favorable terms than Edison. From that moment Tesla and Westinghouse started using Tesla's alternating system based on an induction motor, which Tesla patented in 1887.

The story related to this Tesla's invention and his conflict with Professor Poeschl, one of the greatest scientists of that time, who held the Department of Theoretical and Experimental Physics at the Higher Polytechnic School in Graz, which Tesla attended from 1875. until 1878. During the demonstration of Gram's dynamo machine, Tesla noticed that the commutator - an element that provides the DC motor to change the direction of current and allows rotor to rotate - is a problematic element because it causes losses during operation, requires frequent servicing, etc. and should be removed from motor. Professor Poeschl was shocked by Tesla's remark and scolded Tesla in front of all the students, saying that it is absolutely impossible to make a motor without a commutator and that he would - if his "young colleague" still managed to do so - eat his hat....

As we know, during a walk with his friend Szigeti in a park in Budapest (1882), Tesla recited the verses of Goethe's Faust - where there was talk of the setting sun:

*"The glow retreats, done is the day of toil;
It yonder hastens, new fields of life exploring;
Ah, that no wing can lift me from the soil,
Upon its track to follow, follow soaring!"*

and at the same time observing the actual sunset - got a vision of a rotating magnetic field and in fact a solution of an electric motor without a commutator.

I am personally sorry that he did not return to Graz at that time and asked Professor Poeschl to fulfill his promise. Perhaps today's science would be less arrogant, especially having in mind that the same "young colleague" was patented his HF / HV transformer, a device equal to a miracle at the time, which he used as an nuclear particles accelerator in 1891 - only 10 years after the famous "gunfight at OK Coral" (1881), as well as for experiments with X-rays as early as 1894 - before Roentgen and a number of other research in the field of high frequency and high voltage thus significantly pushing the boundaries of our understanding of electricity and enabling numerous inventions by other researchers. The crown of his work in this "first phase" of life and work was the construction of the Niagara power plant in 1895 and a demonstration of the "boat wireless control by radio waves" in 1898. during the "Wild West", Doc Holliday and Wyatt Earp (died 1929).

Part of Nikola Tesla's life from his arrival in America (June 6, 1884) to his departure for Colorado Springs (May 17, 1899 - January 7, 1900) is well known to the public and although it covers only 16 years of his life and work, it is a period in which he made a huge, indeed difficult to measure, contribution to the technological progress of civilization. According to Dr. Snezana Sarboh research - this is confirmed with 310 recognized patents, 33 prepared but unregistered patents and 12 written ideas such as e.g. "Desert irrigation" that are part of Tesla's archive. Unofficially, there have been a huge number of inventions - as many as 700 - since the time of his the work in Budapest, Paris...

The second phase of Tesla's life and work - after his stay in his laboratory in Colorado Springs until his death (January 7, 1943) - although it also covers a period of 43 years - is much less known to the public. However, in my opinion, this is exactly the period in which Tesla materialized his most advanced and most valuable ideas, working persistently and consistently to himself, despite all the attacks and troubles, on the application of his most sophisticated but also most controversial invention: "Magnifying Transmitter". This device, a true masterpiece of knowledge and the deepest cognitions "*captured by Nature*" is a significantly improved version of the classic HV/HF transformer that was used by Tesla before Colorado Springs, and is intended for wireless transmission of speech, images,..., but also for the large amounts of energy at an arbitrary distance ...

The problem of understanding and interpretation of Nikola Tesla

The basic problem of understanding the extremely advanced ideas of Nikola Tesla is the large and in fact **diametrically opposite difference in his interpretation of the structure of nature and the elementary mechanism of propagation of electromagnetic waves.**

- **According to modern science, EM waves are transversely oscillating waves of electric and magnetic FIELDS that propagate by themselves without the need for a MATERIAL medium as their carrier and without any connection with the source of their origin (!?);**

To me, it's like having sea waves without the sea - what's more - unlike quantum physics - the classical scientific definitions of key terms are ordinary phrases that don't explain the essence at all ... For example:

- **"An electric field is a PHENOMENON created by charge or a time-varying magnetic field, which acts by force on charged facilities."**

- **"Charge is the FEATURE of particles to create an electromagnetic field."**

- **"A magnetic field is a MEDIATOR through which mutual magnetic action is realized."**

What did we explain here?

According to Nikola Tesla, EM waves are longitudinal compression-expansionary vibrations of ether, a MATERIAL substance that is a perfect fluid of special qualities - like sound - which is a longitudinal vibration of air molecules - which is a very simple and extremely logical interpretation.

So - understanding of Tesla's technologies without longitudinal ether vibrations - their material carrier - and explanation of Tesla's Non-Hertzian (scalar) waves by "simplified", interpretation of Maxwell's theory is absolutely impossible because transversal vibrations of EM FIELD can not describe longitudinal vibration of the ponderable fluid and thus this "simplified" form of Maxwell's theory describes only a part ("shadow") of the actual energy flows.

On the other hand - Tesla's original statements are very specific and absolutely unambiguous (original):

1. Canadian Patent 142,352 – "Art of Transmitting Electrical Energy through the natural Medium":

"... IT IS NECESSARY TO EMPLOY OSCILLATIONS IN WHICH THE RATE OF RADIATION OF ENERGY INTO SPACE IN THE FORM OF HERTZIAN ELECTROMAGNETIC WAVES IS VERY SMALL

...

2. Wireless transmission of electric energy, "Electrical World and Engineer", March, 1904:

"In essence, it is the circuit of very large self inductance and low resistance, for which construction and method of excitation could be said to be DIAMETRICALLY OPPOSED to those of a typical transmitter for telegraphy using HERTZ or electromagnetic radiation."

The scientific work of the Corum brothers supports these claims of Tesla:

"A Technical Analysis of the Extra Coil as a Slow wave Helical Resonator", James F. Corum, PhD, Kenneth L. Corum; http://www.padrak.com/vesperman/A_Technical_Analysis_of_Tesla%27s_Extra_Coil_6.24.14.pdf

where they, by scientific methodology - on the so-called Smith's diagram, show that Tesla's "Extra Coil" has a MAXIMAL SWR, which is the opposite of what the engineers of the (Hertzian) broadcasting technique strive for, and thus actually represents an "antenna" that does not emit... - which is the opposite of Guglielmo Marconi's technique which allegedly "overtook" Tesla ...

3. US patent 5 780 – "Apparatus for transmission of electrical energy":

"... It is too noted that the phenomenon here involved in the transmission of electrical energy is one of TRUE CONDUCTION AND IS NOT TO BE CONFOUNDED WITH THE PHENOMENA OF ELECTRICAL RADIATION ..."

However - for modern science Tesla's "Non-Hertzian" waves are only a form of surface (but basically vector, transverse, self-propagating so-called "Hertzian") EM waves in the "near field" of transmitters (area $l < \lambda$) like "Norton" - or "Zenneck" waves.

Tesla's interpretation of the "Non-Hertzian waves" term - based on the concept of ether is considered wrong by many scientists, some even with the title of academic, due to *"his insufficient scientific knowledge - since he never completed his studies at College In Graz"* ... But - the (near) future - will show who was right.

2. Stationary waves of Nikola Tesla - his greatest discovery

In the last episode (section), we emphasized the fact that Nikola Tesla's departure to Colorado Springs, exactly in the middle of his life, where he constructed his famous "Magnifying Transmitter", was a turning point in his scientific research work when - in my opinion - a "new Tesla" was born. Tesla's strong belief in the importance and significance of this invention for civilization is evidenced by his statement:

1. "My inventions", autobiography of Nikola Tesla, collection from "Electrical Experimenter 1919", Editor Ben Johnston.:

"I feel with certainty that of all my inventions, the Magnifying Transmitter will be the most important and valuable to future generations."

Unfortunately, there are few who believe these and many other far-sighted words of Tesla. Here I quote Tesla's statement that left the strongest impression on me:

2. Branimir Jovanović, "Tesla, Spirit, Work, Vision", Freemental, 2001:

"I was very lucky to discover many new and amazing phenomena, such as a rotating magnetic field, the lighting of wireless vacuum tubes and many other high frequency effects, which amazed the world, BUT WHAT MADE ME MUCH MORE THAN ANYTHING ELSE IS THE DISCOVERY OF STATIONARY WAVES that I came across in 1899, which showed that the entire planet we live on, despite its incomprehensible size, could be forced to respond with a vibration to the quietest whisper of the human voice."

It is really not easy to believe that the Earth with a mass of $6 \cdot 10^{24}$ kg responds to the quietest whisper, but when it comes to Tesla - he should be trusted because he always verified his discoveries by measuring. As for stationary waves, he found the following:

3. "Tesla's prophecy", M.Matić, No Limit Books, page 143:

"Earth vibrations are periodic and last for about an hour and 45 minutes. That is, if I shake the earth, the wave of contraction passes through it and returns in an hour and 45 minutes, but in a state of expansion. The earth, like everything else, is in a constant state of vibration. It is constantly shrinking and expanding ..."

This Tesla "volumetric", "3D" mechanical vibration has a duration of 105 min. A quarter of that interval is $105/4 = 26.25$ min. - which time is in accordance with the expectation of the Model of Quantized Energy Densities considering the real parameters of the solar system: $T_{Z-S \text{ magn.}} = 1560 \text{ sec} = 26 \text{ min}$, which can be found in my paper:

4. "Analogy of Tesla's measurements&EDQ model;

http://users.beotel.net/~gmarjanovic/Tesla_engl.pdf

"His greatest discovery" - the discovery of Stationary Waves that happened the night before, Tesla describes in his diary from Colorado Springs on July 4:

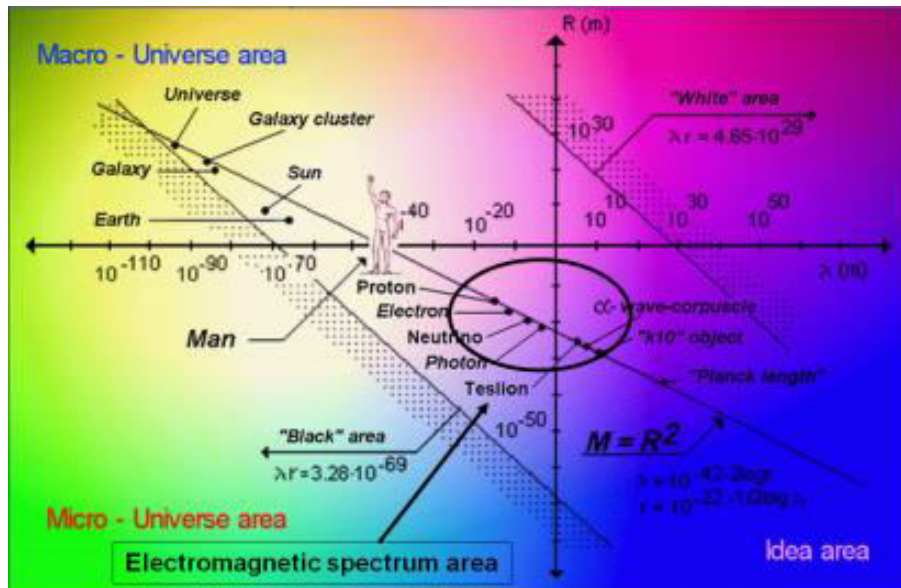
5. "Tesla's prophecy", M.Matić, No Limit Books, page 187:

"... The storm was approaching... the instrument (relay) reacted more and more strongly ... Later that night the instrument started working again and alternately stopped, at intervals of nearly half an hour, although the sky had already cleared."

From the above quotations it can be seen that the Stationary waves caused by the storm have a periodicity of about 28 min which is the duration of approximately ~ 1/4 of the period of mechanical vibration (citation 3, 26.25 min). These values will be crucial in choosing the appropriate parameters of the "Magnifying Transmitter" and especially its much more powerful version - the World Radio Station - "Wardenclyffe Tower". corresponds to a "spatial category" of **1560 m**. It is very interesting that the total length of the secondary wire and the extra coil (galvanic connection) of Tesla's "Magnifying Transmitter" from Colorado Springs is exactly: $801 + 778 = 1579 \text{ m}$...

Tesla's "Non-Hertzian Waves" from the aspect of the "Model of Quantized Energy Densities"

All research in the field of theoretical physics in the past century has proven that energy is quantized (Planck, Heisenberg, Schroedinger). This fact offers the possibility of quantizing the "energy density" and, basically, a kind of quantization of "space-time", which is manifested in nature by the existence of "stable" objects as material agglomerates and/or time cycles.



The **Model of Quantized Energy Densities** is based on strictly scientific data available for the macro and micro segment of Reality and the average energy density of real existing objects (particles/real and waves/virtual / L. de Broglie /). The "Space-Energy" diagram (picture above) shows the layout of all "Stable Objects" existing in our world. The objects of the Macro-universe are located in the second quadrant, the Micro-world in the third quadrant and the fourth quadrant, the area of the Hyper-world, belongs to the spiritual aspect of Reality.

The diagram clearly indicates the great harmony along the huge dimensional scale of mathematical quantities-values for different phenomena. As a curiosity, we cite the fact that "Man" is "located" in the "center" of the material "world" - on the border of the macro and micro universe, right at the point of the golden mean of the ordinate and the "black area".... ☺

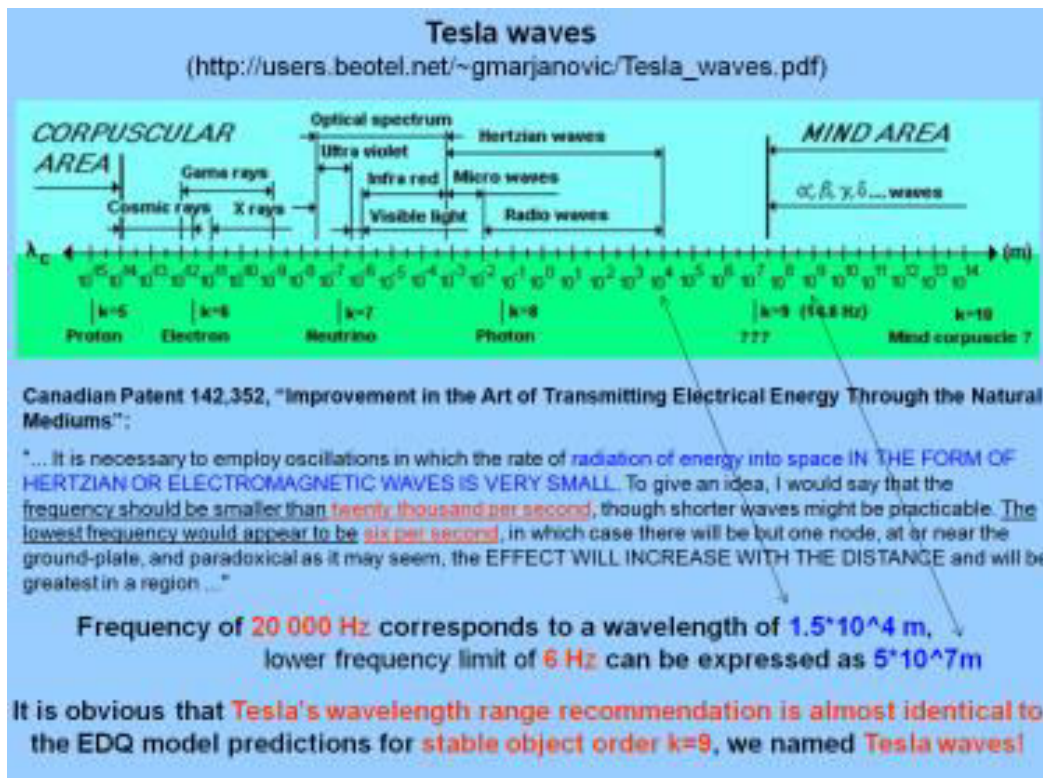
According to the postulates of the QED Model (<http://users.beotel.net/~gmarjanovic>), the quantization order of the "Stable object" represents the number "k", so that for an electron e.g. k = 6, an electron neutrino is k = 7, for a photon is k = 8, and so on. At the level of quantization k = 10 there is an "object" whose "waveform" corresponds to a frequency spectrum below 10 Hz, which (partially) corresponds to the mental activities of human being. Electromagnetic - the so-called "brain waves" - that characterize the corresponding mental states of a person, can be registered by electroencephalogram (EEG) and are classified into seven groups/types of frequencies (α , β , γ , δ , θ , λ , ε waves). It is more than interesting that this area partially overlaps with the Schumann frequency spectrum (7.83, 14, 20, 26, 33, 39, 45... Hz) generated by our planet.

During the initial research and consideration of the structure of Reality in all its material (wave-particle) and spiritual aspects, the Energy-space "position" corresponding to a stable object k = 9 was unfilled for a long time because I could not find a NATURAL phenomenon that generates vibrations in that segment .

According to the postulates of the QED Model, the expected rest mass (real or virtual acc. to L. de Broglie) of this object is approximately $1.1 \cdot 10^{-49}$ kg. The corresponding frequency is 14.8 Hz and the corresponding (expected) frequency spectrum is approximately 1 Hz to 30 KHz. I could not find any phenomenon of Reality that would be characterized by these parameters for a long time, until I came across to very interesting - and for me very important - words of Nikola Tesla:

Tesla's Canadian Patent 142,352 - "Improvement in the Art of Transmitting Electrical Energy Through the Natural Media", 1906 April 17:

"...To give an idea, I would say that the **frequency should be smaller than twenty thousand per second, though shorter waves might be practicable. The lowest frequency would appear to be six per second**, in which case there will be but one node, at or near the ground-plate, and paradoxical as it may seem, the EFFECT WILL INCREASE WITH THE DISTANCE ..."



The frequency of 20 kHz corresponds to a wavelength of $1.5 \cdot 10^4$ m, and the frequency of 6 Hz corresponds to a wavelength of $5 \cdot 10^7$ m. On the enlarged segment of the Energy-Space diagram (pic. above), which covers the area of the Electromagnetic Spectrum, it is clear that the expected values of MQED for the quantum level $k=9$ are almost identical to the frequency range that Tesla recommends for use !!!

This was the main motive for me to name Tesla's "NonHertzian waves" as "Tesla waves" and the corresponding phenomenon in particle form - their quantum carrier – to name "Teslion" !
("Prostor, vreme, materija", © 198/1993; "Teslini Talasi i Teslion kao njihov kvant nosilac", © 26./2001)

"Priča o Teslionu, <https://www.youtube.com/watch?v=33la3ikQ12w>

From this moment, my interest in Nikola Tesla and his work grows sharply and I start with intensive theoretical and practical research. Within the limits of my technical and financial possibilities I am building my own laboratory for Tesla's technologies with the intention of checking all Tesla's statements, especially those that do not agree with official science.

3. Fundamentals of Tesla's ethereal technologies

The story of "The Real Nikola Tesla", the Scientific Prometheus of the New Age and a true scientist of the future, begins for me in the second half of his life - after his stay in Colorado Springs. After the discovery of stationary waves - his greatest discovery - which we talked about in the last (2nd) episode (section) - and a series of controversial experiments with "Magnifying Transmitter", his masterpiece, whose construction is based on Tesla's understanding of electromagnetism, significantly different from classical scientific interpretation. In my opinion this was the main reason for extrusion that "other" ("real") Tesla from science.

Namely - after removing the ether from science and simplifying original Maxwell's equations, official science is based on reformulated old and newly adopted theory in which there was no place for Tesla's technologies that he develops on the concepts of the ether - which is still a scientific heresy.

However - Tesla did not deviate from the path followed by the entire science in all its segments until the end of the 19th century and continued on, guided exclusively by intuition and with the support of a very small number of scientists. This is evidenced by his statements:

"Tesla Sees Evidence Radio and Light Are Sound" - New York Times, Sec. X, P. 9, c. 1, April 8, 1934

"It is true," said Mr. Tesla, "that many scientific minds envisaged the theory of a gaseous ether, but it was rejected again and again because in such a medium longitudinal waves would be propagated with infinite velocity.

Lord Kelvin conceived the so-called contractile ether, possessing properties which would result in a finite velocity of longitudinal waves. I consider this extremely important, said Mr. Tesla. "Light cannot be anything else but a longitudinal disturbance in the ether, involving alternate compressions and rarefactions. In other words, light can be nothing else than a sound wave in the ether."

Aether; „ Dynamic theory of gravity. For his 81st birthday, (July 10, 1937), Tesla published a statement criticizing Einstein's theory of relativity in which he said:

"Essentially Ether is a substance, a "perfect fluid" that soaks everything into which "independent carriers" are immersed. It acts as a solid body for light (high frequencies) and is transparent to matter while its effects can be felt through inertia."

When I saw the text / private collection / and the calculations written by Tesla's hand, about fifteen years ago, and titled: **"Considering a light as a sound wave"** - I was very surprised and confused by this statement of Tesla.

The document contained two pages of rather illegible words and numbers, so that despite a lot of effort, I could not decipher the content for a long time, but Tesla's understanding of the phenomenon of light was completely unambiguous to me!

Still, a few years later I found his interview:

New York Herald Tribune, September 22, 1929

in which he claims to have **found experimental proof of the existence of the ether**, *"the medium by which longitudinal waves propagate by alternating compression and expansion."* Moreover, **Tesla** explains in detail the calculation in which - based on the air density and the sound / light propagation speed ratio - he **calculated the theoretical value of the ether density: $\rho_{\text{teor.}} = 1.9 \cdot 10^{-27} \text{ g/cm}^3$!**

It is more than astonishing that Tesla "determined the density of the (etheric) gaseous medium" and experimentally, by practical measurement, - which he succeeded in 1896 "when he made a new form of vacuum tube capable of withstanding very high electrical potentials and works with an effective voltage of about 4,000,000 volts ..."

It is obvious and really amazing that Tesla's theoretically obtained value of ether density is very close to the value he obtained by measuring: $\rho_{\text{measured}} = 2 \cdot 10^{-26} \text{ g/cm}^3$! It is even more interesting that these values obtained 100 years ago are very close to the latest scientific analyzes and estimates of dark matter parameters!

What to say - except: Magnificent Tesla !!!

Why was ether thrown out of science?

Officially - based on the "Michelson-Morley" experiment (1887), and unofficially - in my opinion - due to the superluminal properties of scalar, longitudinal waves inherent in the ether - substantial medium - which is not in line with the basic premise of the Theory of Relativity, Einstein's postulate about the constancy of the speed of light, according to which no object with a real rest mass can reach that speed.

It is paradoxical - but also quite indisputable - the fact that the creator of modern electromagnetism James Clerk Maxwell based his theory on the concept of ether. Moreover, the **original theory of J.C. Maxwell is given in the form of "quaternions"**, hypercomplex numbers which, to put it simply, represent the sum of scalar and vector quantities (picture below, left). A complete set of original equations has been known in electrodynamics since 1865.

Already the first theoretical considerations of Maxwell's equations showed that the EM waves described by the scalar part of the quaternion, the so-called "Scalar waves", which propagate in a material medium (ether) **CANNOT limit the speed of propagation, which offers the possibility of instantaneous communication at arbitrarily long distances. ...**

The fact that ether - although a perfect fluid - is essentially a substance, allowed for such strange and very "exotic" (and mystical) possibilities of etheric waves... but at the same time pointed to the problem of consistency with the (then future) theory of relativity - whose basic postulates are elaborated by Hendrik Lorentz, Carl F. Gauss, Bernhard Riemann, Ernst Mach, Henri Poincare, and Hermann Minkowski... Einstein just synthesized and shaped this, with the great help of his wife Mileva Maric - Einstein into his famous Theory of Relativity, special (1905) and general (1915).

Mathematical physicist James Clerk Maxwell, in his original mathematical equations given in form of quaternions, concerning electromagnetism, established the theoretical existence of scalar waves.

The quaternions are a set of symbols of the form $a + bi + cj + dk$, where a, b, c, d are real numbers.

They multiply using the rules $i^2 = j^2 = k^2 = -1$; $ij = k$.

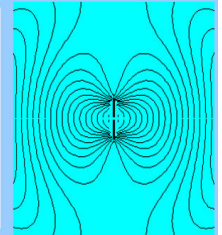
- Maxwell's equations in quaternionic form (Treatise, 2nd edition, 1881, Vol. II, p. 239–240; S = scalar and V vector part of quaternion) \mathfrak{S} = velocity, ψ, Ω = scalar el./mg. pot., eq. numbers 1st column from 1865, 2nd one from 1881
- (B₁) (A) $\mathfrak{B} = V\nabla\mathfrak{A}$ ($S\nabla\mathfrak{A} = 0 \Rightarrow \mathfrak{B} = \nabla\mathfrak{A}$) eq. of mg. induction
- (D) (B) $\mathfrak{E} = V\mathfrak{S}\mathfrak{B} - \mathfrak{A} - \nabla\psi$ eq. of el. motive force
- (C) $\mathfrak{F} = V\mathfrak{C}\mathfrak{B} - e\nabla\psi - m\nabla\Omega$ eq. of el. magn. force
- (D) $\mathfrak{B} = \mathfrak{S} + 4\pi\mathfrak{J}$ eq. of magnetization
- (C) (E) $4\pi\mathfrak{E} = V\nabla\mathfrak{S}$ eq. of el. currents
- (F) [G] $\mathfrak{R} = C\mathfrak{E}$ eq. of conductiv. (Ohm)
- (E) [F] $\mathfrak{D} = \frac{1}{4\pi}K\mathfrak{E}$ eq. of el. displacement
- (A) [H] $\mathfrak{C} = \mathfrak{R} + \dot{\mathfrak{D}}$ eq. of true currents
- (B₂) [L] $\mathfrak{B} = \mu\mathfrak{S}$ eq. of ind. magnetiz.
- (G) [J] $e = S\nabla\mathfrak{D}$ [Coulomb-Gauss law]
- $m = S\nabla\mathfrak{J}$
- $\mathfrak{S} = -\nabla\Omega$

After J.C. Maxwell death, since scalar waves had not been empirically observed, and considering that this mathematical form is unnecessarily complicated ..., Oliver Heaviside, Josiah Willard Gibbs and Heinrich Hertz, grouped the twenty equations together into a set of only four, via vector notation.

This group of four equations was known variously as the Hertz–Heaviside equations and the Maxwell–Hertz equations, but are now universally known as Maxwell's equations. Heaviside's equations, which are taught in textbooks and universities as Maxwell's equations are not exactly the same as the ones due to Maxwell.

Today we usually think of Maxwell's Equations as a set of four partial differential equations using vector notation. You may see them in differential or integral form:

Name	Differential form	Integral form
Gauss's law	$\nabla \cdot \mathbf{E} = \frac{\rho}{\epsilon_0}$	$\iint_{\partial V} \mathbf{E} \cdot d\mathbf{A} = \frac{Q(V)}{\epsilon_0}$
Gauss's law for magnetism	$\nabla \cdot \mathbf{B} = 0$	$\iint_{\partial V} \mathbf{B} \cdot d\mathbf{A} = 0$
Maxwell–Faraday equation (Faraday's law of induction)	$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$	$\oint_{\partial S} \mathbf{E} \cdot d\mathbf{l} = -\frac{\partial \Phi_{B,S}}{\partial t}$
Ampère's circuital law (with Maxwell's correction)	$\nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \epsilon_0 \frac{\partial \mathbf{E}}{\partial t}$	$\oint_{\partial S} \mathbf{B} \cdot d\mathbf{l} = \mu_0 I_S + \mu_0 \epsilon_0 \frac{\partial \Phi_{E,S}}{\partial t}$



And so... after the death of J. C. Maxwell (1879), with the explanation that this mathematical form is unnecessarily complicated ..., Oliver Heaviside, Josiah Villard Gibbs and Heinrich Hertz "simplify" the original Theory of J.C. Maxwell, they eject the scalar part and translate it into a dimensionally lower form - into a vector form, in which Maxwell's set of twenty equations is grouped into a set of only four vector expressions (picture above, right). So - these Heaviside equations, which are taught as Maxwell's in textbooks and universities - are NOT his original...

The fact that the propagation of longitudinal waves, - unlike self-propagating, transversely-vectorial EM field vibration - requires the existence of a material carrier is also solved very simply - ether as a hypothetical carrier of electrodynamics vibrations was thrown out of science on the basis of the famous Michelson-Morley experiment (1887)

The result was (allegedly) negative. Here we must especially emphasize that, in the opinion of a number of modern physicists, the negative result of the "MM" experiment should not have been the reason for denying the existence of ether, as scientists of the 19th century did, and it is still supported by official science. The first reason is the possibility of insufficient sensitivity of the equipment used. The second is the question of the interactivity of the ether with the material detectors used, and the third is the compatibility of the true nature of light and the applied experimental setup.

In any case, the **direct consequence** of the MM experiment **was the exclusion of ether from science** which is - **in addition to "simplifying" the original Maxwell's theory and ejecting scalar, longitudinal waves - completely pushed Nikola Tesla and his ethereal technology out of science** and his original interpretations of the principles of operation and properties of "Magnifying Transmitters", "Wardenclyffe Towers", etc. classified in the domain of pseudoscience !

Therefore, all these years, modern science favors only a part of Tesla's legacy BEFORE Colorado Springs (rotating magnetic field, multiphase currents, high frequencies, classic version of HF/HV transformer...) and a part of the legacy related to his "Non-Hertzian" waves, which is the most valuable part of his insights for civilization - "pushes under the carpet".

4. About Ether

In previous episodes (sections), we have cited Tesla's well-documented statements that **he does not work with "Hertzian" waves but with waves of a completely different kind**

(Canadian patent 142 352, „Improvement in the Art of transmitting Electrical Energy through the natural medium“, April 17, 1906; US patent 5780, Apparatus for transmission of electrical energy, May 15, 1900)

and the even more controversial one -

(New York Times, April.08. 1934 „Tesla Sees Evidence Radio and Light Are Sound“)

that **Tesla sees radio waves and light as sound in the ether**, that is, that **light cannot be anything other than a sound wave in the ether**. We also mentioned Tesla's theoretical prediction of ether density as well as its experimentally determined values:

1. New York Herald Tribune, Sept. 22, 1929, <http://www.tfcbooks.com/tesla/1929-09-22.htm>

Theoretical value of ether density: ρ , Eth, Theor = $1.9 \cdot 10^{-27}$ g/cm³

Experimentally determined ether density: $\rho = 2 \cdot 10^{-26}$ g/cm³

Since the Michelson-Morley experiment was performed in 1887. we see that Tesla in the 1930s, i.e. **50 years later, remains consistent with himself**, theoretically considers and experimentally measures the parameters of that "non-existent" ether - despite the firm position of official science!

On the other hand, the latest scientific measurements determine the hypothetical density of the so-called. "Dark energy":

2. Dark energy, <http://hyperphysics.phy-astr.gsu.edu/hbase/Astro/dareng.html>

According to NASA's Wilkinson Probe for Microwave Anisotropy, the effective density of dark energy is slightly more than 4 hydrogen atoms per cubic meter of space, i.e.:

⇒ **Density of dark energy: $0.73 \cdot 9.47 \cdot 10^{-27}$ kg/m³ ~ $7 \cdot 10^{-30}$ g/cm³**

So the hypotheses of modern physics are completely in line with Tesla's insights from a hundred years ago... , so that the analogy of the ether with the hypothetical phenomena of dark mass and dark energy is certainly not without basis.

In his previously prepared statement for interview with press on 81st birthday observance, July 10, 1937 which Tesla gives to journalists before the interview, he speaks of his "Dynamic Theory of Gravity" (never published in its entirety), where he criticizes Einstein's theory of relativity, outlines the basic elements of his cosmogony, and describes the ether as a substance, a "perfect fluid" - which soaks everything immersed in "independent carriers." ". It acts as a solid body for light and is transparent to matter...

Substance and the physical field are two kinds of matter. A substance is a form of existence of matter characterized by a real rest mass. The physical field is a type of existence of matter that has no real mass, but whose effect we can observe. **Modern science favors the field and Tesla bases his work on the concepts of perfect fluid – ether – that is a substance.**

According to ancient teachings, ether or aether, is a substance that fills the universe above the earth's sphere. In Greek mythology, it was considered to be pure essence that fills the space in which the gods lived and which they breathed, analogous to the air inhaled by mortals.

The word ether in Homeric Greek means "clean, fresh air" or "clear sky." The fundamental reality of this invisible fluid - as a source of universal energy - has long been the privilege of secret mystical schools around the world. In the Vedic texts of ancient India, it is called by various names such as "Prana" and "Akasha". But my opinion - based on the Model of Quantized Energy Densities - is that akasha is a more primary substance, i.e. the root cause of the existence of ether.

Recent discoveries, which include "dark matter", "dark energy", "virtual particles" and "zero point energy" (ZPE) have forced Western science to realize that there must be some invisible energy medium in space for which it uses the term "quantum medium" and not the forbidden word "ether". In fact, according to the new semantics, ether has today been replaced by the term "Suprafluid quantum vacuum" whose structure is interpreted by very complicated expressions and processes of quantum physics, although the original term "ether" is much clearer and its real existence verified by numerous researchers and institutes.

However - for official science, ether does not exist, but in alchemy and philosophy of the ancient and medieval ages, ether is the **"fifth element"** (besides fire, water, earth and air) in which all the elements of the cosmos are immersed. The existence of ether was widely accepted in science until the early 20th century, when the Michelson-Morley experiment (Albert A. Michelson and Edward W. Morley, April-July 1887) was chosen as "proof" that such a fluid did not exist.

Otherwise, **all great scientists have used the concept of ether** to explain natural phenomena.

Isaac Newton, the English physicist, mathematician and astronomer, one of the most important figures in the history of science, used the idea of ether in the 1670s to interpret his theory of gravitation.

In *the wave theory of light* **Christiaan Huygens** (1678.) assumed that light is a wave phenomenon whose transmitter he called ether.

In the corpuscular theory for describing the motion of light which he proposed **Johann II Bernoulli**, (1736.) the ether permeates the entire space and transmits the traveling vibrations of the corpuscular packets of light.

In *"Dynamic theory of the electromagnetic field"*, which is the **creator of modern electromagnetism** **James Clerk Maxwell** presented to the Royal Society in 1864, one of the essential parts of the theory was that: *"there is an etheric medium that fills the space and permeates the body and enables the propagation of EM waves."*

Albert Einstein, **Leiden University, The Netherlands, May 5, 1920, "Ether and the Theory of Relativity"**: "... According to the general theory of relativity, space without ether is unthinkable, because through such space light could not travel and there would be no standards for space and time (measuring rods and clocks), nor would there be space-time intervals in the physical sense of words. "

Paul Dirac, the man who laid the foundations of quantum theory said in **1951**: *"With the advent of quantum mechanics, the situation about the scientific credibility of ether has changed again, so that in the new electrodynamic theory that the vacuum is filled with virtual particles, we are forced to accept the existence of ether."*

John Bell, a scientist whose contribution to the development of quantum physics was truly enormous, in **1986**, in an interview with Paul Davies published in the book "The Ghost in the Atom", said that *"ether theory could help a lot in solving the EPR paradox ..."*

The original **Periodic Table of Dmitry Ivanovich Mendeleev** engraved on his monument also contains a **"zero" element**, placed in a zero column and a zero row, which we did not learn about in school, and which he called **"Newtonium"** in honor of the immortal Newton and represents **"the most important and fastest element in nature: ETHER"** !

Original Mendeleev Periodic System, "Fundamentals of Chemistry",
edition of 1906.

"Njotonij"
"Koronij"

Periods (rows) correspond to the energy levels of atoms which may contain electrons

Dmitri I. Mendeleev, "Try chemical understanding of the earth's ether", 1905, page 27, quote:
"Koronij" density is of about 0.2 relative to hydrogen; and it can not be in any way ether. It is an element the "Y", however, is necessary in order to mentally prepare for the most important and fastest element "X", which, in my opinion, can be considered as ether. I would like to call him in advance "Njotonij" - in honor of the immortal Newton ." End quote.

Elements of the group (column), which have similar physical and chemical characteristics

33

Although early modern models of ether were replaced by general relativity, occasionally some physicists tried to return the concept of ether to science, trying to solve the observed shortcomings in current physical models and harmonize them with experimental reality, which still far exceeds current theories.

One of the first scientists who gave evidence of the existence of invisible physical matter related to the term "ether" was the famous Russian astrophysicist **Dr. Nikolai Kozyrev** (1908-1983), one of the most controversial scientists in modern physics, who received instantaneous signals from the sun and other stars and **showed that there really is some form of energy propagating instantaneously**. With his special equipment he could receive signals from several spatial positions of stars: 1. from the position where we see

them (past), 2. from the position where they really are at the moment of observation (present) and 3. from the position where they will be when the light from our star reaches it (future) !!!

This means that the past, present and future exist at the same time! So, contrary to all the laws of classical physics, one can get in touch with both - the past and the future !

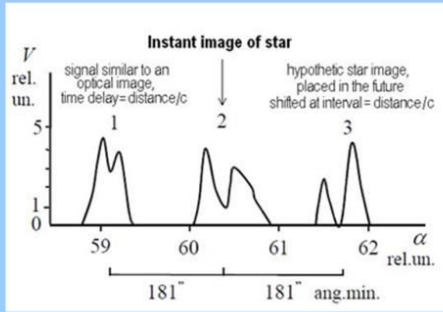
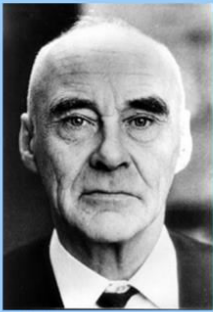
These experiments by Kozyrev show that the structure of the Universe, built on the well-known laws of strictly materialistic science, is inconsistent with a reality that is obviously much more complex than that described by current theories.

In his doctoral dissertation, Kozyrev proved that thermonuclear processes on the Sun cannot provide as much energy as the Sun emits in various forms: heat, EM waves, particles (solar wind)... which means that it, like all other stars, gets energy from a source unknown to us ...

According to the interpretation of Dr. Nikolai Kozyrev: "The sun is a machine that turns time into light and heat"!

Dramatic scientific evidence that all of **physical matter is formed of invisible, conscious energy** ("flow of time") has existed since at least the 1950s.

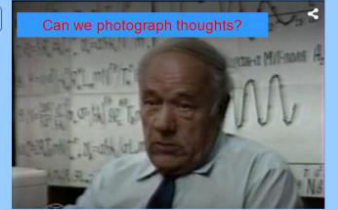
Renowned Russian astrophysicist Dr. Nikolai Aleksandrovich Kozyrev (1908 -1983) proved beyond any doubt that such an energy source had to exist, and as a result he became one of the most controversial figures in the history of the Russian scientific community.



ANATOLIY FEDOROVICH OHATRIN

International Academy of Energy - Information Science of Russia

Author of Torsional auto-generator "GAMMA 7" (Ohatrin neutralizer) and "Micro leptonic field theory". Died in 2001.



MICROLEPTONS - elementary particles that form a weak-field. They have the characteristics inherent in torsion, axial and spin fields. Fulfills all environment and the land, water and air and the cosmos, **have a mass of 10^{-39} to 10^{-44} kg!**

All the objects of the material world are surrounded by and filled with these super-lightweight particles. All environment and living systems are soaked with them. These particles carry information about the composition and structure of the substantial body. For them there are no physical barriers. Heavy and inert mass depend on the density and temperature of the microleptonic gas in it. If microleptonic gas - in any way - is removed from the masses - the body loses weight!

According to the Energy Density Quantization model, Stable object k9, that represents the Tesla waves quantum carrier, has a rest mass with expected value of about: $1.6 \cdot 10^{-47}$ kg !

According to the **theory of micro-lepton fields by Anatoly Fedorovich Ohatrin MICROLEPTONS are elementary particles that form a "weak field"**. They have qualities characteristic for torsion, axial and spin fields. They have a mass of 10^{-39} to 10^{-44} kg. All objects in the material world are surrounded and filled with these super-light particles. There are no physical barriers for them. The heavy and inert mass of the body depends on the density and temperature of the microlepton "gas" in it.

One of the more recent proofs of the existence of ether comes from Dr. Hal Puthoff - a respected scientist from the University of Cambridge.

In his U.S. patent No. 5,845,220 from 1.dec. 1998 Dr. Puthoff claims that information can be transmitted remotely using modulated potential without components of electric or magnetic field - which is completely in line with the ideas and technologies of Nikola Tesla - which will be discussed in more detail in one of the next episodes (sections) - about Tesla's "Magnifying Transmitter as a fractal of holographic reality".

Communication method and apparatus with signals comprising scalar and vector potentials without electromagnetic fields

Patent number: 5845220

Abstract: Information that changes as a function of time is communicated from a transmitting site to a receiving site by transmitting a signal comprising scalar and vector potentials without including any electromagnetic field. The potentials vary as a function of time in accordance with the information.

Type: Grant

Filed: August 23, 1993

Date of Patent: December 1, 1998

Assignee: EarthTech International, Inc.

Inventor: Harold E. Puthoff

The latest scientific breakthroughs that imply the existence of phenomena such as dark matter, dark energy, virtual particles, vacuum flux and zero point energy (ZPE),..., - **indicate to modern science the necessity of the existence of a fluid "like ether"**, an invisible energy medium in the Universe.

One of the proposed **model of dark energy** is called **Quintessence** as an allusion to the Pythagorean name for ether (quintessence, lat: quinta essentia, fifth essence), "fifth element" and means - the finest, all-pervading substance, pure and concentrated essence of a substance.

In modern cosmology, the "quintessence", a hypothetical **form of "dark energy"**, is essentially **a scalar field** that is postulated as an explanation for the observed accelerated expansion of the universe. It is sometimes called the fifth basic force - in addition to electromagnetic, weak, strong and gravitational.

In any case, Quantum Theory predicts, and experiments from modern world laboratories, confirm that empty space (vacuum) contains huge amounts of residual, (hidden) background energy known as zero-point energy (ZPE).

*// Based on the values of the Planck constant and the upper limit of the Cosmological constant, according to quantum electrodynamics, consistency with the principle of Lorentz invariance requires that the zero point energy has a value greater than 10^{113} J/m³. This is a really huge and completely incomprehensible value to us (number one with one hundred and thirteen zeros) is known in science as a **vacuum catastrophe**. (Wiki: Cosmological constant problem) //*

However, there are also exact measurements performed by modern technologies that prove the existence of ether, such as e.g. Martin Grusenick's experiment.

// [Grusenick Experiment Proves the Existence of the Ether and of a Vertical G-on flux, <https://etheric.com/grusenick-experiment-proves-existence-ether/>].//

On the other hand, there is a number of contemporary scientific studies, i.e. analyzes that indicate a certain "inconsistency" in the interpretation of the results of the Michelson-Morley experiment - which was crucial for the exclusion of ether from science. One of them, e.g. "Statistics" Proves" shows that Ether exists,

//[Statistics "Prove" Ether Exists, [//](https://www.rasch.org/rmt/rmt111c.htm#:~:text=Carver's%20(1993)%20reanalysis%20of%20data,001%20level%20of%20statistical%20significance.)

and shows that from the aspect of statistical analysis - the hypothesis: "the speed of light depends on the direction of travel through the ether", **cannot be rejected** - which confirms the existence of the ether - what is the strangest - based on the identical experimental settings just using more modern technology ...

Numerous modern measurements successfully detect the "etheric wind" and the relative movement of the earth and the ether... which is well argued and presented in my text which can be found on my website or on the platform for the exchange of academic research:

*[<https://www.academia.edu/about>
http://users.beotel.net/~gmarjanovic/O_Etru_e.pdf]*

In my opinion, Nikola Tesla not only did determine the parameters of ether theoretically and experimentally but he also **solved the problem of interaction with the ether** ("Non-Hertzian waves") and the knowledge he gained in Colorado Springs (N. Tesla says on his return to New York: I solved all my dilemmas in Colorado Springs) and practically applied it in the Wardenclyff Tower.

5. Tesla's "Magnifying Transmitter" - the most perfect machine of our civilization

After many years of theoretical and experimental research, I really have not the slightest doubt that Tesla's "Magnifying Transmitter" is really the most perfect machine of our civilization. Ancient Chinese wisdom says that simplicity is the ultimate goal of perfection, and Tesla's machine - although extremely simple - is really extremely efficient, that is, technically perfect. But - Tesla's path from the foggy intuition at the very beginning of the works to the realization of this machine was much more complicated and difficult than all his previous projects. His words testify to that:

My Inventions - chapter 6: The Magnifying Transmitter
Tesla himself called his Magnifying Transmitter his best invention, ...

My Inventions: The Autobiography of Nikola Tesla is a book compiled and edited by Ben Johnston detailing the work of Nikola Tesla. The content was largely drawn from a series of articles that Nikola Tesla had written for Electrical Experimenter magazine in 1919, when he was 63 years old.

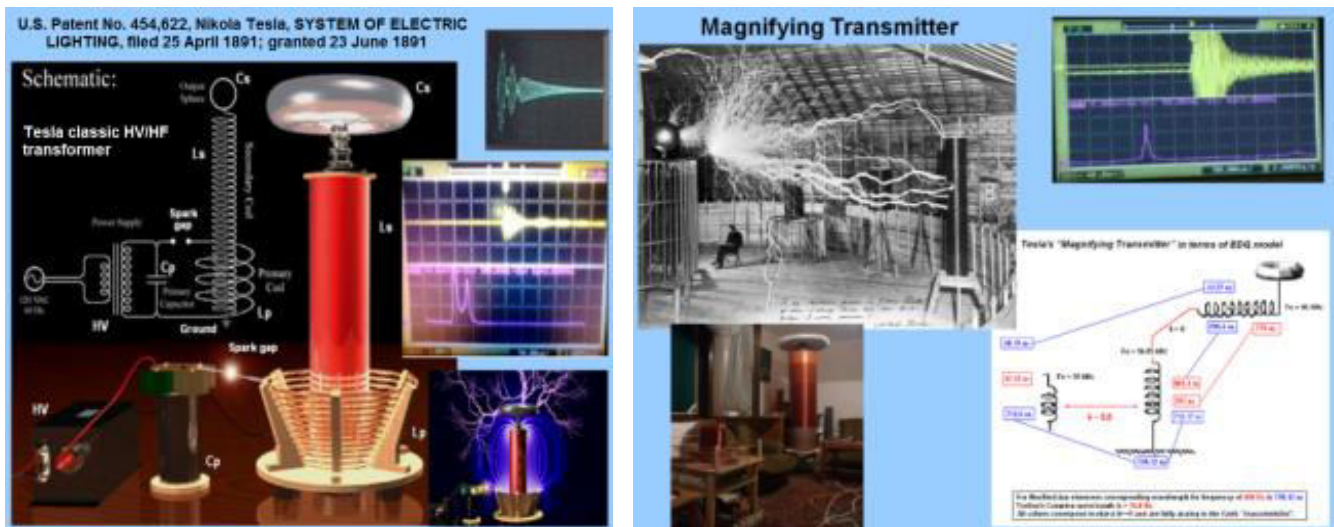
"No subject to which I have ever devoted myself has called for such concentration of mind, and strained to so dangerous a degree the finest fibers of my brain, as the systems of which the Magnifying Transmitter is the foundation. I put all the intensity and vigor of youth in the development of the rotating field discoveries, but those early labours were of a different character. Although strenuous in the extreme, they did not involve that keen and exhausting discernment which had to be exercised in attacking the many problems of the wireless.

My belief is firm in a law of compensation. The true rewards are ever in proportion to the labour and sacrifices made. This is one of the reasons why I feel certain that of all my inventions, the **Magnifying Transmitter will prove most important and valuable to future generations.** I am prompted to this prediction, not so much by thoughts of the commercial and industrial revolution which it will surely bring about, but of the humanization consequences of the many achievements it makes possible."

On exceptional specificity of this machine and its huge structural difference in relation to the classic HV/HF transformer which he had used before speak Tesla's words written in

Colorado Springs Notes, 1899–1900, Nolit Beograd, Yugoslavia, 1978, str. 76, 07. July 1899:

"Regarding the achievement of voltage by resonant overvoltage, there are two ways: either the secondary is placed in a loose coupling ($k < 0.2$) with the primary and thus allow free oscillations of the secondary (GM: classic version), or the secondary should be coupled tightly ($k > 0.5$) with the primary and then raise the voltage using an Extra coil - that is - inductance that is not inductively coupled to the primary. I consider this last method more suitable when you want to achieve a very high EMS."



In his analysis of possible methods of achieving high voltages, written by Tesla in his diary on July 7, 1899, just three days after the cognition of "stationary waves", on July 4 - his "*greatest discovery*" and three days before his birthday on July 10, Tesla opted for a method of strong coupling between primary and secondary circuit which requires exceptional skill of the constructor (reflections due to bad-adjustments) and which many today researchers avoid for that very reason, and reaching a very high EMF (Electro-Motive-Force, otherwise Tesla usually used the terms "pressure" or "voltage") using an "Extra coil" that is not inductively but galvanically coupled to a secondary !

Favoring electromotive force at the very beginning of the research, and **CHOOSING PURE POTENTIAL INSTEAD OF VOLTAGE** is a very important Tesla's decision which, I am absolutely sure, **was crucial for his success** and achieving the efficiency of the machine with which Tesla was satisfied (measurements on December 14, 1899).

Despite all its simplicity, Tesla's "Magnifying Transmitter" is certainly one of Tesla's most perfect devices. I say "one of" because - in my opinion - "Tesla's Fountain"

(Nikola Tesla U.S. Patent 1,113,716 – Fountain, oct 28, 1913)

is, to some extent - the mechanical analogy of the Magnifying Transmitter and also is the ultimate achievement of perfection.

The work principle of Magnifying Transmitter is significantly different from the classic version - HV/HF transformer with an air core, which Tesla developed and used in New York, before Colorado Springs !

In the classic version, the voltage increase is based on the principle of EM induction, where the voltage ratio of the primary and secondary coils is proportional to the ratio of the number of windings. In order for energy to be transferred from the primary to the secondary circuit, the resonant frequencies must be identical (or very close). In the "Magnifying Transmitter", Tesla uses the primary-secondary system as a powerful oscillator that only excites the "Extra coil" and it - according to Tesla - constitutes an arbitrarily high potential limited only by the breakthrough potential value of "Top Load" (curvature, smoothness, humidity...). In this way, despite the very small transmission ratio of only: $N_s/N_p = 17$, which with an input voltage of 10,000 V would give a maximum of 170,000 V by the induction method, but Tesla reaches about 12 million Volts with his new method ...

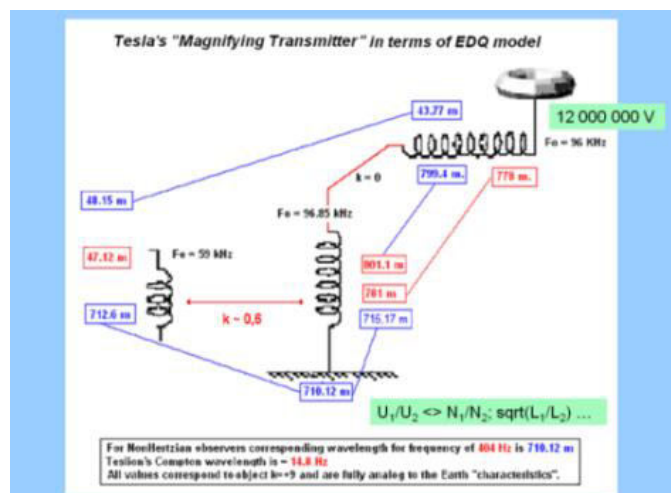
In the "Magnifying Transmitter" - Tesla provides an increase in potential by using an "Extra Coil" - a quarter-wave helical resonator (Dr. James F. Corum: Ph.D. in Electrical Engineering, Kenneth L. Corum: B.A. in Physics)

Tesla Coils and the Failure of Lumped-Element Circuit Theory
by Kenneth L. Corum and James F. Corum, Ph.D. © 1999
"The working [of the Extra Coil] was excellent with 1/4 wave-length."
Nikola Tesla, September 18, 1899

"Extra Coil as a Slow Wave Resonator,"

[See TCTUTOR, Corum, 1988, pp. 56-58; "Extra Coil as a Slow Wave Resonator," Proc. 1986 ITS Symposium, pp. 2:1-2:24; Industrial Electron Accelerators, by E.A. Abramyan, Hemisphere, 1988, p. 94.]

Coil and normalized measured voltage distributions at $f=175, 435, \text{ and } 645 \text{ kHz}$.



in which it **forms stationary waves** whose magnitude increases with constant energy feeding (as in a children's swing - pendulum) to a value limited only by the conductivity of the environment **wherein Tesla uses the planet EARTH as a resonator** completely **harmonized with the "Extra coil" !!!**

"A Technical Analysis of the Extra Coil as a Slow Wave Helical Resonator",
James F. Corum, Ph.D, Kenneth L. Corum

Smith Chart representation of Tesla's Extra Coil, November 1, 1899.

The Voltage Standing Wave Ratio (VSWR) is then analyzed, including losses, and the voltage step-up of any distributed Tesla Coil resonator is obtained. The resulting model not only predicts the resonant behavior of the Extra Coil, but readily permits its representation on a Smith Chart.

Example of Extra Coil analyses displayed on Smith Charts. Specifically, the November 1, 1899 and January 2, 1900 Extra Coils of Tesla's Diary are discussed in detail and are shown to produce voltage step-ups on the order of 10 to 15 MegaVolts.

The previous note is crucial for understanding Tesla's technologies but is maximally ignored because the "Hertzian" emission technique, and electromagnetism in general, are based on fundamentally different principles from those emphasized here **based on Tesla's original statements** (e.g. quotes given in section 1) according to which Tesla persistently and consistently EMPHASIZES that "he doesn't work with Hertzian waves," and that he minimizes energy emission in that form. This is confirmed by the scientific works of Dr. Kenneth and James Corum (picture left) showing in the "Smith diagram" that the SWR (ratio of transmitted and reflected signal) of Tesla's "Extra Coil" is maximal - which unequivocally shows that Tesla retains energy in the system, because the "extra coil" actually is an "antenna which

does not emit"- what is a great and significant confirmation of Tesla's words. ☺

So: Magnifying Transmitter combines the qualities of the classic version of HV/HF transformers and the principles of wave mechanics. His new system Tesla is developing and improving by intensifying the primary-secondary coupling coefficient and connecting secondary with the "Extra Coil" with additional harmonization of all elements with each other and - ESPECIALLY – with the planet Earth (!!!) - which he uses as a resonator and forms "Stationary waves" - “his greatest discovery” (epizode/section 2) !

Figuratively, it could be said that the difference between the "Hertzian" radio transmitter of the Marconi type and Tesla's "Non-Hertzian" "Magnifying Transmitter" is quite analogous to the difference between a Stradivarius violin (which has an extremely sophisticated "resonator") and an ordinary board on which the wire is stretched between two nails... ☺

Although this comparison may sound too caricatured - it is certainly so because Tesla in his diary and interviews made a few more extremely important notes that are ignored, although they are extremely important.

6. Tesla's key notes on the wireless power transmission system

Emphasizing Nikola Tesla's "non-Hertzian" principles set out in the previous episode (section): "MT - the most perfect machine of this civilization" may seem to someone like my excessive bias and "mystification" of Tesla - as some say - but the facts that this is pure truth can be seen from Tesla's original statements which follow and which I quote in their original form without any subjective coloration.

1 - Nikola Tesla, Colorado Springs Notes, 1899-1900, June 5, 1899 (original):

“From this, the *inferiority of the induction method* would appear immense as compared with DISTURBED CHARGE OF GROUND AND AIR METHOD” !!!

In his diary on June 5, Tesla performed a calculation based on HIS EMPIRICAL FORMULA and concluded that **the induction method is immeasurably inferior to the method of simultaneous charge disturbance in the ground and air** used in the "Magnifying Transmitter".

Tesla wrote this note in his diary on June 5 - so only a few days after arriving in Colorado Springs, at the very beginning of the construction of his device, and **even then he was convinced of the benefits of the system. which is not based on induction**, which is used in the classical version of the transformer, and which he patented in 1891, **but on the special properties of the so-called. "Additional coils" and the specifics of the whole system. The vast majority of researchers of Tesla's work completely ignore this very important note by Tesla, but THAT is the REAL Tesla!**

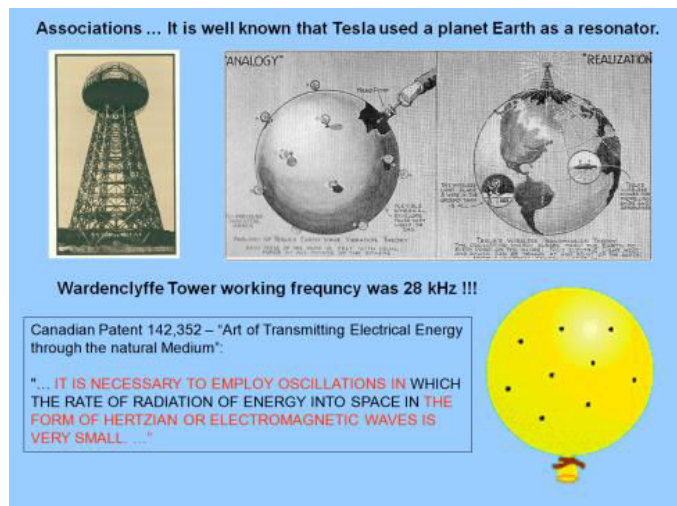
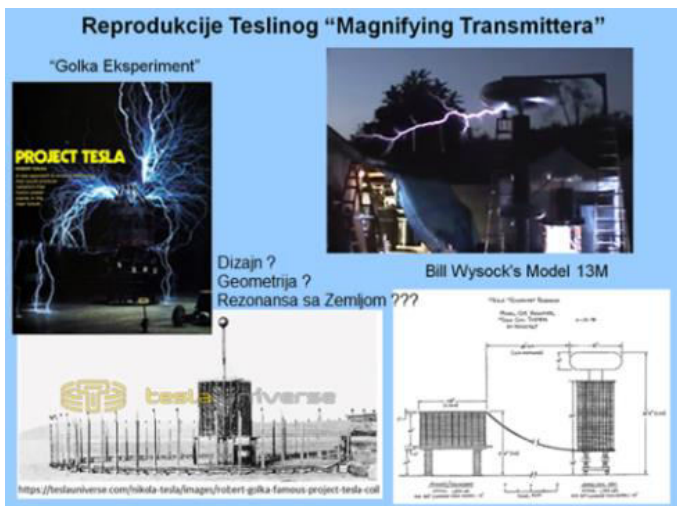
How important EVERY DETAIL is in the construction of this Tesla machine can be seen from his description in the book "My Inventions". In section 6, talking about his wireless power transmission device, Tesla says that this device is:

2 - My Inventions - chapter 6: The Magnifying Transmitter /compilation, Electrical Experimenter, 1919, Edit Ben Johnston

“ ... it is accurately proportioned to fit the globe and its electrical constants and properties, by virtue of which design it becomes highly efficient and effective in the wireless transmission of energy. Distance is then absolutely eliminated, there being no diminution in the intensity of the transmitted impulses. It is even possible to make the actions increase with the distance from the plant according to an exact mathematical law. ... this wireless transmitter is one in which the Hertz-wave radiation is an entirely negligible quantity as compared with the whole energy. ... Such a circuit may then be excited with impulses of any kind, even of low frequency and it will yield sinusoidal and continuous oscillations like those of an alternator.”

This is one of Tesla's original statements that especially emphasizes the **importance of choosing the operating frequency, design, geometry and harmonization of each individual element** of his machine with each other and especially **their overall harmonization with PLANET Earth** and all its geometric, mechanical and electrical parameters !

In my opinion this is - in fact - Tesla's most important remark, which - almost as a rule - is absolutely not respected and completely ignored. Almost no one cares ... **neither about geometry nor design, and least of all about compliance with the parameters of the earth and the connection with it... - although Tesla emphasizes that he uses the Earth as a resonator - hence as very important COMPONENT of the machine !!!**



Another very important note by Tesla can be found in the Leland Anderson book, an American engineer and writer who has long dealt with Tesla's legacy. On page 203 it says:

3 – Leland I. Anderson, NIKOLA TESLA ON HIS WORK WITH ALTERNATING CURRENTS AND THEIR APPLICATION TO WIRELESS TELEGRAPHY, TELEPHONY, AND TRANSMISSION OF POWER, Sun Publishing, Denver 1992.[pg. 203]

"In this system that I have invented it is necessary for the machine to get a grip of the earth, otherwise it cannot shake the earth. It has to have a grip on the earth so that the whole of this globe can quiver, and to do that it is necessary to carry out a very expensive construction. I had in fact invented special machines". ... Now that was a very expensive part of the work, but it does not show on the tower, but it belongs to the tower".

This Tesla's statement clearly shows the great complexity of the underground part of the "Wardenclyffe Tower" - which unequivocally indicates the exceptional importance of this segment of the "Machine" also, which is obviously equal - if not larger - than its aboveground part because the machine must GRIP STRONGLY THE EARTH... AND SHAKED IT WELL... SO THE WHOLE GLOBE VIBRATE !!! "

It is absolutely impossible to explain this Tesla's instruction from the aspect of the valid variant of the EM theory, and that could be the reason for completely ignoring and disavowing this very important statement by Tesla - that automatically discredits ALL Tesla's "Magnifying Transmitter" "REPLICES" KNOW ME TO ME (with a few honorable exceptions).

Of course - everyone has a full right to their own path - but if the principle of "simultaneous disturbing of charge in the air and earth" with the harmonization of the entire system with the Earth is not respected - this is not Tesla's way. It's like you nailed two nails to a board, stretch a string and said you made a Stradivarius violin. ... Just so.

Speaking of Tesla's "Magnifying Transmitter" in the previous episode (section), we highlighted Tesla's diary entries from July 7th. But - given their exceptional importance, we will repeat them here as a really important note. On that day, Tesla wrote:

Colorado Springs Notes, 1899–1900, Nolit Beograd, Yugoslavia, 1978, str. 76, 07. July 1899:

"Regarding the achievement of voltage by resonant overvoltage, there are two ways: either the secondary is placed in a loose coupling ($k < 0.2$) with the primary and thus allow free oscillations of the secondary (GM: classic version), or the secondary should be coupled tightly ($k > 0.5$) with the primary and then raise the voltage using an Extra coil - that is - inductance that is not inductively coupled to the primary. I consider this last method more suitable when you want to achieve a very high EMS."

In his analysis of possible methods of achieving high voltages, written by Tesla in his diary on July 7, 1899, just three days after the cognition of "stationary waves", on July 4 - his "greatest discovery" and three days before his birthday on July 10, Tesla opted for a method of strong coupling between primary and secondary circuit which requires exceptional skill of the constructor (reflections due to bad-adjustments) and which many today researchers avoid for that very reason, and reaching a very high EMF (Electro-Motive-Force, otherwise Tesla usually used the terms "pressure" or "voltage") using an "Extra coil" that is not inductively but galvanically coupled to a secondary !

Favoring electromotive force at the very beginning of the research, and CHOOSING PURE POTENTIAL INSTEAD OF VOLTAGE is a very important Tesla's decision which, I am absolutely sure, **was crucial for his success** and achieving the efficiency of the machine with which Tesla was satisfied - according to measurements on December 14, 1899 – which indicate the exceptional specificity of that machine and its consonance, agreement and harmony with Nature - about what we will say something more in the next episode (section).

The potential to which Tesla aspires is a scalar field, a term perfectly suited to the notion of ether while voltage is a vector quantity, by definition equal to the potential difference, and in fact the work required to move an electric charge between two points in an electric field ...

Although both phenomena are measured in the same units (Volt), the difference is huge and fully justifies Tesla's statements that the "electrical discharge" from the top of the terminal ("Top Load") are a pure waste of energy... So what we see around the world as a demonstration of "Tesla's transformer" - is significantly different from the variant chosen by Tesla on July 7, 1899. (Although everyone is trying to produce as longer spark as possible - it bothers Tesla; as well as emissions in the form of Hertz electromagnetic waves... which is confirmed by the scientific analysis of the Corum brothers (SWR max)

The first version of his "classic" high-voltage, high-frequency transformer with an air core, with a spark gap and a capacitor in the primary circuit, Tesla patented on June 23, 1891,

U.S. Patent 454,622 – “System of electric lighting”

and used for high frequency and high voltage research and for use in new, more efficient lighting systems. Although this device, miraculous at the time, significantly pushed the boundaries of our understanding of electricity and enabled many of Tesla's inventions (as well as other researchers) that followed - **Tesla rejects and abandons that version** because - according to his considerations and the statement given in the diary of June 5, 1899, which we mentioned at the beginning of this section - **he evaluates the induction method as inferior to the version with the "Extra Coil"** he develops in Colorado Springs. The main reason is the fact that in the "classic version" of HV / HF transformers the maximum voltage at the terminal is limited with the value of the secondary/primary windings ratio number, while in the "Magnifying" version there is no limit to the value of potential that can be reached - except with the breakdown value of “Top Load” and the environment (curvature and smoothness, humidity) ...



So, the classic HF/HV transformer Tesla used for his particle accelerator back in 1891, experiments with X-rays in 1894 - before W. Roentgen, to control a boat with radio waves in 1898, long before G. Marconi, etc. - but it was all in New York BEFORE Colorado Springs. That CLASSIC VERSION as used today at various events, in museums, institutes,... is "Tesla's transformer" **but that version belongs to his "early works" and has neither the approximate features nor possibilities as his "Magnifying Transmitter"** that Tesla developed in Colorado Springs for wireless transmission of energy and later upgraded to World Radio Station, "Wardenclyffe Tower" and even more controversial machines such as "Teleforce" and "Telegeodynamics" – i.e. "Energy Shield", "Tesla's Howitzers" ("pulsar"/ray-of-death...) about which very little is known but there are serious indications that Tesla really dealt with this stuff in the thirties of the last century ☺

<https://www.amazon.com/Nikola-Teleforce-Telegeodynamics-Proposals-Presents/dp/0963601288>

Here we have highlighted some of Tesla's important remarks and in the next episode (section) we will show the exact parameters that prove:

7. "Exclusivity of Tesla's technologies".

In the previous episode (section), we quoted Nikola Tesla's key remarks on the wireless energy transmission system and pointed out the ESSENTIAL structural difference between the classic version of Tesla's transformer that generates the VECTOR ELECTRO-MAGNETIC FIELD and the "Magnifying Transmitter" that constitutes pure POTENTIAL - SCALAR FIELD.

My analysis of numerous replicas of the classic and "Magnifying" versions of Tesla's transformer showed that very often even the most elementary Tesla's remark stated in his diary was not respected - that the length of the coil wire should be close to a quarter of the wavelength of electric vibration. And that is the most elementary instruction - like the one: "as much copper on the primary, so much on the secondary". The greatest scientific experts on the technical aspect of Tesla's work, **James and Kenneth Corum, say: "Too many coils of thin wire is the worst possible way to obtain high voltage"**. Take a look at the footage online and decide for yourself ...

Ilustracija multidimenzionalne rezonantnosti Teslinih zavojnica po "He-NeHe" parametrima G.M.:

D mm	H mm	N	razm mm	Hercijan. param	Neh A	Neh B		
609	2108	781	0,12	1,33	0,03	39	Korum Lo	Lopt.m.
450	1420	432	0,12	1,27	0,03	48	Korum Hi	Lopt.m.
617	1406	317	1,85	1,11	0,53	2,08	Ko. 145%	exper
600	2485	342	4,68	1,2	1,04	1,16	Ko. 66%	exper
83	386	1250	0,07	0,87	0,31	2,77	Richie sec	
110	287	1028	0,04	0,95	0,15	6,3	test debela	
2400	3146	110	25,4	1,07	1,2	0,9	N.T. po Ko	
2540	2400	98	21	1,02	1,01	1,06	N.T.dnevn	
300	1150	425	1,7	1,03	1,03	1,03	G1	
500	1520	510	2	1,03	1,04	1,01	G2	

Based on my many years of theoretical and practical research of Tesla's work, especially "Magnifying Transmitter", I developed my own empirical equations for calculating "Hertzian-Non-Hertzian" parameters - which determine the degree of compliance of a coil's properties with Nikola Tesla's principles (picture above).

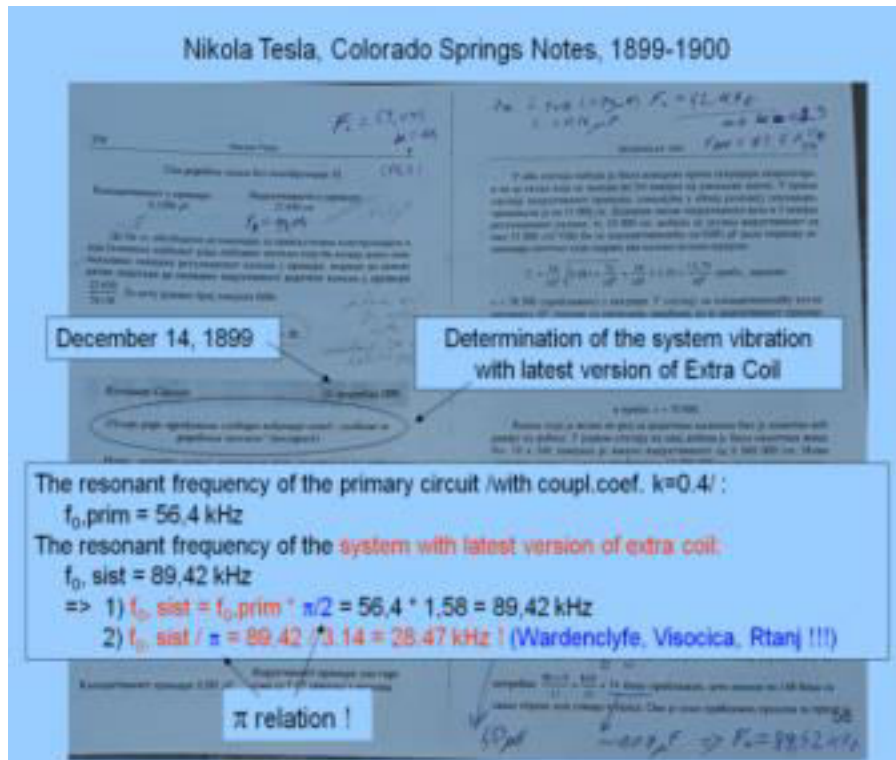
The analysis showed that the parameters of the coils of even very well-known researchers deviate significantly from the one, which is a measure of compliance with Tesla's instructions. The coefficient of conformity which is at Tesla equal to one at all other researchers it deviates significantly from this value and varies from 0.03 to almost 3 (2.77), which means that none of the analyzed coils is even close to Tesla's "Extra Coil".

In my opinion, Tesla's machine from Colorado Springs is - in its sophistication - completely analogous to the Cheops pyramid and is a true masterpiece of knowledge - and a strong proof of the depth of Tesla's insights into the Technologies of Perfection and General Cosmic Harmony, which is characterized by a specific form of energy flows achieved by a very special geometry, the "geometry of perfection", and a special design that characterizes the relations and values of elementary cosmic constants (ϕ, π, e).

I must emphasize here that Tesla never mentioned pyramids or these values, nor did he aspire to them in his work. His decisions were not based on those relations - but - striving for maximum efficiency of his system, by countless changes in a number of details of his - in principle very simple machine - he reached perfection and thus the principles of the Creator were woven into it. Given the holographic structure of Reality, it is quite logical that they are characterized by the same values of the universal archetypal matrix of Nature.

So the values that illustrate the **perfection of Tesla's machine are a consequence of Tesla's intuitive insights and his hard mental and physical work**, which we talked about in episode (section) 5.

That these words really make sense can be seen from Tesla's original entries in the diary about the results of measuring the parameters of the machine just before the end of his stay in Colorado Springs.



Tesla's analysis of "resonant frequencies of the primary circuit and resonant frequencies of the system with the latest version of the Extra coil", which Tesla performed on December 14, 1899 in Colorado Springs, just before the end of his stay there, shows that their ratio is equal to the value $\pi/2$ - the same that can be found in the Pyramid of Cheops as a ratio of side length and height, where it is also a decimal multiple of the distance between earth and sun ($230/146=1.57= \pi/2$).

Tesla's analogue of the distance between the earth and the sun - a value that conditions all other parameters of the pyramid (length of the base, angles /first and second rainbow angle/ ...), actually a subtle-energy "resonator", is the choice of 28 kHz frequency and height of the aboveground part of Wardencliff Tower of 57 m. These values can in no way be obtained on the basis of the relations of classical electromagnetism...

About the exceptional importance, complexity and much higher cost of the underground part of the Tower - we talked in the previous 6th episode (section). Modern electromagnetism can in no way explain the cost and depth of the horizontal radial network of pipes at a depth of 36 meters - but sacred geometry can: the relationship between the aboveground and underground part of the Wardencliff Tower is $57/36 = 1.58 \sim \pi/2$. The ratio of the total size of the Tower and the above-ground part is $93/57 = 1.63 \sim \Phi$ (Phi, golden mean).

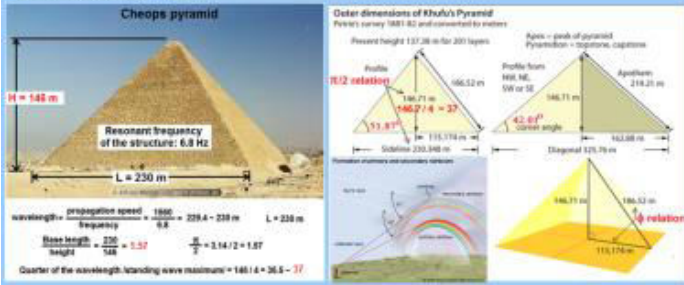
The exact dimensions are not known, but if they are close to the values given here - it is extremely important for the function of Tesla's "Machine" because the Vedic knowledge shows a direct relationship between the number π and the golden ratio (little phi/2 $\sim \pi/10$; $0.618/2 \sim 3.14/10$) and define a very exact mathematical procedure by which the initial value little phi/2 is transformed into the value $\pi/10$ by successive triangulations.

In this way, in my opinion, the language of mathematics actually describes the process of transformation of longitudinal vibration into a vortex form - which is the basis of all real energy flows in the form of the so-called "Torsion fields" - which is currently the "top theme" of the latest research and **which indicates the exceptional sophistication of Tesla's etheric technologies.**

Characteristics of Ancient's resonators from the aspect of EDQ model:

- Have a size proportional to the integer value of vibrations wavelength;
- Ratio of the appropriate resonators elements have to be harmonics or subharmonics of numbers: π (3.14) and/or Φ (1.618, golden ratio);
- All wave forms of Tesla's "No-Hertzian" technologies must be Decadal multiple of number 37, that is "Heart of Wisdom", (unique number in the whole realm of Natural Numbers, Vladimir Scherbak, structure of genetic code content determined by numerical value and special features of number 037

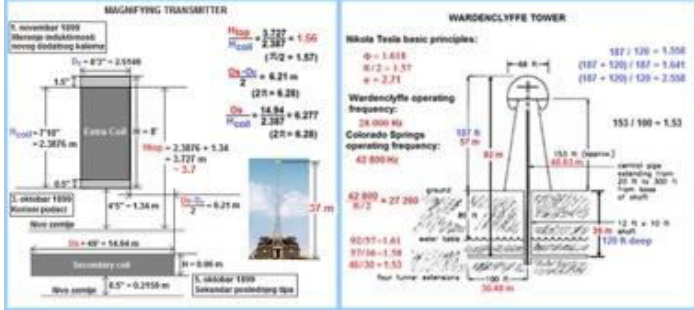
Cheops pyramid structure consist of two materials: granite (rooms and passes) and geopolymer concrete (outer part of the Keops pyramid) - whose propagation speed of the sound is 5950 m/s and 3770 m/s. Their relation is: $5950 / 3770 = 1.578$ that also is almost identical to $\pi/2$.



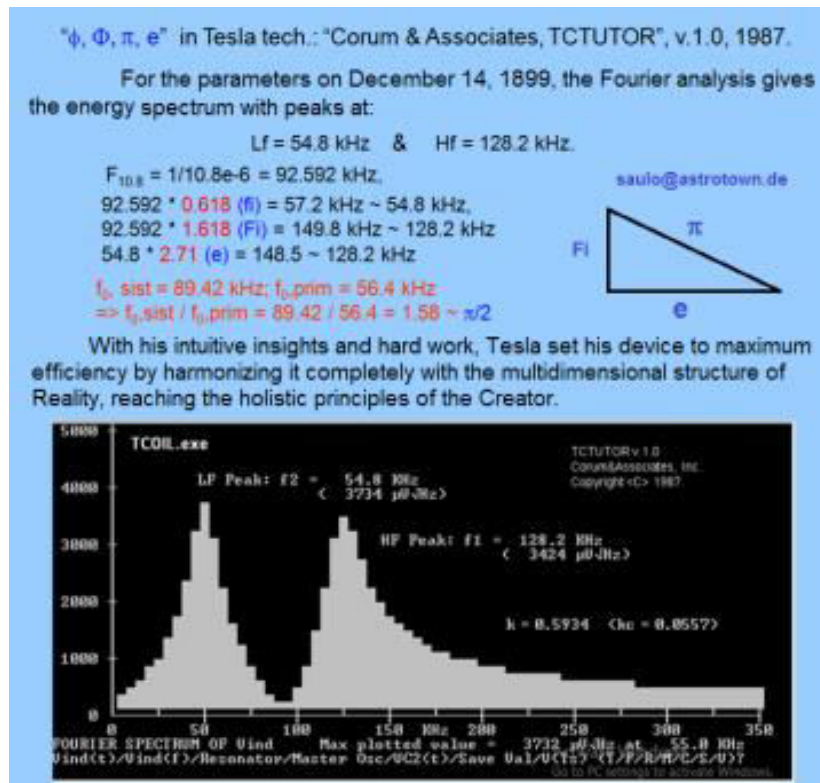
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Canadian Patent #42,322 "Improvement in the Art of Transmitting Electrical Energy through the Natural Mediums".
 "The most essential requirement is, however, that irrespective of frequency the wave or wave - train should continue for a certain interval of time, which I have estimated to be not less than 0.06484 of a second and which is taken to and returning from the region diametrically opposite the pole upon the earth's surface with a mean velocity of about 471 240 km/sec. ..." ($\pi = (\pi/2) * 2$)



Moreover, the specially written software of the **Corum brothers** (Dr. James F. Corum: Ph.D., Kenneth L. Corum: BA) which serves exclusively for a detailed theoretical analysis of the work of the "Magnifying Transmitter", allows us to - using today's most advanced technology - see the results of the work of a realistic experimental setup of the apparatus that Tesla came to 120 years ago, with very primitive tools - without an oscilloscope, spectrum analyzer, computer ... With tireless work, after numerous changes in a series of details and analysis of the achieved effects, at the end of 1899 Tesla got a configuration with which he was satisfied because - after his return to New York, he said: **"I solved all my dilemmas in Colorado Springs"**.



The Corum Brothers program: "TCTUTOR, v.1.0., 1987, Corum & Associates" allowed me to see something truly amazing. For the realistic setting of the "Magnifying Transmitter" as used by Tesla in Colorado Springs on December 14, for all the actual parameters of the system elements (inductance, capacitance, coupling strength, spark duration...) we obtain a **Fourier analysis of the energy spectrum in which can be found all values and relations very close to the values of the elementary cosmic constants: Φ , ϕ , π and e , which characterize all the creations of Nature** but, obviously, also "technical" systems that are harmonized with the whole structure of Reality "outside" and "inside", and whose basic features are then perfection and maximum efficiency !!!

Judging by Tesla's notes in his diary from Colorado Springs and the statements given - Tesla was not aware of these relations nor did he aspire to them in his work because, as we have already said - to my knowledge - he never mentioned them anywhere. However, **striving for maximum efficiency of his apparatus, he achieved the conditions of "eternal harmonic oscillation" - a key principle of the ancient Vedic teachings (Sankhya), full analogy, unison and harmony with the Earth and the Cosmos, which suggests the same features of this machine as are woven into all of God's Creations.**

So, Tesla's **idea of lossless energy transfer is not "absolutely unattainable"** - as it currently looks from the aspect of valid theories. Unfortunately, today's researchers who still claim to have achieved "Tesla's wireless energy transfer" manage to do so in just a few meters and with very small amounts of energy (about 50 watts in a few meters) because they use classic EMW – although in some examples "modified" with a strengthened magnetic component, but basically still "transverse-vector", "Hertzian" waves.

Tesla knew about this problem. In support of this, I cite his well-documented statement from which it is clear that he was fully aware of the impossibility of "Hertzian" technology in this regard. In his U.S. Patent No. 5780, Tesla states:

Nikola Tesla, US patent 5 780 – “Apparatus for transmission of electrical energy“

"... THE PHENOMENA OF ELECTRICAL RADIATION which have heretofore been observed and which from the very nature and mode of propagation would render practically IMPOSSIBLE THE TRANSMISSION OF ANY APPRECIABLE AMOUNT OF ENERGY TO SUCH DISTANCES as are of practical importance. ..."

So today's "wireless power" solutions are based largely on Tesla's principles - but these are the ones he developed and used in New York, before Colorado Springs, and which Tesla abandoned and based **his "wireless power" system** on a significantly different and significantly improved version of the transformer, which he called "Magnifying Transmitter", whose work is based on the principles we quoted in this and the previous two episodes (sections).

The logic and quite realistic feasibility of Tesla's ideas is supported by the fact that modern science achieves the effect of "superconductivity" by making a "special material medium" - for example by adding atoms of yttrium, barium ... to ceramics, which is actually an ideal insulator (!), and then cooling it to very low temperatures to become "superconductive". This is an extremely complicated and expensive process - completely inapplicable on a global scale. So we create a very special medium for "Hertzian" EM vibration.

Tesla achieves an analogous effect by a completely "opposite" process - **he creates a special form of energy vibration for already existing natural media** - as can be seen from the title of his patent:

U.S. Patent 787,412 - Art of Transmitting Electrical Energy through the Natural Mediums.

Tesla's intuitive insights into the necessity of harmonizing energy flows with the form and structure of general cosmic "currents" are illustrated by his speech at the American Institute of Electrical Engineers in 1891 where Tesla says:

***Nikola Tesla, speech in New York to the American Institute of Electrical Engineers, 1891.
Quoted from his biography:***

"Ere many generations pass, our machinery will be driven by a power obtainable at any point of the universe. This idea is not novel. Men have been led to it long ago by instinct or reason; it has been expressed in many ways, and in many places, in the history of old and new. We find it in the delightful myth of Antheus, who derives power from the earth; we find it among the subtle speculations of one of your splendid mathematicians and in many hints and statements of thinkers of the present time. Throughout space there is energy. Is this energy static or kinetic! If static our hopes are in vain; if kinetic — and this we know it is, for certain — then it is a mere question of time when men will succeed in attaching their machinery to the very wheelwork of nature."

That such a "wheel really exists" was shown by the controversial Russian astrophysicist Dr. Nikolai Kozyrev in his doctoral dissertation where he showed that the Sun could IN NO WAY produce such a large amount of energy that it has been emitting for millions of years based on the process of thermonuclear fusion - as official science interprets it. In his opinion, *"The sun (and other stars) is a machine that the "flow of time" /GM: analogy of the ether/ turns into light and heat" ...*

In the next episode (section) we will show - by synthesizing the latest scientific knowledge and Tesla's insights into the structure of Nature - that we are really seriously approaching this possibility.

8. "Magnifying Transmitter" - a fractal of holographic reality

On the seventh, and according to some on the sixth of January, 78 years ago, in his 86th year - Nikola Tesla went to the Light. That is why we dedicate this episode (section) on TV Svetlo as a tribute ...

In previous episodes (sections) we have pointed out the exceptional importance of Nikola Tesla as a very successful inventor, a great humanist, a true scientist, the greatness of his work and the depth of his insights into the structure of true Reality and principled mechanisms of the Cosmos and Nature. But - the problem is that these Tesla's insights are not completely in line with official science. However - I unreservedly trust Nikola Tesla. Fortunately, I'm not the only one. What's more - there are many of us. And more and more.

I was convinced of the truth of Tesla's claims in my laboratory for Tesla Technologies, and the justification of such my belief was confirmed by a series of the latest findings of modern science. One of them is the recent **discovery of Hungarian physicists**.

Attila Krasznahorkay&All, New evidence supporting the existence of the hypothetic X17 particle, 23.Oct 2019, <https://arxiv.org/pdf/1910.10459.pdf>

Namely, in October 2019. A team of scientists from the Hungarian Institute for Nuclear Research published a paper on the detection of the particle "X17", a protophobic X_boson, $m \sim 17$ MeV whose properties are so unusual that they cannot be explained by existing, currently valid, theories using four interactions known to science: electromagnetic, weak, strong and gravitational. The discovery of this particle requires introduction of a new, "fifth force" in nature, whose newly discovered particle could be a quantum carrier and which - according to some of the latest scientific considerations - could be connected with hypothetical dark matter, and thus - through the Quintessence model - with ether !?

"Quintessence" (fifth essence, fifth element) is the latest cosmological model which, by introducing the "fifth fundamental force" and the "fifth element" as its carrier, tries to explain the accelerated expansion of the universe. And the 5th element is, as we know according to the teachings of the ancients - ether - a perfect fluid, of special properties, on whose concepts the complete science of the 19th and early 20th centuries is based, including Tesla's etheric technologies, Newton's theory of gravitation, Huygens's wave and Bernoulli's the corpuscular theory of light, and even Maxwell's original theory of electromagnetism !

The phenomenon of the ether is extremely important for science, as evidenced by the statements of great scientists such as Paul Dirac and John Bell, who laid the foundations of quantum physics - and that is why we dedicated our entire 4th episode (section) to it.

Given this, the discovery of the controversial particle x17, requires not only a rearrangement of the Standard Model of Particle Physics as is considered by some physicists but, in my opinion, this discovery also requires a re-examination of the ether phenomenon. Why?

Because the experimental verification of the particle x17 directly **confirms** Tesla's intuitive genius and **the conformity of his etheric technologies with the experimental reality of modern physics and the latest ideas of theoretical physicists who try to solve the mystery of dark matter and potentially discover the fifth force in nature !**

Although this opinion sounds very unusual, it is not completely unfounded. Namely, all researches of Tesla's heritage indicate his deep connection with Nature, which he really loved and respected immensely and whose principles he learned as a child and copied into his devices, thus giving them the qualities of perfection that characterize all God's creations.

My perennial theoretical and practical research of Tesla's work has shown that the efficiency and perfection of his devices are completely undoubted because they are characterized by completely identical parameter relations in a series of repeating patterns of the "Cosmic Matrix", scaled to the appropriate size when it comes to man, solar system, atom or The Pyramid of Cheops e.g.

In the same sense, it is possible to show that Tesla's "**Magnifying Transmitter**" is also a "**part in harmony with the whole**" and, in essence, a "**Fractal of Quantum-Holographic Reality**", fully harmonized and synchronized with the macro, micro and hyper universe - just as it is. every blade of grass, tree, human body, atom or galaxy, or anything created by God, or Nature.

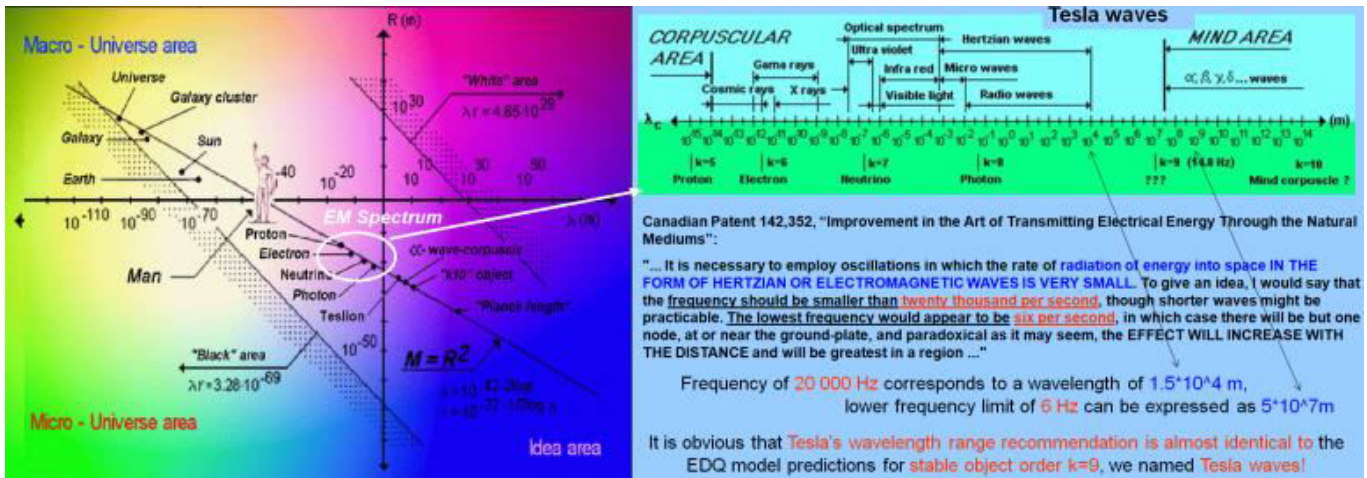
In a text that can be found on my website or "akademia.edu": "Universe - Eternal Harmonic Oscillator" - I showed that the **WORLD is a Perfect Creation** created by modeling an infinite number of variations of fractal entities into a finite set of phenomena of holographic structure.

This sounds a bit complicated, but looking at a snowflake under a microscope or a leaf of a tree will convince us that in reality it is exactly like that.



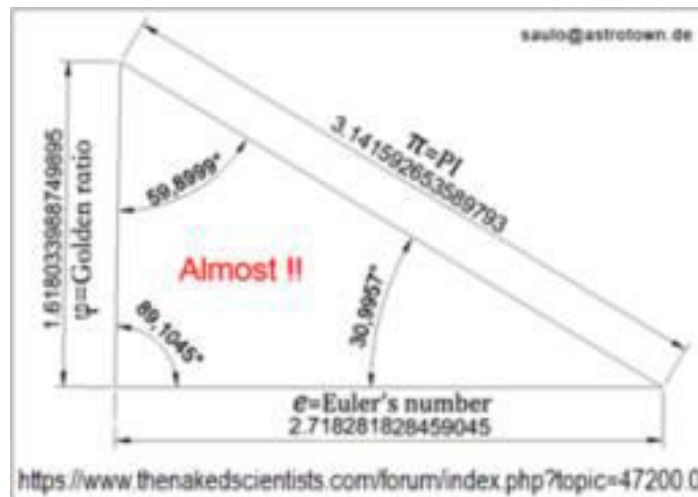
Here's how this mechanism works.

By the action of the principle of self-similarity, all phenomena of Reality occur in the eternal processes of self-sustaining, harmonic, volumetric vibrations in the mode of "breathing", forming volumetric (3D) standing waves according to the principles of wave mechanics - but also with full respect for the principles of Sacred Geometry – whose form is based on the values of elementary cosmic constants: π (the ratio of the circumference and diameter of the circle), ϕ Golden mean (ideal ratio: whole/larger part = larger/smaller, $(a+b)/a = a/b$) and Euler's number e (base of natural logarithm).



These three elementary cosmic constants, as constitutive elements of "Eternal Harmonic Oscillation", which is the principle described in the ancient Vedic scriptures, define the **mathematics of fractal geometry** as the **principle of limiting and arranging the chaos from which life is born**, and which the "Supreme Creator" applied in the creation of the world.

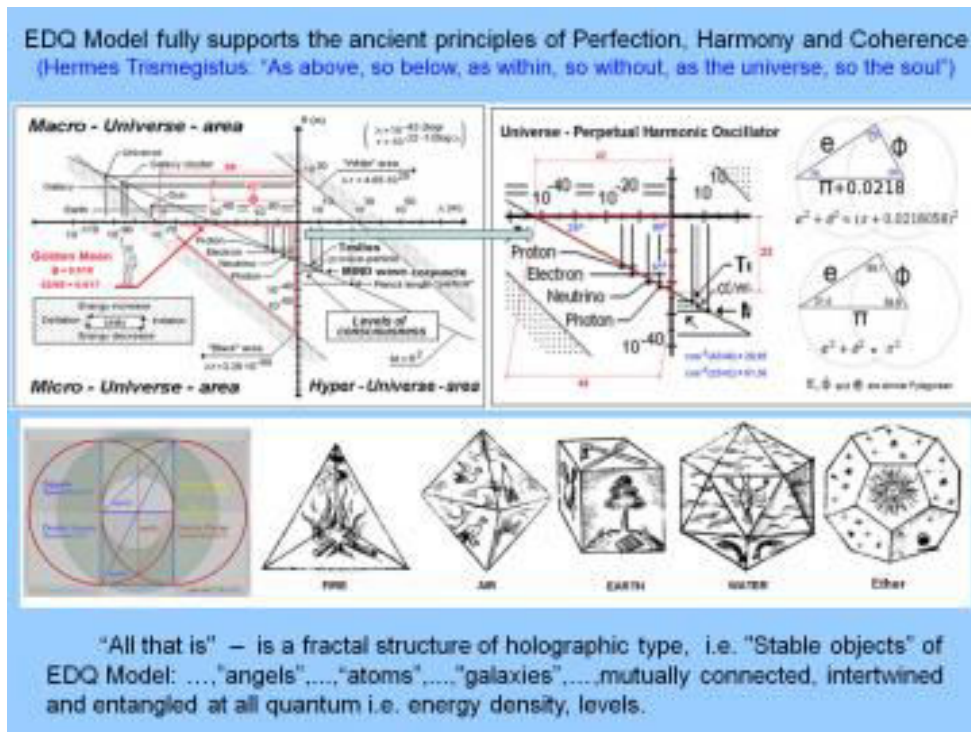
So fractal geometry defines a mechanism that transforms disorder into order, destruction into construction, death into life ...



It is a real curiosity that these - although transcendental - numbers e , π , ϕ , form a finite, closed, geometric form very close to Pythagoras' triangle (pic. above), thus giving it the property of perfection and the quality of the "Cosmic Matrix" of "everything that is" and that exists in any form of existence. What made Tesla happier than anything else was, as we said, the discovery of Stationary Waves - and what made me happier than anything else was the fact that this same "Pythagorean triple" also redefines the "line of growth and development" ($M \sim R^2$) Model of Quantized Energy Densities, of which I am the author, and what we talked about in episode/section 2 ("Tesla's greatest discovery - Stationary waves "").

This can by no means be a coincidence. What's more. The definiteness of the line of evolution and involution of the material-spiritual categories of the MQED - and thus the structure of ALL PHENOMENA OF REALITY in the macro, micro and hyper segment with the values of the Pythagorean triple - speaks of the infinite consistency of nature in varying the same basic motif, its primary matrix or archetype.

For example, the basic structure of a tree is tree root, tree trunk and tree canopy. Variations of this basic structure are: beech, birch, oak, walnut ...



The basic parameters of this "Cosmic Matrix of Creation" (π , ϕ , e) are also the values that, according to the Vedic texts, also define the conditions of "Eternal Harmonic Oscillation" as a process based on the principle of transformation of longitudinal into vortex motions, that is, simultaneous into sequential oscillatory states and vice versa, which is the basic mechanism of Creation. The same "triplet" forms the basis of Sacred geometry, "Vesica pisces", a mystical symbol of the intersection of the divine world with the world of matter and the beginning of creation - the most complex symbol of ancient times which is the basic pattern for the "Tree of Life".

It is really more than fascinating that we also find exactly the same values of this "Pythagorean triple" in the creations of ancient peoples, e.g. in archaeological site "Lepenski vir" and Neolithic settlement "Vinča", located in Serbia, in the Pyramid of Cheops, in antique buildings, etc. It is even more unusual that identical values characterize Tesla's Technologies - which we showed in the previous episode (section): "Exclusivity of Tesla's Technologies".

Moreover, the analysis of Tesla's notes in his diary from Colorado Springs, published patents and interviews given to prominent American journalists indicates the full agreement of the latest scientific theoretical considerations and experimental knowledge of quantum electrodynamics with Nikola Tesla's intuitive insights, with the principles and technical solutions he applied in making his famous "Magnifying Transmitter".

The significance of this fact cannot be overemphasized, given that Tesla's "Non-Hertzian" technologies are based on ether - a pseudo-scientific substance that today's science unfortunately considers non-existent, although numerous recent scientific studies and measurements indicate its existence (Episode/section 4).

Understanding Tesla's technologies and their interpretation is directly conditioned by understanding **the essential structure of EM interaction** and answering the question: are EM waves only transverse **vibrations of** electric and magnetic **"field"**, as modern science considers it, **or** are they basically compression-expansion "(Volumetric) **vibrations of a material fluid** such as ether as claimed by Nikola Tesla. Let's remember - for Tesla, light is sound in ether, and ether is a fluid of special properties, the density of which he determined both theoretically and experimentally, and obtained values very close to those estimated by modern science for dark matter.

In classical physics, the electromagnetic field is a phenomenon created by an electric charge, or variable magnetic field, which has a value for each point in space and time.

From the perspective of quantum theory, the field is seen as a phenomenon that originates from quantum fluctuations of vacuum - from "quantum foam" as physicists say, an infinite set of infinitesimal harmonic oscillators, a series of excited energy states, a wavy sea of virtual-real particles that - due to constant mutual excitations, interactions and transformations - appear and disappear in the processes of annihilation and creation of particle pairs, making the material world as it is. Thus, **from the aspect of quantum theory, the field phenomenon is more primary or more fundamental than elementary particles.**

However, the latest theoretical considerations of modern science show - but also experimentally prove - that not only electro-magnetic FIELDS are physical, nor are electro-magnetic POTENTIALS just a pure mathematical construction - but on the contrary - that potentials are also real physical subjects and are more primary than fields !!!

Furthermore, according to the scientifically argued opinion of Dr. Vladimir L. Bychkov, all known experimental data in the field of classical electrodynamics can be obtained on the basis of Zhukovsky's fluid dynamics equations - which speaks in favor of the ether concept. What's more, according to Dr. V. Bichkov

On Analogies Between Hydrodynamics and Electrodynamics for Applications, V.L.Bychkov, <https://zapdf.com/on-analogies-between-hydrodynamics-and-electrodynamics-for-p.html>

- the EPR paradox is direct evidence of ether existence. Similarly, considering this unusual experiment, John Bell called his book "Spirit in the Atom" thus giving a clear allusion to the ether. Even more controversial is the **Aharon-Bohm experiment, performed in several world scientific laboratories, which proved that the ELECTROMAGNETIC POTENTIAL EXISTS and AFFECTS THE CHARGED PARTICLE IN THE PART OF THE SPACE IN WHICH THE MAGNETIC AND ELECTRIC FIELDS ARE EQUAL TO ZERO !**

This is really difficult to accept for anyone who deals with electrical engineering or physics - from amateurs to top physicists - but **it is still a scientific experimental reality and the true essence of Tesla's Technologies.**

Aharonov, Y; Bohm, D (1959). "Significance of electromagnetic potentials in quantum theory". *Physical Review*. 115 (3): 485-491.

The Aharonov-Bohm effect, sometimes called the Ehrenberg-Siday-Aharonov-Bohm effect, is a quantum mechanical phenomenon in which an electrically charged particle is affected by an electromagnetic potential (ϕ , A), despite being confined to a region in which both the magnetic field B and electric field E are zero.

So, as incredible as it sounds to us, **"Aharonov-Bohm" experimental verification of the "hidden vector potential" confirmed that the electromagnetic interaction can take place in a part of space where there is no EM field at all !**

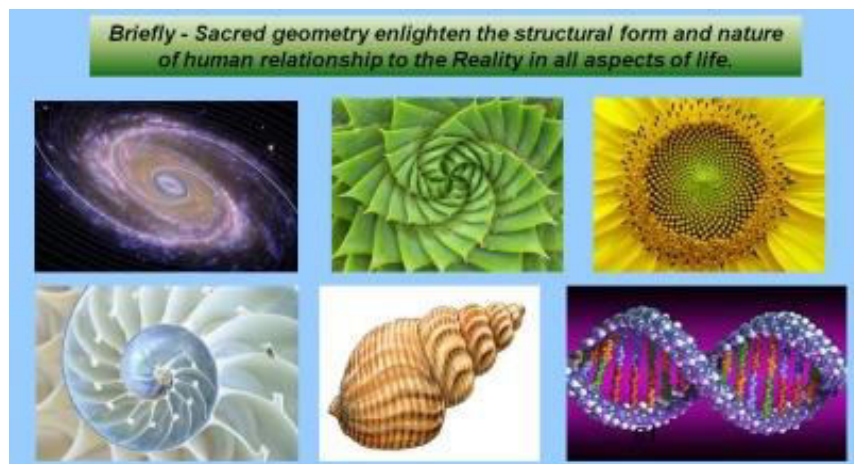
This fact speaks directly in favor of the "real" Tesla - who claimed that he DOES NOT WORK with HERTZIAN waves - transverse vibrations of electric and magnetic FIELDS, which is confirmed with scientific papers by Dr. James and Kenneth Corum, showing on Smith's diagram that SWR of Tesla's "extra coil" is maximal - which means that this "lambda-quarter-helical resonator" is a "non-emitting antenna" ! Also, Tesla's very unusual decision from June 5 (the Colorado Springs diary) to abandon the classic version of the induction-based transformer, which he patented in 1891, and start developing the "Magnifying" version in which he favors EMF - i.e. pure POTENTIAL - which modern science, 120 years later, defines as the most fundamental phenomenon of reality.

In other words - the experimental reality of modern physics points to the fact that the "electric potential" which is a scalar quantity is a more fundamental level of reality than the vector electric field that appears in Heaviside's (simplified) version of Maxwell's equations - and by "simplifying" Maxwell's equations this most fundamental phenomenon of reality has been thrown out of theory - and thus the "real" Tesla from science.

The fact is that Heaviside's vector interpretation can be expressed in the form of potentials, but this version is almost unknown and rarely used, but in any case it does not solve the problem of the "missing" scalar member of Maxwell's original "quaternion" version ..., which we talked about in episode/section 3: "Fundamentals of Tesla's Ethereal Technologies."

What's more - quaternion's - which are thrown out of Maxwell's original theory as an outdated and supposedly unnecessarily complicated mathematical form - are actually the **most perfect** mathematical tool - virtually unrivaled in modern mathematics - for describing and analyzing vortex phenomena that are the basic form of subtle energy flows like Torsional waves of **Anatoly Akimov and Gennady Shipov** e.g. expressed in the forms of numerous phenomena of the macro and micro world. The greatest evidence of their existence are the shapes of galaxies, snail shells or DNA molecules, etc ...

However - official science, unfortunately, considers torsion waves as pseudoscience - although they are realistically detected. Their propagation rate, which is $10^9 * c$, was measured. It has been determined that they are 10^{70} times weaker than the electromagnetic interaction, but that they still interact with the laser beam, affect biological processes, as well as gravity - and even possess elemental consciousness. Despite all the controversy - these are the results of research by top scientific institutions and top scientists such as Dr. Nikolai Kozyrev, Dr. Klaus Volkamer or Dr. Anatoly Ohatrin, for example.



The realm of the microworld is difficult to access, but the macroscopic manifestations of "quantum vacuum fluctuations" - as physicists call this subtle world of infinitely small - indicate the extreme complexity of energy processes that take place there. The experimental reality of modern science shows us that e.g. the effect of superconductivity, semiconductor, dielectric and magnetic properties of the material **are not related to the flow of electrons in the wire**, but with a special flow defined on the basis of the properties of the material. These experimental insights of modern physics agree with the concept of the work of the Russian academician Mitkevich "Main concepts in physics"

V.F.Mitkevich, "Main physics concepts". Moscow: Acad. Sci. Publishers. 1936.

where the **question** is asked **on the nature of current in superconductors, which does not heat the material of the conductor**, what is possible only in the absence of moving charges in it ?!

Namely, the amount of heat released in the conductor is proportional to the product of the resistance of the conductor and the square of current intensity. Superconductors create an extremely strong magnetic field which requires a large electric current so it is a logical question how superconductors stay cold. Official science interprets this effect by the movement of electrons in pairs that rotate around a common axis and move in spiral paths ... The latest thinking of physicists supports the idea of a "suprafluid quantum vacuum" which, according to the new semantics, is

actually ether. The fact that in superconductors we have an "magnetic field without electron" and in Aharon-Bohm's experiment "electrons without an electromagnetic field" indicates the validity of the latest ideas of scientists about the need to introduce the "fifth fundamental force" in physics - which makes the correlation between ether and dark matter is increasingly obvious.

In his U.S. patent No. 5,845,220 from 1.dec. 1998 **Dr. Harold E. Puthoff**, a respected scientist from the University of Cambridge, **claims that information can be transmitted remotely using modulated potential without components of electric or magnetic field** - which is completely in line with the ideas and technologies of Nikola Tesla:

Communication method and apparatus with signals comprising scalar and vector potentials without electromagnetic fields

Patent number: 5845220

Abstract: Information that changes as a function of time is communicated from a transmitting site to a receiving site by transmitting a signal comprising scalar and vector potentials without including any electromagnetic field. The potentials vary as a function of time in accordance with the information.

Type: Grant

Filed: August 23, 1993

Date of Patent: December 1, 1998

Assignee: EarthTech International, Inc.

Inventor: Harold E. Puthoff

In any case - according to the latest scientific theoretical and experimental insights, the **pure potential** (scalar field) is currently **the most fundamental phenomenon of modern physics !!!** **Given that, Tesla's scalar waves as longitudinal wave of potentials get full scientific meaning!**

It is truly more than astonishing that the latest knowledge of modern science is fully consistent with the INTUITIVE insights of the genius Nikola Tesla who - a century ago - favored "potential" (EMF) rather than "voltage" (which is the work needed to overcome a certain potential difference) and principles work of his "Magnifying Transmitter" developed in that direction ... , what we pointed out in the 5th episode (section) – "MT-the most perfect machine of this civilization".

The fact that the field is essentially a gradient (degree of change) of potential ($E_{\text{vektor}} = \delta V/d$), where the electric potential is a scalar quantity, indicates a realistically possible - and scientifically justified - idea of the correlation of ether with quintessence, hypothetical form of dark energy, more precisely a scalar field, which could be the "fifth basic force in nature" - as we have already said - recently postulated as an explanation of the observed accelerating rate of expansion of the universe.

Also, the latest experiments of the Institute for Nuclear Research of Hungary, which we also mentioned at the beginning, and their detection of the particle "X17" in the process of releasing energy of the excited helium atom, which could be a quantum carrier of the so-called "Fifth forces in nature", associated with dark matter, in the same way - through the Quintessence model - it could be connected with the ether !?

Attila Krasznahorkay&team , New evidence supporting the existence of the hypothetic X17 particle, 23.Oct 2019, <https://arxiv.org/pdf/1910.10459.pdf>

Given the possible consequences of experiments of this type, the restraint of the scientific establishment is quite understandable because the existence of this particle requires a "rearrangement" of the Standard Model of Particle Physics ...

However, it is good to remember that the same group of researchers who recently announced the discovery of the X17 particle also reported the detection of the same particle back in 2016 in experiments with radioactive beryllium atoms, which significantly strengthens their latest discovery.

All this points to the need, and in fact the necessity, for science to "take a few steps back" and correct a few of its own, perhaps unintentionally, but still too hastily made decisions related to the ether and scalar waves.

Return to the concept of ether and reaffirmation of the original theory of J.C. Maxwell or at least "improvement" of this currently valid, "simplified" version and "enrichment" of "transverse-vector" EMWs with their natural longitudinal and vortex component (e.g. the work of Dr. Ivan Simatovic, which can be found on my website or on the Academia.edu website) **is possible and a good way in which all of ideas and explanations of Nikola Tesla's etheric Technologies would return to the scientific framework** - which would make their feasibility much more certain.

Consequently, all unrealized ideas of this proven intuitive genius become achievable and many different "pseudo-scientific" terms such as: current inter-galactic communication, teleportation, antigravity, zero-inertia, zero-point energy and the like - become much more acceptable.

So - just as Prometheus brought fire to people, Tesla offered us the technologies of the future and that is why Nikola Tesla is truly the Scientific Prometheus of the New Age.

This is the right moment to remember Tesla's words: *"The present is theirs; the future, for which I have really worked, is mine. The future belongs to me."*

That "Tesla's future" is certainly one of a number of possible ones ahead of us!
Whether it will become a part of our reality - to an appropriate extent - depends on us.

All the best.

In Belgrade, January 24, 2021.

Goran Marjanovic, BSc