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## MUSICAL ART, CULTURAL MEMORY AND POSTHUMAN (RAISING A POINT)

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### **Abstract**

*Nowadays, when, against the cascade of technological innovations, prospects of mankind to be transformed into an inter planetary civilization has been clearly shaped, the special topicality is attributed to the relations of civilization processes with synergic nature, topics of cultural memory and traditions. As far as a human is an “open” anthropological phenomenon, transformation process of its genetic code is at an extremely slow pace, but is going on. The process of permanent renewal of the worldview model under the influence of changes in social formations is more comprehensive and evident. Modern reality is like this: musical art which has switched to the road of secularization has again actively turned to mysticism, mythological and religious sets of themes (mostly, without the concept of God) since music, proceeding from its specificity, can best convey the essence of mysticism. As astonishing as it can be, but ever since the 20th century, unprecedented progress in science and technology, and along with theoretical advances, practical steps towards the assimilation of space have further emphasized the mystery of the boundlessness of the universe, thus increasing the ontological depth of musical opuses, have revealed the charismatic contents of the ideas integrated into them, have strengthened the intensiveness and manifestation area of the “mystical.” The planetary cognition, too, incorporated into the opuses, has been widened; and still, against the background of the cascade of technological innovations, many questions connected with the future of music are pierced with a futurist curiosity: what opportunities are open for the composing experiments at the level of idea and at the level of stylistic thinking? Will there be rethinking of the phenomena of composer, performer or musical audience? How will the transcendent or ethical function and aim of music be changed? what dialectical links will be formed between the scientific and technological progress and the creative process? What values will cultural memory be based on in the light of cultural-anthropological coevolution and technoculture?; will it not cause ontological desacralization of humans as well as changes in the mental and psychological essences of social and cultural being? What will the psycho-emotional perception of the cultural legacy of former epochs be like? It is also interesting, what constants of musical creative process will remain unchanged against the background of the expected complex changes? And if so, why?*

**Keywords:** *Universe, Quantum music, Technological development, Algorithmization, Electronic music,*

The human cognition and art-related processes connected to it, including music, always developed secondary to the scientific and technological progress, or posterior to the changes of social formations. That is why in a musical opus, along with the aesthetical side, there must be studied its relationship to the processes of scientific and technological development.

Synergic processes of the modern world push us to the quest of more parallels between science and music. If we remind ourselves that we dwell in the astronomical Universe, beyond

which there might exist hypothetical Universes, then we shall not consider the quest of such parallels as an unusual undertaking and shall only associate with the wideness of the human vision.

The links of music with science were well shaped in the history of the ancient civilizations. For the European culture, the antique period is important, when Pythagoras and his followers have perceived music as a cosmic phenomenon, the basis of which was the building material for both, physical and spiritual worlds, the numbers. They have linked the movement of heavenly bodies and their symmetrical positions to the numerical ratios corresponding to musical intervals and have supposed that the space or 'cosmos' is arranged mathematically and it "makes music."

Due to experimentations with rhythm, there has been formed in the epoch of renaissance the musical compositional technique \_ Isorhythms, which was expressed by ostinato transduction of the rhythmical figure, a "talea" (repeating rhythmic pattern) with a sound-pitch formula, with "color" without synchrony. During this process, the rhythmical figure might exhaust later than the melodic figure and then it would overlap with the new melodic figure.

Such a technique of polyphonic composition seems to make models of various moments of time in space and brings associations with the method of relativism, and with the relativist principle typical for it. Isorhythmia includes a certain Anlage of constructivism, too, the more so that its evolution brought panisorhythm to existence, just like the nascence of serialism posterior to serial systems.

In Baroque, the music is influenced by the metaphysical theories of the epoch as well as by the rational philosophy. Lorenz Mislars, Benedict de Spinoza, Gottfried Leibniz, Christian Wolf, Johann Christoph Gotshied believed that the art can be reduced to rational, codifiable rules.[1].

Numerical (quantitative) ratios of music enabled investigators to correlate music with exact sciences. It is possible to inter-relate 3 laws, which are recognized as a basis for the Newtonian classical mechanics of mutual attraction between the bodies (1687), the concept of the spectrum of colors and hierarchically centralized musical major-minor system; according to Newton's doctrines, a body must be influenced by a force in order that it could come into motion. The more the force, the greater the speed of motion. The force of universal attraction acts on both objects, the body that comes into motion and the massive object, the motion of which is hard to perceive. A similar event is taking place in the major-minor system, too; the melody is lead by the accord, which possesses more psycho-emotional force, and the force of attraction to the tonics brings everything into the motion. Effect of the interrupted sixth in music (temporary delay of development) is an associative analogy to Newton's third law (action causes opposite reaction, or resistance).

In Newton's opinion, as white light passes through a prism, the spectrum of colors belongs to the initial light and is not an additive given by the prism. In major-minor system, all the sounds belong to a concrete tonality, just like individual monochromatic color tints that belong to a concrete frequency of electromagnetic wave.

Until the twentieth century, the links with technologies and mathematical sciences were decorative and mechanical and represented rather a reflection of the scientific ideas ("The Creation" by Haydn inspired by the visit to the Herschels' observatory (1798); A. Scriabin's "Prometheus accord" symbolizing the state of singularity in the opus "Prometheus: The poem of fire" (1919) and so on).

In Pesic's opinion, quadrivium has not exhausted itself even in the twentieth century [2], yet, integration of the scientific component into the artistic processes already acquires a total character. This is obvious as the human cognition was greatly influenced by the following figures and their deeds: Theodor Kaluza, Max Planck, Ernest Rutherford, Niels Bohr, Louis de Broglie, Erwin Schrödinger as well as microscopic electrodynamics developed by Lorenz, scientific and technological ideas of Alfred Einstein, Paul Dirac, Wolfgang Pauli, Stephen Hawking, Elon Musk, Raymond Kurzweil, Steven Jobs, novelties in the spheres of thermodynamics, optics, thermal radiation, quantum mechanics, ideas of hibernation, avatar-android and artificial intelligence, neuro-engineering project envisaging neuronal interfaces or implants (Elon Musk's company "Neuralink" or a project of neuro-medicine in the terms of neural xenotransplantation), movement of trans-

humanism, holographic projections, 3D imaging, computing machines, radio, television, personal computer, boom of electronic musical instruments, starting with phonograph, and ending so far with synthesizers, possibilities of multimedia, which has widened the cybernetic being.

Looking back from this landmark, we can divide the history of the humankind in three stages: before Homo sapiens, before the discovery of electricity and ever after.

What points of intersection are revealed between science and music? The doctrines focused on Newton's laws of mechanics cannot hold any more all the complexity of the Universe. Einstein's theories of relativity have changed our representations of space and time. "The penetration of the notion of quantum probability has violated the language of the classical physics." [3].

Simultaneously, the musical major-minor system, which had no alternatives for almost three centuries and which was producing music built upon the laws of narrative, lost topicality for the self-expression and broke into fragments, while there has been created a musical language of the novel type (integrated-total serialism, disintegrated sonoristics).

"Introduction of novel thinking principles, it is only natural, has caused renewal of the structural thinking, too. For the greatest part of the artists working in the second half of the 20<sup>th</sup> century, it is typical to deny traditional cause-effect logics and to give advantage to new logical principles. For the artists working in 50-70s of the 20<sup>th</sup> century, plot or fabula was not so important as a sort of the "movement philosophy" that contributed to the creation of new concepts of time and space,.. there has occurred the substitution of one law with the other, and the cause-effect logics has been substituted with a variable logics of probability." [4].

All of the above-mentioned have changed the principle of organization of the musical tissue, too, which was relying exactly upon the cause-effect connections. "Instead of this, there was assigned a priority importance to a so called logics of absurd that ignores cause-effect logics and comes closer to the mythological logics, where there is confused the consequence of the cause and the effect/result, where a part can substitute the whole and be the carrier of its features." [5].

In the twentieth century, the exponential thinking has performed algorithmization and technicalization of the creative process. Anti-romanticism of the music of this epoch is a reflection for the vision of the Universe from the point of view of the human feelings that are ignorable in comparison with the immense time-space. I. Stravinsky wrote: "Music is far closer to mathematics than to literature – not perhaps to mathematics itself, but certainly to something like mathematical thinking and mathematical relationships." [6].

There exists in music an unprecedentedly rich stylistic pluralism, and the choice of techniques (sonoristics, dodecaphony, total serialism, punctualism, minimalism, stochastic music, aleatoric music, micropolyphony, etc.); in modern science, too, there exist controversial opinions about various scientific theories. For example, for Edward Witten, Juan Martín Maldacena and Leonard Susskind, the theory of strings oriented on 11 dimensions (10+1) is a step towards the correct fundamental description of the Universe. In the opinion of Richard Feynman and Sheldon Lee Glashow, the theory of strings does not give any quantitative experimental forecasts, also, while interpreting the reality existing before the big bang, some of the scientists support the idea of a hypothetical "mirror Universe" existing on the "other side" of our Universe, where the time flows in the opposite direction, and some of the scientists support the idea of the reversible Universe.

In music, the serial system reminds us of the special theory of relativity (1905), which manipulates with the flat, undistorted geometry of the space-time continuum or, in other words, describes relativity under the circumstances of the absence of gravitation.

What about serialism, which is linked genetically to the serial system, it is a much more complex phenomenon, as the principle of seriality extends to other parameters such as: rhythm, timber, dynamics (Webern, Messiaen, Darmstadt School - Pierre Boulez, Luigi Nono, Karlheinz Stockhausen, etc.).

Due to this complexity, it brings associations with the general theory of relativity (1916), which takes into account the distorted geometry, in view of gravitation and the relativity of space-time continuum. During the analysis of "Orienteers" so termed by Pierre Boulez, Ketevan

Bolashvili points to the fact that P. Boulez viewed the essential difference of Anton Webern from Arnold Schoenberg in the restriction of the serial principle with the sound-pitch parameter, which enabled her to qualify this as an embryonic state of serial thinking.[7].

The essence of theoretical physics resembles us the graphic notation of the 20<sup>th</sup> century. In theoretical physics, the forecast of unknown, dream-like phenomena oriented towards hallucinations as well as modelling of the hypothetical events do not rely upon fundamental physical theories. It does not imply extension of old theories, but the nascence of the new ones from naught, which should be based upon a certain mathematical model. The graphic notation, too, implies to study the reading of music ever since the beginning and is not based upon the knowledge of the traditional notation.

Aleatoric music connected with avant-gardists, partial fixation of the text and activation of the role of performer have caused the nascence of such musical compositional unity, which “is born in the moment of performance and gets altered during each performance.”[8]. Musical aleatorics resonates with the theory popular in science, which implies the occasional birth of the Universe.

In the music of the 20<sup>th</sup> century, the idea of boundless expansion of the Universe is revealed through the feature that restriction of the space-time volume is no more a necessary condition for the existence of a musical opus.

Where else have been intersected the roads of music and science? The electronic music is a child of the quantum epoch. Modelling of new sound realities in the mind of a composer has conditioned creation of the electronic musical instruments and draw us to the epoch of the computer medium.

Computer music is based upon the theory of information based on algorithms. It programs musical structure, alters relation to the phenomenon of acoustics, creates the new paradigm of a musical opus, where the main “hero” or “character” is a sound of the cybernetic space.

Electronic sound, left without overtones, is an unprecedentedly novel concept of the musical sound, a certain determined phenomenon, and the musical result depends on the method of its organization. The electronic epoch has extended the possibilities of music just in the manner as new theories of physics have extended our knowledge about the Universe.

The “Philips Pavilion” (1958), build according to the project of Iannis Xenakis, a famous modernist architect and one of the initiators of the electro-acoustic music, represents an interesting phenomenon, and presented the audio-visual program created by Edgar Varese and Xenakis himself. There also resounded the *Poème électronique*, written by Varese, which was described by Holmes as shocking.[9].

The aim was to unite space, timber and sound, so that the receptors of vision and audition/hearing could recognize the information as one whole integrity. Xenakis always sought for the points of intersection between music and science. This very synergy served as a source of his inspiration.

He wrote: “...in every domain of human activity, form exists as a sort of froth. I have noticed that some figures, some forms, which belong to either the domain of abstract speculation (such as mathematics, logic), or to more concrete speculations (such as physics, treating either subatomic or atomic phenomena), or to those of the geometrical expressions of genetics (such as the chemical molecular reactions). Yet these figures, these forms which belong to so many dissimilar domains also have fascinating similarities and diversifications and can enlighten other domains such as artistic activities.”[10].

Iannis Xenakis’s piece *Pithoprakta* (1955-56) is very interesting. This title can be translated as “Actions through probability.” This opus is connected to Jakob Bernoulli’s law of large numbers, according to which, when repeating the same experiment very many times, there increases the number of occasional events, though the average result will reach a determined stable final value. In an opus, each of the instruments is conceived as a molecule that obeys Maxwell-Boltzmann’s law of distribution, according to which, under the conditions of the same temperature, molecules of gas move around with various velocities (some of them are not even engaged in motion). An immense

number of possible velocities makes it absurd to find even just two individual molecules of gas with identical velocities. The composer has made an analogy between the motion of gas molecules in the air and the motion of a string instrument in its own sound-pitch diapason.

Xenakis has created UPIC (1977), a digital tool that enabled him to transfer the images to a tablet by means of electromagnetic pen, and the images were further transformed into sounds by means of the computer. This tool served to write stochastic music based on mathematical procedures (e.g., Mycènes Alpha (1978)). Holmes believes that it was exactly Xenakis who used IBM mainframe as a compositional tool, thus contributing to the technological development of the electro-acoustic music. [11].

E. Varese, too, integrates scientific terms into the music. Let us take alone ‘modelling’ of the process of ionization into music (“Ionization,” 1929).

Karlheinz Stockhausen, who studied the character of waves and sounds, creates intuitive music (1963), which implies the synergic, i.e. correct perception of the Universe, demolishing barriers between various fields of the art and making emotions sound by means of music. Samples of his intuitive music are concentrated on the philosophy of existence in the Universe of sound and they have direct intersections with natural sciences.

For instance, in the musical cycle “From the Seven Days” (1968), the text (lyrics) of the second piece (“Unlimited”) gives us the instruction to play a sound with the certainty that you have an infinite amount of time and space. From the cycle of intuitive music (“For Times to Come” (1968-1970), the third text (“Shortening”) points to the conditionality of time with the following instruction: “play or sing extremely long sounds until each one seems like an instant.”

John Cage stands out in the sphere of music and sound installation with his revolutionary thinking, and he cognizes the sound and pause in terms of a sounding layer[12], thus coming close to the quests of the quantum physics. The composition 4.33 (1952) was written under the influence of Robert Rauschenberg’s “White Painting” (1951) and it represents the direction towards spiritual transformation and transhumanism, so that, instead of pauses, one should listen to the music of the Universe in silence and not to the heartbeats, circulation of arterial blood or other sounds connected with being.

While choosing a quantum approach to the Universe, there do not exist neither the silence of vacuum nor the phenomenon of an empty page. This is not a Tabula rasa, but music unperceivable for our audition. In both cases, our burka is too narrow, and really, for the quantum approach, the music is still sounding, its abrupt slowdown gives nascence to another music just as widening of the empty page deciphers some graphic information contained on it.[13]. Cage, under the influence of Zen-Buddhism, thought even of the divine descent of the silence. We imply here the being of silence that was best captured by the art of the non-Christian countries. For instance, for Jalal-ad-Din Rumi, silence was the language of God.

“Organ2” is an attempt to overcome time and space as human illusions. This is a performance written for 639 years starting from 2001, which challenged the infinity itself to duel. The fact that no one will be able to listen to the composition from the beginning to the end, is a symbolic hint to the eternal space voices that were sounding before we came to life and will be sounding long after we are gone. From the positions of the quantum vacuum, it is interesting, for instance, *Poème symphonique* (1962) by György Ligeti, and *Pendulum Music* (1968) by Steve Reich.[14].

We can be able to find more points of intersection of quantum physics with the music in the composition “I Am Sitting in a Room” (experiment on the sound) by Alvin Lucier, a representative of electro-acoustic and experimental music. In this composition, multiple recording of a verbal text onto a tape and then its multiple repetitions lead us to deformation of sound, because the text as a conglomerate of sounds travels here in time and space.

Thus, quantum theory asserts that it is possible to alter the perception of music in case of quantum understanding: e.g., a quantum state of a simple melody can be represented by simultaneousness of infinite possible variants, yet, we could be unable to hear it due to the limited perception of time by us.[15].

Cornelius Cardew's 193-page *Treatise* (1963-67) is an interesting phenomenon that was inspired by the book written by philosopher Ludwig Wittgenstein about the imaging perception of the Universe, titled "Logical-Philosophical Treaty" (*Tractatus Logico-Philosophicus*, 1921). L. Wittgenstein believed that the logical structure of language was identical to the ontological structure of the Universe, and came up with the idea of an "ideal" language, the prototype of which was the language of mathematical logic.

In this graphic music score, we cannot traditionally read traditional notation marks fallen out of the context. Neither there is established the composition of performers, number of pages or their consequence. [16]. Neither the modern physics has the united structural theory of the Universe nor any fundamental laws that have never been revised since their discovery.

Score with traditional geometrical figures and schemes gives us the association of Richard Feynman's diagrams, the method reflecting processes occurring in quantum field theory, which he used in 1949 within the theory of chaos. Really, this is a mathematical method intended for the solution of problems in theoretical physics.

In Cardew's "The graphic voyage," the constantly moving lifeline gets "enriched" in various figures that reminds us of the theory of 11 dimensions, according to which, laws of each new dimension will have still some intersection with the four-dimensional world, having both misses and coincidences with the latter.

In Georgia, in terms of the discussed matter, the system of Eka Chabashvili's atomic music is remarkable, the constituent part of which is the composing technique, multi-topophonic music. It is based upon the idea of liberation of space for the sound during its unlimited relocation and observation of the process of nascence of new vibrations by frequencies. Also her Nano-opera "Pandora" is remarkable (first such precedent in the world), which, by the way, is a cyber-hybrid corresponding to the quantum epoch.

As far as we humans are an open anthropological species, due to the imminent technological progress, the scientists propose the term 'transhumanism' as the next step of humanism. This step will, in its turn, prepare humans equipped with nano-technologies and biotechnologies for post-human era, or for cybernetic (cyborg) man-robots. With the calculation of scientists, technological convergence of anthropogenetics, deportation into a virtual meta-matrix (into a virtual Universe with large numbers of avatars) will turn a human being into a digital informational unit possessing a virtual worldview.

Digital existence can turn human body into an outdated interface, thus causing virtualization of the cultural space, too. If for humanists, human being is the crown of the nature, after the integration into the cyber-reality it shall turn into a part of the techno-sphere and, as Bostrom predicts, transcendence will be supplemented with immanence. [17]. This will cause ontological desacralisation of a human being, rejection of creationism, representation of God as a delusion, as a result, there will be altered the mental and psychological essence as well as the social and cultural being.

Max Hodak believes that technological revolution will lead us to a new religion involving science and mathematics, which will be oriented towards the practical gain. Religion will be pragmatized, or the idea of religion will be materialized.

Raymond Kurzweil has announced the stage of technological singularity in his works or popular science appearances as well as the start of cyborgization, foundation of progress on artificial intelligence („The Singularity Is Near: When Humans Transcend Biology“ (2005), his report to the Congress "Global Future 2045" titled "Immortality by 2045," found at: <http://gf2045.com/read/275/>). Artificial intelligence is already able to make art, but until there has occurred radical changes in anthropology, in human genome and the percentage of the natural biological body exceeds nano-technological one, at least, the following clauses will remain unchanged:

1. The role of cultural traditions in the development of music; genres change their outward looks, disappear, give nascence to new genres. Due to continuity of these traditions, new musical

epochs and genres are the products of evolution, despite the fact whether there has occurred in them full liquidation of the past experience, as information, existing in the form of codes, still continues to evolve in time and space. Dawkins wrote: Matter flows from place to place and momentarily comes together to be you. Whatever you are, therefore, you are not the stuff of which you are made.” [18].

Paul Davies believes that the existence of everything is pre-coded in the fundamental information laws of the Universe, and that mobile gene retrotransposons (LTR retrotransposons) are responsible for evolution. (LTR retrotransposons).

This continuity indeed exists in music and it is similar to the phenomenon of information transferred at the genetic level. Dawkins has suggested the term “meme” (hypothetic replicator) to denote the replicator of cultural information that is passed from generation to generation, thus implementing transmission of idea, pattern, and, in general, any sort of cultural information, just like the replicator existing in genetics at the respective DNA locus.[19].

2. No one is able to decipher the mystics of creation of a musical opus. A musical opus is a demand to reflect the reality existing in non-cognizable spheres of the Universe, where the fantasy is activated in order to transport this alien reality into the musical opus, and the mysticism of music, too, symbolizes the incognizance of the Universe. Biologist J. B. S. Haldane wrote: “Now, my own suspicion is that the Universe is not only queerer than we suppose, but queerer than we can suppose.” [20].

A. Webern considered that even a human being totally free from religiosity cognizes the secrecy and mystics hidden in the nature [21] and believed that he was able to find musical tone rows (series) by means of illumination.[22]. Creativity is not explainable with limited possibilities of cognition and imagination. Dawkins connected this fact to the pertinence of the humankind to the Middle World’s existential origin.[23].

3. If the technological progress is a certain process of evolution that makes existence easier, the ways of the musical art do not imply amelioration of the artistic production with time, and the music of each novel epoch does not exceed the previous epoch by its astuteness.

4. Even under the conditions of the electronic music, the musical opus does not rely only upon the principle of algorithmic calculation. Whatever great the portion of calculation is in it, it is still secondary in comparison with the intuition. Music is not written according to rules, the other way round, rules are used to write it. On the primacy of intuitive, feeling-lead cognition Leibniz used to write: “Nothing has sprouted in the intellect such that has not first been born in feelings, apart from the intellect itself.” [24]. Philosopher Semion Gruzenberg considered intuition to be a non-cognitive act of creation, or an un-recognized prophecy of scientific hypotheses and deemed it to be the basis for the creative inspiration.[25]. The primary role of intuition as of a method of grasping the Universe, by the way, is actual for the scientific discoveries, too.

5. Musical thinking just as any other field of art, is based upon metaphoric thinking and, in this respect, is connected to the second fundamental support of civilization: religions, mystic imaginations. The intersection occurs in the intuitive spiritual perception of the Universe that does not necessitate logic proofs in case of religion and represent the issue of belief. What about art, it is an esthetic perception of the Universe based upon the artistic imagination and metaphoric thinking.

Dean Hamer links the cause of our affinity to the mystics with the presence of a certain gene responsible for spiritual experiences - VMAT2 (The God Gene: How Faith is Hardwired into our Genes 2004) and names even more complex versions of this gene, too.[26]. Until the religious gene is fixed in our genome and the changes of the genome (genetic DNA) are negligibly small, metaphoric thinking and preliminary mindset to mystical will cause again and again intersections of the art with religion, or mystical representations.

6. The human cognition holds a reproductive program, to continue the progeny, and with the free will, to create his/her own micro-universe in the form of an artistic production, which is a certain compensation of the death program (apoptosis) hardwired into our species. The precondition

to the creation of a musical opus is our creative will that must be reflected into the psychical act of creativity.

Knowledge of the musical systems, mastering of the composing technologies and imagination are not yet sufficient. For G. Hegel, the artistic inspiration implied the assignment of the artistic form to the conception, to occupy one's mind with this object until its final completion.[27]. A. Schnittke also thought that the creative process relies upon "a locus uncontrolled by the cognition." [28].

Thus, the creative will realizes materialization of thought into a musical or, in general, into an artistic opus, the process termed by Mamuka Dolidze "gaining its own being by the cognition." [29].

7. The essence of music, mission (aspiration to the perfection) and interest towards mystical or religious sets of themes, often lacking the concept of God, have not been altered in the technocratic epoch.

8. Music always mimics the nature, as the Universe and a human being grow simultaneously in terms of cognizable, and the "space of music" also widens gradually. If music, before the epoch of electronic medium, imitated the nature of our Universe, within this logics, the electronic sound created in cyberspace is a part of the cosmic space, too, which existed in it even before us and now we, too, have heard it. Yet, in the background of the algorithmization of modern computer music, there still stands the human experience, the main idea is generated by a composer and not by a machine.[30].

Koslowsky indicates that the nature will favour the machine only in the case if it proves its advantage over the humans. Until we are one step ahead to the artificial intelligence (just like Demiurge is to us), we are facing no danger. [31].It was in his own image, that Holly Herndon has created the program of artificial intelligence to record compositions "Spawn, AI Baby."

The title of Herndon's third album - "Proto" is symbolic, too, as an implication to the prototype, to the beginning of certain processes. In Herndon's opinion, his artificial intelligence does not have any context and he has coded his own values in it himself.

At this stage of civilization, the electronic sound only improves the harmony of human beings with the Universe(electronic sound, too, promotes revelation of the human nature). Max Planck used to write: "We ourselves are parts of the nature and hence, the parts of the mystics that we are attempting to solve. Music and art, to a certain extent, also tries to solve it or, at least, to express its mysticism. Yet, it methinks, the more we progress, the more we find ourselves in the harmony with the whole nature." [32]. This happens so because the laws existing in music do not belong to music, they are the laws of the Universe.

In A. Webern's opinion, "man is only the vessel into which is poured what "nature in general" wants to express." [33].

From religious points of view, too, the musical idea is received by a believer from the heavenly Universe as a clemency intended to glorify God again. Patristic traditions discuss a musical opus as an emanation of the chant of heavenly angels, which is written with the assistance of the Holy Spirit and the composer is just an altar chalice conveying the information.

It is a fact that this information (music of the Universe) will be better grasped and better deciphered by a post-human. What about the human race, I think, J.S. Bach's cognition has grasped the most totally the basal music of cosmic space, and he has conveyed the eternal ideas through the process of evolving thought. Intensiveness of the reason/mind revealed in Bach's music is a hint to the eternal nature of the Universe, reflected through its evolution and the eternal process of changes.

Transformation of traditions, existence of the continuous line of musical art, evolutionary processes, changes are all just proofs of the eternality of the Universe. Yes, it is not occasional that Carl Sagan considers in his book 'Pale Blue Dot: A Vision of the Human Future in Space' the existence of our civilization as that of a multi-planetary species undertaking an endless journey in the space. And during this voyage, the humankind travels ever since the beginning in the company with the cosmic music.



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