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# CUSA'S SCIENCE OF CREATIVELY THINKING THE FUTURE

On the Placement of the Human Voice in the Musical Simultaneity of Eternity

Pierre Beaudry, 3/14/2019

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## INTRODUCTION

*“We Pythagoreans have a theory of the soul which is roughly like this: The body is held together between the extremes of hot and cold, and dry and wet, and so on, and our soul is a temperament or adjustment of these same extremes, when they are combined in just the right proportion.”<sup>1</sup>*

Plato, *Phaedo*, 86b

Earlier this year, I resolved to investigate a little studied domain of epistemology that Nicholas of Cusa had developed in the spirit of Plato and with the help of a few Pythagoreans; that is, the domain of *incommensurable proportionalities in the coincidence of opposites*. The proportion I am putting under scrutiny here is as follows:

*The polyhedron is to the sphere as the polygon is to the circle in the same proportion as the human mind is to God's Mind.*

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<sup>1</sup> *The Collected Dialogues of Plato including the Letters*, Bollingen Series LXXI, Princeton University Press, 1973, *Phaedo*, translated by Hugh Tredennick.

Of all of the Platonists throughout history, it is Nicholas of Cusa who best understood the epistemological necessity of relating the human mind to such incommensurable opposite realities as God's Mind, in proportion to the human mind. And, what he conceived within such a proportion, he applied to a new conception of music and of time, a conception that he identified as a modality of "timeless time."

For Cusa, "timeless time" is a real universal harmonic arrangement which Lyndon LaRouche also expressed as the form of a human living time that he called living in the *simultaneity of eternity*. What is unique about this form of human living time is that it grows as opposed to simply passing away. As Rabelais said: "Such is the nature of gratuitousness: Time, which fritters all things away, only augments and increases the value of benefits. For one good turn freely done to an intelligent man grows continuously by his generous thoughts and remembrances."<sup>2</sup>

This is the time that Lyn applied to the unity of the two opposite domains of science and of artistic composition; that is, a time where the opposition between the anticipation of the future connected to a change of the past becomes transformed through the *tempering form of adjustment of a present state of consciousness* that Schiller called the *sublime*, that is, the state of mind of the creative process focused on the future.

Every form of time, be it relative or absolute, past or future, must be confronted through such a *coincidence of opposites*, as if to confirm the necessary contradictory nature of the physical and epistemological condition of the human mind in relationship to God the Creator, that is, in the image of the consubstantial relationship of the Holy Trinity. However, the difficulty of this form of understanding of human creative temporality is that it must be exclusively focused on the future, and more specifically on what Lyndon LaRouche called the "*future past*."<sup>3</sup>

Understanding this form of time is crucial if mankind is to survive the current strategic danger of a Third World War that we are confronted with

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<sup>2</sup> Francois Rabelais, *Gargantua and Pantagruel*, Penguin Books, New York, 1955, p. 147.

<sup>3</sup> See my report: [IN MEMORY OF LYNDON H. LAROUCHE JR. \(1922-2019\)](#)

today. Why? Because we are running out of time and the Rabelaisian way of thinking is the best way to solve the present strategic crisis. The point to be understood is that *the strategic danger is not coming from the past, per se, but from the future*. The difficulty, however, is that the way people think about the past must be changed, because the present danger comes from the pathway of coming asteroids. The future depends on what mankind will do today in Defense of the Earth. The time has come for humanity to finally reach the age of adulthood, and to turn toward solving the future security of our planet by changing the way they used to think.

It is on the *unity of opposites* coming from the *future past* which we must now focus our attention. For example, what if Trump and Kim Jong-un were to decide to change the agenda and leap into a collaboration for stopping incoming asteroids? As LaRouche proposed: Why don't we "now return to the future?"<sup>4</sup>

From that strategic reorientation, the creative human mind must use its own self-reflective powers of tempering the physical domain by giving direction to the universe as a whole. This process can best be found in the incommensurable proportionality between the human soul and the tuning of musical instruments, as Simmias located such a process when he replied to Socrates in Plato's *Phaedo*. The whole matter is to decide on how and where to properly find the placement of the voice. As Plato wrote:

"What I mean is this, said Simmias. You might say the same thing about tuning the strings of a musical instrument, that the attunement is something invisible and incorporeal and splendid and divine, and located in the tuned instrument, while the instrument itself and its strings are material and incorporeal and composite and earthly and closely related to what is mortal."<sup>5</sup>

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<sup>4</sup> Lyndon LaRouche, '[The Devil's Tail is Twisted](#)' **NOW RETURN TO THE FUTURE!** EIR, September 20, 2013. See my report on [IN MEMORY OF LYNDON H. LAROUCHE JR. \(1922-2019\)](#)

<sup>5</sup> Plato, *Phaedo*, 85e.

So the question is: How are you going to determine the proper location of the placement of your voice?

## 1. HOW FAITH LOOKS FOR REASON AND HOW REASON FINDS FAITH BY INVERSED PROPORTIONALITY

*“My most important discoveries, in every field which I have contributed, are based upon my successful refutation of the famous Kantian paradox reasserted in Immanuel Kant’s Critique of Judgment. Kant asserted two things of relevance here.*

*“First, he insisted that although creative processes responsible for valid fundamental scientific discoveries exist, these processes themselves are beyond all possible human understanding. That I proved to be false, and from that proof developed an approach to intelligible representation of those creative processes, and hence the implicit measurement of technological progress as such.*

*“Second, on the basis of the first assumption, Kant argued that there were no intelligible criteria of truth or beauty in aesthetics. The toleration which has been gained so generally by all modern irrationalism in matters of art, has depended upon German and other acceptance of this thesis on aesthetics advanced by Kant and Friedrich Carl von Savigny later.”*

Lyndon LaRouche, [\*Beethoven as a Physical Scientist\*](#), EIR, May 26, 1989

At the very beginning of his book *On Equality* ( [\*De Aequalitate\*](#)), Cusa quotes the Gospel of John: “The life was the light of men.” (John I:[4]) and he

immediately makes a shocking revelation about the difference between knowledge and belief. Cusa demonstrated, as St. Augustine did before him, and as LaRouche will later, that the human mind is able to understand the mystery of the creative process through the mystery of the Holy Trinity.

Cusa said that although the Holy Trinity is the most profound mystery of Christian religion, the epistemological dynamic of the relationship among the three persons of that Trinity can be accessible to the human mind. Writing to his assistant, Peter of Erkelenz, Cusa states clearly that he has composed this piece, “for the exercise of your intellect, which is eager for truth and apt for comprehension.” Cusa wrote:

“2 The theologian and evangelist John disclosed in the foregoing words (John I: [4]) (1) that God the Father, through His own consubstantial Word, or Son, gave being to all things and (2) that in His Word, or Son, who is Life, the being of all things was Life and (3) [that] the Light which is the Word was the light of man’s reason. John said these things in order that we might understand that through the Word of God we have both come into existence and been illumined in our reason. And thereafter he added that we can be illumined by the aforesaid true Light to the point that we are led unto an apprehension of [that same] Substantial Light that thus illumines us; and then we will be blessed and happy. For since for us to understand is for us to live most nobly: if our intellect can understand the Light-of-its-own-intelligence, which is the Word of God, then it arrives at both its own Beginning, which is eternal, and that Beginning’s Son, through whom the intellect is led unto the Beginning. And this [kind of] understanding is directed toward itself when what is understood and what understands are not different and other. Therefore, when [these are not different and other] the intellect will be present in the Oneness-of-Light which is the Word of God; but it will not be present in a oneness of substance, as the Word of God the Father is present with God the Father (i.e., as the Son is present with the Father), for a created intellect cannot be united to the Uncreated God in a oneness of substance. Rather, man is rightly united to man, in a oneness of human essence. And so, the Word was made flesh in order that man—by the

intermediacy of the man who is the Word of God and the Son of God—would be united inseparably to God the Father in the Kingdom of eternal life.

“3 This maximal mystery concerning our Mediator and Savior, Jesus Christ, was set forth in the writings of both Testaments. Nevertheless, [it is set forth] nowhere more clearly than in the Gospel of John the Theologian. Although the manner of this [mystery] is inexpressible and incomprehensible, nonetheless [the mystery] is described [by John] in a figure, and a symbolic likeness, of things comprehensible. Yet, as regards those who wish to enter, with faith, into the Gospel and to conceive of the manner of [this] mystery to some extent, in accordance with the powers of the human intellect: they must have an intellect very extensively exercised as concerns abstractions and the powers of our soul. I will very briefly disclose to you, then, the things that now occur to me regarding this [topic].”<sup>6</sup>

This difficult idea of the Trinity must be understood first and foremost from the geometrical vantage point of an incommensurable ratio; that is, by measuring the relationship of man to God as a metaphorical process of comparison such that *man is to God as the polygon is to the circle*. Once that incommensurable relationship is apprehended, the door is open to an investigation of how the human mind must behave in order to understand how such proportionality works.

Such a ratio must first be grasped as a distinction between apprehension by faith and understanding by reason. This is essential to recognize at the onset, because Cusa's purpose is to make the reader realize how the human mind must fortify the faith of the believer by understanding how the human mind has been created in the image of God's Mind. The intention here, therefore, is not to convince the believer, but to provoke his mind into projecting his own powers of insight and foresight beyond his deductive limitations and help him leap from mere faith into higher unknown dimensionalities.

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<sup>6</sup> Nicholas of Cusa, [\*De Aequalitate\*](#), (On Equality), translated by Jasper Hopkins, page 4/38.

It is essential, therefore, to properly understand what Cusa means here when he says: “2 ... And this [kind of] understanding is directed toward itself when what is understood and what understands are not different and other.” That is the elementary form of *coincidence of opposites* which corresponds to the higher hypothesis of the anti-entropic process which Lyn has been calling on people to challenge themselves with, in order to understand the transfinite principle of discovering new and higher principles of knowledge.

Here, Cusa does something quite extraordinary. He confronts the reader with the mystery of the Holy Trinity, and in spite of being “incomprehensible” to the believer; he shows that the Trinity is nevertheless conceivable to the knower. If this paradox is disturbing, it is because Cusa confronts the logical mind with something that its deductive powers are incapable of understanding, but which your cognitive powers are perfectly capable of apprehending. Cusa developed in *De Beryllo* the idea that it is in the nature of the human intellect to seek to know itself and to know other things “for its life and joy consist in knowing.” But then, he adds that what the intellect wishes the most to know is the mind of God who is the Teacher of all knowledge. So, he concludes by saying:

“4 Now, the Teacher, who is the Word of God, has taught me that seeing and knowing are the same thing. For He says: ‘Blessed are those with a pure heart, since they will see God.’ And elsewhere [He says]: ‘This is life eternal, viz., to know You, who are God.’ And again: ‘He who sees me sees the Father’—where seeing is knowing, and knowing is seeing.”<sup>7</sup>

The question that I am now going to investigate with the help of Cusa is the question of what it means to see and to know the nature of the incommensurable proportionality between man and God. If “seeing is knowing,” then such a mental seeing is a sight of the invisible; that is, a matterofmind which is neither the Aristotelian form (*morphe*) nor the matter (*hyle*) of physical things, but a matterofmind which can be understood as a higher type of cognitive object which

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<sup>7</sup> Nicholas of Cusa, Ibidem. <http://jasper-hopkins.info/DeAequalitate12-2000.pdf>

is free from physical conditions and attributions altogether. Cusa calls on the reader to go beyond this reductionist form of Aristotelian hylemorphism:

“5 ... But when in the case of different intelligible things the intellect sees that which is understood, and when it sees that matter is the substrate-of-otherness: because the intellect sees by means of that which is understood-in-and-of-itself, it sees itself as free of all matter; and it sees that intellect is intelligible *per se*, because it is free of matter. And [it sees that] whatever things are not free of matter are not intelligible *per se* but must be abstracted from matter if they are to be understood.”<sup>8</sup>

In other words, what is perceived by sense perception, as advocated by Aristotle, cannot be intelligible *per se* and cannot be a basis for scientific knowledge. On the other hand, when form and matter are left behind, it is the locus of incommensurable proportionality which becomes the proper space-time placement of the human mind; and the epistemological frame for its apprehension and understanding, as Lyn demonstrated, lies in the idea of *simultaneity of eternity*.

## 2. CUSA'S IDEA OF SIMULTANEITY OF ETERNITY

*“Simultaneity of eternity is not a passive moment of absolute time; it is a dynamic state of permanent transformation.”*

Dehors Debonneheure

Cusa understood the same conception of the soul as Pythagoras and Plato had developed and, like them, he investigated a unique proportion between the human mind and music which became crucial for his followers, most notably Leonardo da Vinci and Raphael. Cusa compared the soul to a tempering faculty of “*timeless time*” and “*timeless time*” to the tempering function of the musical

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<sup>8</sup> Nicholas of Cusa, Ibidem. <http://jasper-hopkins.info/DeAequalitate12-2000.pdf>



system. Then, he made that incommensurable proportion the expression of a unique relationship between the human species and God. This hypothesis may be a little difficult to grasp at first, but I think it is worth looking into if one is to understand what action to take in the immediate future ahead. First, it is the nature of the equality of the self-generating process between the subject and the object of knowledge which is essential to focus on. As Cusa wrote:

“9 In the foregoing way it is evident that an external thing is made actually intelligible by means of something internal. [The situation is] as if an intellectual starting-point, or intellectual beginning, begot from itself a word, or conceptual form [ratio], or notion [notitia], of itself. That conceptual form would be its consubstantial likeness, because it would be the conceptual form of the intellectual nature (inasmuch as the starting-point is intellectual). The beginning, or starting point, is manifested in this [conceptual] form of its own [nature, or] substance. Otherwise, without such a conceptual form, the [intellectual] starting-point would remain unknown both to itself and to all others.”<sup>9</sup>

The example that Cusa gives is that of a syllogism of three propositions which have the same universal validity and are generated from one another as if from a self-generating-equality. That is, the second is deduced from the first, as if the third were self-evidently produced from the accepted inferred coincidence of the other two. However, tongue in cheek, Cusa had changed the classical Aristotelian example when he wrote: “Every rational animal is mortal. Every man is a rational animal. Therefore, every man is a mortal animal.” Here, Cusa avoided reducing man simply to an animal as Aristotle did in his *Posterior Analytics*.<sup>10</sup>

The well-known Aristotelian form is: “All animals are mortal. Man is an animal. Therefore man is mortal.” Cusa’s entire argumentation is particularly

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<sup>9</sup> Nicholas of Cusa, *De Aequalitate*, (On Equality), translated by Jasper Hopkins, page 7/38.

<sup>10</sup> Aristotle, *Posterior Analytics*, 11.19. Aristotle’s reductionist argument here involves an unjustified underlying assumption which is that “man is an animal.” The reason he provides for this underlying assumption is: “In general, then, the principles usually given at the start are too universal, and they require additional and less universal principles for demonstration. From ‘all animals are mortal’ the conclusion ‘all men are mortal’ does not follow unless the minor premise ‘all men are animals’ is accepted.” Aristotle’s deduction is therefore entirely based on the unproven underlying assumption that “all men are animals.” (footnote p. 72.)

ironic since he is establishing the boundary conditions as the limit of logical deduction . On the other hand, Aristotle's fallacy stems from the fact that he made a dubious *coincidence of opposites* when he concluded that 'All animals are mortal' coincided with 'Man is an animal.'



What lies beyond the limit of the universe? Gravure Flammarion. Deutsches Museum, Munich.

The famous Flammarion Woodcut is well suited to illustrate the process of going beyond such a deductive limitation frame of the logical mind, as Archytas had once asked about investigating what could his stick be poking into at the outer end of the universe. Archytas argued as follows:

“If I were at the outside, say at the heaven of the fixed stars, could I stretch my hand or my stick outwards or not? To suppose that I could not is absurd; and if I can stretch it out, that which is outside must be either body or space (it makes no difference which it is, as we shall see). We may then in the same way get to the outside of that again, and so on, asking on arrival at each new limit the same question; and if there is always a new place to which the stick may be held out, this clearly involves extension without limit. If now what so extends is body, the proposition is proved ; but even if it is space, then, since space is that in which body is or can be, and in the case of eternal things we must treat that which potentially is as being, it follows equally that there must be body and space (extending) without limit.”<sup>11</sup>

Although Archytas’s argument and the Woodcut visual reproduction of it are both expressions of sense perception, the intention is clearly to tease the limits of deductive logic and of sense certainty, and, therefore, they both touch on the epistemological question of how to represent the limit of an infinite. Analogously to sense perception, the mind also requires a containing boundary condition to conceive of a *definite infinite*, however universal it may be. This is the issue of the One of the Many that Lyn raised with Cantor on the matter of the transfinite.<sup>12</sup>

Both the Woodcut and Archytas’s argument illustrate the appropriate sense perception limit that consciousness must encounter when it goes from the future into the past. That is, when it goes from the triply-connected incommensurable space of the galactic limit of the fixed stars, and beyond. The three temporal steps of present, past, and future are also as three moments of an incommensurable transformation. The Woodcut shows *present intellect* being simultaneously in the *memory* of the past and in the *will* of the future as the way by means of which St.

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<sup>11</sup> Quoted from Sir Thomas Heath, [A HISTORY OF GREEK MATHEMATICS](#), Volume I, Dover Publication Inc, New York, 1981, p. 214. As I have discussed elsewhere, Archytas adopted the geometrical method of incommensurable proportionality that Hippocrates had discovered for doubling the volume of the cube with two mean proportionals: [ARCHYTAS AND THE PRINCIPLE OF PROPORTIONALITY](#).

<sup>12</sup> See: [LYNDON LAROUCHE, THE MEANING OF THE TERM ‘TRANSFINITE,’ 1988](#). Archytas and Cusa had devised a new insightful geometrical method of going beyond sense certainty in order to penetrate more deeply into the transfinite domain of epistemology.

Augustine and Cusa had established the necessary epistemological characteristics of the Holy Trinity.<sup>13</sup> Cusa measured such a mental process as follows:

“13 The soul sees the delimitation in all delimited things; and since there is no limit of a limit, it sees itself as an undelimited conceptual delimitation without otherness. And, hence, it sees that it is not quantitative or divisible and that, therefore, it is not corruptible. Therefore, the soul is an undelimitable conceptual delimitation. Through this delimitation it delimits all things as it wills to, by making an end-point to be at a shorter or a longer distance from a starting-point. And in this way it makes long lines to become short and makes short lines to become long; and it makes measuring-standards of length, of width, of depth, of time, and of every continuum.”<sup>14</sup>

Such a measure, however, is not to be reduced to a mathematical equation, because it is not quantitative and therefore not divisible. The measure of the mind must rather be consubstantial with the notion of justice (*agape*), because it must make a true judgment about the scientific and artistic domains without corruptible delimitations, and since mathematics corrupts, it must be excluded. As Cusa said: “It [the soul] unfolds all these things from its own conceptual power. And through itself it makes judgments about all things. For example, [the soul makes judgments] about just causes, [doing so] through its concept-of-justice, which is consubstantial with it, because the soul is the conceptual form of justice through which it judges what is just and what is unjust.”<sup>15</sup>

Cusa therefore identifies the immortal power of the soul as “an undelimited conceptual delimitation without otherness.” Although this measuring power is not an easy function to grasp, one can get a glimpse of it as the three limiting functions of the human mind: *memory*, *intellect*, and *will* become a function of “timeless time.” That is, a simultaneous unity of past, present, and future, as a One of the Many. The human mind must free itself by measuring itself when swimming through unknown knowledge as if through a continuous enfolding and unfolding of

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<sup>13</sup> Both Saint Augustine and Nicholas of Cusa have used the relationship among *memory*, *intellect*, and *will* as a characterization of the Holy Trinity.

<sup>14</sup> Nicholas of Cusa, Op. Cit., p. 9/38.

<sup>15</sup> Nicholas of Cusa, Op. Cit., p. 10/38.

a triply-connected surface function. Then, a few pages later, Cusa adds the punch-line:

“18 Therefore, in its own being, the soul, which is *timeless time*, [*intemporalis tempus*] sees the past, the present, and the future. The past it names *memory*; the present, *intellect*; and the future, *will*. For in the intellectual nature the starting-point (or that it is) is the point of origin. The intellectual nature begets from itself—i.e., from itself as starting-point (or *that it is*)—intellect (or *what it is*). Following upon these is the intended endpoint, which is called will or delight. Therefore, all things are present in *that it is*, and this mode of being is called intellectual memory. All things are in *what it is*, and this mode of being is called intellect (for as things are present in the intellect, they are present in the conceptual form of themselves and are understood by means of the conceptual form of themselves). All things are in the intended endpoint, and this mode of being is called will or desire.

“19 The foregoing considerations regarding *timeless time* show that the soul is a likeness of Eternity and that through itself, as through a likeness of Eternity, it looks unto Eternal Life, which alone it desires, even as the intellectual image of Eternal Life, or Eternal Rest, looks unto its own Truth (of which it is an image), without which it cannot have rest. For the image of Rest finds rest only in Rest.”<sup>16</sup>

The point to understand is that such a unity of proportion as time is closed onto itself as a triply-connected enfolding process in the *simultaneity of eternity*. It is the epistemological equivalent of the religious belief of the *Filioque* principle of the Holy Trinity, as a triply-connected self-conscious process, which, by knowing itself, creates itself as becoming equal to itself by way of changing itself. Such is the nature of knowing oneself by being both the knower and the known within the complete equality of a process of becoming itself, as St. Paul, for instance, identified in 1 Corinthians, 13.12.

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<sup>16</sup> Nicholas of Cusa, Op. Cit., pages 11-12/38.

### 3. HOW THE TEMPERING OF THE SOUL IS LOCATED IN THE SELF-REFLEXIVE PROPORTION AMONG THE DOMINANT, THE SUB-DOMINANT, AND THE TONIC

*“Thus, the prosodic determination of the intervals now interacts, in both classical reciting of poetry, and classical song, with a harmonically ordered sequence of tones in the actual or implicit pedal-point. These pedal-point sequences are either directly the Kepler intervals or consistent derivatives of those intervals, such as the well-tempered octave-scale itself: octave, fifth, fourth, major third, minor third. In constructive geometry, this interaction is represented as doubly-connected action.”*

Lyndon LaRouche, [Beethoven as a Physical Scientist](#), EIR, May 26, 1989.

For Cusa, all things are created in the likeness of the Word or the Logos according to John. Cusa brings the reader to discover the Augustinian definition of the human soul as being created in the image of the Holy Trinity, as it is understood from the standpoint of the triple function of *memory*, *intellect*, and *will (delight)*. How does such a dynamic work in a classical musical artistic composition and in architecture?

It is within this form of relationship among *memory*, *consciousness* and *delight*, that the Augustinian idea of Trinity is conceived like an active power to temper itself in the *simultaneity of eternity*, as for instance, Bach's Well-tempered clavier teaches us. This is so because *delight* is always what comes out of resolving the paradox of the *coincidence of opposites*. This was also validated later by Leibniz when he acknowledged the same result could be achieved, whenever the harmony of proportion was realized between reason and power. As Leibniz said:

“If, then, the beauty of the mind lies in the proportionality between reason and power, then the beauty of the complete and infinite mind consists in an infinity of power as well as wisdom, and consequently the love of God, the highest good, consists in the incredible joy which one (even now present, without the beatific vision) draws out of the contemplation of that beauty or proportion which is the infinity of omnipotence and omniscience.”<sup>17</sup>

Cusa confirmed the same idea in the following manner:

“21 Furthermore, because some men have maintained that the soul is a harmony, let me speak about that [topic]. The harmony that is seen in many harmonic concordances is seen in and of itself to be the soul. First the consonance is seen and thereafter its ratio. And from these two, delight is seen to follow. Harmonic consonance is seen as *that it is* and as a starting-point; and it begets a ratio of itself, or number of itself, wherein it understands itself, or views itself, as in a figure of its substance. From the starting-point and the ratio there arises delight. For example, the ratio of that harmonic consonance which is called an octave is a double relation. If the octave were an intellect, it would know itself and see itself in this proportion — [see itself] as in a consubstantial and most adequate ratio, which is the figure of its substance and in which it knows itself to be what it is. For when one asks whereby the harmony of an octave is known, one ought to answer that [it is known] by means of a double relation; for an octave knows itself in a double relation as in that octave’s own concept or conceptual word. And so, if an octave were a practical intellect and wished to make itself perceptible in musical instruments, it would do so by means of the proper and consubstantial ratio whereby it knows itself, i.e., by means of a double relation. And just as was stated about an octave, so in general [something similar can be said] about harmony that, insofar as it is seen in and of itself, is free of all contractedness to an octave, a fifth, and a fourth. In that [thus uncontracted] harmony the harmonic concordance is *memory*, the ratio of the

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<sup>17</sup> Gottfried Leibniz, [\*On the Establishment of a Society in Germany For the Promotion of the Arts and Sciences\*](#), The Schiller Institute.

concordance is *intellect*, and from these two there arises *delight*, which is will.”<sup>18</sup>

There are several ways of contracting such a double relation within a musical octave. How can such a harmony coming from the future be arrived at? Is the future coming to you or are you going toward the future? Cusa identified how such a process from a higher projection takes place in the mind when one makes a discovery of principle. He wrote: “First the consonance is seen and thereafter its ratio. And from these two, delight is seen to follow.”

A good example of this is the geometrical (logarithmic), musical, and epistemological principle underlying the construction of the Parthenon of Athens, where the musical relationship between G and F within the interval of two octaves reflects the design of the golden section.

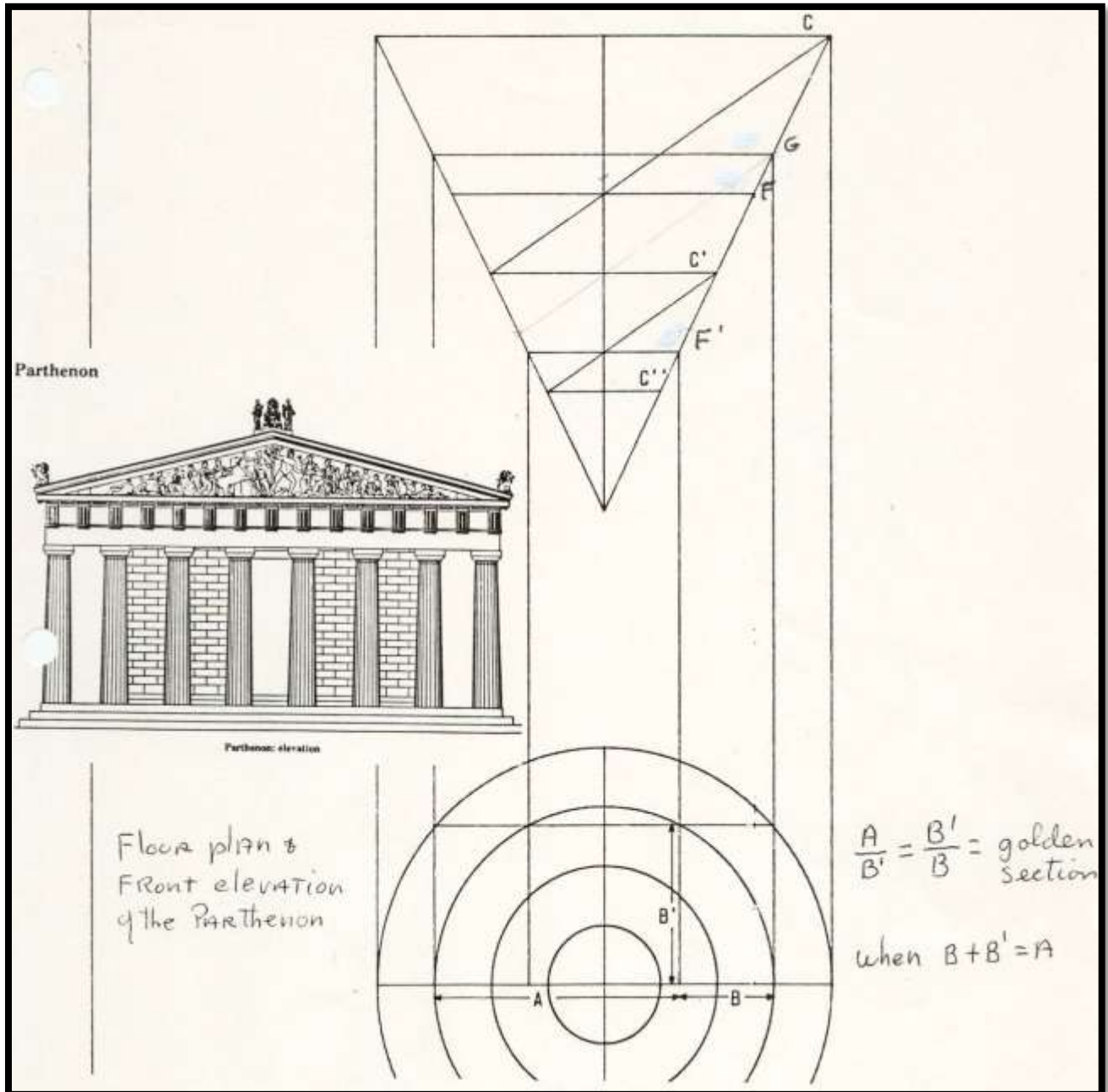
As the illustration below shows, the architectural principle of the Parthenon, which I have constructed more than 30 years ago, is based on a conical spiral progression demonstrating how the building plan is generated through the musical intervals of C, G, and F' within the range of two octaves of the logarithmic-equal-tempered musical system.

The design also reflects the progression of the Fibonacci series by replicating the same pattern of square and golden rectangles in the small as in the large. The triglyph-metope decorative plates above the architrave of the Parthenon define the intercolumniation in the same square and golden rectangle proportion as the front elevation is to the entire floor-plan of the building.

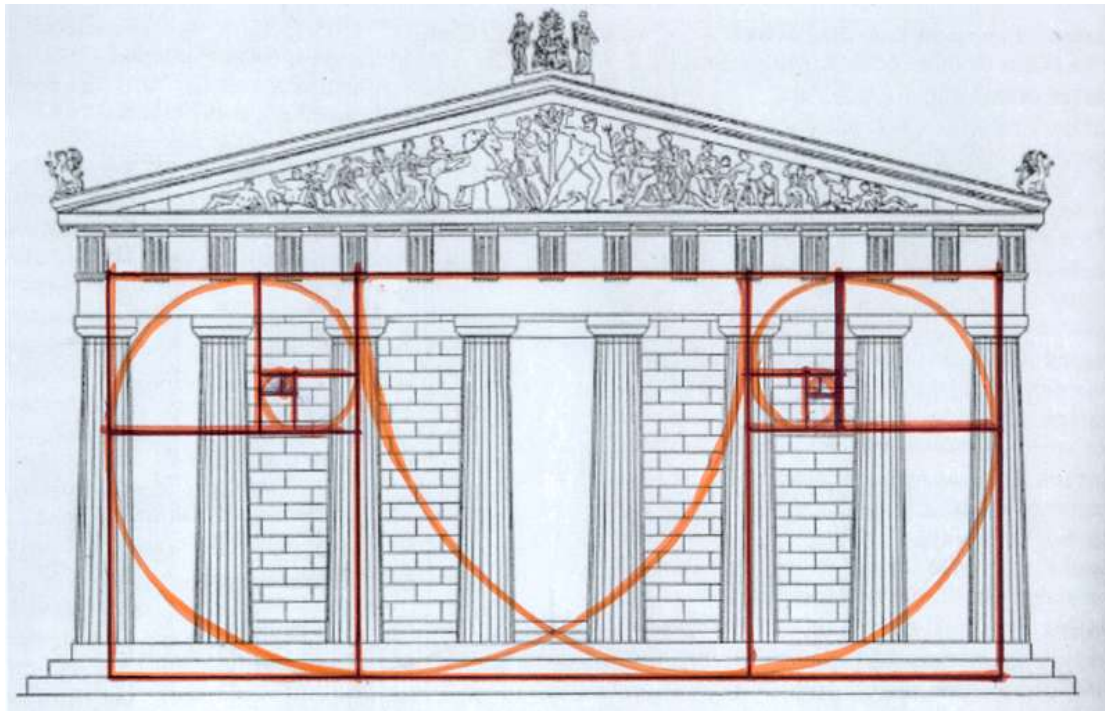
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<sup>18</sup> Nicholas of Cusa, [\*De Aequalitate\*](#) (On Equality), translated by Jasper Hopkins, Art.21, p. 13/38.

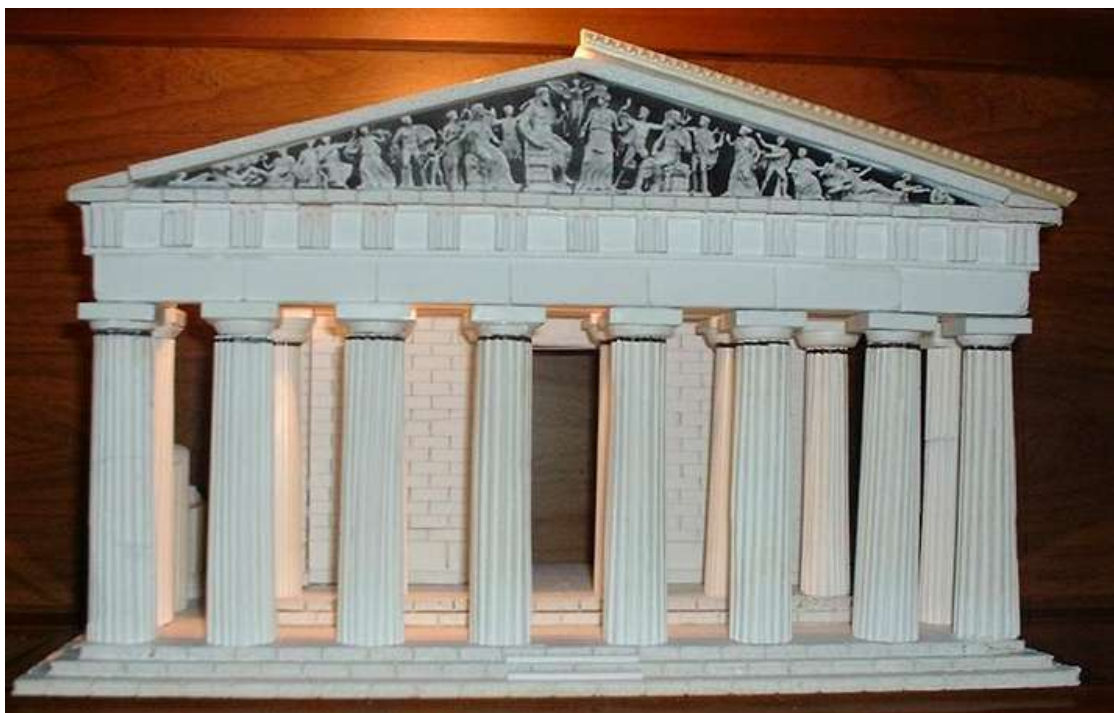




Conical construction of the Parthenon architectural design by Pierre Beaudry



Front elevation of the Parthenon and the golden rectangle series. Illustrated dictionary of Historic Architecture.



Parthenon model by Pierre Beaudry

The most effective expression of such a golden section, however, comes from the self-generating process of the well-tempered musical principle of J. S. Bach. Imagine that your mind is comparable to a musical instrument like a keyboard such that you can determine the placement of your power of insight into the future.



J.S. Bach Prelude I, in C Major. The three Lydian dissonant clusters of change for the subdominant (blue), the tonic (yellow), and the dominant (red).

Bach's ordering process is nothing short of an amazing insight into "the future past," because this is how is generated the three-step process of any axiomatic change in your own mind. You first have to become perplexed in the face of a paradoxical situation of *coincidence of opposites*; secondly, you have to make the two opposites coincide with each other; and thirdly, your mind becomes filled with delight at the sight of the solution which had not existed before. Thus, mind projects itself into the future as a memory of itself; that is, begets from itself an understanding of itself, by itself, and for itself. This is the principle that Lincoln had adopted as the self-governing principle of the Republic.

So, what is that "double relation" which makes the octave known to itself by tempering? Cusa answers: "The fifth and the fourth." The Tonic becomes known in its proportionality through the dominant and the sub-dominant as the intervals of two inversed forms of musical action, one moving toward the future and the other moving toward the past. Here, Cusa is referring to the tempering power that the intellect uses in classical artistic composition, which is most notably located in the harmonic proportionality among C, F, and G in classical Bel Canto singing. As it was later understood and developed by J. C. Bach with the Lydian generative principle of the octave, all changes are made through the fourth and the fifth of a tonic, as Bach demonstrated the power of tempering in his First Prelude in C Major.



The Moebius strip<sup>19</sup>

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<sup>19</sup> I have demonstrated elsewhere how the one dimensional Moebius Strip can be used to construct a three dimensional tetrahedron: See: [THE ALBA MADONNA: RAPHAEL'S SPHERICAL METHOD OF DESIGN](#)



The dynamic of musical tempering is, in a sense, like the enfolding of a Moebius strip in which two opposites are folded together in such a way as to reflect an action of forecasting and determining how the future is already in existence, as a future. For example, Bach's First Prelude in C Major is harmonized as a result of a series of three self-generating dissonant Lydian spirals generating successively the dominant, the sub-dominant, and the tonic within the span of three octaves. Play on a keyboard the following three sets of tempering proportions:

***A, C, Eb, F# is to the key of G Major as G, Bb, C#, E is to the key of F Major in the same proportion as F, Ab, B, D is to the key of C Major.***

“God creating the idea of man in His Mind.” Chartres Cathedral. France.

When you play A, C, Eb, F# in succession on the keyboard, the dissonance of the three intervals of those four notes already produce in your mind the harmonic resolution to come. What you hear coming out of the dissonance can only be the key of G Major, and no other key. The same principle applies to the two other series of dissonant intervals. Why does it work like that? Because the expectation of the next key signature following the ordering of G, F, and C already

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The geometrical construction is based on the proportionality whereby the polygon is to the Moebius circular action as the Moebius circular action is to the polyhedron in the same proportion as the polyhedron is to the sublime results of spherical action.

presently exists as an audible potential, like a preformatted forecasting call of what is expected to take place in the immediate future ahead. That is how the voice of the mind is placed in the *simultaneity of eternity*. Thus, the *future past* comes into existence ahead of the future itself, somewhat like Adam comes out of the Godhead in the statuary of the Chartres Cathedral, as he appears to be created in the Mind of God before being actually created in the physical world.

F and G above C-256 being inversions of each other, are perfectly suited for establishing a basis for tempering the register shifts of the human voice in both speech and song. It has been acknowledged as far back as Pythagoras, that the region of F and G above C-256 is an axiomatic region of inversion where the fifth  $3/2$  is the inverse of the fourth  $4/3$ , as Plato demonstrated in his *Timaeus*.

Lyn has also many times identified this region of dissonance and instability as the Bel Canto voice register shift at the interval of the F# region for both soprano and tenor voices.<sup>20</sup> Such a locus of change also reflects the disposition of the mind that Lyn identified in his principle of forecasting, which he called “the future past.” He demonstrated the process as follows:

“For purposes of discussion of such models here, the common feature is simply definable as a model composed of two distinct parts: (1.) human experience prior to any present moment, and (2.) an actually mental experience of what I name “the future past” yet to be experienced, as this had been demonstrated, for example, in the noëtic, mental experiences of the discoveries of Max Planck, Albert Einstein, and, otherwise, of certain others who are notable for discovery of a future of a to-be-discovered principle existing beyond the actually present time (i.e., in the actually perpetual future). [...]

“To rephrase what I have just written here above: there are states of willfully created discoveries of a human-willful quality of change in *mankind's experienceable future discoveries*: discoveries of such as

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<sup>20</sup> I have also demonstrated, over thirty years ago, that this was also the basis for the harmonic arrangement of the Parthenon of Athens. See my report: [THE ACROPOLIS OF ATHENS: THE CLASSICAL IDEA OF BEAUTY](#).

actionable physical principles, which pre-determine whether, or not, the human species will have acquired the ability to change those possible principles which would, then, in turn, enable mankind to discover and, thus, change the *principles which represent the potential for the change of any relatively predetermined choice of mankind's knowable future.*"<sup>21</sup>

It is this principle of the "*future past*" which makes possible other discoveries of principle in the future. From the standpoint of Cusa, the purpose of this process is to reach the dimension of the sublime through generating the ability to make incommensurable transfinite leaps from a lower manifold to a higher manifold. As Cusa wrote:

"22 Therefore, through itself the soul arrives at all harmony that is perceptible in otherness—just as through what is internal the soul arrives at what is external. (Something similar must be said generally regarding every mathematical science and every other science.) For through the word through which the soul attains itself it also attains all things. [The situation is] as if a mathematical circle were memory that attained itself in its definition [ratio], viz., [in] its having its center equally distant from its circumference."<sup>22</sup>

Kepler used the same Cusa metaphor of the Trinity by referring to a sphere whose center is equally tuned with its surface to such an effect that the center is the Father, the radial interval is the Holy Spirit, and the surface is the Son; all three representing the dynamic characteristic of God who is only conceivable, as Cusa said, as "an infinite sphere, the center of which is everywhere and the circumference is nowhere."<sup>23</sup>

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<sup>21</sup>Lyndon LaRouche, [WHAT IF WALL STREET HAD DIED NOW?](#) EIR, August 31, 2013, p. 45. Feb. 16, 2019.

<sup>22</sup>Nicholas of Cusa, Op. Cit., p. 13/38.

<sup>23</sup>Book of the 24 Philosophers, 12<sup>th</sup> Century AD.

#### 4. ST. AUGUSTINE'S PLACEMENT OF THE VOICE IN THE TRINITY

So far, this report has been begging the question: How closely can the human mind resemble God? For St. Augustine, it is the consubstantial relationship of the Holy Trinity which represents the necessary contradictory nature of the physical and epistemological condition of the human mind in relationship with the universe as a whole, especially the animalistic and the divine opposites. As Augustine argued, human memory has concealed within itself an “understanding of the Trinity.” However, although the Trinity has always been present in the memory of mankind, the performance of its beneficent function can only be manifested to reason when reason becomes a form of *consciousness* which tempers both its own *memory* and its *will* to change the world for the better. That is the true discipline of the “cogito” argument that Descartes had misconstrued as a self-evident proof of an arrogant form of existence. The Augustine argument was quite different. As Augustine wrote in the *City of God*, 11.26:

“We do indeed recognize in ourselves an image of God, that is, of the Supreme Trinity. It is not an adequate image, but a very distant parallel. It is not co-eternal and, in brief, it is not of the same substance as God. For all that, there is nothing in the whole of God’s creation so near to him in nature . . . We resemble the Divine Trinity in that we exist, we know that we exist, and we are glad of this existence and this knowledge . . .

“In respect of those truths I have no fear of the arguments of the Academics. They say, “Suppose you are mistaken?” I reply, “If I am mistaken, I exist” [*si fallor, sum*]. A non-existent being cannot be mistaken; therefore I must exist, if I am mistaken. Then, since my being mistaken proves that I exist, how can I be mistaken in thinking that I exist, seeing that my mistaken establishes my existence [*quando certum me esse, si fallor*]?”<sup>24</sup>

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<sup>24</sup> Saint Augustine, *City of God*, (Penguin Classics) 11. 26, translated by Henry Bettenson, 1972. “Nulla in his veris Academicorum argumentum formido dicentium, Quid si falleris? Si enim fallor, sum. Nam qui non est, utique nec falli potest ; ac per hoc sum, si fallor. Quia ergo sum si fallor, quo modo esse me fallro, quando certum est me esse, si fallor. »



How can such a mistake cause something that is so unmistakable? For Augustine, this paradox is the way to resolve the *coincidence of opposites* by relating human fallibility to the idea of eternal life or to the immortality of the human soul; that is, to the fact that the soul becomes eternal through recognizing its own fallibility. Ironically, this “mistake” is also what brings about an “unmistakable” state of certainty. As Augustine discovered: “He who says he knows he is alive, can neither be deceived nor lie.” That is the conclusion he arrived at in *De Trinitate* 15. 12. 21, where he wrote:

“The knowledge by which we know that we live is the most inward of all knowledge, of which even the Academics cannot insinuate: Perhaps you are asleep, and do not know it, and you see things in your sleep. For who does not know that what people see in dreams is precisely like what they see when awake? But he who is certain of the knowledge of his own life, does not therein say, I know I am awake, but, I know I am alive; therefore, whether he be asleep or awake, he is alive. Nor can he be deceived in that knowledge by dreams; since it belongs to a living man both to sleep and to see in sleep. Nor can the Academic again say, in confutation of this knowledge: Perhaps you are mad, and do not know it: for what madmen see is precisely like what they also see who are sane; but he who is mad is alive. Nor does he answer the Academic by saying, I know I am not mad, but, I know I am alive. Therefore he who says he knows he is alive, can neither be deceived nor lie.”<sup>25</sup>

Thus, placing the human voice of the human mind in the immortality of *simultaneity of eternity* is the required temporality for human creativity, but with a certain limitation with respect to God, because, as Augustine said:

“For it is eternal to the soul to live; it is eternal to know that it lives. Yet it is not eternal to it to be thinking of its own life, or to be thinking of its own knowledge of its own life; since, in entering upon this or that occupation, it will cease to think of this, although it does not cease from knowing it. And hence it comes to pass, that if there can be in the mind any

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<sup>25</sup> Saint Augustine, [\*On the Trinity\*](#), Book XV, 12.21.

knowledge that is eternal, while the thought of that knowledge cannot be eternal, and any inner and true word of ours is only said by our thought, then God alone can be understood to have a Word that is eternal and co-eternal with Himself.”<sup>26</sup>

The placement of your voice is what makes the difference between the deceitful presumptions of Descartes and the truthful wisdom of St. Augustine. That's the difference between “I think, therefore I am” and “I am mistaken, therefore I am alive.” The unfortunate side of history, however, is that when Descartes discovered this positioning of the voice, he chose to be proud and righteous about it, instead of being humbled by it. That is the lesson to be learned with St. Augustine, Cusa, and LaRouche's placement of the voice in the Trinity.

Such a level of epistemological investigation requires an additional remark regarding the fallacy of today's believers in Artificial Intelligence and other matters: it doesn't matter whether you believe in fake news, fake learning, and fake science because truth is not made to be seen, truth requires certainty. However, if your certainty depends on sense perception, you have failed the most elementary test of knowledge. Remember what the ever truthful British *Guardian* wrote on November 12, 2018: “Technology can make it look as if anyone has said or done anything. Is it the next wave of (mis)information warfare?”<sup>27</sup> In other words if something appears to your mind to be so much like the real thing that you cannot be certain about it, chances are you are being duped.

## CONCLUSION: ON THE LAROCHE PROPORTIONAL PLACEMENT OF THE VOICE

*“The progress of humanity is measured by the concessions  
that the madness of the wise makes to the wisdom of fools.”*

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<sup>26</sup> Ibidem, 15. 12.25.

<sup>27</sup> [You thought fake news was bad? Deep fakes are where truth goes to die](#), The Guardian, Nov. 12, 2018.

Jean Jaurès

Today, mankind has the irrevocable task of changing its way of thinking geopolitically and to start voicing human thinking galactically. Thus, the survival of mankind depends on our ability to properly discover how to place our voice in harmony with the universe as a whole, as opposed to some local part of that universe. Here is what Lyn said on this question of placement:

“Now what’s happening, we’ve taken the placement of the voice, the true placement of the human voice, which is not a snarl or a growl or a coughing up of things; but it’s a way which is not mathematical. Mathematics is the enemy of the human mind; it always has been. And the point is that mankind’s creative powers, the placement of the voice as such, is the principle of organization of a competent society. And that’s where we are now; it’s coming on fast.

“We’re not getting all the results we would like to get immediately, but they’re coming on fast. And we’re going to accelerate this continuously, because the principle is the placement of the voice, and you have a model of this in the case of Furtwängler’s work. Furtwängler’s work fits precisely into that question of the placement of the human singing voice. And what we’re doing is, we’re re-assembling our organization in that area; not just in Manhattan, not just in the New York organization, but in the surrounding area. We are now creating a new kind of understanding of what the United States always was intended to be. And now we’re going to have to make it come to be what it always should have been, advocated by Alexander Hamilton and such people as that.”<sup>28</sup>

The way to place the voice as Lyn proposed is to plant it into the future; that is, in the *future past* where you have never voiced yourself before, but where you wish you had been living there all along. That’s the insight into the future that we must now provide for mankind. We must find the proper location for the placement of each human voice and tune it in proportion with the common aims of mankind, and when you do that, you connect humanity with the universe as a whole.

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<sup>28</sup> Lyndon LaRouche, [LaRouche: To Save Civilization, Place Your Voice!](#) EIR, November 20, 2015, p. 5.

Because, as Lyn said: “The placement of the voice is a particular area of the human mind, and the human mind’s behavior, which responds to the human mind itself.”<sup>29</sup>

FIN

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<sup>29</sup> Ibidem, p. 7.