JOHANNES KEPLER'S JUPITER-SATURN-EARTH GREAT CONJUNCTION AND LYNDON LAROUCHE'S *MOTIVIC THOROUGH-COMPOSITION*

Johannes Kepler's and Lyndon LaRouche's triply-connected skyhook principle which prevents the heavens from falling

By Pierre Beaudry, 12/11/2023

INTRODUCTION

> *"He who cannot accept these ratios as confirmed by nature may by this arrangement refer to music, not in order to reckon the rays according to sounds, but rather to reckon the harmonic ratios, which he can study more in the clear example of music than in the obscure example of the rays. Indeed, although sound shares nothing in common with light, there are as many consonances as there are aspects of the celestial luminaries, and they each share the same geometrical and cosmopoetical origin [Emphasis added]."* Johannes Kepler, *De Stella Nova*.

When you look at the stars at night, do you ever wonder what the ordering principle is which holds them together? What if there were among them an underlying principle which not only holds everything together harmonically, but which is also similar to a classical musical composition?

The purpose of this report is to establish an epistemological connection between the astronomical principle of Johannes Kepler, his discovery of principle of the Great Conjunction among Saturn, Jupiter, and the Earth and the principle of

motivic thorough-composition that Lyndon LaRouche established as the fundamental principle underlying artistic and scientific composition.[1]

My purpose is not only to explain what the Keplerian triply-connected skyhook principle is but, also, to use the same principle for generating a Lydian Pythagorean quadrivium which draws together the four domains of geometry, arithmetic, music and astronomy.

The issue of Kepler's Lydians is a difficult question to tackle because there is no evidence that he understood the full scope of the arithmetic-geometric mean division of the musical octave, or that he knew anything about the voice register shift as an axiomatic change in Bel Canto singing. However, Kepler's musical and astronomical views of the cosmos are the best ways to start investigating this epistemological question of knowledge. But, first, let's investigate an axiomatic pre-condition.

LAROUCHE'S TYPE "A" *PERSONA* AND THE TYPE 'B' HISTORICAL PERSONALITY[2]

"Warning: Artificial Intelligence (AI) is stupid; use it wisely."

Dehors Debonneheure

It is important that we properly understand the distinction that Lyndon LaRouche established between two typical human personalities, types "A" and "B". The difference between the two is like the distinction between Artificial Intelligence (AI) and human intelligence; the difference must be understood intelligently. The essential feature of difference between the two is that "A" is the *persona* which is entirely at the mercy of sense perception, while "B" is the personality who considers sense perception to be merely the useful domain of shadows projected on the dimly lit wall of Plato's Cave. The difference between the two is not a matter of intelligence, but a matter of maturity, which LaRouche identified summarily as follows:

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[1] Lyndon LaRouche, *"That Which Underlies Motivic Thorough-Composition"*
[2] Lyndon LaRouche, *THE SCIENCE OF PHYSICAL ECONOMY*, EIR Volume 36, Number 36, September 18, 2009.

"I had distinguished these two, as of optional personality types "A" and "B," respectively. The essential distinction was, that type "A" was premised on the view of experience from the standpoint of the person's presumptive belief in sense-certainty; whereas, the person who has been matured into the quality of type "B," assumed that the human senses are, essentially, merely akin to "meter readings," or, "instrument readings," shadows cast by developments, rather than being the actuality of the subject which remains to be treated. It is the way we must read such "meters," which determines whether or not our interpretation of sense-experience is efficiently real (type "B"), or, perhaps, a delusion in one sense or the other (type "A.")."[3]

The nature of the type "B" personality also includes the construction of a public figure which has an important social role to play in world affairs and which must never deviate from the "truth" of its character. The type "B" personality, as Lyndon LaRouche identified it, is the emergence of the world historical figure, who is characterized by benevolence as in, for instance, the Peace of Westphalia; that is, as one who both forgives and forgets the sins of the past. As the Treaty states: "That there shall be on one side and the other a perpetual Oblivion, Amnesty, or Pardon of all that has been committed…"[4]

If forgetfulness is not included with forgiveness, mistrust of the other remains and is handed down from one generation to the next. Love of mankind in the Peace of Westphalia is unconditional forgiveness, because that actually changes the future.

However, by itself, type "A" is incapable of recognizing the existence of a type "B," because it doesn't trust itself. If you are a type "A" and you wish to become a public figure of some sort, your first tendency will be to make yourself up to be the *persona* that you wish people will accept, trust, and respect, but you will stay away from any type "B" that comes along. If you do that, then you will be lying to yourself and to the world, because you will not be yourself; you will only

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[3] Lyndon LaRouche, II. Personality 'B' Again (larouchepub.com), p. 25.
[4] Avalon Project - Treaty of Westphalia (yale.edu).

be what you wish others think you want to be. You will be wearing a mask of the image of yourself which you will have created for yourself and thus, you will fit in perfectly within the present American type of society.

Type "A" personalities have to figure out how the lie works for their own benefit, because for them, this is the only way to be accepted and to go along to get along, as long as everything is in their favor. Type "B," on the other hand, has to figure out how the truth works for *the benefit of the other*; that is, figuring out how he must accept to lose in order for the other to win. And, this can only be done by giving and not hoping for gaining anything in return.

This distinction should be considered as a warning that the type of society we live in is entirely built on the illusion of such a fabricated relationship between truth and fakery and that, at a certain point, the form of society which is built on such a type "A" is bound to collapse under the weight of its own stupidity; it is only a matter of time.

However, people don't have to live in a society which lies all of the time and which will survive only as long as the majority of its people believe in its lying outlook. It seems to work because the great majority of the American population is oblivious to the fallacy of its own masquerade and are convinced they are being themselves.

Changes in the world are underway and this majority of type "A" personalities will be forced to transform themselves and mature into type "B" personalities. How will this take place?[5] That is the task that **The LaRouche Organization** has historically taken on.

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[5] James K. Galbraith wrote an insightful article on this matter in which he stated: "For the United States, at the moment, reality may be breaking through on four fronts. There is disillusion with claims that the economy is in fine shape. There is the realization that China is now the world's leading industrial and economic power, having overtaken the United States within the past twenty years. There is a dawning realization that Russia is once again a superpower, not to be defeated militarily or by sanctions. And there is the horror of crimes against humanity in the Gaza strip. If these factors and their consequences cannot produce a revolt against elites for whom Big Lies, over 60 years, have become a way of life and a method of government, it's hard to imagine that anything could." **On the consequences of the Kennedy coverup | By James K. Galbraith | Defend Democracy Press**, 23/11/23.

I recently published a report on Aeschylus's *Eumenides*,[6] in which Aeschylus raised the issue of justice based on changing the Furies from revenge to compassion. The fact that justice throughout history has almost always been based on revenge is a good example of a form of retributive justice which is entirely determined by sense perception evidence of the type "A" *persona*. "Yes, I saw him stab his mother, I saw him with my own two eyes," said the Fury, "therefore, Orestes must be executed."

Figure 1. The Remorse of Orestes by William-Adolph Bouguereau, 1862.

How can you know that what you see with your own two eyes is the actual truth of reality, and not a deception? This is the difficult question that Aeschylus raised in the *Eumenides*; that is, on the subject of the crucial difference between revenge and compassion as a means of rendering justice and of solving the problem of interminable wars. There is obviously no easy way to resolve this matter, but when the *persona* of the type "A" is stripped of its mask and brought into the domain of reason, the shadows projected onto the "mirror darkly" begin to dissipate and truth has a chance to come shining through. But, what happens when the perpetrator of the crime commits that crime against his own people and blames someone else for it?[7]

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[6] See my report: *WORLD PEACE REQUIRES THE TRANSFORMATION OF THE FURIES INTO EUMENIDES*

[7] The genocide in Gaza poses that question not only for Israeli President Netanyahu and for American President Biden today, but also to every human being in the world. How else can one

THE INNER WORKINGS OF THE JUPITER-SATURN-EARTH CONJUNCTION: THE PRINCIPLE OF KEPLER'S SECRET OF THE UNIVERSE

> *"You will find the old ones, very little disturbed, though so secured by the insertion between them of rectilinear bodies, however absurdly, that you will have an answer for the peasant who asks what hooks the sky is hung on to prevent it from falling."* J. Kepler, *Mysterium Cosmographicum.*

Figure 2. Jupiter and Saturn

With his observation of only six visible planets, Kepler managed to deal with the whole Solar system in a most extraordinary way by applying to his mind an appropriate form of type "B" epistemology which permitted him to maintain a complete overview of the whole. To my knowledge, the closest that Kepler came to understanding the ordering principle of the Solar System, can be found in the Original Preface to his *Mysterium Cosmographicum (Secret of the Universe)*, where he designed the following pattern for the great conjunction of Saturn, Jupiter, and the Earth. (See Figure 3.)

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explain the lavish support and constant funding of Hamas by the Israeli government of Prime Minister Netanyahu during the last few decades?

Figure 3. Kepler's geometrical construction for the great conjunction among Saturn, Jupiter, and the Earth (1583).

A complete view of the Solar System requires the consideration of eight planets, which are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Such a view should also include the study of 5 dwarf planets, about 290 moons, more than 1.3 million asteroids, and approximately 3,900 comets; however, all or any of this will not make any sense unless one understands the underlying principle of its composition as a self-developing system.

The underlying triply-connected conception behind the geometrical construction of Figure 3 should suffice to make you discover its principle of development because it involves only three planets, Saturn, Jupiter, and Earth, whose conjunctions are expressed by the Poloidal/Toroidal ratio of 13/40, or as a humble mathematician can discover simply with 13 modulus 40.

Why is this sufficient? Because the figure describes the motion of three 13 wave cycles of 20 years, each of which represents one side of a rotating quasi-equilateral triangle (trigon) (See Figure 5.) forming the string of three 20 year arc-spans 260 years by going around the torus 40 times and generating a Toroidal cycle of 780 years.

The fact that Saturn appears to be orbiting around the Earth during a time period of about 30 years, while Jupiter appears to be orbiting it every 12 years causes an image in the mind of the observer such that, as Jupiter is moving faster than Saturn, it catches up with it, every 20 years.

That delightful triple catching-up moment is what astronomers have called a great conjunction, which was last observed looking southwest at the horizon in the early evening hours of December 21, 2020 (about 7 p.m.) from the Northern East Coast of the United States, when Jupiter and Saturn appeared to be almost a single dot of light in the sky. The two planets were almost in a perfect alignment with the Earth; the closest since the year 1623.

This triple connection is also coherent with Gauss's concept of congruence whereby 3 numbers can become congruent with one another by eliminating the differences between each other as does the Holy Trinity. Similarly, Cardinal Mazarin recommended to the Netherland's ambassador that the way to achieve the Peace of Westphalia was for him to eliminate the differences between France and Spain.
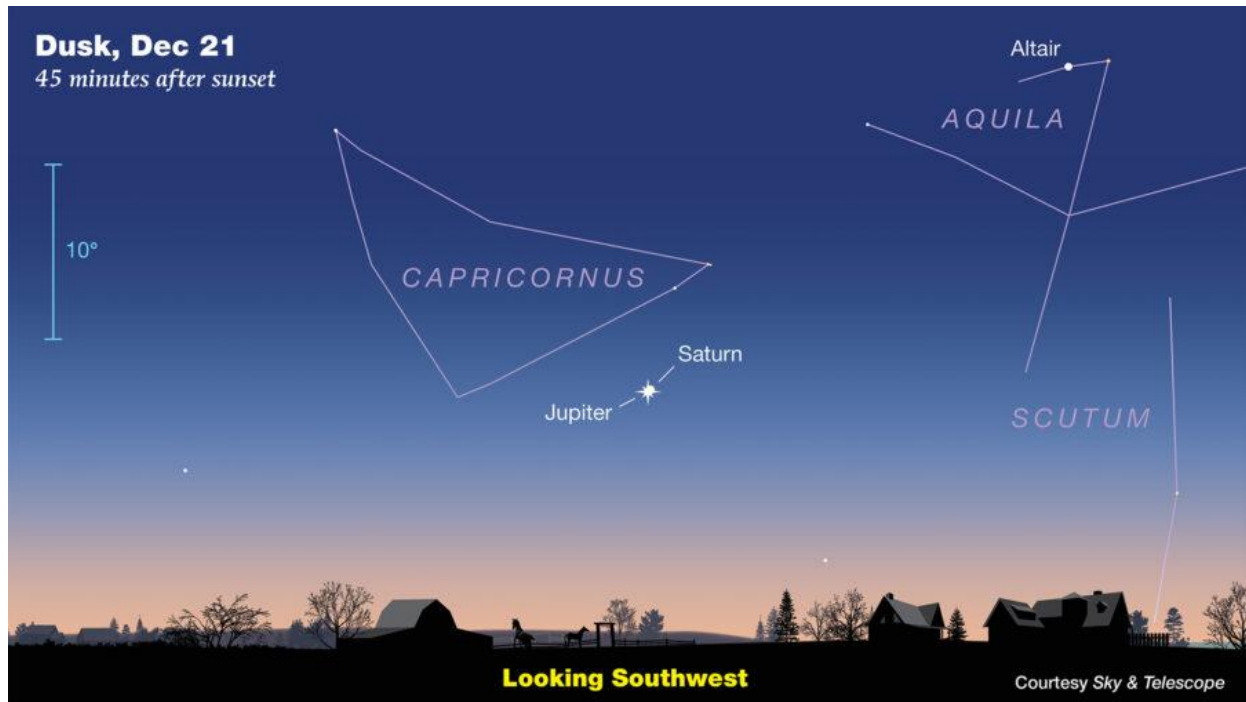
Figure 4. American East Coast Southwest projection of the Saturn-Jupiter-Earth conjunction at dusk on December 21st 2020.

Sky & Telescope. **The 400-Year Rhythm of Great Conjunctions - Sky & Telescope - Sky & Telescope (skyandtelescope.org)**

Figure 4 illustrates how an invisible congruence can be imagined uniting the three planets Saturn-Jupiter-Earth as a reflection of the Holy Trinity holding the heavens together as if "in a mirror darkly."

Furthermore, within the full cycle of Figure 3, since the division of 40 cycles does not divide evenly by 3, the congruence of 13 mod 40, which Kepler was not able to calculate, also generates four bi-quadratic residues, which are **[9, 37, 1,** and **13]**. The intervals between the four residues are 4, 8, and 24, thus reflecting bi-quadratic intervals like Lydian intervals do inside of the musical well-tempered system.

Had Kepler known modular functions about the congruence of numbers, he would have calculated these four residue numbers in the following manner: $[13^2 = 169 – 160 = \mathbf{9}]$ $[13^3 = 2197 – 2160 = \mathbf{37}]$ $[13^4 = 28561 – 28560 = \mathbf{1}]$ $[13^5 = 371293 – 371280 = \mathbf{13}]$, etc. Although everything is not visible throughout this process, the

quadratic cycle of **[13, 9, 37, 1]** repeats itself indefinitely by reflecting the congruence of a series of residues, as I have often demonstrated, with the geometry of numbers applied to the torus.[8]

In his preface to *Mysterium Cosmographicum*, Kepler hypothesized that God's creation of the universe was a geometrical construction made in His own Image. Thus, it is not by accident that Kepler included his graphic construction of the Great Conjecture of Jupiter, Saturn, and the Earth (Figure 3) as the emblematic illustration of the triply folded image of the Holy Trinity for his model of a rotating sphere that integrated the Five Platonic Solids:

"*To those (five solids) ... the number of the heavens, their proportions, and the law of their motion, etc.*] Although all things are consistent with all things, yet the number of the six primary spheres has properly been taken from the five solids alone, their proportion principally from the five geometrical solids; *but it had conceded very small amounts all around to the motions, as it was the final cause which was accepted for the idea of the operation right from the start. And this is to be understood of the motion of each planet, its lowest on the one hand and its fastest on the other, that is of the motion considered as the cause of its particular properties.* [Emphasis added] Indeed the periodic motions, that is to say, the number of days assigned to the revolutions of each individual planet, have both on account of the proportion of the orbits and on account of the eccentricities (which have been established from the harmonies) regressed further from the five solids."[9]

The account of the proportions of the orbits of Jupiter and Saturn with respect to Earth was a considerable revelation for Kepler. The triplicity of such a proportionality is the critical point to be remembered for establishing an underlying principle of the triply-connected ordering motion of the whole Solar System in the image of God; that is to say, that motion, number, and proportion represent the actual causal principle behind gravitation in the cosmos as a whole, as well as for

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[8] See my report: *AGAPE_THE_GEOMETRICAL_PRE-ESTABLISHED_PRINCIPLE_UNDERLYING_CREATIVITY.pdf (amatterofmind.us)*

[9] Johannes Kepler, *Mysterium Cosmographicum*, p. 71.

the planets taken individually, as opposed to the simple distances between hard balls as Newton's failed idea of gravitation was built on.

Furthermore, Kepler found that it was this integral triply-connected relationship of the Solar System, which caused the geometrical harmony of the cosmos to be unified, in the same way that the triply-connected harmony of the Lydian arrangement of the well-tempered musical system is an integral dynamics of the creative process that J. S. Bach applied to his first Prelude in C Major.

Here is the "Fiery Trigon" metaphor that Kepler used for his **_De Stella Nova_**. (See Figure 5.)
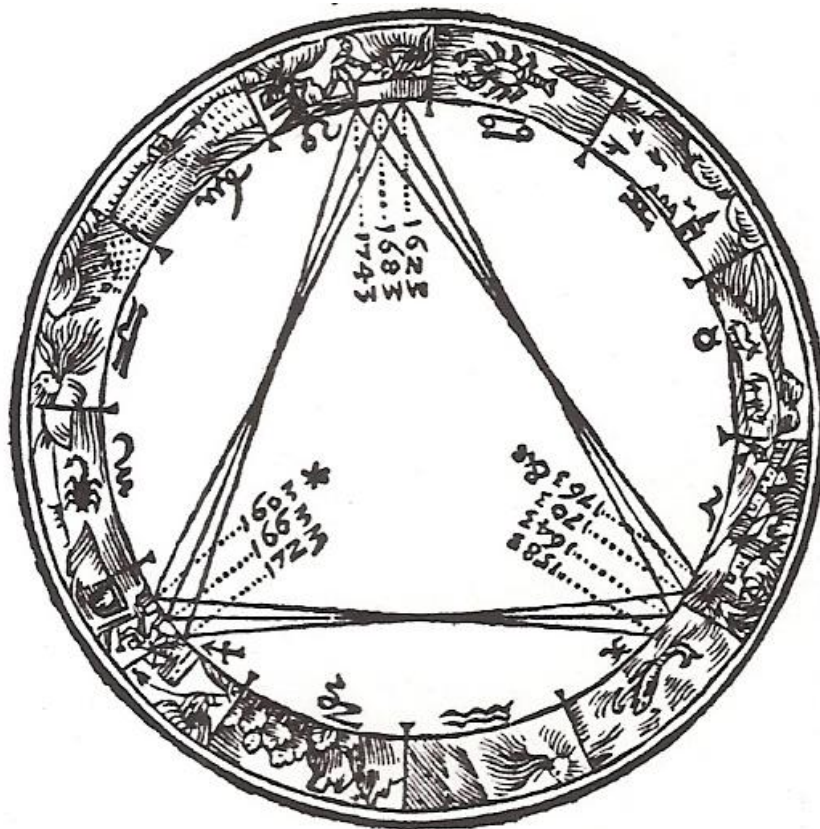
Figure 5. Kepler's *De Stella Nova* (1606).[10] **Microsoft Word - 21 Boner Kepler Chapters 7, 8, 9 Template.doc (cultureandcosmos.org)**

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[10] Kepler's **_De Stella Nova in pede Serpentarii, (Prague, Paulus Sessius, 1606,_** is a polemical paper that Kepler wrote in opposition to Pico della Mirandola who thought there was not much to say about the conjunctions of planets.

What is remarkable about this triply-connected process is the fact that the entire twelve signs of the astronomical zodiac are divided into three parts of 120 degrees each, which resonate like the three quadratic Lydian divisions of the musical octave in Bach's well-tempered musical system, which are **[C, Eb, F#, A, C] + [G, Bb, C#, E, G] + [F, Ab, B, D, F].** Thus, a self-generating cyclical process in the Image of God is being discovered. The first double Lydian division generates the second, the second generates the third, and the third generates the first. When I play Bach's Prelude, I like to introduce it by inversing his ending with the three double Lydians generating the three functions of the scale degrees: Tonic, Subdominant, and Dominant:

> **A, Eb, C, F# – [G, B, D, C]** Dominant
> **G, C#, Bb, E – [F, A, C, F]** Subdominant
> **F, B, Ab, D – [C, E, G, C, E, …]** Tonic.
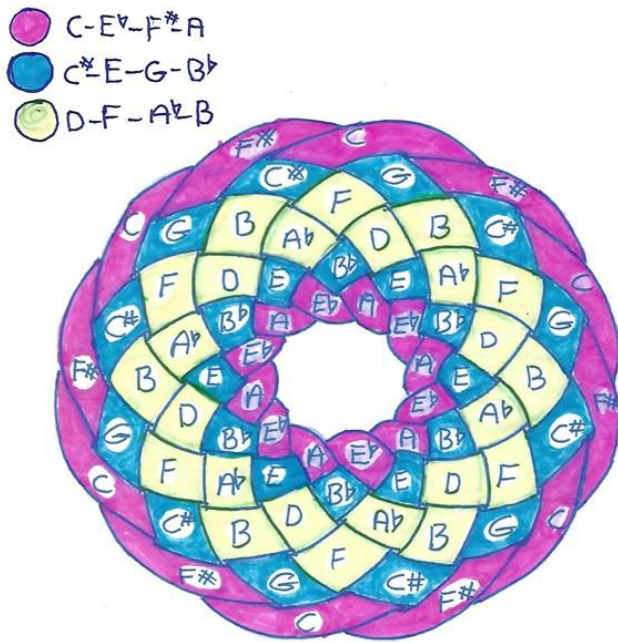
The irony, therefore, is that the only significant ordering process which can be obtained from such a division of the well tempered musical system into three equal parts has to be the 3 double Lydian spirals acting as the generating principle of each other and of the functions of the Tonic, Subdominant, and Dominant. This is the only division of the whole musical system into three parts which makes sense for most musical compositions. This is the reason why the true musical significance of the singular Lydian axiomatic change cannot become clear unless it is expressed as a double Lydian.

Figure 6. The triply-connected double Lydian spirals **[C, Eb, F#, A, C] + [G, Bb, C#, E, G] + [F, Ab, B, D, F]** in their order of mutual generations: the red generates the green, the green generates the yellow, and the yellow generates the red. This is the principle holding together the unity of the Tonic, Dominant and Subdominant.

Regarding Kepler's view of astronomy and music in his ***De Stella Nova*** paper, I would add that he did not consider comparing the zodiac with the musical system because what he was looking for was the harmony of what he considered to be the "geometrical and cosmopoetical origin" of the universe. Kepler wrote:

"Thus far, we have identified the Fiery Trigon according to the astrological notion, namely that there are three twelfth-parts of the zodiac distributed in the form of a triangle and designated by fire. However, since I attributed to sheer convention the division of the zodiac into twelve parts and the designation of those parts according to gender, animals and the elements while detaching it from the nature of things, you may well further ask whether there is any sufficient natural reason whereby three signs should join together in the form of a triangle.

[…]

"How it may come about that the conjunctions of the superior planets occur only in the signs of a single triplicity, however, can be shown as follows. Saturn traverses the zodiac in 30 years, Jupiter in 12. Thus, the annual path of Saturn is 1 /30 of the total journey, that of Jupiter 1 /12. Subtract 1 /30 from 1 /12 and 1 /20 remains. Thus, Jupiter outruns Saturn every year by 1 /20 of the total journey, and so overtakes Saturn once every 20 years. Jupiter traverses a single sign every year, which amounts to 1 /12 of the zodiac; as a result, in 20 years it travels over 20 signs, that is, an entire circle and 8 additional signs. Let the conjunction of Saturn and Jupiter be in Sagittarius in the year 1603. In exactly 12 years, Jupiter returns to Sagittarius while Saturn now stands in Taurus. After 8 years, Saturn has moved forward from Taurus to Leo and Jupiter from Sagittarius likewise to Leo, where it overtakes Saturn. After another 20 years, the same thing occurs in Aries. Here, you see how a triangle forms between Sagittarius, Leo and Aries."

[…]

"He who cannot accept these ratios as confirmed by nature may by this arrangement refer to music, not in order to reckon the rays according to sounds, but rather to reckon the harmonic ratios, which he can study more in the clear example of music than in the obscure example of the rays. Indeed, although sound shares nothing in common with light, there are as many consonances as there are aspects of the celestial luminaries, and they each share the same geometrical and cosmopoetical origin [Emphasis added]." [11]

THE PLANETARY ORBITS AND THE EQUAL-TEMPERED MUSICAL SYSTEM
by WILLIAM BOHDAN

PLANETS	ASTRO. UNITS	Log. 10X	ADDED CONSTANT	MULTIPLE CONSTANT	CYCLE EQUIVALENT	MUSICAL CYCLES	PLANETS
MERCURY	(P) 0.310	0.5086	+2.496	x 128.8	255.97	C = 256	MERCURY
MERCURY	(A) 0.470	0.3279	" "	" "	279.25	C#=271.22	MERCURY
VENUS	(P) 0.715	0.1457	" "	" "	302.72	D = 287.35	VENUS
VENUS	(A) 0.725	0.1397	" "	" "	303.49	Eb =304.44	VENUS
EARTH	(P) 0.983	0.0074	" "	" "	320.52		EARTH
EARTH	(A) 1.017	0.0073	" "	" "	322.42	E = 322.54	EARTH
MARS	(P) 1.379	0.1396	" "	" "	339.46	F = 341.72	MARS
MARS	(A) 1.661	0.2204	" "	" "	349.86		MARS
ASTEROIDS	(P) 2.2	0.3424	" "	" "	363.32	F#=362.04	ASTEROIDS
ASTEROIDS	(A)3.6	0.5563	" "	" "	393.13	G = 383.57	ASTEROIDS
JUPITER	(P) 4.95	0.6946	" "	" "	410.95	Ab=406.37	JUPITER
JUPITER	(A) 5.45	0.7364	" "	" "	416.33		JUPITER
SATURN	(P) 9.006	0.9545	" "	" "	444.43	A = 430.54	SATURN
SATURN	(A)10.074	1.0032	" "	" "	450.69	Bb=456.14	SATURN
URANUS	(P) 18.288	1.2622	" "	" "	484.05	B = 483.26	URANUS
URANUS	(A) 20.092	1.3030	" "	" "	489.31		URANUS
NEPTUNE	(P) 29.799	1.4742	" "	" "	511.36		NEPTUNE
NEPTUNE	(A)30.341	1.4820	" "	" "	512.37	C = 512	NEPTUNE

Figure 7. The Eight Planetary orbits and the equal-tempered musical system ordered in accordance with the double Lydians **[C, Eb, F#, A, C]**.

I always use this chart, made by a LaRouche supporter many years ago, as a pedagogical tool for the cyclical correspondence between planetary orbits and the equal-tempered musical system. (Figure 7.) Is it simply a coincidence that the

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[11] Johannes Kepler, *De Stella Nova*, Chapter Seven: "What Natural Cause Joins Together Signs of the Zodiac Separated by Third Parts of the Circle into a Single Triplicity?" Kepler adds in chapter four of the same book that "the zodiac is divided as closely as possible into twelve equal parts by twelve conjunctions of the Moon with the Sun."

Jupiter, Saturn, and Earth conjuncture reflect a similar triply-connected division as do the double Lydian spirals in music? Could there be any other reason?
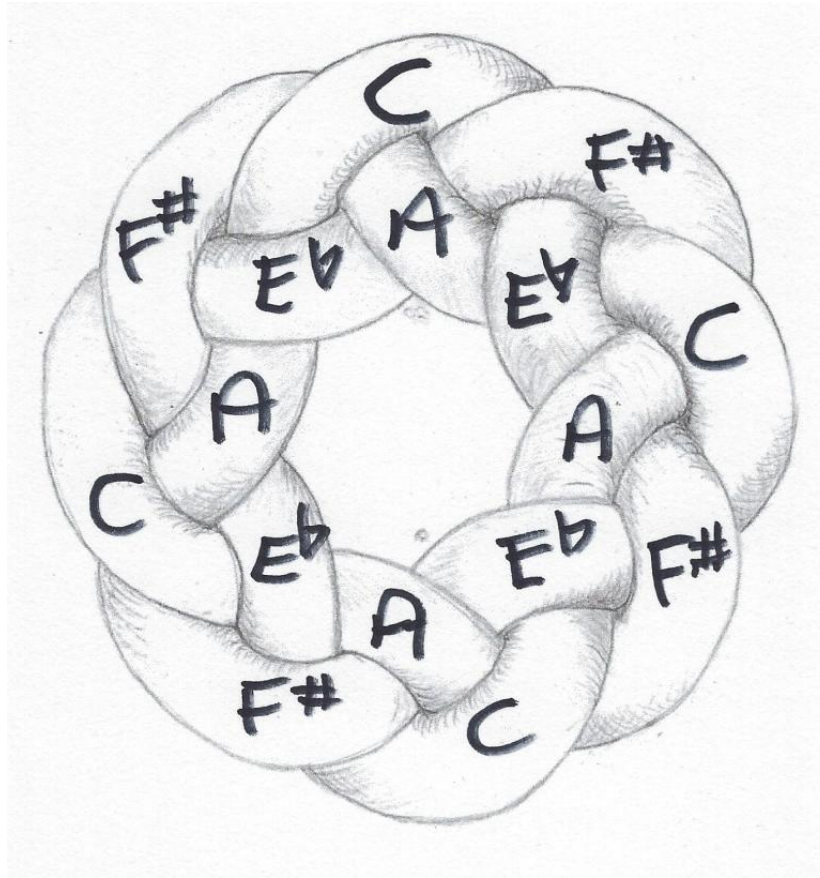

Figure 8. A Double Lydian Spiral Torus: **[C, Eb, F#, A, C]**

In concluding his short report on the Great Conjunction, scientist Graham Jones stated that "At some point, there will inevitably be 'perfect' conjunctions of Jupiter and Saturn. These events are called *transits* when Jupiter partially obscures Saturn, or *occultations* when Jupiter completely covers Saturn. These events are few and far between. The next one is in 7541, 5,500-some years from now: A transit in February will be followed by an occultation in June, part of a triple conjunction. After that, there will be a transit in 8674, and occultations in 13340 and 13738."[12]

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[12] **The 400-Year Rhythm of Great Conjunctions - Sky & Telescope - Sky & Telescope (skyandtelescope.org)**

Finally, what is comparable between the harmony of the cosmos and the harmony of music is the common geometrical arrangement of how music influences human emotions. The point that Kepler makes is that the Creator arranged the proportions of the universe in such a harmonic manner that the music of the sphere and the human creative application of musical *motivic thorough-composition* are echoes of each other and have the power to produce similar emotions throughout the universe. This is what the double Lydian spirals have with the cosmos and musical composition.
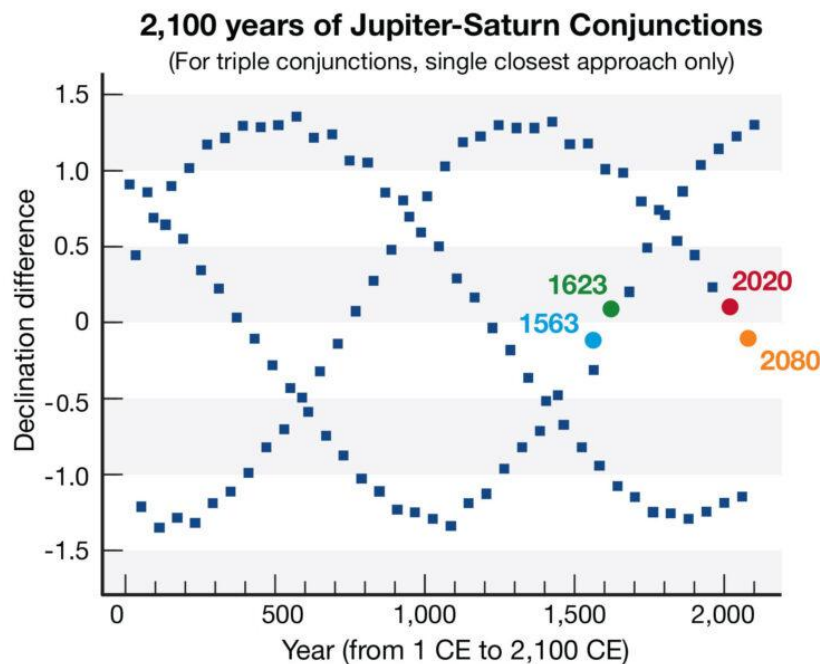
Figure 9. "Jupiter and Saturn are always less than 1.5° apart at conjunction — but some conjunctions are closer than others. In this chart, each small square represents a Great Conjunction. The squares form three overlapping sine waves, with neighboring squares in each wave being separated by about 60 years." […] "The Great Conjunction of 2020 (which has a declination difference: +0.10°) is highlighted in red. The next close conjunction, highlighted in yellow, is in 2080 (declination difference: -0.10°)." *Steffen Thorsen & Graham Jones.*

KEPLER COMPARING ASTRONOMY TO MUSIC

"**[GW 1, p. 193]** Nevertheless, it does not follow that [the essences] adore every figure that forms a body indiscriminately. Rather, they make

among them the following choice, namely the lesser number subtracted from the greater and from their difference, or the difference continually subtracted from the lesser number, all [of the numbers] up to the unity may be notes of the figures forming bodies. For example, the ratio of 5 to 8 is harmonic, since the result of 5 removed from 8 is 3, which when removed from 5 is 2, which when removed from 3 is 1. And the numbers 1, 2, 3, 5 and 8 are all denominations of suitable figures, or notes geometrically designated by a rational part of the circle. For 1 signifies a whole circle, 2 a half-circle. From this circumscription, there arise 8 ratios among which no ratio is either absent or able to be added, [and] anyone of which, when introduced into a circle, prescribes the form of the rays of a single aspect. *He who cannot accept these ratios as confirmed by nature may by this arrangement refer to music, not in order to reckon the rays according to sounds, but rather to reckon the harmonic ratios, which he can study more in the clear example of music than in the obscure example of the rays. Indeed, although sound shares nothing in common with light, there are as many consonances as there are aspects of the celestial luminaries, and they each share the same geometrical and cosmopoetical origin* [Emphasis added].

"One will find in music, however, precisely the same proportions of chords so long as the notes are in tune with one another. But one may not then enumerate for me the notes of an octave according to the signs of the zodiac, for what difference does it make whether one counts seven or ten intervals in a single diapason system? He should rather do the following, namely divide the segment of string over which a chord extends by signs in the same way that the zodiac is divided into seven aspects and extended in length, without deviating from this geometrical section by a hair. He may then apply a saddle or bridge to the individual notes of the divisions, first striking the full string and then both parts of the string that stretches across the bridge above that note of division. It will then be clear that as many couples or thirds of consonant notes are formed as my definition displays harmonic ratios, matching the number of celestial aspects if we include conjunction. Thus, if we begin with this keynote [corresponding to

conjunction, 1 /1], seven further pairs form a harmony, (2) the minor third [5 /6] with the fifth above the double octave [1 /6], (3) the major third [4 /5] with the major third above the double octave [1 /5], (4) the fourth [3 /4] with the double octave [1 /4], (5) the fifth [2 /3] with the fifth above the octave [1 /3], (6) the minor sixth [5 /8] with the fourth above the octave [3 /8], (7) the major sixth [3 /5] with the major third above the octave [2 /5], and (8) the octave [1 /2] with the other octave [1 /2]. Since the last one divides the chord in two, the same consonances will be found in reverse order in the remaining half of the string, just as the same aspects are found in the second half of the zodiac. No further thirds of notes can be found, judging from the sound of a string. But why so many words about a foreign subject? For now, I ask that it be allowed that I shall prove elsewhere in a suitable book, God willing, that this comparison of the notes and aspects, **[GW 1, p. 194]** as you may read among the ancients of quintile, biquintile and sesquiquadrate, enjoys absolute mathematical agreement, without anything amiss and anything that can be objected against it."

"Yet if the human ear, that is, the sense of hearing, instructed by common sense, affirms in sounds what geometry confirms in quantities, and if there is nothing beyond geometry that can be conceived as the cause of the consonances and satisfy all of the specific considerations, what then, I ask, will Pico say in response [to this]? *For a harmony of sounds does not per se produce an influence on man other than a sensory perception, nor can it create a cheerful humour on its own. There is, however, a sensitive soul also operating in man, which makes use of the sensory organs and even accepts sounds internally. It assesses proportion, in fact, and when it judges [the proportion] good and geometrical [,it] livens up and moves its body accordingly* [Emphasis added]." [13]

LYNDON LAROUCHE'S PRINCIPLE OF MOTIVIC THOROUGH-COMPOSITION

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[13] Johannes Kepler, Kepler's *De Stella Nova in pede Serpentarii, (Prague, Paulus Sessius, 1606.*

Lyndon LaRouche used the German term *Motivführung*[14] to identify the principle of *motivic thorough-composition* to honor the discovery of principle of his good friend, Norbert Brainin, the first violinist of the Amadeus Quartet. But, in LaRouche's mind, the term *Motivführung* meant something more; it also meant the creative process itself as made in the Image of God. Although this pattern has no sense perception form, what characterizes it fundamentally is the power of triply-connected circular action which causes artistic and scientific compositions to increase the power of energy flux-density of your mind.

Geometrically speaking, this discovery of principle functions like a doubly-connected manifold, that is, a type "B" manifold which reflects the mnemonic condition of its own action of development at the same time that it is being constructed self-reflectively as a One of the Many in a triply-connected manner. By comparison, the type "A" manifold is the manifold of sense perception in which the lying deception is what your eyes tell you what reality appears to be, in front of you, and without any historical connection. Take for example, the observation of the Saturn-Jupiter-Earth conjunction around 7 p.m. in the evening of December 21, 2020, when the three planets were considered to be the closest to be aligned together since 1623. (Remember Figure 2.) What does that double dot on the horizon have to do with human memory? What are the mental functions that memory must perform from what you recall from such a great concert as the Great Conjunction?

If you are a type "A" observer of the great conjunction, all you see is two planets, Jupiter and Saturn, coming closer together and sometimes overlapping each other, one on top of the other. But, if you are a type "B" observer, you are considering the relationship among three planets, Saturn, Jupiter, and Earth within the context of history, which forms what Kepler called a "triplicity" at a unique moment when the dynamic complex of the triply-connected interaction resembles the Trinitarian Image of God. Kepler expressed this triplicity as follows:

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[14] See, Lyndon LaRouche, **Lyn on motivic thorough composition (2).pdf - Google Drive**, **Lyn on motivic thorough composition (2) - Google Docs**, and **Norbert Brainin On 'Motivführung' (schillerinstitute.com)**. Helga Zepp-LaRouche, **Schiller Institute--Helga Zepp LaRouche on Schiller's Poetry).**

"There were three things in particular about which I persistently sought the reasons why they were such and not otherwise: the number, the size, and the motion of the circles. That I dared so much was due to the splendid harmony of those things which are at rest, the Sun, the fixed stars and the intermediate space, with God the Father, and the Son, and the Holy Spirit. [Footnote: *Nor should it be taken as a meaningless resemblance, but it should be reckoned as one of the causes, as a form and archetype of the universe.*] This resemblance I shall pursue at greater length in my *Cosmographia*. Accordingly, since this was the case with those things which are at rest, I had no doubt that for things that move, similar resemblances would reveal themselves."[15]

LaRouche had a similar triply-connected mnemonic moment of discovery of principle when he developed his idea of the process of *motivic thorough-composition*.[16] His experiment had the following triply-connected memory function. First, there is the unity of the indivisible composition which moves by an inversion from time reversal; second, there are the transitions of unit intervals of change progressing forward, in succession, from past to future and from beginning to end; and third, there is the development of intervals of change from parts to the whole moving back and forth, forward and backward, toward unity throughout the composition. It is that triply-connected relationship among those three memory functions of change and of no change which must be remembered, established, and pursued throughout the composition as a triply-connected characteristic of the Holy Trinity.

But, how does memory work throughout such a process of composition? First of all, look at the composition of the words you are using and ask yourself: what does memory mean and what does memory do when you utter words? What does the composition of the word do when you say "re-member"? You are reordering the members, reorganizing them differently. This underlying process of unraveling the composition works both ways: from the past to the future and from

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[15] Johannes Kepler, **Mysterium Cosmographicum**, p. 63.
[16] Lyndon LaRouche, *"That Which Underlies Motivic Thorough-Composition"*.

the future to the past, in the simultaneity of temporal eternity. Here is what Lyn wrote about his triply-connected process of memory:

> "Foremost, is the memory of the composition as an indivisible, continuing unit of conception, from the first to the last tone of its performance. To avoid a musical disaster on stage, this idea must remain constant, in the performer's mind, from a point prior to the performance of the first interval, until the perfected silence which follows the proper execution of the concluding tone. Second, there is a series of transitions, which define the evolutionary process of emergence of that indivisible conception, which corresponds to the idea of the composition taken as a whole. Each of those transitions exists as an indivisible unit-idea; in the course of the performance, these intervals parade in their proper succession, as directed to do so by the controlling influence of the unit-idea of the composition as an entirety. Third, there is the idea of the process of development, linking each transition to its predecessor. Each moment of the development between transitions, is governed, two-foldly, by the idea of the transition, and under the governance of the unit-idea. If this rule is violated, musical coherence of the performance will not be achieved."[17]

However, Lyn makes the point that nothing in this process of change and of becoming provides for the idea of causality. How is causality constructed? Where does causality come from, historically? When does causality kick in, historically? When you, as a sovereign individual, start constructing such an idea of "curvature;" that is to say, when scientific rigor begins to take you back into the subjective domain, which so-called scientists have taken out of the scientific process for so many centuries with their "objectivity." Therefore, the answer to that question comes with a required axiomatic change in the very nature of measuring physical space-time with your mind; that is, a change in the very nature of measuring the idea of action and of motion outside of what the Euclideans have falsely identified as the four sense perception directions of up and down, left and right, and forward and backward in empty space, with added directionality of time going from past to future. The idea is to change all of this, historically, with a new

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[17] Lyndon LaRouche, *"That Which Underlies Motivic Thorough-Composition"*, EIR, February 10, 2017, p. 58.

transformative concept of "curvature" as Riemann did with his idea of an n-fold manifold. So, imagine a series of discoveries of principle projected into a bi-quadratic manifold of this new type of "curvature." Take, for instance, Kepler's concept of "measurement of motion", which Lyn describes as follows:

"Thus, each of the validated discoveries of principle which alter the preferred choice of n-fold physical space-time manifold, represents a change of theorem-lattice, a change in the set of interconnected axiomatic assumptions underlying mathematical physics. This change is predominantly a change in the ontological axiomatics, rather than the space-time form as such. The appropriateness of the new mathematics over the old is shown in the domain of measurement of motion, or of analogous action. There will be a change in the characteristic feature of measurement of such motion or other action. To this end, it is desirable, but not imperative that the correct measure be made; it is sufficient, at the outset, that it be shown that a certain quality of change in measurement is required.

"Although the measurement itself lies ostensibly within the domain of what pedants reference as 'scientific objectivity,' the act of discovery which produces the appropriate new mathematics does not. Our attention should then be turned to the fact, that all valid science (and art, too) is the product of a faculty of discovery of this sort. There is an adducible principle presented to us by the evidence of the relatively valid discoveries of principle of all human knowledge to date: the unique faculty, by means of which valid, axiomatic-revolutionary discoveries of principle are made. This faculty we name 'creative reason,' the faculty by which man and woman were known to the Moses of Genesis 1:26-30, to be made in the image of God the Creator.

"This faculty of creative discovery is the sole means by which mankind's power over nature has been increased from the ape-like potentials of several millions living individuals to those potential relative population-densities, and associated improvements in demographic characteristics,

which had become the benchmarks of human progress into the middle 1960s."[18]

What has changed with LaRouche's principle is the "curvature" of physical space-time. The historical, artistic, and scientific nature of the human mind of the type "B", which is no longer required to adapt to the type "A" sense perception scheme of the Aristotelian-Euclidean space time format. Historically speaking, "curvature" must be conceived, from now on in the *simultaneity of temporal eternity*, as a Pythagorean *quadrivium* concept that is required from this moment on to deal with the relevant compositions of any future pattern, number, harmony, and motion within the universe and within all artistic *motivic thorough-composition*.

THE CURVATURE OF THE TRIPLY-CONNECTED CONICAL PROJECTION

How do you know when the dots in the circular plane of the following Figure 10 correspond to the points inscribed in the cone above it through a triply-connected projection? When do you discover the principle of "curvature"?

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[18] Lyndon LaRouche, *"That Which Underlies Motivic Thorough-Composition"*, p. 64
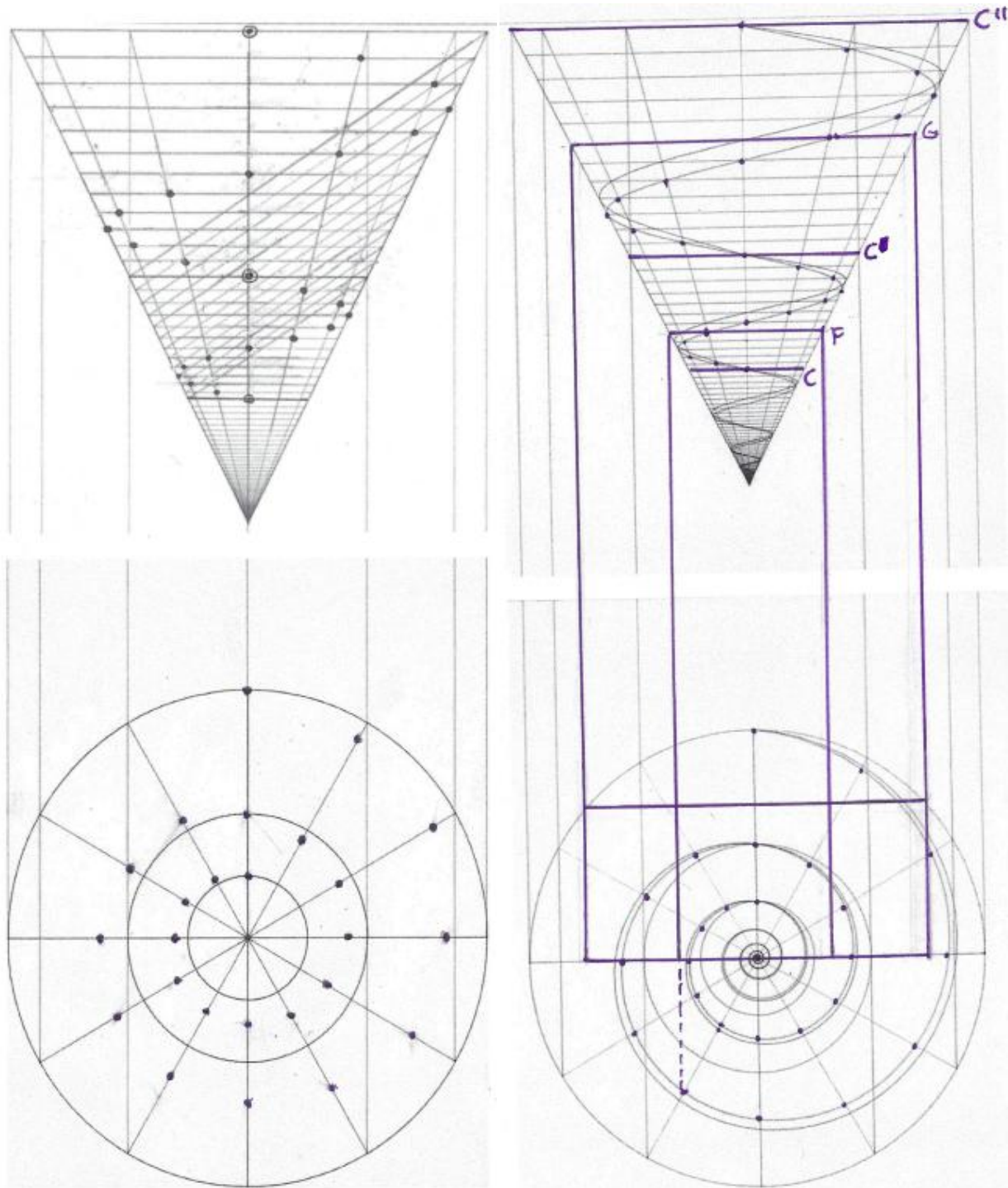
Figure 10. Logarithmic conical spiral of the planetary orbits for the equal-tempered musical system including the golden section projection from the Tonic, Subdominant, and Dominant.
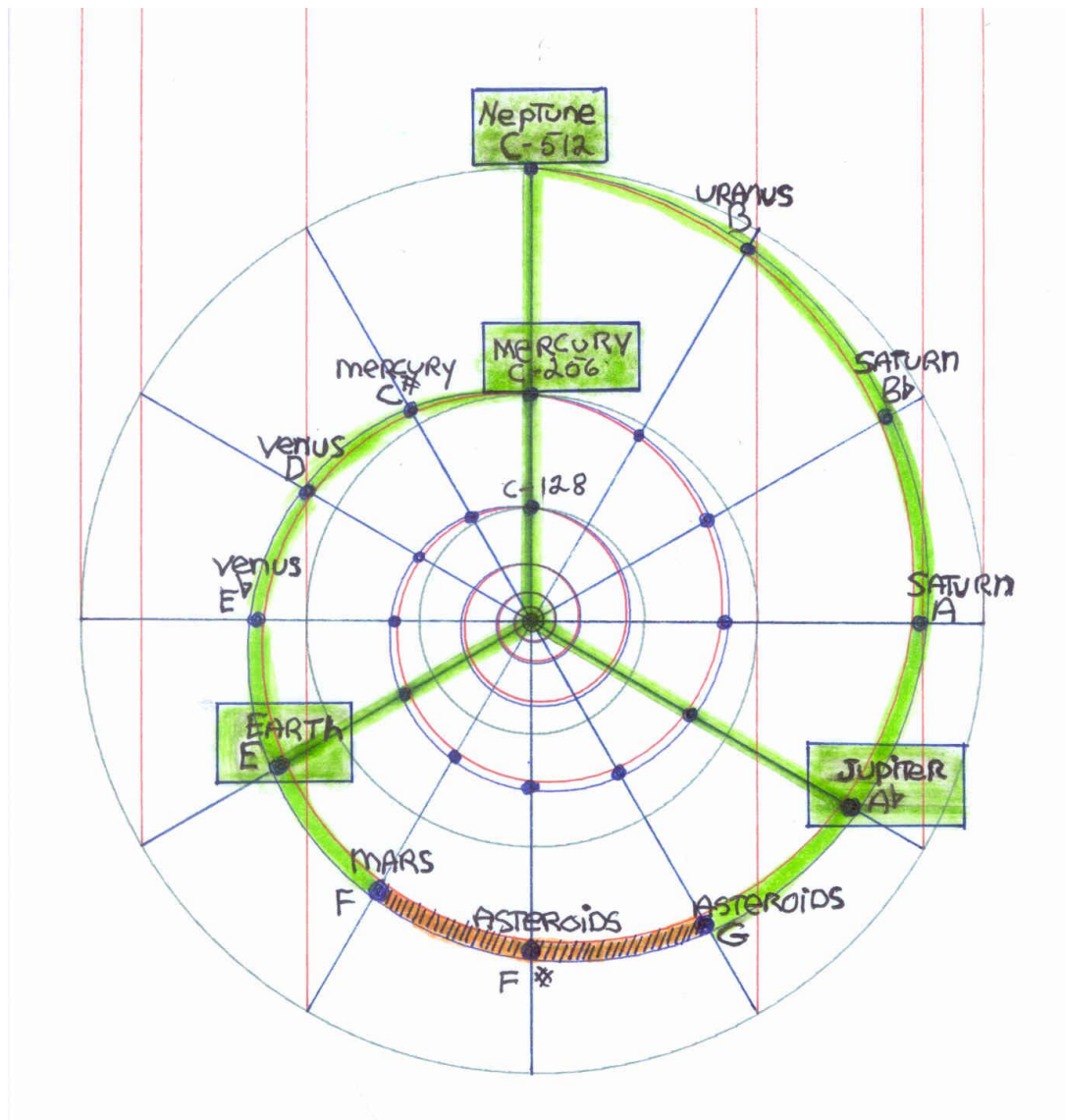
Figure 11. Plane projection of the planets around an arithmetic-geometric spiral of the musical system. The Neptune-Jupiter-Earth conjunction of April 12, 2022.

THE DISCOVERY OF PREESTABLISHED HARMONY: THE HOLY TRINITY IN PRIME NUMBERS

Locate all of the prime numbers into their harmonically preestablished positions by modular wave circular action only and let them do things that you are not accustomed to. All of the prime numbers will be found in six waves, 1, 2, 4, 5, 7, and 8 because the position of each prime number will depend on the sum of its integers. That is a completely new way of looking at the world. However, after you

have entered the first 100 primes, three waves 3, 9 and 6 will be left out without any primes. Why?
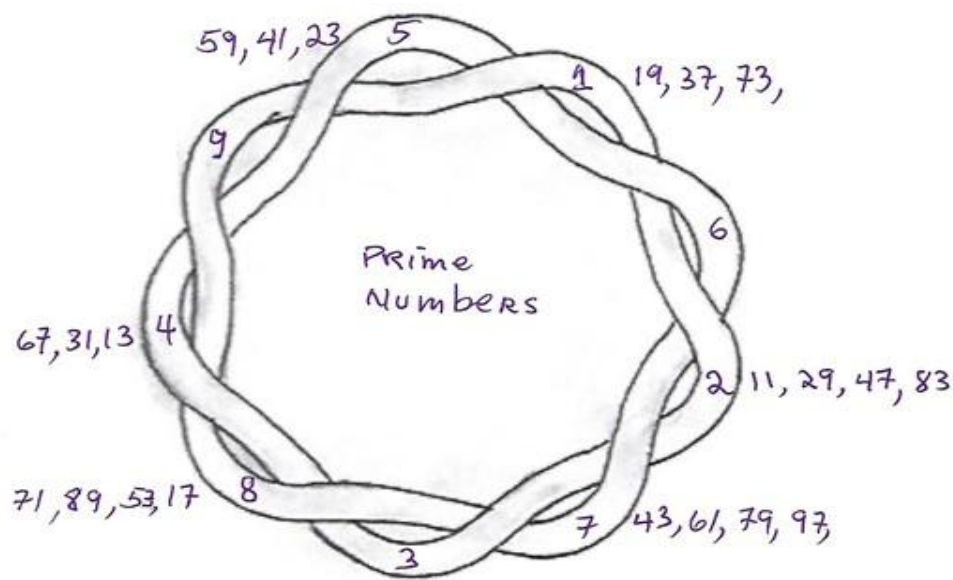

Figure 12. Modular wave of the first 100 prime numbers

When all of the primes are located in a triply-connected fashion in six of the nine waves taken two by two:[1+2] , [4+5], and [7+8], the mystery of their positions vanishes and they become integrated back as if into waves 3, 9, and 6. How can that be?

$$2,3,5,7,11,13,17,19,23,$$
$$29,31,37,41,43,47,53,59,$$
$$61,67,71,73,79,83,89,97$$

Solution to the mystery of the six series taken two by two into waves 3, 9, and 6:

$1 + 2 = 3$	$4 + 5 = 9$	$7 + 8 = 6$
$19 + 11 = 3$	$13 + 23 = 9$	$43 + 17 = 6$
$37 + 29 = 3$	$31 + 41 = 9$	$61 + 53 = 6$
$73 + 47 = 3$	$67 + 59 = 9$	$79 + 89 = 6$
		$97 + 71 = 6$

Once you have discovered that the six series of primes are preordained into those six series, two by two, the singularity of the triply-connectedness of 3, 9, and 6 becomes clear. The discovery implies a transfinite jump between triply-connectedness and the primes, as does a One with respect to the Many. But, why do all of the series of prime integers, taken two by two, add up to 3, 9, and 6?

The only way to understand this jump is to understand the higher integral as a transfinite leap. If you use Lyndon LaRouche's problem-solving method, you will not only be able to increase the energy flux-density of your own mind, but also the transfinite levels of other minds as well. I am not saying that such a solution is easy; I am simply saying that this is the only way that it can be done.

The reason this is a unique transfinite solution to the blind belief of sense perception is because 3, 9, and 6, are a reflection of the Holy Trinity and of its power of triple-connectedness. The question you must continue to ask yourself is why? Why are all of the prime numbers excluded from the waves of 3, 9, and 6, and yet they are all included in them, two by two, from this higher level? How can these three numbers 3, 9, and 6 be exclusive and inclusive at the same time?

The answer is that if you integrate 1, 2, 4, 5, 7, 8, two by two, at a higher level, you will find that everything will turn out to be folded into 9, because $1+2 = 3$; $4 + 5 = 9$, and $7 + 8 = 6$; and therefore, ultimately, $3 + 6 + 9 = 18$, that is $1 + 8 = 9$, which is the One of the Many.

That is the reason why the modular wave I chose to construct this module was 9 to start with. In fact this module of 9 waves does not integrate only prime numbers, but all numbers.[19] (See Figure 13.)

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[19] You see, you have been able to discover even what Tesla was not able to figure out. **https://www.youtube.com/watch?v=6ZrO90AI0c8&t=7s**
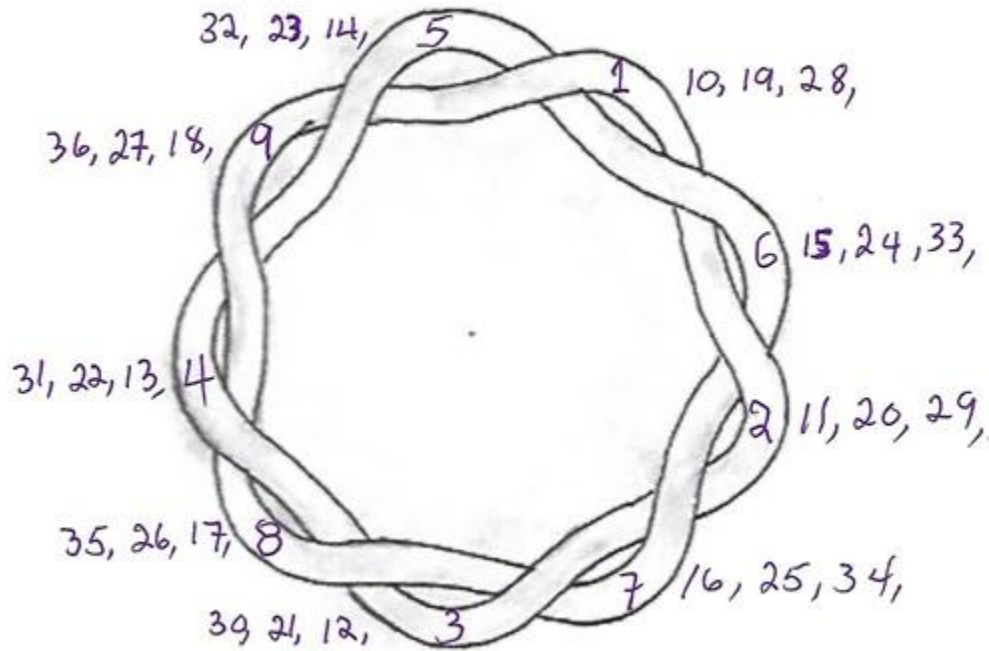
Figure 13. All number modular wave (4 x 9 = 36)

AKOUSMATIKOI WITH *MATHEMATIKOI*: WHY PYTHAGORAS CONSIDERED NUMBER THREE AS DIVINE

It was Pythagoras who first indentified the divinity of Number Three, which he tried to express by using points joined together in order to form different geometrical patterns like the triangle, the square, and the pentagon. There is no mystical or religious orientation behind such a pedagogical construction, only the intention of discovering an ordering principle of the universe to improve mankind.

The most fascinating epistemological aspect of the Pythagorean investigation is the correspondance between numbers and musical harmony. Pythagoras discovered, for instance, that a violin string could be divided in half to reflect two octaves of C, then each octave could be divided again in two thirds to produce a fifth, G, and finally in three-fourths to produce a fourth, or F. It was such partitionings of the string which lead Johannes Kepler to discover the "music of the

spheres" and lead J. S. Bach to discover the three different Lydian spiral actions that unified the whole well-tempered musical system.

The two types of students that Pythagoras identified for his school were the students who listened in silence, **AKOUSMATIKOI,** and the ones who studied science, **MATHEMATIKOI.** This is precisely how the triplicity finds its unity as a divine number.

The triplicity of Kepler and of LaRouche finds its unity in Pythagorean and Platonic love of mankind (*Agape*), not in the domination of mankind by Artificial Intelligence (AI). This is the lesson to be learned during the present world crisis that humanity is confronted with. Here is a little test which might help the reader to do this. Consider the difference between the symbols which are used to illustrate Artificial Intelligence (AI) and locate the one which best expresses the resolution of the Platonic paradox of the One and the Many.

Figure 14. Symbols illustrating Artificial Intelligence (AI)

You are right if you have chosen the last one on the right, which is the Chinese Yin/yang symbol of the coincidence of the opposites. All of the other symbols reflect a mechanical expression which is incapable of expressing the indivibility of the human mind which is evolving by way of the coincidence of opposites and the discovery of the One and the Many. Next, construct the following single nine-twisted-knot and study how all of the whole numbers can be integrated into such a indivisible One of the Many.
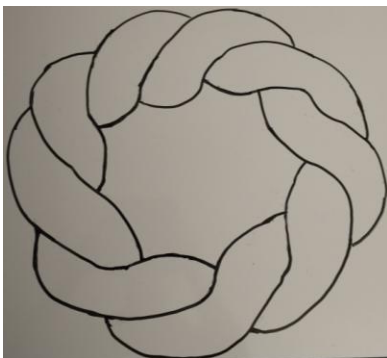

Figure 15. Single indivisible nine-twisted-knot

Lastly, take a long strip of calculating machine tape and generate by a triply-connected-circular-folding-motion alone each and all of the Five Platonic Solids. Thus, you will discoverer, like a child is able to do in a quiet and concentrated way, the One of the Many that God has instituted as a preestablished harmony in the universe as a whole.
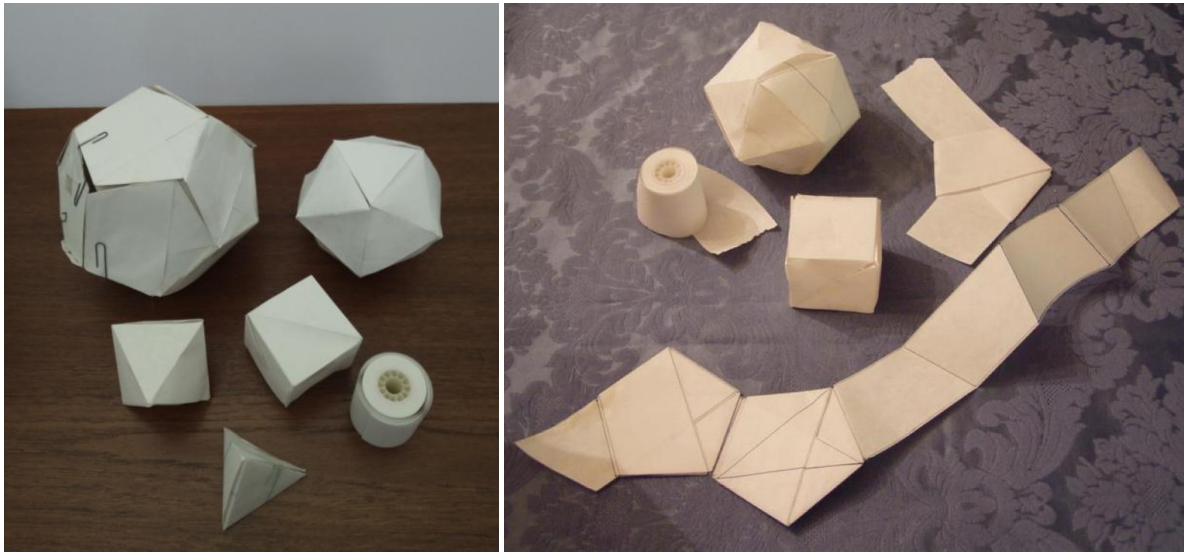

Figure 16. The Five Platonic Solids

CONCLUSION

The war in Southwest Asia can be resolve in a similar way, through a Peace of Westphalia process of indivisibility of mankind. What are you going to do about this tragic world situation? How would you use triplicity to resolve two opposing forces?

Can humanity be introduced from above or from within the conflict of two opposing forces who hate each other to death? From above, yes; from within, no. Also ask the following questions: Is there such a thing as a self-evident truth of sense certainty? Why is it that most people always say that they do not want to get involved, because all they want is to mind their own business? What is it that stops you from doing something to improve mankind and change the world? What are you afraid of?

Then, what happens when, suddenly, something strikes you in the world, such as an axiomatic singularity, which changes dramatically what is going on? What happens if you decide to no longer mind your own business? What happens when you discover that your government has been lying to you and has been igniting depopulation wars around the world? What happens when you discover that all of the major media of information are complicit in this genocide?

What are you going to do about that situation? How are you going to fight back? Do you break down and become a scared bunny that shuts his mouth like most of the Germans and French did during World War II because they wanted to survive? How can you survive under those conditions? The alternative is to join the resistance no matter how hard it is. Why? Because there is only one human race, which must be secured by indivisibility; that is, where one people cannot be made to be secured at the expense of another people.

If you want to win this great battle for mankind, recruit people to join the LaRouche Organization and start thinking like an improved type "B" historical personality, within the Keplerian-LaRouche epistemological domain of double Lydian triplicity. That's the best way to have fun and improve mankind at the same time. And who knows, you might even inspire others as well.

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