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REVIEW ARTICLE

Some ‘‘Valences” of the Riemann Hypothesis Pattern (RHP)

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Abstract

One of the most difficult mathematical problems of the **number theory** refers to the distribution of the **prime numbers**/primes within the **real numbers**/reals, with special reference to the unsolved Riemann Hypothesis, formulated in connection with his Zeta-function in 1859. In my previous short synthesis **Remarks referring to my Poster Presentation at the 6th Edition of the Chemistry Conference Barcelona, Spain 18-20 June 2026, Part 2**, published in Open Access Journal of Chemistry, Volume 8, Issue 2, 2026 – within the Mathematical approach of the Worldall – I sketched a geometrical model for the interpretation possibility of the Riemann Hypothesis and number theoretical connections, called **Riemann Hypothesis Pattern (RHP)**, consisting of the quasispherical polyhedra-series corresponding to the real numbers series, connected through a common edge designated as UNITY, starting with the triangular basic tetrahedron, quadratic basic cube, pentagonal basic dodecahedron, and continuing with the hexagonal-heptagonal-octagonal-enagonal-decagonal-a.s.o.-basic quasispherical polyhedra. Searching this polyhedra-series, resulted a series of other surprising connections from different domains, like Crystallography, Loop Quantum Gravity, Supramolecular Symmetry, Fractal Topology, Metamaterials, Quantum Physics, String and Superstring Theory, and others, in spite of the about 5,000 explanation trials of the Riemann Hypothesis. Searching the „**Valences**” of the previous presented **Riemann Hypothesis Pattern (RHP)**, resulted between others the possibility to extend the notion of COMPLEX itself in context of the NUMBER THEORY to the SUPRA-COMPLEX, from the **planar** to the **spatial** interpretation, consisting by SUPRA-REAL and SUPRA-IMAGINARY components, extending in this way the classical COMPLEX NUMBER structure composed by REAL and IMAGINARY parts, initiated by C. Wessel (1797) and C. Gauss (1799), and extended later in the direction of HYPERCOMPLEX NUMBERS by Hamilton (Quaternions), Cayley (Octonions), Mironovs (Sedenions), and others, till the 32nions and 64nions. In this new – **spatial numerical interpretational** – context is possible a more correct approach of the so mysterious question of the PRIME NUMBERS.

Keywords: Complex, Real, Imaginary, Supra-Complex, Supra-Real, Supra-Imaginary.

1. Introduction

Within the NUMBER THEORETICAL preocupations, from the ancient times, a prime role is attributed to the PRIME NUMBERS, through definition natural numbers different from 1, which admit as divisors only the number 1 and the said number itself, in conformity with Euclid’s demonstration (3rd century BC), the series of PRIME NUMBERS being infinite. In the same time Erathostenes, the 3rd director of the Library of Alexandria, elaborated his method/”sieve” for determining the PRIME NUMBERS. Another less efficient method is the J. Wilson-theorem (~1770), with the necessary and sufficient divisibility condition of the $(n+1)! + 1$ with **n** natural number (or with n^2 to be 5, 13 or 563 Wilson-primes). Two neighbour primes are twin-primes.

Of course, during the evolution of the NUMBER THEORY, the different mathematical branches were correlated automatically, but many times with considerable time-displacements, causing reciprocal hinderings, and beyond them hinderings in the understanding of other sciences, describable in

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mathematical language. So, first of all it is remarcable the double step realized by Caspar Wessel (1745-1818) within the evolution of the notion NUMBER itself, from the **punctual** to **linear** geometrical interpretation of the COMPLEX NUMBERS as points in the complex plane and VECTORS, respectively its representation as COMPLEX NUMBER composed by REAL and IMAGINARY part, published in „On the Analitical Representation of Direction” in 1797 in Danish and French, translated in 1799 into English. In the same year published (in German) Carl Friedrich Gauss (1777-1855) a similar **planar** presentation of the COMPLEX NUMBER as intersection of 2 vectors on the REAL and IMAGINARY axes inside a Cartezian **planar** system. It is noteworthy that between 1796-1799 Wolfgang Bolyai Farkas (1775-1856) and Gauss were student colleagues at the University of Göttingen, with a lifelong friendship, later Gauss continuing the study of the COMPLEX NUMBERS publishing in 1828 and 1831, but the study of these NUMBERS evolved in the direction of the HYPERCOMPLEX NUMBERS, namely QUATERNIONS (W. R. Hamilton, 1843), OCTONIONS (A. Cayley, 1843), SEDENIONS (Victor L. Mironov Father and Sergey V. Mironov Son, more at 40 years ago), following the elaboration of the 32nions and 64nions in the next years or decades, mentioning the necessity to transcend the limits of the **planar** to the **spatial/spherical** presentation of the notion of NUMBER itself, **similarly to the extension from the Euclidian to the Non-Euclidian Spherical Geometry.**

2. Summing Description of the Proposed Riemann Hypothesis Pattern (RHP)

The basic idea of this pattern starts from the determination of a UNITY as **bivectorial edge**, which UNIFYS all the POLYHEDRA-SERIES constructed on the COPLANAR POLYGON-SERIES UNIFIED by this UNITY, in conformity with the series of the natural integer numbers representing the NUMBER of the polygonal edges without the UNITY edge, the polyhedral faces being the same with the number of the suitable polygonal edges. In this way is realized an **alternating** of the **even** and **odd** NUMBERS (2,3,4,5,6,7,…) respectively of the **odd** and **even** total edges of the basic POLYGONS (triangle, square, pentagon, hexagon, heptagon, octagon,…), and of the suitable each other reciprocal dual **Isotoxal/Edge-transitive** (face-vertex) and **Isogonal/Vertex-transitive** (vertex-vertex) alternating POLYHEDRA (tetrahedron, hexahedron/cube, dodecahedron,…). In this structuring the **½ point** of the UNITY AXIS represents the **center of the whole system**, determining the Symmetry Plane, Axis of the Basic Plane, and Start-Point of the Critical Line, on which are situated the Riemannian ZERO POINTS as CENTERS of the POLYHEDRA-SERIES (**31**, **32**). The **½ central point** is the intersection point of **3 each other perpendicular planes**, namely the Basic/Real Numerical, Symmetry/Critical and Unity Axial/Imaginary Numerical planes, while the Critical Stripe with width of the UNITY EDGE spans the Basic/Real Numerical and Axial/Imaginary Numerical planes along both sides of the Symmetry/Critical Plane. In this way results a transition from the **planar** to the **spatial** interpretation of the proposed pattern.

3. Extending from the Planar to the Spatial Interpretations of the RHP

The main elements of the proposed **Riemann Hypothesis Pattern** are presented within the **overview** (**31**) and **longitudinal section** (**32**) along the **Critical Plane**. The UNITY EDGE – NUMBER 1 – is noted as **bivector** 0/1-1/0 with the **point ½** in the middle, from which start the polygon-series in order of the natural numbers being marked theirs **centers**: NR. 2 the basic TRIANGLE of the TETRAHEDRON, NR. 3 the basic SQUARE of the HEXAHEDRON/CUBE, NR. 4 the basic PENTAGON of the DODECAHEDRON, and so one to the infinity, with alternating of the **Isotoxal** and **Isogonal** POLYHEDRA, the well-known PRIME NUMBERS being represented by theirs suitable ISOGONAL Polyhedra, with exception of the Tetrahedron.

The **Tetrahedron** being the single **Isotoxal Polyhedron** as representant of a PRIME NUMBER, all other PRIME NUMBER POLYHEDRA are exclusively ISOGONAL, namely there have **even** number **vertices**, respectively **integer** number of DIAGONAL STRINGS/light-rays/acta, which are connected between every 2 opposed vertices, intersect each other in the **center**, spanning in this way the opposed vertices, respectively the whole POLYHEDRON. Inside the **even**-numerical **Edge**-transitive **Isotoxal** Polyhedra, each vertex is connected to the opposed face, through pseudo-diagonals composed by inequal radii, namely of the circum- and inscribed spheres of the suitable polyhedra, for this reason with ambiguous centers.

The DIAGONAL STRINGS/light-rays/acta form a multilevel LIGHT-STRING SYSTEM, like a SPACE-MATRIX, connecting centers and vertices of this MULTI-POLYHEDRAL system (**31**). The CENTERS of the POLYHEDRA are presented in the **longitudinal section** (**32**), with the surprising disposition of the

ZEROS/POLYHEDRAL CENTERS along the CRITICAL LINE started from the **½ central point** under 45^0 for the Tetrahedron and Hexahedron/Cube, but continuing from the Dodecahedron **center** to the infinity under 60^0 inclination (not in steps)!

Considering this result with the **classical planar** interpretation, we have to do with the well-known Cartesian coordinates systemic presentation of the COMPLEX NUMBERS, with the projections of the POLYHEDRAL CENTER on the REAL AXIS/ abscissa, respectively on the IMAGINARY AXIS/ ordonata, for determining the value of the function in that ZERO point, but considering it in **spatial/ spherical** interpretation, results a completely different situation!

The difference between the **classical planar** and **spatial/spherical** interpretations is similar with the **Euclidian** and **non-Euclidian** geometrical presentations, consisting especially of the **spherical geometry**, the proposed **Riemann Hypothesis Pattern** being really a TRIPLE – **outer/circumscribed/ vertex-tangential**, **middle/edge-tangential** and **inner/inscribed/face-tangential** – SPHERE-SERIES of the **each other inglobed** POLYHEDRA-SERIES **around** the UNITY EDGE! In this way, **instead** of the **planar ortogonal coordinates** of a Zero-point, compared to the **real** and **imaginary** AXES, we can calculate with the suitable SPHERICAL SECTORS referring to the **real** and **imaginary** PLANES, within of which ortogonal CRITICAL PLANE appears the same Zero-point, namely the same ZERO POINT has completely different values in the **spatial**/ SPHERICAL interpretation in comparison with the PLANAR one (**32**)!

Apparently the dfference consists only of the prelongation of the ordonata and abscissa of the Zero-point beyond the Real and Imaginary axes, but in reality there are the AXES of both adjacent SPHERICAL SECTORS composed by **conical parts** inside the REAL-IMAGINARY QUARTER, respectively **spherical segment parts** outside the REAL and IMAGINARY PLANES, with new REAL and IMAGINARY „SIDE-AXES” formed by the suitable peak-series/tangent-points of both **spherical calotte series**, in both cases with deviation at the tetrahedral and cubic starts, in strait line starting from the dodecahedral spherical point, in every case with start from the ½ center of the wohle system. In this way the **adjacent spherical sectors** will constitute the argument of the new spatial/spherical axes of the Zero-point (**32**).

The **conic parts** of both adjacent **spherical sectors** are generated by the **radius**, describing an Ortogonal Infinity Loop (OIL) in form of circles in the Real, respectively Imaginary planes, **tangent in the ½ central point** and along the Critical line as **common conic generator** (**32**). In reality, this LOOP controls the functioning of the whole polyhedral system.

This **spatial/spherical interpretation** of the COMPLEX NUMBER can be extended to the SUPRA-COMPLEX NUMBER with SUPRA-REAL and SUPRA-IMAGINARY components, extending in this way the notion of NUMBER ITSELF in general, with new semnification of the PRIME NUMBERS too, which form SPATIAL LIGHTSTRING MATRIX through **multiplication**/ **co-linearity** of the **diagonals/ rotating symmetry axes** which expand the Isogonal Polyhedra, while the **addition** means creation of diagonal-**bundles** of the composite numbers without integer diagonal-system, and for this reason assymetric rotating axes.

In this vision, the NUMBER ITSELF can have different **semantic content**, needing adequate **semiotic presentation** for their differentiation in the case of its **spatial interpretation**. Maybe this is the most important message of the Riemann Hypothesis. **This is my own hypothesis**.

4. Consquences of the Reinterpretation of the Notion of NUMBER

The creation of the **Riemann Hypothesis Pattern** made possible the reinterpretation **in spherical context** not only of the COMPLEX NUMBER, but that of the NUMBER ITSELF too. **Isohedral creations are realized through the Isogonal-Isotoxal oscillations** (**31**,**32**,**33**). In the classical/planar interpretation PRIME NUMBERS can be exclusively ODD NUMBERS – except the single even number 2 of the Tetrahedron – corresponding to the vertex-transitive/ ISOGONAL POLYHEDRA, but which of them? Which is **divisible only with one and itself**, but what means **divisibility** in the **spherical presentation** of the NUMBERS? If the **co-linearity** of the diagonals/ rotating symmetry axes means **multiplication**, the inverse operation – namely their oblique meeting – means **division**. In this way it’s possible to determine the POLYHEDRAL NUMBERS of which diagonals/ rotating symmetry axes perform this condition.

Otherwise, considering the rotating alternating ISOGONAL and ISOTOXAL phases of the **polyhedral series**, results an oscillating **toroidal** evolutionary possibility around the UNITY AXIS, more exactly of the HORN-TOROIDAL PHASE of

the **General Toroidal Evolution** (**33**), but inside a BITOROIDAL WORLDALL STRUCTURE, with an **ortogonal toroidal series** around the REAL AXIS, at the start of the SPINDLE-TOROIDAL PHASE. Within the **Spherical-Toroidal Cosmic Evolution** this means the transition from the HELICAL to the successive RING-HORN-SPINDLE **Toroidal** phases, namely from the dark/invisible to the bright/visible **matter**, continuing with the SPHERICAL/OCTAVIC PHASE, and **ending with Explosion** (**4**). Within this Cosmic Evolutionary cyclic process the **material** phase starts with Creation of the Tetrahedral elementary particle called ETHERON and continues with the series of Polyhedral structured elements in conformity with the presented **Riemann Hypothesis Pattern** [**1/31,2/37,3/44,4/47**]. With the mentioned **recurrence method** – extending **from the planar to the spatial** interpretation, and tracing back the result – we can determin the PRIME NUMBERS’ SYSTEM, of course with help of the computers, harmonizing it with the polyhedral numbers. In this way is created a magnific WORLDALL STRUCTURE and ETERNAL EVOLUTION, governed by the **spatial/spherical interpreted** PRIME NUMBERS, within the renewed **Number Theory**.

5. Connections with the Results from Different Scientific Domains (AI)

The presented **Riemann Hypothesis Pattern** comprehends the whole MATERIAL WORLD, inclusive its **infra-** and **supra-material** extensions, based on the conviction that ALL IS LIGHT. One of the adepts of this theory was Walter Russel (1871-1963), of whose cosmological credo was the **Motionless Divine Light** which operates the Universe, in which the MATTER is only an illusion created by the interaction of two opposed wirls/light-trape along the Group IV. (Carbon, Silizium, Germanium, etc.) of the Periodic Table, but in my **Whole Periodic System** [**5/3**] this **Group IV. A.** is the NEURONIC AXIS, together with the **Group IX**. BIONIC AXIS [**6/14**] (**1,2,3**).

In this Pattern (**21, 22, 31, 32**) the **material** level is constituted by the POLYHEDRA, starting with the TETRAHEDRON as ETHERON, the first element of the **Whole Periodic System**, and continuing with the elementary particles and the whole series of the elements from the Nr. **1H** to the Nr. **558**, on each Cosmic Octavic Level of the **Octavic Phase**, intercalated between the 5 Pentatonic **Toroidal Phases** of the **Big Cosmic Cycle** [**7/17**] (**5**). The first **infra-material** level is constituted by the POLYGONS – the ISOTOPS of the CHEMICAL ELEMENTS, respectively the second **infra-material** level by the **vertices**, **edges** and **faces**, „**subvalences**” of the elements, disposed **tangential** on the **outer**, **middle** and **inner spherical surfaces**.

The successive dual transformation of the ISOGONAL and ISOTOXAL POLYHEDRA means **turning inside out**, respectively **turning outside in around the central point ½** of the whole system – **with addition of an edge to the basic polygon**, respectively to the suitable other constituent polygons – of the said POLYHEDRON, namely transforming a **particle** into **antiparticle** and inverse, creating the new elements from the ISOTOXAL to ISOGONAL POLYHEDRA. In this case of the SPHERICAL INVERSION [**11**] follows the inversion of the POLYHEDRAL SPHERES, namely the **circumscribed/outer/vertex-tangent** sphere will transform into **inscribed/inner/face-tangent** one, around the **middle/edge-tangent** sphere, which is a regulator of the polyhedral shape, especially by the less regular POLYHEDRA. It exists the possibility of inversion around the own center too, by the regular polyhedra [**9/42**].

Within the omnitriangulated POLYHEDRON this increasing process starts with addition only of a single TETRAHEDRON, but really this process starts with addition of a radial light-ray from the Zero-point for completing the transitional radius into a light-diagonal, which – with its incomplete diagonal-pair together – will span the new edge-pair.

This is a consequence of the reinterpretation of the **strings** and **superstrings**, working as a HIERARCHICAL SYSTEM, from the **elementary strings** – edges, radii, diagonals – to the most complicated co-linear and oblique intersecting Light-diagonals/**Light-string systems** which connect many POLYHEDRA through the PRIME NUMBERS SYSTEM. In this context the ISOTOXAL POLYHEDRA can be considered a transitional evolutionary phase. Otherwise the **Loop Quantum Gravity** is very similar with this **Riemann Hypothesis Pattern**, functioning like a **Supramolecular System** too.

Referring to the **supra-material** extensions, beyond the PHYSICAL one there are the BIONIC and NEURONIC levels, inglobed within the **Whole Periodic System** (**1,2,3**) as the **IV. A**, respectively **IX.** axes, in form of gyroscopic system with the BIONIC axis and radial NEURONIC components, as well as in form of secondary, tertiary and quaternary spiral of spiral system, respectively 5 and 6 Dimensional supraluminal components of the **Neuronic and Bionic Extended Whole Standard Model (8x8)** [**8/48**] (**6**),

in correlation with the 64nionic numerical system, based on the proposed suitable Tesseract Algebra.

In conformity with the **Fractal structure** of the WORLDALL, this COSMIC EVOLUTION through successive **Isotoxal-Isogonal** alternating **transformation with addition of an edge**, is present from the micro- to the macro-cosmic World, on **Physical, Bionic** and **Neuronic** levels alike, with successive turnings inside out and outside in of the **Physical** rotating tetrahedral ETHERON into the inner **subphysical Bionic and Neuronic** levels [**9/42, 10/43, 8/48**], within the **Etheronic Tesseract Model**.

6. Conclusions

In conformity with the proposed geometrical **Riemann Hypothesis Pattern** results that the **zero-points** as roots of the Riemann Zeta function are situated on the **Critical line** situated in the **Critical plane**, started from the **½ central point of the edge-unity** and of the whole crystal-like **increasing spherical polyhedral system evolved around it**, as centers/intersection points of the light-diagonal pairs which span the vertex- and edge-pairs of the **Isogonal Polyhedra**, respectively quasi-centers of the **turning inside out** dual **Isotoxal Polyhedra**.

The **start** of the **critical line** is under 45^0 in the case of the first two Polyhedra – Tetrahedron and Hexahedron/Cube – and continues under 60^0 from the center of the Dodecahedron to infinity, with the **edge-unity** and continuing with the **edges** of the basic Polygons lying the **Real plane**, but without the **unity-edge**, in conformity with the series of the natural integer numbers. The **½ central point** is situated at the intersection of **3 each another perpendicular planes**: **Real**, **Imaginary** and **Critical**, of which **unitary wide** both sides constitutes the **Critical stripe**.

In **planar view** along the **Critical plane**, the values of the Zero-points are considered within a Cartezian coordinates system, with the abscissa and ordonata as projections on the Real and Imaginary axes, but in **spatial view** appear completely different values considering the ZEROS as the CENTERS of the spherical POLYHEDRA, in form of intersection points of Light-diagonal **strings** which span the vertex-edge-face **pairs**, in this way the whole POLYHEDRA themself. In this view the coordinates will be the **axes** of both **Spherical sectors**, each another tangent along the **Critical line**, all 3 being equal to the **radius** of the said spherical POLYHEDRON.

Inside the Real plane and Imaginary plane **quarter** the **Spherical sectors** are composed by **conic** and Spherical **segment** parts, surrounded by conical superficies and spherical calotte. The **Calotte-peaks series** of both **Spherical sectors** will form new **outer coordinates** or secondary critical lines, in correlation with the **inner Critical line**, namely with deviated starts.

This **spatial/spherical** interpretation of the COMPLEX NUMBER – and of the NUMBER in general – leads to the idea of its extension into SUPRA-COMPLEX NUMBER with SUPRA-REAL and SUPRA-IMAGINARY components, reconsidering the PRIME NUMBERS too. The rotating around the **Unity axis** of the alternating Isogonal-Isotoxal POLYHEDRA-SERIES lieds to a **Toroidal evolutionary** possibility, while the rotating around the **Real axis** too permit a **Bitoroidal Cosmic Evolution**, so far with imprevisible extension of our cosmic vision.

7. Annexes

7.1 References [n/j] from: DENES JOO – LIST OF THE SHORT SYNTHESES

[**1/31**] – **Etheronic Structure Instead of the Atomic One, Transition from the Atomic to the Etheronic Era** (IJISET – International Journal of Innovative Science, Engineering & Technology, Vol. 10, Issue 09, September 2023).

[**2/37**] – **Etheronic Structured Chemistry of the Physical World – ETHERONICS.** International Journal of Advanced Research in Chemical Science (IJARCS). 2024; 11(1): 37-54. DOI: https://doi.org/10.20431/2349-0403.1 101004.

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[**5/3**] – **Sketch of the Cosmic Architecture (The Whole Periodic System)** (2nd World Chemistry Conference 8-10 August 2016 Toronto, Canada; blog **denesjoo.wordpress.com**, 2015).

[**6/14**] – **Bion – the Life-Particle Pattern (Beyond the Whole Periodic System)** (Poster Presentation Nr. 628/1410 – Session CT7 - IUPAC 2019 Congress 10-12 July 2019 Paris, France; Nessa Publishers Journal of Physics, Volume 1, Issue 27, 2019).

[**7/17**] – **Cosmic Evolution – Another Approach: Spherical-Toroidal Dynamic Duality in Higher Dimensions** (IJISET – International Journal of

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[**8/48**] – **The Genuine Relativity: More Inside and Outside the Etheron.** Open Access Journal of Chemistry. 2026; 8(1): 23-49. CH08010002.

[**9/42**] – **The Etheron Is a Rotating Tetrahedron: Geometrical Foundation of the Etheronics.** Open Access Journal of Chemistry. 2025; 7(2): 22-45.

[**10/43**] – **Inside the Electron as Physical Etheron.** Open Access Journal of Chemistry. 2025; 7(2): 46-61.

[**11**] – José L. Ramírez & Gustavo N. Rubiano (2016): **A generalization of the spherical inversion,** International Journal of Mathematical Education in Science and Technology. http://dx.doi.org/10.1080/0020739X.2016.1201.1201598.

7.2 Tables and Figures (n)

(**1**) – The Whole Periodic System – Long Table (3 pages)

(**2**) – The Whole Periodic System – Stepped Table (1/2 page)

(**3**) – The Whole Periodic System – Spiral Table (1/2 page)

(**21**) – Numerical Plane Start of the United Polyhedra Series

(**22**) – Numerical Systems of the Worldall

(**31**) – Overview of the Riemann Hypothesis Pattern

(**32**) – Longitudinal Section of the Riemann Hypothesis Pattern

(**33**) – Bitoroidal Structure of the Riemann Hypothesis Pattern

(**4**) – Detailing of the Pentatonic and Octavic Cosmic Levels

(**5**) – Vortex of the Dynamic Dual (DD) Cosmic Evolution

(**6**) – Neuronic and Bionic Extended Whole Standard Model (8x8)

SKETCH OF THE COSMIC ARCHITECTURE
A KOZMIKUS ÉPÍTÉSZET VÁZLATA

LONG TABLE
HOSSZÚ TÁBLÁZAT

1

STEPS NO. OF ELEMENTS	PERIODS \ GROUPS	I.A.	I.B.	II.A.	II.B.	III.B.	III.A.	IV.B.	IV.A.	V.B.	V.A.	VI.B.	VI.A.	VII.B.	VII.A.	VIII.B.	VIII.B.	VIII.B.	VIII.A.	IX.
		ALKALINE METALS	NON-FERROUS METALS	ALKALINE EARTH METALS	NON-FERROUS METALS	LIGHT METALS	TRANZITION METALS	LIGHT METALS	TRANZITION METALS	LIGHT METALS	TRANZITION METALS	LIGHT METALS	CHALCOGENS	LIGHT METALS	HALOGENS	HEAVY METALS			NOBLE GASES	BIONIC
	0. STEP 4°=1 ELEMENT ETHERON (ETHER-AXIS)																			
1. STEP 4¹=4 ELEMENTS	0.	G		*		*													Q	B0
	1.	1 H	⊙	*	○	⊙	*	⊙	*	⊙	*	⊙	*	⊙	*			⊙	2 He	B1
2. STEP 4²=16 ELEMENTS	2.	3 Li		4 Be		○←	5 B	○←	6 C	○←	7 N	○←	8 O	○←	9 F			○←	10 Ne	B2
	3.	11 Na	→○	12 Mg	→○		13 Al		14 Si		15 P		16 S		17 Cl				18 Ar	B3
3. STEP 6²=36=2X16+4 ELEMENTS	4.	19 K		20 Ca		21 Sc		22 Ti		23 V		24 Cr		25 Mn		26 Fe	27 Co	28 Ni		
	5.		29 Cu		30 Zn		31 Ga		32 Ge		33 As		34 Se		35 Br				36 Kr	B4
	6.	37 Rb		38 Sr		39 Y		40 Zr		41 Nb		42 Mo		43 Tc		44 Ru	45 Rh	46 Pd		
	7.		47 Ag		48 Cd		49 In		50 Sn		51 Sb		52 Te		53 I				54 Xe	B5
4. STEP $8^2=4^3=64=4X16$ ELEMENTS	8.	55 Cs		56 Ba		57 La		58 Ce		59 Pr		60 Nd		61 Pm		*	*	*		
	9.		62 Sm		63 Eu		64 Gd		65 Tb		66 Dy		67 Ho		68 Er				*	
	10.	69 Tn		70 Yb		71 Lu		72 Hf		73 Ta		74 W		75 Re		76 Os	77 Ir	78 Pt		
	11.		79 Au		80 Hg		81 Tl		82 Pb		83 Bi		84 Po		85 At				86 Rn	B6
	12.	87 Fr		88 Ra		89 Ac		90 Th		91 Pa		92 U		93 Np		*	*	*		
	13.		94 Pu		95 Am		96 Cm		97 Bk		98 Cf		99 Es		100 Fm				*	
	14.	101 Md		102 No		103 Lr		104 Rf		105 Db		106 Sg		107 Bh		108 Hs	109 Nt	110 Ds		
	15.		111 Rg		112 Cn		113 Uut		114 Fl		115 Uup		116 Lv		117 Uus				118 Og	B7
5. STEP $10^2=100=6X16+4$ ELEMENTS	16.	119 Uua		120 Ubn		121 Ubu		122 Ubb		123 Ubt		124 Ubq		125 Ubp		*	*	*		
	17.		126		127		128		129		130		131		132				*	
	18.	133		134		135		136		137		138		139		140	141	142		
	19.		143		144		145		146		147		148		149				150	
	20.	151		152		153		154		155		156		157		158	159	160		
	21.		161		162		163		164		165		166		167				168	B8
	22.	169		170		171		172		173		174		175		*	*	*		

PERIODS \ GROUPS	I.A.	I.B.	II.A.	II.B.	III.B.	III.A.	IV.B.	IV.A.	V.B.	V.A.	VI.B.	VI.A.	VII.B.	VII.A.	VIII.B.	VIII.B.	VIII.B.	VIII.A.	IX.
5. STEP $10^2 = 100 = 6X16+4$ ELEMENTS 23.		176		177		178		179		180		181		182				*	
24.	183		184		185		186		187		188		189		190	191	192		
25.		193		194		195		196		197		198		199				200	
26.	201		202		203		204		205		206		207		208	209	210		
27.		211		212		213		214		215		216		217				218	B9
6. STEP $12^2 = 144 = 9X16$ ELEMENTS 28.	219		220		221		222		223		224		225		*	*	*		
29.		226		227		228		229		230		231		232				*	
30.	233		234		235		236		237		238		239		240	241	242		
31.		243		244		245		246		247		248		249				250	
32.	251		252		253		254		255		256		257		*	*	*		
33.		258		259		260		261		262		263		264				*	
34.	*		*		*		*		*		*		*		*	*	*		
35.		265		266		267		268		269		270		271				272	
36.	273		274		275		276		277		278		279		280	281	282		
37.		283		284		285		286		287		288		289				290	B10
38.	291		292		293		294		295		296		297		*	*	*		
39.		298		299		300		301		302		303		304				*	
40.	305		306		307		308		309		310		311		312	313	314		
41.		315		316		317		318		319		320		321				322	
42.	323		324		325		326		327		328		329		*	*	*		
43.		330		331		332		333		334		335		336				*	
44.	*		*		*		*		*		*		*		*	*	*		
45.		337		338		339		340		341		342		343				344	
46.	345		346		347		348		349		350		351		352	353	354		
47.		355		356		357		358		359		360		361				362	B11
48.	363		364		365		366		367		368		369		*	*	*		
49.		370		371		372		373		374		375		376				*	
50.	377		378		379		380		381		382		383		*	*	*		

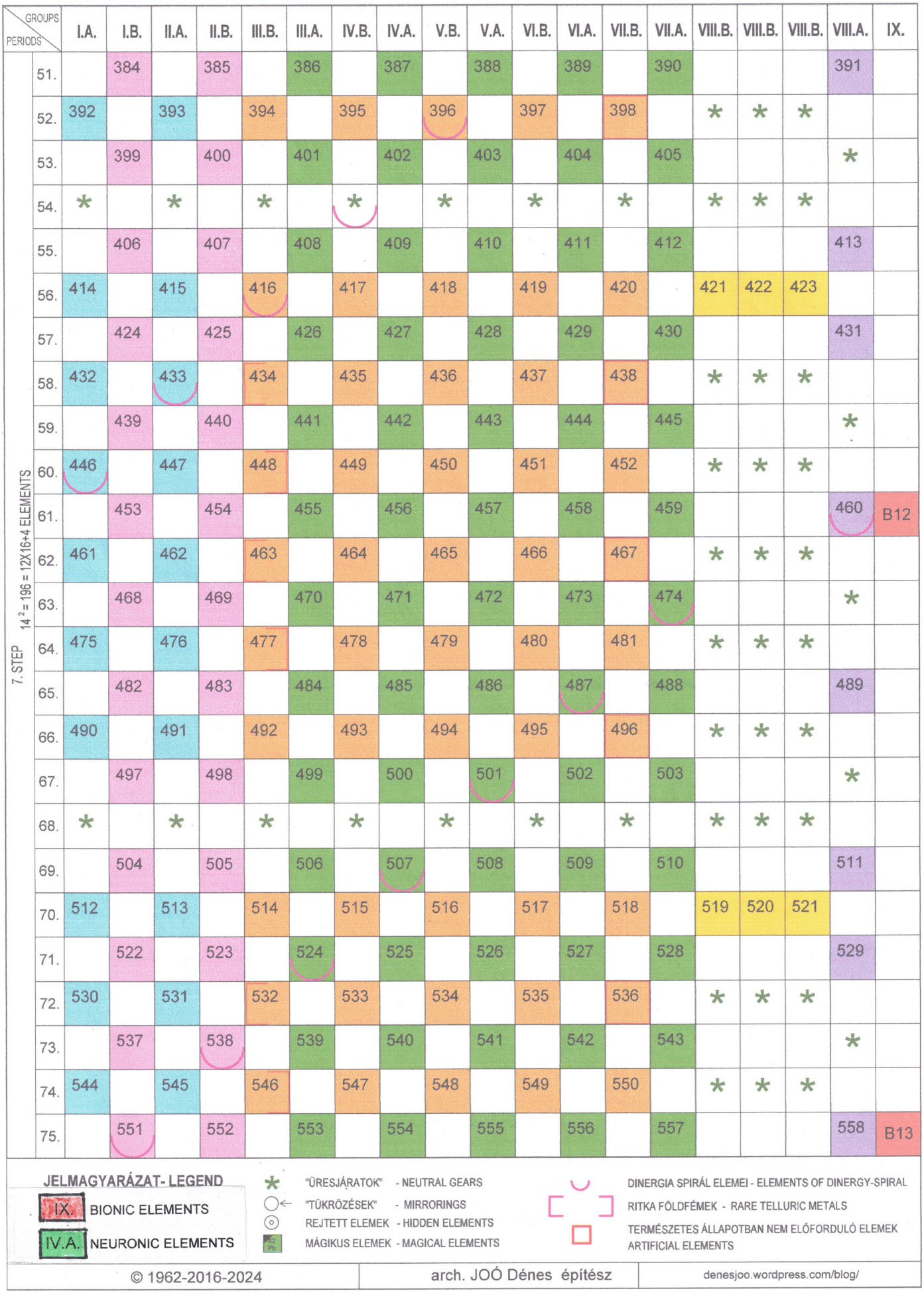


Table (1). *The Whole Periodic System – Long Table*

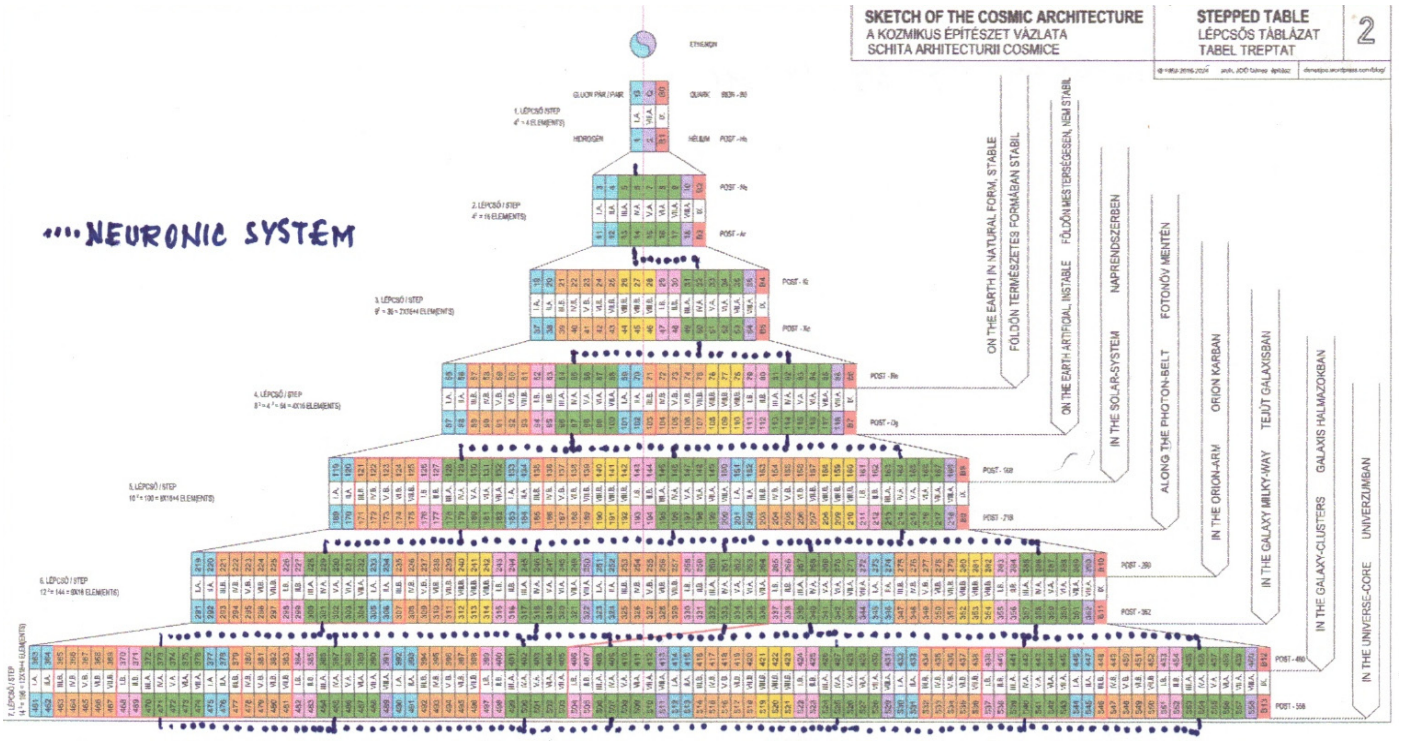


Table (2). *The Whole Periodic System – Stepped Table*

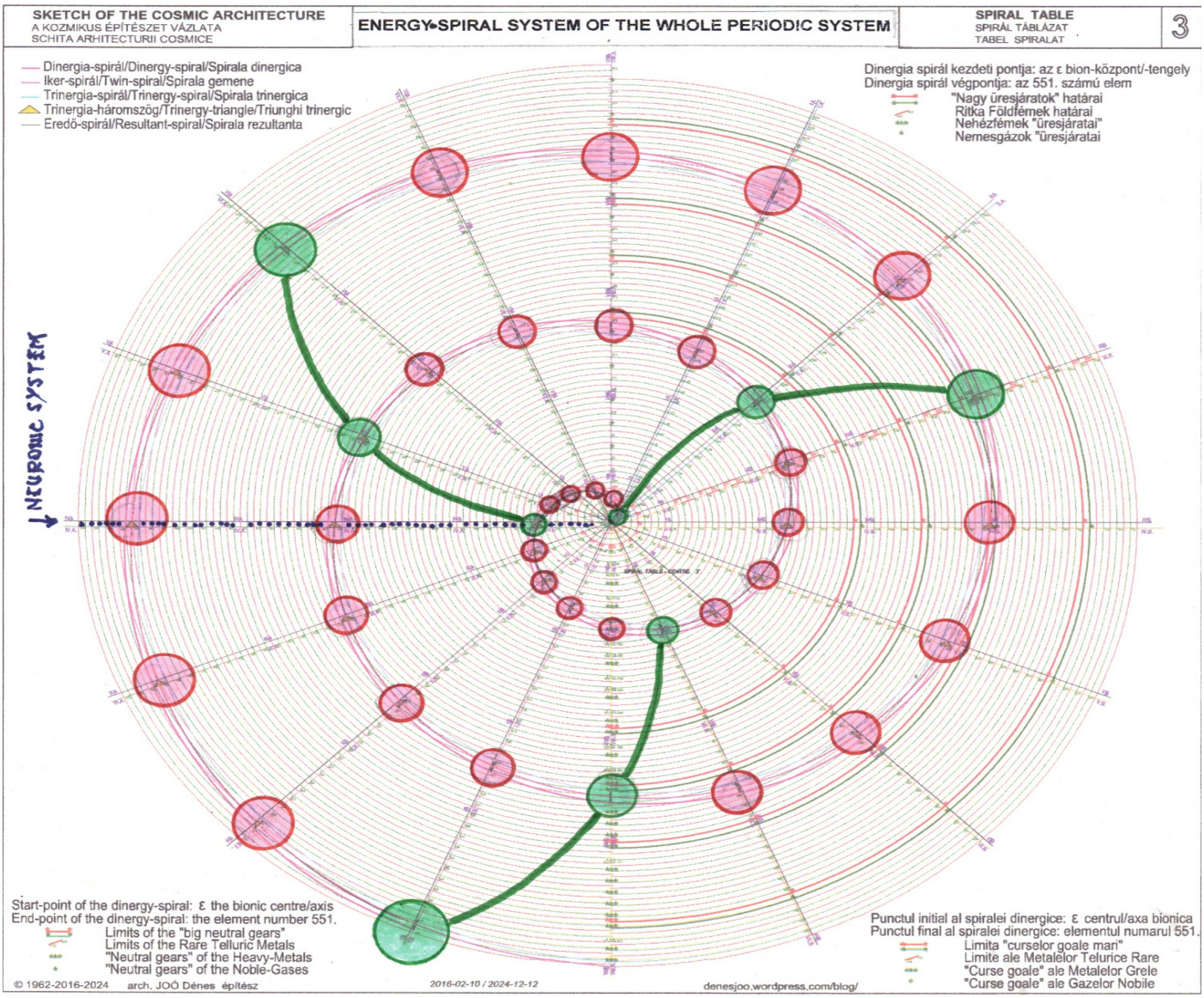


Table (3). *The Whole Periodic System – Spiral Table*

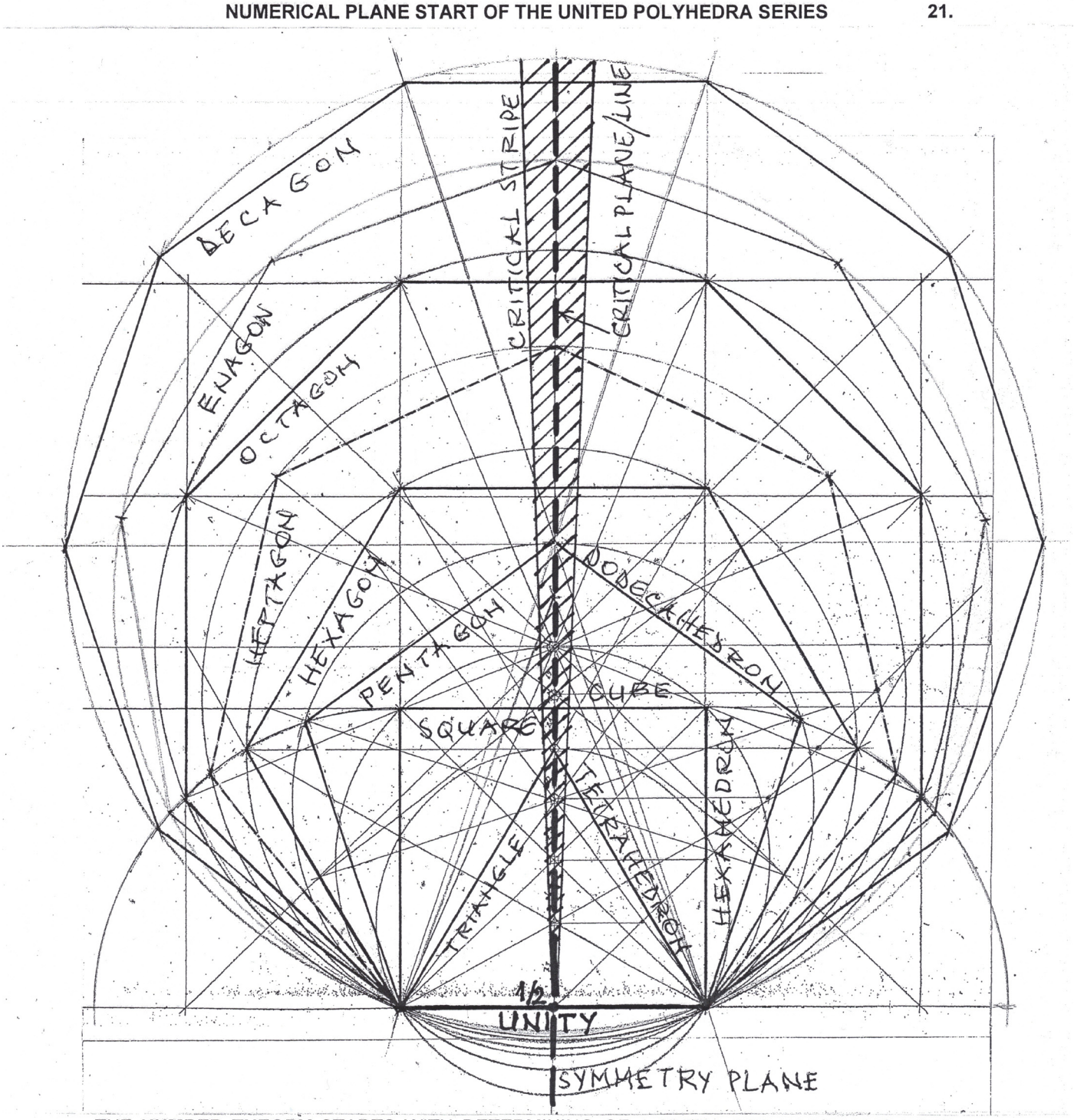


Figure (21). *Numerical Plane Start of the United Polyhedra Series*

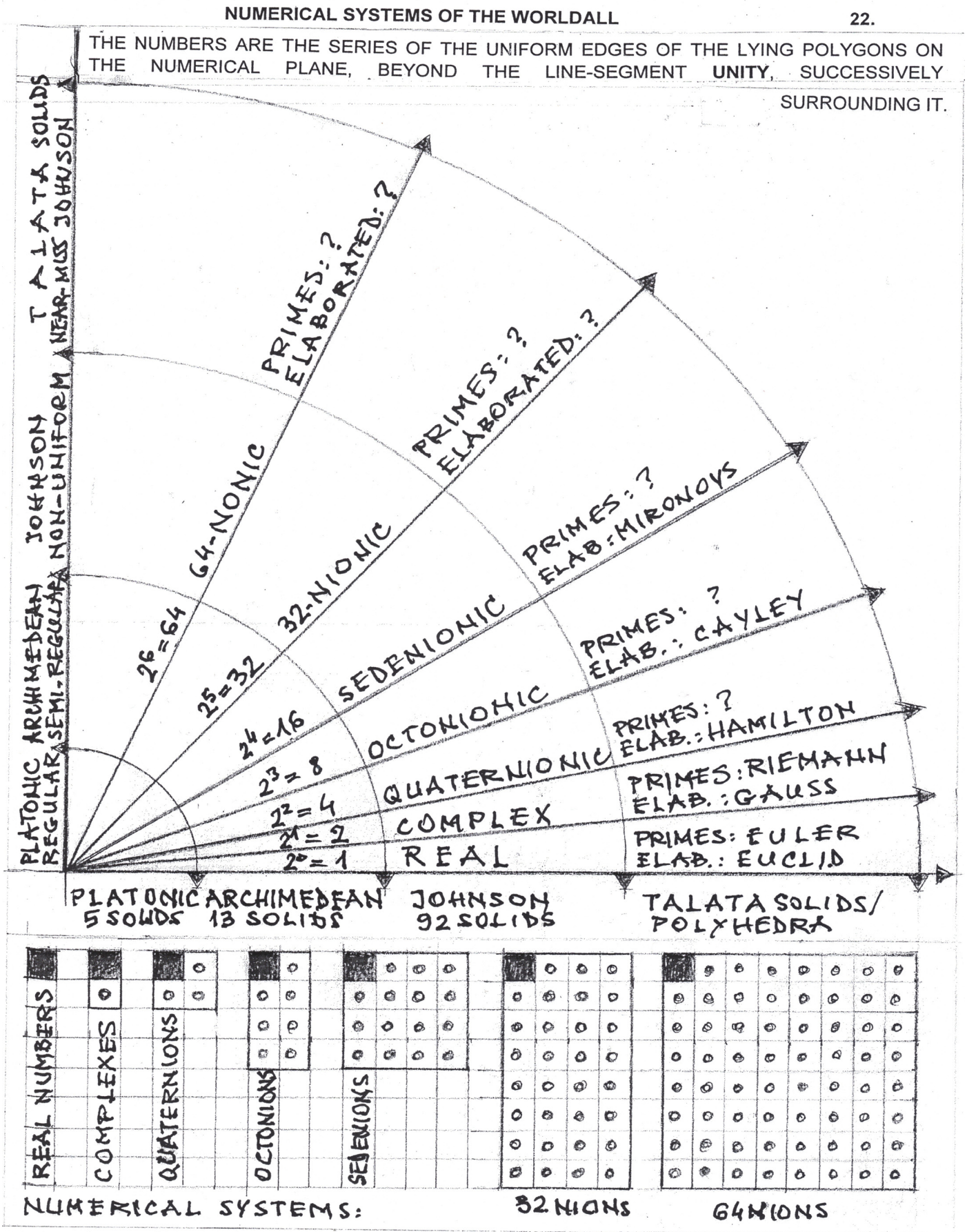


Figure (22). *Numerical Systems of the Worldall*

OVERVIEW OF THE RIEMANN HYPOTHESIS PATTERN (31)

The basic idea of this **pattern** starts from the determination of a UNITY as **bivectorial edge**, which UNIFYS all the POLYHEDRA-SERIES constructed on the COPLANAR POLYGON-SERIES UNIFIED by this UNITY, in conformity with the series of the natural integer numbers representing the NUMBER of the polygonal edges without the UNITY edge, the polyhedral faces being the same with the number of the suitable polygonal edges. In this way is realized an **alternating** of the each other reciprocal dual **Isotoxal/Edge-transitive** (face-vertex) and **Isogonal/Vertex-transitive** (vertex-vertex) alternating POLYHEDRA (tetrahedron, hexahedron/cube, dodecahedron, etc.). In this structuring the **½ point** of the UNITY AXIS represents the **center of the whole system**, determining the Symmetry Plane, Axis of the Basic Plane and Start-Point of the Critical Line, on which are situated the Riemannian ZERO POINTS as CENTERS of the **Polyhedra-series**. The **½ central point** is the intersection point of **3** each other perpendicular planes, namely the Basic/Real Numerical, Symmetry/Critical and Unity Axial/ Imaginary Numerical planes, while the UNITY EDGE wide Critical Stripe spans the Basic/Real Numerical and Axial/Imaginary Numerical planes along both sides of the Symmetry/Critical Plane. In this way results a transition from the **planar** to the **spatial interpretation of the proposed pattern**.

There are circumscribed/outer/vertex-tangent polyhedral spheres

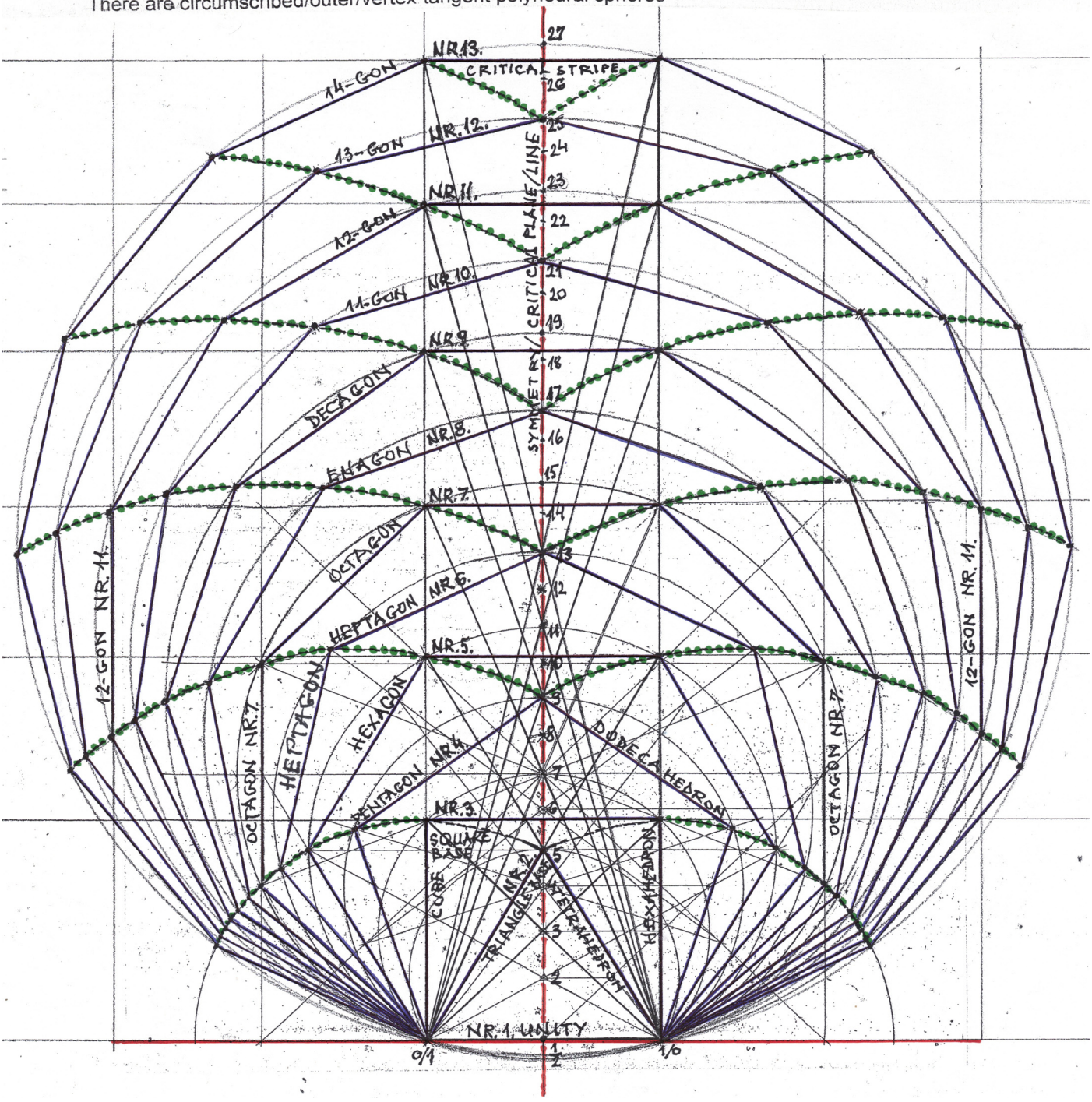
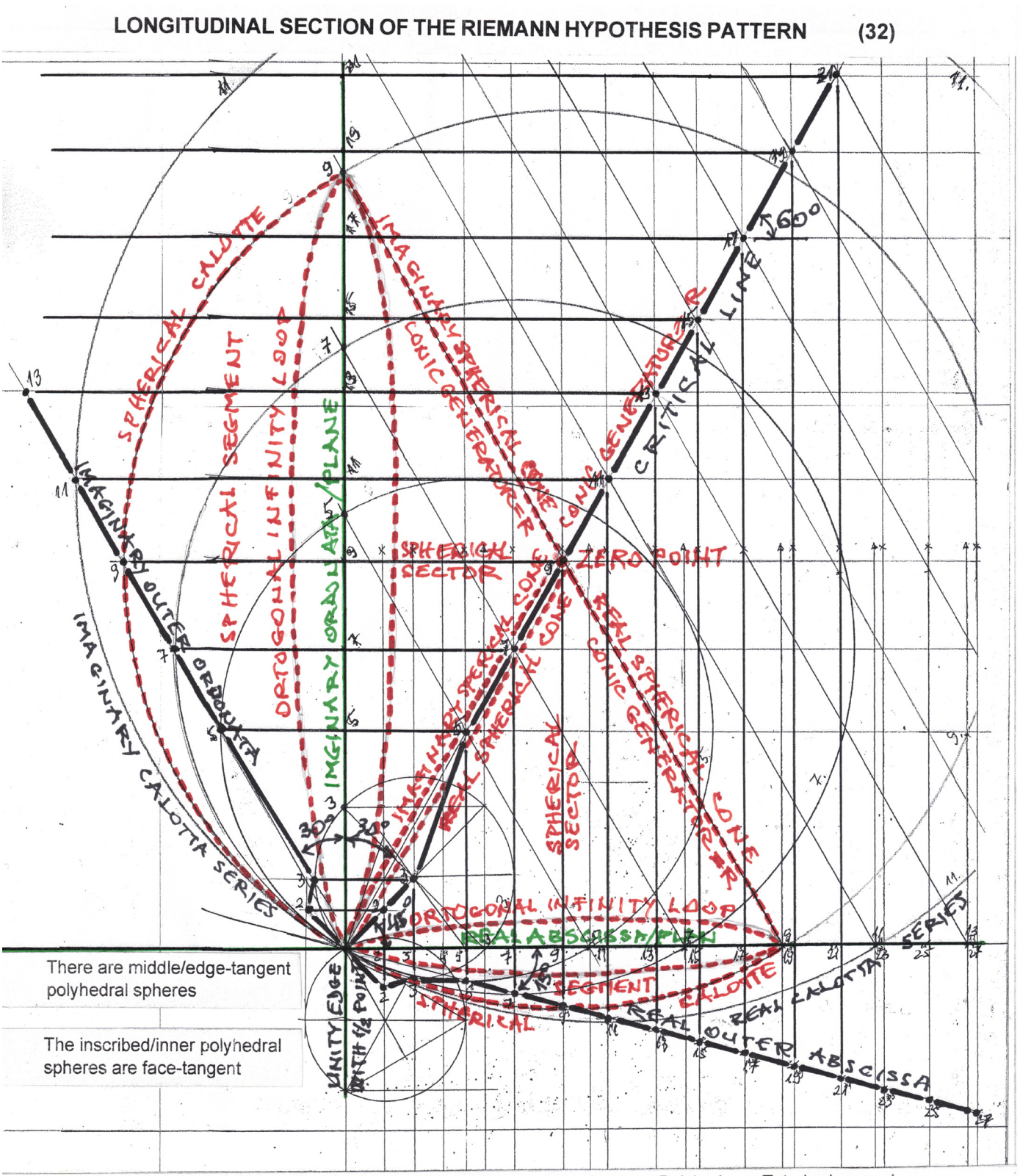


Figure (31). *Overview of the Riemann Hypothesis Pattern*



The **start** of the **critical line** is under 45^0 in the case of the first two Polyhedra – Tetrahedron and Hexahedron/Cube – and continues under 60^0 from the center of the Dodecahedron to the infinity. The **½ central point** is situated at the intersection of **3 each another perpendicular planes**: **Real**, **Imaginary** and **Critical**, of which **unitary wide** constitutes the **Critical stripe**. Along the **Critical plane**, the values of the Zero-points are considered within a Cartezian coordinates system, but in **spatial view** the coordinates will be the **axes** of both **Spherical sectors**, each another tangent along the **Critical line**, all 3 being equal to the **radius** of the spherical POLYHEDRON. Inside the Real and Imaginary planes **quarter** the **Spherical sectors** are composed by **conic** and Spherical **segment** parts, surrounded by conical superficies and spherical calotte. The **Calotte-peaks series** of both **Spherical sectors** will form new **outer coordinates** or secondary critical lines, in correlation with the **inner Critical line**, namely with deviated starts. This **spatial/spherical** interpretation refers to the NUMBERS too.

Figure (32). *Longitudinal Section of the Riemann Hypothesis Pattern*

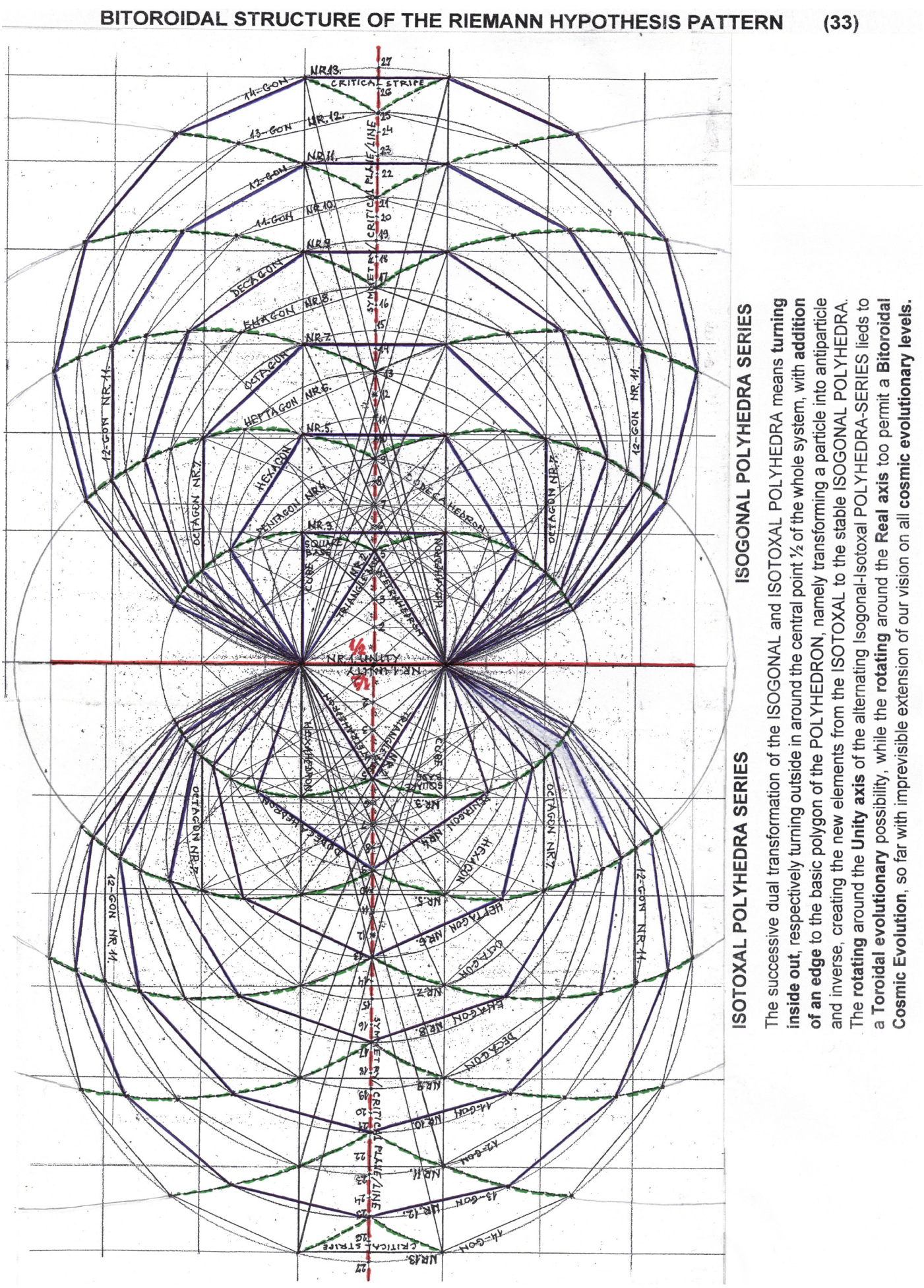


Figure (33). *Bitoroidal Structure of the Riemann Hypothesis Pattern*

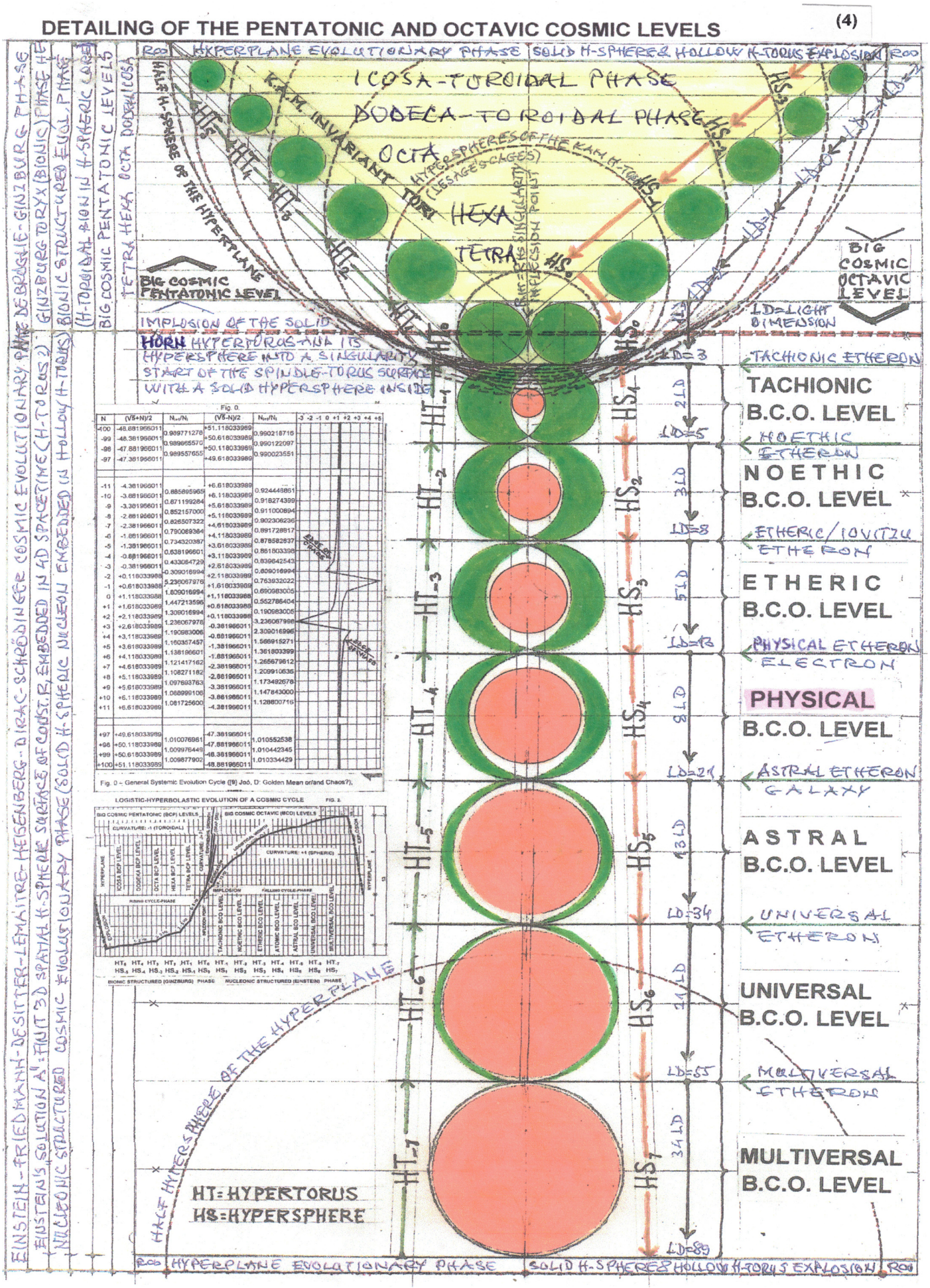
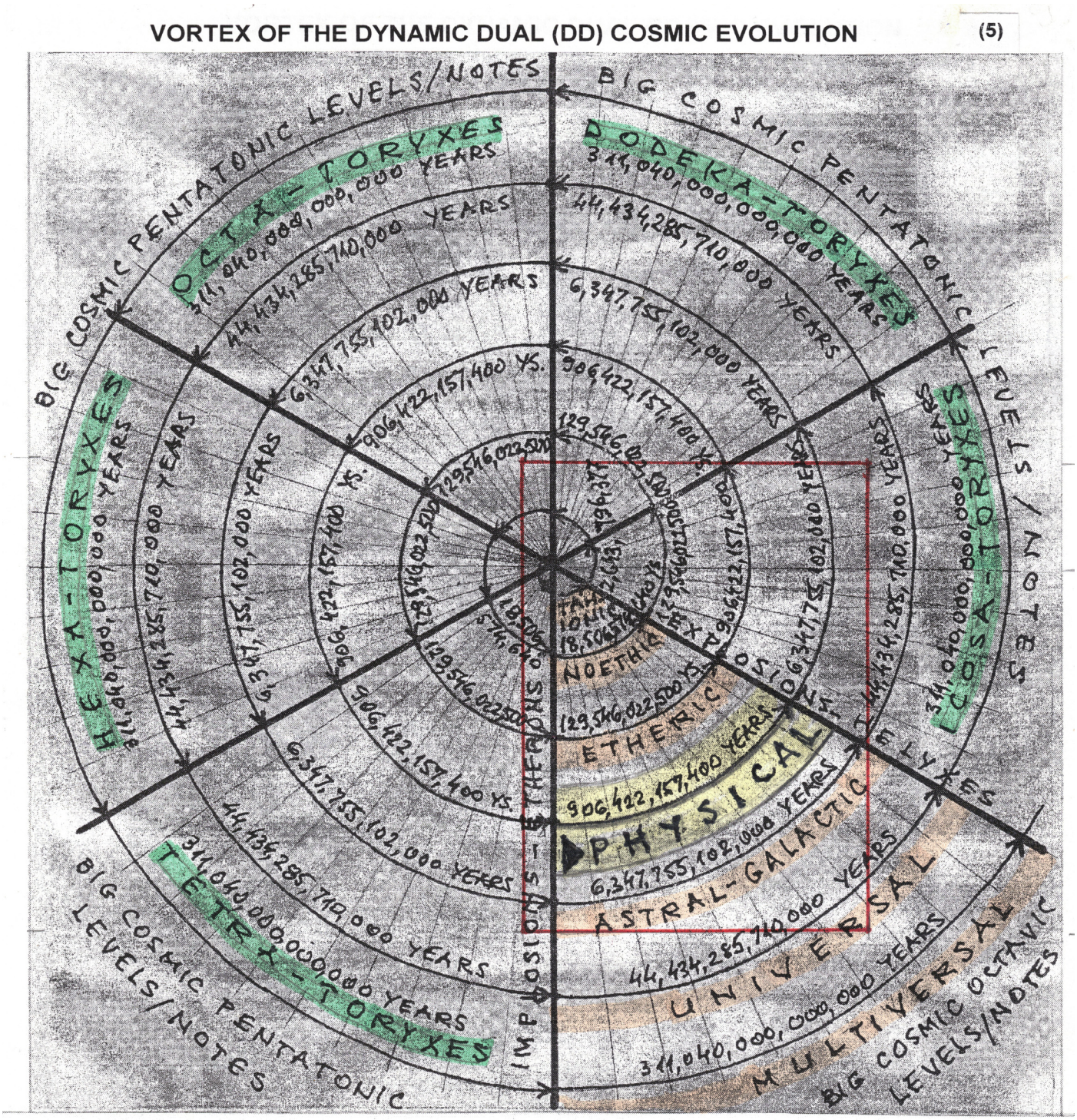


Figure (04). *Detailing of the Pentatonic and Octavic Cosmic Levels*



COSMIC ERAS (COSMIC UNITS OF TIME)	COSMIC OCTAVIC LEVELS/NOTES	ROTATION PERIODS (Rx7) TERR. YEARS	TOTAL DURATION (28,521.76 CYCLES) TERRESTRIAL YEARS	BIONIC STRUCTURED DARK PERIODS (Dx5) TERRESTRIAL YEARS
AEON (YEAR)	MULTIVERSAL	10,905,356,406	311,040,000,000.000	1,555,200,000,000,000
KAIROS (MONTH)	UNIVERSAL	1,557,908,058	44,434.285,710,000	222,171,428,550,000
KRONOS (WEEK)	ASTRAL/GALACTIC	222,558,294	6,347.755,102,000	31,738,775,510,000
HEMERA (DAY)	**PHYSICAL**	31,794,042	906,422,157,400	4,532,110,787,000
HORA (HOUR)	ETHERIC-SENSITIVE	4,540,006	129,546,022,500	647,730,112,500
COSMIN (MINUTE)	NOETHIC-CONSCIOUS	648,858	18,506,574,640	92,532,873,200
COSSEC (SECOND)	TACHIONIC	92,694	2,643,796,377	13,218,981,885

Figure (05). *Vortex of the Dynamic Dual (DD) Cosmic Evolution*

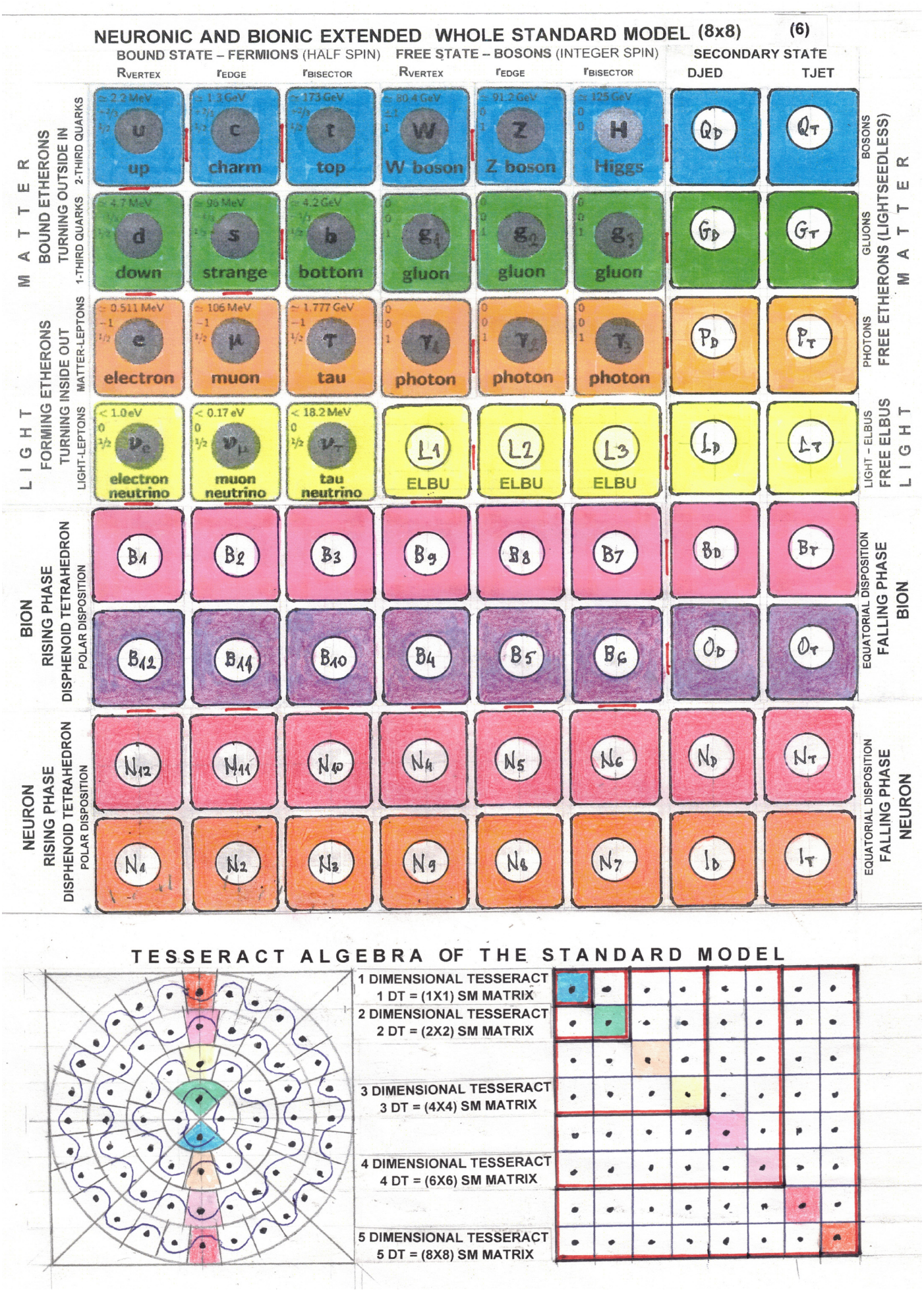


Figure (06). *Neuronic and Bionic Extended Whole Standard Model (8x8)*