S.R.I.A. London - Metropolitan Study Group 17th June 2023

The Harmonic Structure of Universes and Our Realities with Frater Peter Louis Haward



An introduction to the science of harmonics and how geometry underpins the nature of our reality. Exploring the role that perception and consciousness plays, and how our physical reality is connected to that which is usually considered beyond our known senses.



Welcome Fratres and friends.

and thank you to our hosts today - S.R.I.A. London and the Metropolitan Study Group



Website URL link

Context - "What does HARMONIC mean?"

Any static or dynamic <u>quantitative</u> relationship (numerical or by measure of ratio) between two or more things when compared with respect to each other, usually in whole number or very close to whole number ratios - for example:

Static geometrical <u>ratio</u> relationships in space, usually similar shapes

or

Dynamic relationships formed in moving systems in <u>time</u> and <u>space</u>, e.g. Music in both chords and melody, physical 'matter' like the atoms of the elements in the periodic table

AND/OR

Perceived <u>qualitative</u> relationships by comparison between two or more things. for example:

When comparison between things perceived to have some correspondence

e.g. two or more experiences may be grouped together by <u>shared attributes or</u> <u>qualities</u>, like emotions evoked by music, and sensations. Harmonics create form; order, structure and hierarchy.

Masonic Symbolism It's interesting to note that within Freemasonry's own definition of itself, the Symbolism eludes to 'Harmony'



A Beautiful System Of Morality, Veiled In Allegory, **Illustrated By** Signs & Symbols.

Here, the symbol 'Morality' is a veil for 'differentiation', to separate, to divide, to distinguish;

When we divide one thing into two or more parts we make comparisons between the parts, and the whole.

'System Of Morality' eludes to order and relationships, structure and sequences, from which we search and strive for harmony that they may work together in harmony, according to the design of the system as a whole. "In Pythagoras's understanding of reality, the cosmic intelligible principle from which everything evolved by <u>emanation</u> was the Monad (μ ov $\dot{\alpha}$ C) represented by the number One. Number One was seen as a principal underlying number; Thus, numbers in general were seen as manifestations of the diversity in unity.

Monad was the undifferentiated principle of unity of the whole of reality and the source of the world as an ordered universe. It was the principle of all things, and as the most dominant of all that is, all things emanated from it, and it emanated from nothing. It was indivisible and immutable. Everything that exists and even that which is not created yet exists in it. It is the nature of ideas, God himself, the soul, the beautiful, and the good. It is every intelligible essence itself, such as beauty, justice, and equality.

<u>Logos to Trinity</u>

The next principle was the Dyad $(\delta \upsilon \dot{\alpha} C)$, which represented diversity in the universe, the <u>opposing</u> <u>powers</u>, the duality of subject and object, and the beginning of the third principle, Harmony

(αρμονία). This third principle was the relation (the ratio, logos, in proportion, analogia) of one thing to another, and it was particularly represented by the proportion between numbers, geometrical figures, or tones in the musical scale. This Triad was immanent in Nature and represented the dynamic process of cosmogony: the One was the unification of the whole reality, the Two represented diversification and differentiation of the One in the process of **forming** the world order or ordered world (κόσμος, kosmos), and <u>Harmony</u> or Logos, by extension, was the bond uniting these two extremes."

So with Pythagoreans Logos is Harmony. Compare to Revelations John 3,14: ... The Amen, witness at beginning of creation... note the verse 3,14 could be symbolic for Pi or 22/7, the circle which Pythagoras claimed to be the scale of the octave and 2 to 1. Am en as the two letters M and N, are a speech harmony of sound, In the Sanskrit 22 shruti scale circle the letters are Ma and Ni, derived from Aramaic language which in turn derived it from Ugaritic Phoenician, the source of the kabbalistic Hebrew alphabet. In the scale Ma and Ni denote the interval of 13 of 22 shruties and are translated into ratios as 3 to 2, the fifth and are names the only consonance there is. This proves Apocalypse of John like Pythagoreans held the fifth interval as the Amen, the supreme name of God, the only beginning of everything made.











GEOMETRY - RATIOS - PROPORTIONS







GEOMETRY - all RATIOS are in the CIRCLE

EB = Pi

Ptolemy's Theorem: AB*DC + AD*BC = AC*DB



*Note. Any of AE, EC, DE or EB may be chosen as the UNIT

Ptolemy's Theorem: AB*DC + AD*BC = AC*DB EC/DE = EB, EC/EB = DE and DE*EB = EC Therefore, when DE = EB, EB^2 = EC; in this specific state, when AC is the diameter of the circle, DE = EB Α Difference Unit = 1 в Е Sum Ouotient Not drawn to scale Product x ____ = C

However, if not all the four points (3 green and one blue as shown above) lie on the circle circumference none of the operations described above are valid.

Circle internal RATIO properties reproduced with the permission of author and mathematician John Gabriel.

*Note. Any of AE, EC, DE or EB may be chosen as the UNIT

SACRED GEOMETRY - GEOMETRY of CONSCIOUSNESS & REMEMBERING

- all done with Circles and a simple sequence of Creation and Cubes & Spheres

We are the connection between Heaven & Earth Book, <u>QUADRIVIUM</u> - "just buy it" <u>https://www.amazon.co.uk/gp/product/190715504X/</u>

Basics:

- Vesica Pisces
- Flower of Life
- the torus field
- and Merkaba in relation to our own bodies

Key Resources:

- Spirit Science on YouTube
- Bro. Randall Carlson -
- JAIN108
- The BARD









DIY SACRED GEOMETRY

- practice online

https://www.desmos.com/geometry-beta/40uzbvfsuy

OCTAVES

Sound: the basic 2:1 and 1:2 RATIO structure of the musical Octave and the first 'overtone/undertone' in the <u>Harmonic series</u>

The harmonic series is the foundation of all musical scales and tuning systems, because it is the only natural scale. As soon as a tone sounds, overtones resonate. They all sound at the same time. The overtone series is therefore actually a chord. The structure is always the same and corresponds to a mathematical harmonic series, hence the name series. You don't usually hear the overtones. Because they all vibrate as a chord at the same time, they seem to us like a single note. The term overtone series refers to the harmonic partials. There are also sounds with inharmonic overtones. The more inharmonic overtones there are in a sound, the more it becomes noisy.



Source book:

Sine Waves and the HARMONICS SERIES

"It takes TWO to tango"

All things in the physical universe are in constant <u>circular sinusoidal motion</u>, <u>forming spirals</u> - the universe is composed of an infinity of (potential) SINE WAVES. By themselves, sine waves do not generate harmonics in nature.

It takes <u>TWO sources</u> of sound sine waves/light waves to <u>interact</u> to be able to <u>generate</u> overtones/sub-harmonics.

Sine wave (circular function) plots





The FUNDAMENTAL note, <u>STANDING WAVES</u> and the HARMONICS SERIES

Two or more Sine Waves Interacting form STANDING WAVES

This happens when sound/light is contained, and reflected by some form of boundary (in a box for example, and most commonly in music a tensioned wire clamped at both ends, a piano or violin string)

Violin/piano/ guitar string



It is this interaction, combination of the reflected waves of a single <u>fundamental note</u> of the string, that not only 'sum' together and form 'standing wave' patterns, they create a *SYNTHESIS* of the two, a SECOND, a THIRD and so on, an <u>infinite number</u> of 'partials', harmonics, and this is how the Harmonic Series is generated

The HARMONICS SERIES

A successive of whole number ratio divisions of a fundamental note, determined in Nature (physical law)





The HARMONICS SERIES demonstration

An infinity of natural harmonics (play if enough time to do so)



The nature of both Sound and Light waves

The distinction between the main wave types - Transverse and Longitudinal waves

<u>transverse</u> cyclical electromagnetic (EM) waves and vibrating strings - the addition of two harmonics and spinning helices and <u>longitudinal scalar</u> waves (akin to pressure waves)





"A sound wave is an example of a longitudinal wave and is produced by the vibrating motion of the particles that travel through a conductive medium. An example of sound waves in a longitudinal direction is the tuning fork.

In Sound waves, the amplitude of the wave is the difference between the maximum pressure caused by the wave and the pressure of the undisturbed air. The propagation speed of sound depends upon the type, composition of the medium, and temperature through which it propagates."

Quote Credit: https://byjus.com/physics/longitudinal-waves/

Why Standing Waves waves form and stabilise

Standing Waves are born of bounded containers create form and stabilise due to two opposing factors:

- <u>Resonance</u> feedback energy strengthens strongly harmonical linked ratios, and
- <u>Damping</u> moderates the endless buildup of feedback fed resonance and it has a connection to the Golden Ratio Phi/phee (1.618..., 0.618....)



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Interference (of Light/Sound Waves)

by Richard Merrick

Music Scales, Standing Waves, Phi and .007 Refer page 80 for Symmetry aspects, page 138 for Phi damping, and then page 137 for fun facts about |Phi, silence, John Dee on the origin of 007 <u>A Grand Scientific Musical Theory-Book link:</u>



The Rosslyn Chapel Magic Ratio of Resonance and the ratio 81

Resonance - feedback energy strengthens via strongly harmonical linked ratios, and

Magic Ratio = 0.012345679 (8 omitted)

Richard Merrick

See pages 142-149 <u>A Grand Scientific Musical Theory-Book</u> <u>link:</u>

This Magic Ratio factors evenly into whole number ratios, and hence are Harmonic Ratios

Inverse = 1 - 0.012345679 = 0.987654320 (1 omitted)

1:0.012345679 = 81 2:0.012345679 = 162 3:0.012345679 = 243 4:0.012345679 = 324 5:0.012345679 = 405 ... and so on

Note: the Digital Roots are all 9

More fascinating Harmonic Ratios

<u>Square root of 10 (base 10)</u> = 3.1622776601...

Inverse = 0.31622776601...

Harmonic Ratio = 10

3.1622776601: 0.31622776601

Other Number Bases - the same symmetries exist in some other numbers like 5 in Base 5 as long as the presentation is done in the relevant base. Unsure which numbers do which numbers do not have this quality - work in progress

 <u>credit to my college Secretary Fra.</u> <u>Michael Smith</u> for encouraging me to check this aspect more deeply.



Division of any 1 unit (expressed in base 10 (decimal) form) when converted to base 60 (sexagesimal) by multiplying by 60, the resulting number has a Digital Root (DR) that has only <u>one of three possible</u> solutions:

For example a circle circumference of n units, or its diameter, a line segment, an area or volume, divided into 9 equal parts parts numbers 1,2,3,4,5,6,7,8,9 and where t is a whole integer number including zero, 0,1,2,3,4,5,6,7,8,9 ... multiple of 9 i.e 9t +3 - 't' here is used to indicate, as an example, whole numbers of 'Time' in terms of cycles per unit time (seconds) on a circle e.g cycles per second (Hz). *** HARMONICS of 9

DR(60*n)	= (9t + 3)	
DR(60*n)	or = (9t + 6)	
DR(60*n)	or = (9t + 9)	
e.g. n =720	60*72 = 4320 = 4+3+2+0= 9	DR(720) = 9
e.g. n 144	60*144 = 840 => 8+4+0=12=1+3=3	DR(720) = 3
	Original research by P. Louis Haward	

Equivalent examples of <u>division by 9 of (60*n) with remainders</u> 0, 1/2, 2/3 - only <u>one of three possible</u> solutions <u>HARMONICS of 9</u>

n = any whole integer

n= 3	(60*3)/9 = 180/9 = 20*9 + 0	(20*9) + remainder 0
n=3*72=126	(60*126)/9 = 216/9 =24	(24*9) + remainder 0
n=4*72=288	(60*288)/9 = 17280/9 = 1920	(1920*9) + remainder 0
n =5*72=360	(60*360)/9 = 21600/9 = 2400	(2400*9) + remainder 0
n 144	(60*144)/9 = 840/9 = 93 + 1/3	(93*9) + remainder 1/3
n =7	(60*7)/9 = 420/9 46 + 2/3	(46*9) + remainder 2/3
n=77	(60*77)/9 = 4620/9 = 513 + 1/3	(513*9) + remainder 1/3

The analogy here is with the octave and 'fifth' in music

Division by 9 of (60*n) with remainders 0, 1/2, 2/3 - only <u>one of three possible</u> solutions <u>HARMONICS of 9 - https://www.desmos.com/geometry-beta/ddyfuocy2p</u>

The analogy here again is with the octave and 'fifth' in music



SONIC GEOMETRY - The Language of Frequency and Form

- Alanna Luna on YouTube:



SOUND CYMATICS of LIGHT

- Clay Taylor's work: <u>https://www.artofclaytaylor.com/cymatics</u>
- <u>https://harmonics.mynotice.io/?article=cymatics-f540</u>

Image Credit <u>Art of Clay Taylor</u> and <u>CymaScope</u>



The Geometric Basis for the Periodicity of the Elements

by Laurence Hecht



explain many phenomena observed at the atomic charged particles agglomerated in a central mass. Revel, there is no satisfactory model of the atomic nucleus, the central core of the atom around which a precise number of negatively charged electrons is pressmed cambersome and very problematical portrait of the atom to orbit. Any attempt to produce a cohesent theory of or that the quantum mechanical model has bequestived us. biting electrons, without knowledge of the structure around University of Chicago physicist Dr. Robert J. Moon has pro which these orbits are constructed, would seem to be posed agrometrical model of the excleus to do assi that." doctmed to failure. Nonetheless, a highly elaborated algebraic theory of the atom, designed to account for a mass of of the periodic table of the elements in such a way as to data satteened from spectral analysis and other operations. Account prometically, in a first approximation, for the exdoes exist in the form of the quantum mechanical model. Issence of the 90 naturally occurring elements and many of Most of this theory presumes no more about the atomic. Their physical properties. These added to Maon's hypoth-

It would seem pair time to arrive at a more developed Moon has produced a synthetic geometric construction

Adductions 1968 21st CENTURY

Sacred Geometry - Geometry of Consciousness



For Discussion: Perception - motion and Time are illusion. The 'Universe' is One Big Crystal of Infinite possible Realities and We are 'Time Travellers' as our Consciousness Create Its 'path' by resonate attunement to the Geometry using Attention and Will. i.e. Consciousness Chooses Its Reality.

The harmonic nature to matter and anti-matter, the realm of Mind and Emotion (opposites), the planet, solar system, the galaxy and Cosmos. One simple set of rules that applies and scales from the sub-atomic to the whole Universe.

The Cube/Sphere nature of our reality - the reciprocal nature of Light and Gravity. (refer <u>Bruce L. Cathie</u>)

The Divided One whole of which we are all part of, the multi-dimensional nature of our realities. Time and space. Infinite Realities.

Consciousness - affects Subtle Energies

Consciousness Chooses Its Reality.

Light is 'black' we cannot see it with our senses, and that our reality is a simulation in the sense that the waves create a simulation of Light, but it is not The Light itself, merely a reflection of the inner templates and designs, of the infinite possibilities of possible Universe Designs.

We (could) actively play a part in it with our Will and Intention, given sufficient awareness and discipline, but we must 'play by the Rules' to be effective at the level of control to master the physical world.

Professor Robert Haralick's introduction video on Subtle Energy & Water. (to give a sense of some things some enlightened academics are up to in research). <u>Website link</u>



The Theremin

A short introduction to a unique instrument



Old but good podcast on Forum Borealis

Dr. Joseph Farrell - Hidden Patterns of Creation - listen at your leisure



Hamon Le Strange College No. 42 - SRIANorfolk.uk



Finish Live Presentation - further resource links



Unused slides - Overview - The Divided ONE



POINTS within a 2-dimensional space - a VOID - NO LIGHT



ARC length on circle circumference is a measure of both distance, and the

ANGLE is describe with respect to the centre

ONE POINT - no reference, no form

TWO POINTS can *FORM* a LINE, a <u>PATHWAY -> notion of space</u>, <u>motion (change in position) and</u> <u>direction *** expand on this</u>

The circle <u>circumference</u> is a PATHWAY of an <u>unquantifiable</u> number of points -> constantly changing direction from one point to the next => <u>acceleration</u>



Symbolism - The Universal Language

Harmonics as symbolism, or harmonic symbolism

Relationship of the Harmonic Doctrine of Correspondences to Harmonic Symbolism:

The difference between <u>harmonic correspondence</u> and <u>harmonic symbolism</u> lies predominantly in that for the series of correspondences, the emphasis is placed on the individual phenomena of correspondence (analogies), whereas **symbolism returns to the prototype behind the correspondences**.

Symbol:

It is only a small step from parable to symbol, but a decisive one: the "eternal truth" that the parable paraphrases and makes into a story **is concentrated and stabilized in the symbol via the image-concep**t. It is removed as far as possible from the sensory and presented in an abstraction which, like a highly sensitive detector, allows our psyche to receive direct messages from the spiritual world. To be sure, the psyche must be perceptive to this, and sadly this perceptiveness has been lost to us, with only a few exceptions, since the rise of the natural sciences.
369, Circles, Keely/Nikola Tesla

The relationship between the Numbers 3, 6 and 9,

360 Degrees in a Circle

Original research by P. Louis Haward between 2017 -2023

Analysis

An analysis of the system of angular measure dividing the circle into 360 degrees, with each degree further divided into 60 minutes and each minute divided into 60 seconds revealed the following

Original research by P. Louis Haward

Division of any 1 unit (expressed in base 10 (decimal) form) when converted to base 60 (sexagesimal) by multiplying by 60, the resulting number has a Digital Root (DR) that has only <u>one of three possible</u> solutions:

For example a circle circumference of n units, or its diameter, a line segment, an area or volume, divided into 9 equal parts parts numbers 1,2,3,4,5,6,7,8,9 and where t is a whole integer number including zero, 0,1,2,3,4,5,6,7,8,9 ... multiple of 9 i.e 9t +3 - 't' here is used to indicate, as an example, whole numbers of 'Time' in terms of cycles per unit time (seconds) on a circle e.g cycles per second (Hz).

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e.g. n 144	60*144 = 840 => 8+4+0=12=1+3=3	DR(720) = 3
	Original research by P. Louis Haward	

Examples Digital Root (DR(n*60)) - only <u>one of three possible</u> solutions:

n = any whole integer

n = 3	DR(60*3) = DR(180) = 1+8 = 9	DR(60*3) = 9
n = 3*72=126	DR(60*126) = DR(12960) = 1+2+9+6+0 = DR(18) => 1+8 = 9	DR(3*72) = 9
n = 4*72=288	DR(60*288)= DR(17280) => 1+7+2+8 = 9	DR(4*72) = 9
n = 5*72=360	DR(60*360)= DR(21600) => 2+1 + 6 = 9	DR(5*72) = 9
n = 144	DR(60*144) = 840 => 8+4+0 =12 =1+2 = 3	DR(60*144) = 3
n = 7	DR(60*7) = 420 => 4+2+0 = 6	DR(7*60) = 6
n = 77	DR(60*77) = DR(4620) = DR(4+6+2+0) => 1+2 = 3	DR(60*77) = 3

Equivalent examples of <u>division by 9 of (60*n) with remainders</u> 0, 1/2, 2/3 - only <u>one of three possible</u> solutions

n = any whole integer

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n=4*72=288	(60*288)/9 = 17280/9 = 1920	(1920*9) + remainder 0
n =5*72=360	(60*360)/9 = 21600/9 = 2400	(2400*9) + remainder 0
n 144	(60*144)/9 = 840/9 = 93 + 1/3	(93*9) + remainder 1/3
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The analogy here is with the octave and 'fifth' in music

Ancient Secret of The Flower of Life (vol. 1 and 2)





ATUM to ATOM

https://zabadac.hflip.co/ea3fa2a431.html

http://www.cosmokratorom/

Electricity

https://youtu.be/bHIhgxav9LY

Remembering who we are

Drunvalo Melchizedek

"A bright and holy Light does shine within our Hearts and offers living hope to all the world and to you personally. Ascension into the higher spiritual worlds is not a process that only the saints and holy ones could achieve. It is for all of us who choose this path of the Heart here on Earth right now. Ascension can be realized without leaving this world, and while being awake to all that is in our Reality. The outer world is but a reflection and creation of an inner world that has long been forgotten within our own Hearts "

Drunvalo Melchizedek



SCHOOL OF REMEMBERING



Enrollment link



Art

Mary Magdalene

by <u>Lily Moses</u>

"Art, when inspired with love, leads to higher realms.

Love art and that art will open for you the inner life."

– Meher Baba



Introduction to Rational Geometry

Divine Proportions by N.J. Wilderberger



The Cube of Creation

"Section 17. of Algorismus reads as follows:

"Every squared number has two measures, that is breadth and length. But cubicus numerus (the volume number) has three measures, that is breadth, length and height; therefore wise men hold that every visible body is put together from these numbers, for it always has these three measures. Inasmuch as eternal wisdom and one god desired to create the world in visible and bodily form, he placed fire and earth as the two outermost main creatures, because nothing in nature could be visible without them, for fire gives light and motion, but earth stableness and persistence." In Algorismus the Cube is called Earth, which is said to give "stableness and persistence."

The Cube of

Stableness and Persistence

Pétur Halldórsson

(English translation: Einar Pálsson)"

MIND - Walter Russell - The Universal One

https://zabadac.hflip.co/0268d4da0a.html#page/24



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The Music of Crystals, Plants. and Human Beings

The Music of Crystals, Plants. and Human Beings by Rev. FATHER A. GLAZEWSKI

The Gravitational Wave

The Spell of the Sensuous

Perception and Language

in a

More-Than-Human World



GOD SAID: LET THERE BE LIGHT

GOD SAID:

LET THERE BE LIGHT

AND CREATION BECAME

"TRUTH IS SIMPLE. BALANCE IS SIMPLE. Rhythmic balanced interchange between all pairs of opposite expression in natural phenomena and in human relations, is the consummate art of God's universe of Light. It is also the law. In this one fundamental Universal Law lies the balanced continuity of all creative expression in God's electric wave universe of two conditioned lights in seeming motion which record God's One Whole Idea of Creation into countless seemingly separate parts of that Whole Idea."



PODCAST

Nº OO

Definition of

Alchemy and Hermetism

Hermetis Scientiæ



Rubaphilos Salfluĕre





Modern day Nikola Tesla - Eric Dollard

Electromagnetic Induction and its Propagation



A Sequel to the Work of Oliver Heaviside of the Same Title, Part 1

Eric Dollard

Copyrighted Materia



Eric Dollard is an Electrical Engineer who is a "living legend" in the field of electrical research. Recognized as the modern-day Tesia, he is considered by many as the most knowledgeable expert alive on the true nature of electricity. Author of the landmark mathematical papers Symbolic Representation of Hermating Electric Waves and Symbolic Representation of the Generalized Electric Wave, he abow how all electric phenomena can be mathematically messured and engineered without using calculus or "Marvell's Equations."

The following chapters of Electromagnetic Induction and its Propagation derive their basis from what has baccome known as the Faraday-Maxwell concept of electricity, and its further advancement through the pioneering efforts of JJ. Thomson and Oliver Heaviside. Electromagnetic theory, as it is presently understood, can be considered the creation of Oliver Heaviside, despite the prevalent notion that this was the creation of O. Maxwell.

As with all theoretical propositions, those of Heaviside were incomplete and lacking in certain details, as were those of Maxwell before him. Thus, these needed further development in order to be applied to electrical engineering. The work of Heaviside was to be advanced by the efforts of Arthur Kennelly and Charles P. Steinmetz, the two figures mostly responsible for electric power, telephone, television, and data transmission engineering.

The objective of this text is to unify the symbols, units, and dimensions established by these important individuals into a comprehensive set of engineering formulations free of the usual overly complex mathematics and delusive theories attendant to any engineering text in current use. It is believed by this author that, in these chapters, a level of clarity has been achieved never before presented in a text of this kind. Accordingly, this can be regarded as an advancement into a comprehensive understanding of the phenomenon of electricity.



POLAR RADIAL PLOTS

to do

The Numbers 3,6 and 9 and Nikola Tesla

360:60:60



Michael Tellinger



If I may also refer you to the works of Richard Merrick, his book freely available called 'Interference - A Grand Scientific Musical Theory' and specifically the chapter on Harmonic Models. I've put together the bulk of his works for you here, including his book which links to his website: https://zabadac.hflip.co/492926372a.html

Alchemy is the Mother of All Arts, and traditional shamans would know this ancient knowledge. Current academic knowledge in physics which is somewhat too specialised, behind the curve still, but catching up and and it's wonderful that this paper is high lighting Alain Connes' work and the subject of the non-commutative, which one will find in the treatment of reciprocals of ratios on a circle, which can be used to teach music, but the tones and intervals are best shown in this form. All life is motion, and it is founded on not only transverse waves, but longitudinal scalar waves (think Nikola Tesla) - someh what written out of history and physics - but it is based on the science of harmonic spherical waves. Another good source knowing about is Irwin Wundermann's work - Planck's Constant and Pi: A Unified Wave Theory for Particles and Bioforms.

Klee Irwin of https://quantumgravityresearch.org/ work with quasi-crystals is excellent.

Non-commutative

The book 'Divine Proportions' - Rational Trigonometry to Universal geometry by mathematician N J Wildberger is a truly great step towards putting mathematics on a more firm footing based on the circle and (ancient) knowledge of mod(9) maths. Understanding Sacred Geometry and modulo 12 on the circle, and how that is related to music theory and the understanding of Phi/phee constants comes into this subject matter, as does knowing the that relationship of the Fibonacci sequence, which approaches Phi but never reaches it, so that a tension always exists between the two, that the Fibonacci sequence has a beginning, and ultimately an end, whereas Phi is eternal at any and all scales, as is Pi. The 'creating sound' of the tonic together with its overtones (harmonic series) is necessarily constrained, boxed, in our reality and as such standing waves are formed which if un-moderated 'blow up' but the standing wave is formed by the geometry of Phi, which acts as a 'black hole' for the non-resonate overtone waves and hence favours stable standing waves to form. The Phi ratio ensures this, without which no matter would form, there is no matter, just waves and their interference nodes which give form, shape, to all things. This ancient knowledge is found in Masonic and Rosicrucian symbolism and allegory.

"Alain Connes talks about and so the Pythagorean Comma is actually the same noncommutative exponential as the inverse for the matrices math! So Professor Hiley points out there no longer is "time" in the exponential but rather his noncommutative nonlocal phase as the "unfolding parameter".

Robert Sepehr







PHYSICS

https://magnetismtoroidaldynamics.com/2018/01/01/the-ferrocell-crt-revelations-oftoroidal-energy-dynamics-of-magnetism-light-electricity/

A Perfect Chord: Trinity in Music, Music in the Trinity

<u>Trinity is at the core of Christian faith:</u> <u>this article presents a theological</u> <u>survey of how it has been understood</u> <u>in a musical way during the Christian</u> <u>era.</u>

The role of music as a participation in the liturgy of mutual love eternally experienced in the Trinity is first analyzed, with references to the Church Fathers and to modern/contemporary theologians. Later, the three main forms of congregational singing are taken into account (i.e., monody, "Abstract: The doctrine of God's Triupolyphony and harmony), pointing out how each has been seen in turn as a symbol of the Trinity's love."

> https://zabadac.hflip.co/bda104c e4f.html#page/1

Sacred Sound

The Sound and The Sacred

Jacob D. Fishel

Dr. Laurel Zwissler

December 6, 2018

GEOMETRY - 10 X 10 SQUARE

