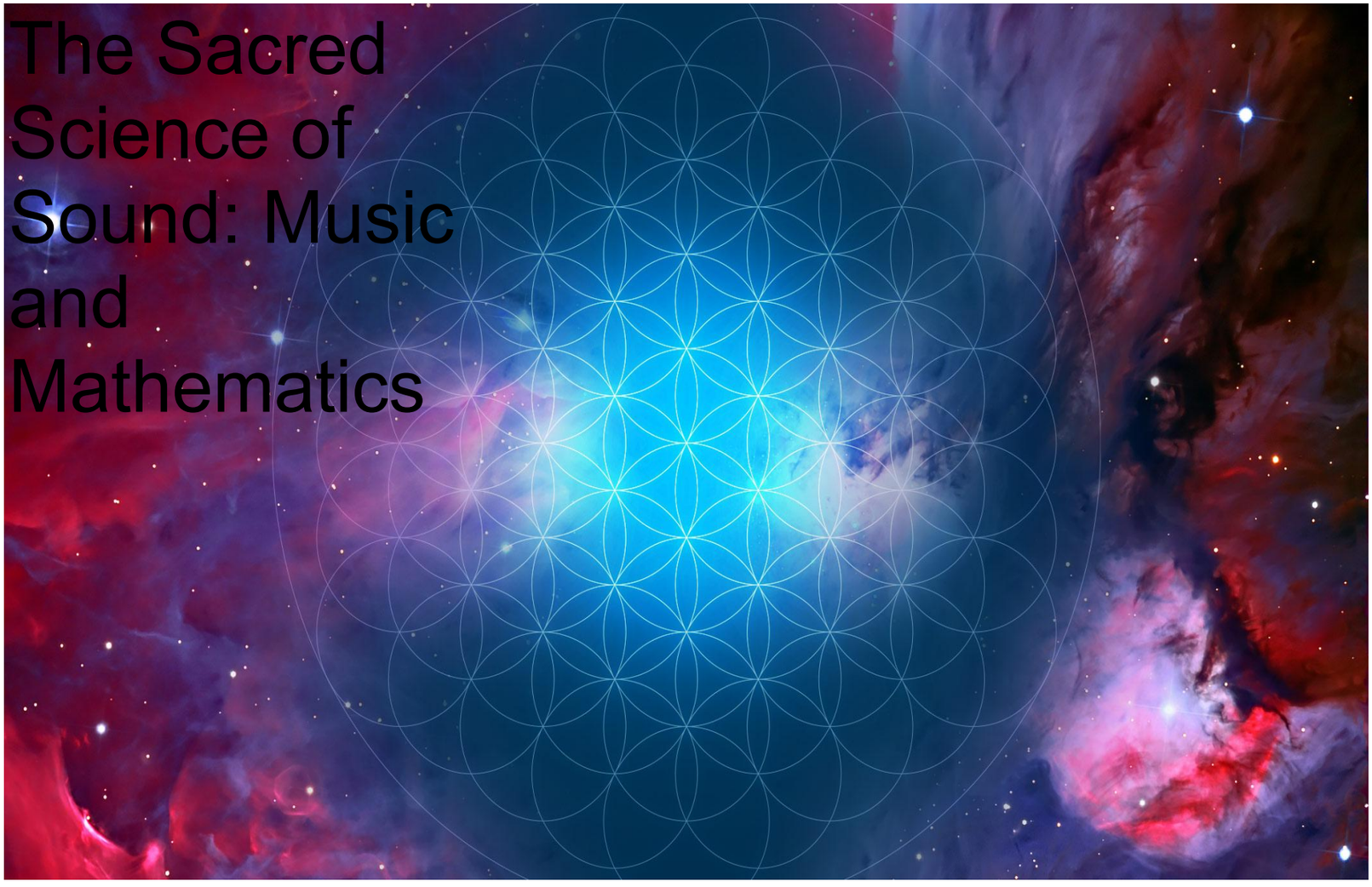
The Sacred Science of Sound: Music and Mathematics



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"Certainly, just as it is ordained in all human affairs that in those things which are bestowed upon us by nature, use precedes understanding of causes, similarly as far as melody is concerned it happened to the human race that from its very beginning it used without speculating or knowing about their causes the same intervals between rhythms and notes as we use today, in the chanting of melodies, not only in churches and in choirs of musicians, but everywhere without applying any art, even at crossroads and in the fields."- Johannes Kepler (130)

Science and Song

Merriam Webster defines sound as, "mechanical radiant energy that is transmitted by longitudinal pressure waves in a material medium (as air) and is the objective cause of hearing" ("Sound"). The definition of music has long been debated and though the merging of modern technology with human creativity has produced innovative musical compositions, such as John Cage's 4'33", most experts agree that music in general is, "the science or art of ordering tones or sounds in succession, in combination and in temporal relationships to produce a composition having unity and continuity" ("Music").

Music is considered both a mathematical and a universal language. 6th century B.C. mathematician and philosopher Pythagoras' presentation of the musical ratios and intervals that we use in the majority of compositions today gave us our first hint of the existence of the "Music of the Spheres." Pythagoras' Music of the Spheres theory equates the distance between the planets of our solar system to musical ratios, primarily octave, V, IV, III and vii intervals, and proposes that each planet emits a sound; the closest, slower-moving planets emit lower tones while the farther planets emit higher pitched tones as they move faster (Calter). Pythagorus' ancient instincts were very close to what modern science has discovered concerning the distances

between planets. Recent data recorded and sent by NASA's Voyager 1 and 2 space probes verify that planets do indeed emit electromagnetic waves with frequencies about fifty octaves below the range of human hearing. Scientists at NASA used special computer software to translate the planets' electromagnetic waves into higher frequency radio waves (NASA), unveiling to human ears, for the first time in our history, the sound of the Music of the Spheres.

http://youtu.be/Yq2P_rMLE9M

Music is one of the core elements of humanity's experience, spanning the ages of social and cultural evolution, woven throughout every aspect of our lives, and music affects us on every level of our being. Music can make us laugh or cry, dance or sleep, inspire or anger us, rally group support or cause conflict between differing sects. Music communicates ideas and feelings, triggers feelings of tension or relief, states of being which are directly related to physical, mental and emotional balance, and music may even help us learn more quickly and retain information longer. Music can bring back memories and skills even in the most severely impaired, such as Alzheimer's patients and stroke victims, and music has been shown to assist in the regulation of physiological systems and motor response, as heart rate, blood pressure and even walking gait, as studies have shown with Parkinson's patients. Music can be found in nearly every aspect of the known physical universe and what does not contain the seeds of music may merely be due to our own physiological and technological limitations. The field of quantum physics has unearthed evidence for the role of energy as vibration, including sound waves, as the basis for matter and beyond, revealing that even thoughts and emotion can be measured in frequency.

Great scientists and philosophers such as Aristotle, Plato, Johannes Kepler and Nikola Tesla, among many others, expanded upon the work of Pythagoras. Kepler based his great work "Harmonices Mundi," trans. "Harmony of the World," on Pythagoras' Music of the Spheres.

Aristotle stated, "[the Pythagoreans] saw that the ... ratios of musical scales were expressible in numbers [and that] … all things seemed to be modeled on numbers, and numbers seemed to be the first things in the whole of nature, they supposed the elements of number to be the elements of all things, and the whole heaven to be a musical scale and a number," (Calter). 19th Century scientist and inventor Nikola Tesla famously proposed, “If you want to find the secrets of the universe, think in terms of energy, frequency and vibration,” and sensed the universe to be “composed of a symphony of alternating currents with the harmonies played on a vast range of octaves,” (Cheney 87).

Plato, a student of the Pythagorean School, tells us that at his time, in the 4th century BC, there had been music and poetry in Egypt for at least 10,000 years that was, “of such an inspiring and exalted nature only gods or godlike men could have composed them” (Hall, 211). Plato founded the first European university, The Academy, as a model for institutions of higher learning, largely based on the Pythagorean School structure.

Divine Proportion and the Measurement of Life

Through The Academy the Platonic solids were introduced as the fundamental structure of the four elements: earth, air, fire and water. The Archimedean solids expanded on the shapes defined by the Platonic solids and together these two systems created a method of measuring the basic nature of three-dimensional matter (Quinn, Fowler, Redmond, 35-38). Platonic and Archimedean solids correlate with and stem from the golden number Phi, an infinite number of perfect proportion that is found everywhere in the genetic make-up and appearance of natural objects in the known universe (Fig. 1).

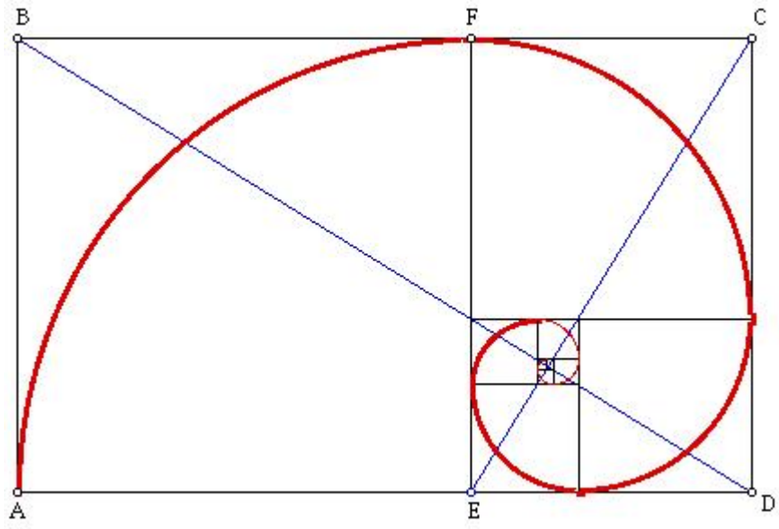

Figure 1. Freitag, M. “The Golden Ratio.” *Phi:That Golden Number.* Web. 26 Oct 2014.

From the proportions of the moon to the earth, the orbits of the planets in our solar system and the molecular structure of planets themselves to the formation of coral, the proportions of the physical body across human and animal species to the composition of crystalline structures, seashells and plants, Phi is found everywhere on the physical plane. Moreover, Phi is present in sound and light frequencies as well as in gaseous and liquid elements and basically every element listed on the Periodic Table[i] (Hecht, 18-25). The human body is built on Phi, depicted Leonardo DaVinci’s *Vitruvian Man* (Fig. 2). The Nautilus shell blatantly displays Phi and the Fibonacci sequence in its perfect Golden Spiral (Fig. 3).

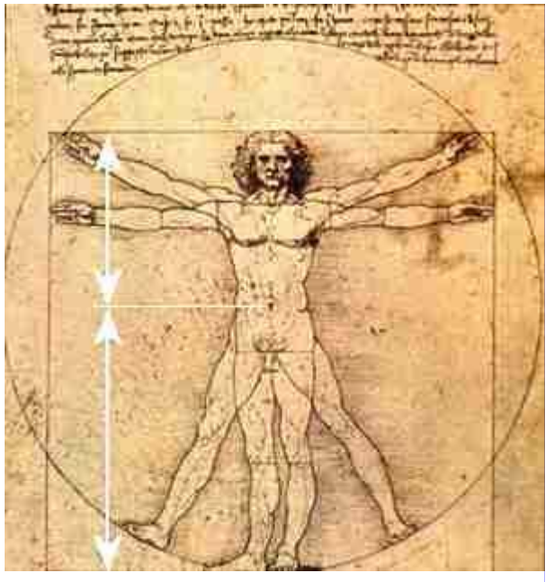

Figure 2. DaVinci, L. "Vitruvian Man." *Interactive Mathematics; The Math Behind the Beauty.* Web. 26 Oct 2014.

Figure 3. Young, R. "Nautilus." *Tree of Life: Cephalopoda.* 26 Oct 2014.

Phi-Infinite Perfection

The Divine Proportion, also called the Golden Ratio, Golden Section and Golden Mean, Phi appears to be the mathematical foundation of creation, from the base elements in the periodic table and cell reproduction to the measurements of our own bodies and the celestial ones. Phi is known as the basis of geometry, trigonometry and numerical sequences. The Fibonnaci sequence stems from Phi in its infinity. Phi lies at the core of ancient sacred geometric patterns, foremost of which is the "Flower of Life" (Fig. 4). The Flower of Life is found in the ancient structures, holy places, sacred texts and religious traditions of advanced cultures throughout history including Egypt, Turkey, India, China, Tibet, Yucatan, Israel, Ireland, Scotland, Italy, Austria, Bulgaria, Denmark, Hungary, Spain, Japan, Morocco, Syria, Lebanon, England and Greece among others; in all places and traditions this geometrical form is called by the same name, the "Flower of Life," and is known by those cultures to be the blueprint for all of creation.

The Fruit of Life (Fig. 5), an esoteric, informational pattern comprised of thirteen circles selected from the expanded flower of life pattern, is thought to contain 13 information systems, each pertaining to a different facet of existence including physical reality, emotions and music. For example, the first system, found in the Seed of Life or Genesis Pattern, which is the first pattern of spheres that fully forms the Flower of Life, illuminates configurations for the cellular and molecular structures of any living thing in our existence, including light (The Flower of Life). The Egg of Life is the three-dimensional construct of the Seed of Life and is the basis for the molecular structure of the physical body. Other systems are thought to contain information pertaining to other dimensions and concepts such as wisdom, mercy and understanding along with relative concepts of human life such as justice, forgiveness and compassion.

The Fruit of Life and its thirteen information systems can be seen in some important symbols of many ancient traditions and mystical systems, and perhaps the information systems

within the fruit of life correlate with the information systems of those symbols. The Judaic Tree of Life and the Norse Yggdrasil World Tree share the structure of the flower of life as a model for enlightenment and for understanding the different aspects and levels of existence. Each sphere of the tree correlates to a facet of our existence. The Sephiroth Giburah is ruled by Mars and deals with Severity, while a similar node on Yggdrasil, Muspellheim, is the realm of fire and heat, a most severe element and a distinctly Martian attribute according to ancient symbology. Keter and Asgard top the trees and are considered realms where the highest beings dwell, such as angels and gods. Liossalheim is the realm of Light Elves and Air Spirits, and Daath is the realm of Knowledge; air is traditionally linked with information and elves have been mythically associated with esoteric knowledge and immortality, the eternal breath. Malkuth and Hel represent the energies of the Underworld and hidden dark forces of death, transformation and rebirth. Archaeologists have revealed Egyptian carvings of the Tree on pillars at Luxor that are over 5,000 years old (Pearce).

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If we compare the trees and the flower and fruit of life patterns we find some clear associations. Seeds grow into trees which flower then produce fruit that bear seeds and the cycle repeats endlessly. The lowest spheres of the tree deal with the underlying forces behind life, death, transformation and the underworld. The first information system in the fruit of life, the seed of life, contains information about cellular and molecular structure, the building blocks of matter including the human body. The second level corresponds with the concept of foundation, the life force behind phenomenal reality, called spirit, source, the astral or etheric body and light (Low). The flower of life grows out of the seed of life and is a metaphor for light, for a flower cannot bloom without light. The third information system belongs to Midgard and Tiferet, the heart of the tree, the realm of the human experience on Earth and the life-giving force of the sun.

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The third system requires much seeking to understand, being a realm of duality where things are not as they first appear. This system branches out into four other systems containing information related to the opposing forces of victory and splendor, mercy and severity. In the heart of the tree and the fruit of life, emotion is paramount and anything can be created upon the empty slate; it is the realm of spiritual consciousness in an earthly form which casts a glow of either beauty or ugliness depending on perspective. As we continue up the levels of the tree we can find the proper correspondences with information systems dwelling within the fruit of life pattern.

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The trees, however, do omit some of the flowers in the Fruit of Life. Yggdrasil omits the outer four flowers, while the Judaic Tree of Life omits two. Perhaps our ancestors were not aware of these outer flowers due to the incomprehensible nature of the information held within them. Today, we have been able to admit the possibility of the existence of more than our ancestors may have conceived of due to advanced technology, breakthrough discoveries and improved communication capability, all of which has strengthened collective consciousness.

The Fruit of Life is also a diagram for the geometrical pattern of Metatron's Cube, inspiration for the original alchemical concept of combining the Platonic solids, the elements, with ether or pure energy as a vehicle of transformation into higher consciousness. Metatron's Cube is comprised of 12 interlocking pentagrams, stellated pentagons which form the dodecahedron, the three-dimensional Fruit of Life.

Figure 4. "Sacred Geometry: Flower of Life." *Maybe Logic Academy*. Maybe Quarterly, Vo. 4, Issue 4, Winter Solstice 2007. Web. 07 May 2014

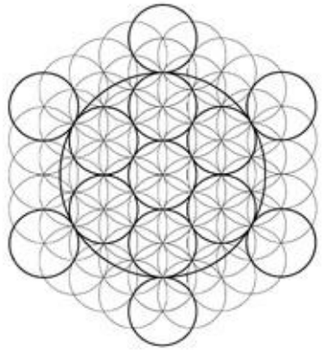

Figure 5. “The Fruit of Life.” *Sacred Geometry-The Flower of Life*. Web. 07 May 2014

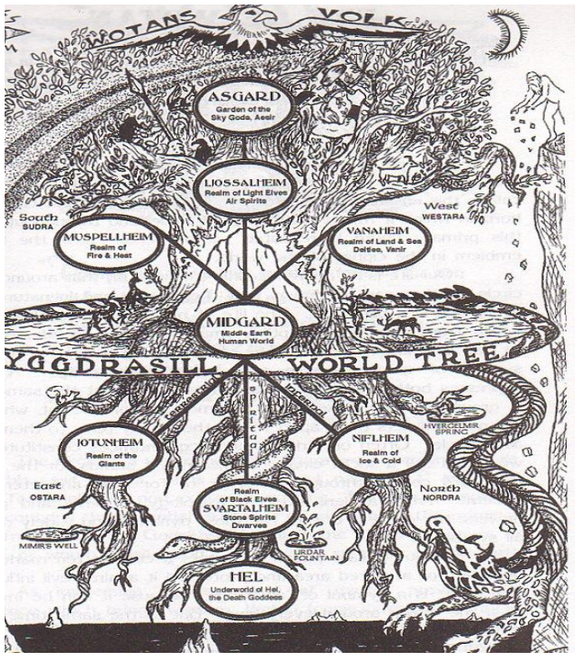

Figure 6. “Yggdrasil World Tree.” *Freyja: Devotional and Research Site*. Web. May 201

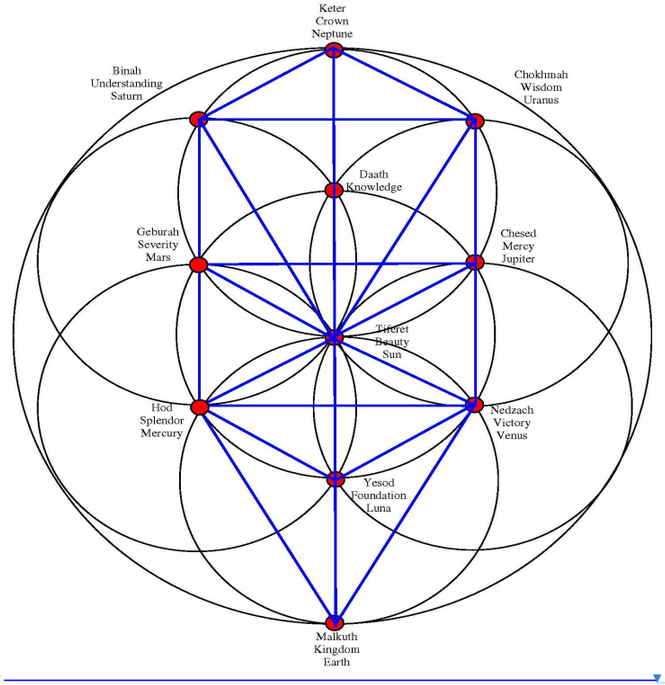

Figure 7. “Tree of Life.” *Expanding Horizons*. Web. 07 May 2014

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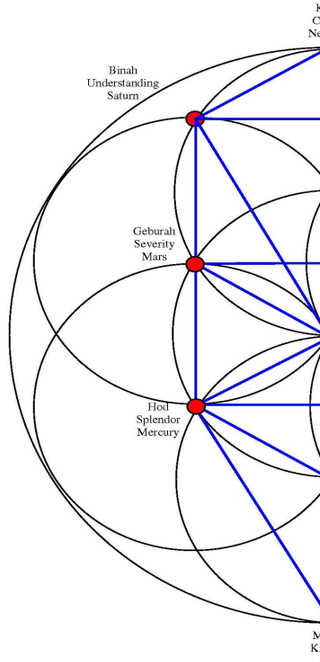

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The Fibonacci Scale

John Alexander Reina Newlands was a major contributor to the development of the periodic table who discovered the "law of octaves," a pattern he found while listing the elements in ascending order relative to atomic weight (Hall). Like octaves in the diatonic musical scale, the properties of the elements repeat after seven, at every eighth interval, making the periodic table a scale of its own. Applying the law of octaves and the Fibonacci sequence to the diatonic musical scale (Fig. 8) results in a perfect fibonnaci musical progression (Fig. 9).

When applying the Fibonacci sequence to Western music theory in the tradition of Pythagorus, the pitch sequence reaches 16 pitches in a pattern before repeating that same pattern infinitely. 1 + 6 = 7; 70 is the perfect number for multiplication in applying the Fibonacci sequence to musical pitches and 7 + 0 = 7. There are seven tones in a Western major or minor scale, seven white keys in a piano scale, seven colors in a rainbow, seven chakras or energy centers in the etheric body, seven endocrine glands in the physical body, seven days of the week, seven planets of antiquity and seven groups of crystal structures (Lundy, Sutton, Ashton et.al., 24, 36, 364).

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1	2	3	4	5	6	7	8	9	10	11	12	13	14
C	D	E	F	G	A	B	C	D	E	F	G	A	B
15	16	17	18	19	20	21	22	23	24	25	26	27	28
C	D	E	F	G	A	B	C	D	E	F	G	A	B
29	30	31	32	33	34	35	36	37	38	39	40	41	42
C	D	E	F	G	A	B	C	D	E	F	G	A	B
43	44	45	46	47	48	49	50	51	52	53	54	55	56
C	D	E	F	G	A	B	C	D	E	F	G	A	B
57	58	59	60	61	62	63	64	65	66	67	68	69	70
C	D	E	F	G	A	B	C	D	E	F	G	A	B

Figure 8. Fauble, L. (2014). “The Pitches of the Western Scale to 70.”

Every tone in the scale of C Major is present in balanced proportion. The alternating rows of pitches in Figure 5 are in perfect symmetry. The pitches start out in tandem, C, C = A, A, the C being the root or tonic, the A the major 3rd of a C chord. The C goes up two half steps to D while the A goes down two half steps to G; D up two half steps to E, G down two half steps to F; E up three half steps to G, F down three half steps to D; G up five half steps to C, D down five

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half steps to A; C up nine half steps to A, A down to C; A up two half steps to B, C one half step down to B on which all lines meet.

1	1	2	3	5	8	13	21
C	C	D	E	G	C	A	B
34	55	89	144	233	377	610	987
A	A	G	F	D	A	C	B
1597	2584	4181	6765	10946	17711	28657	46368
C	C	D	E	G	C	A	B
75025	121393	196418	317811	514229	832040	1346269	2178309
A	A	G	F	D	A	C	B

Figure 9. Fauble, L. (2014). “The Fibonacci Western Scale in C Major.”

Every tone in the scale, in this case C Major, is present in balanced proportion. The alternating rows of pitches in Figure 9 are in perfect symmetry. The pitches start out in tandem, C, C = A, A, C being the root or tonic, A the major 3rd of a C chord. The C goes up a whole tone steps to D while the A goes down a whole tone to G; D up a whole tone to E, G down a whole tone to F; E up three half steps to G, F down three half steps to D; G up five half steps to C, D down five half steps to A; C up nine half steps to A, A down to C; A up two half steps to B, C one half step down to B on which all lines meet.

B is the vii chord in the key of C Major and the second letter in many language systems around the world; two is the number of duality, the divine pair (male and female, yin and yang, left and right, up and down), the Pythagoreans’ first sexed number (even and female) and the musical octave in the ratio two to 1 or 2:1 (Lundy, Sutton, Ashton, et.al., 14). There are two earthly sources of physical light and energy in the sun and moon, and two is the essence of

combined melody and harmony. In the measurement of comparative light and sound waves measured in Angstroms and Hertz (Fig. 10), the tone B is equal to the color lemon yellow; the color orange is associated with the solar plexus chakra, the third chakra in most systems and the energy center related to personal power and manifestation. The significance of the pitch B as the eight, repeating pitch is an incredible synchronicity that implies accordance with the reigning duality of the third dimension.

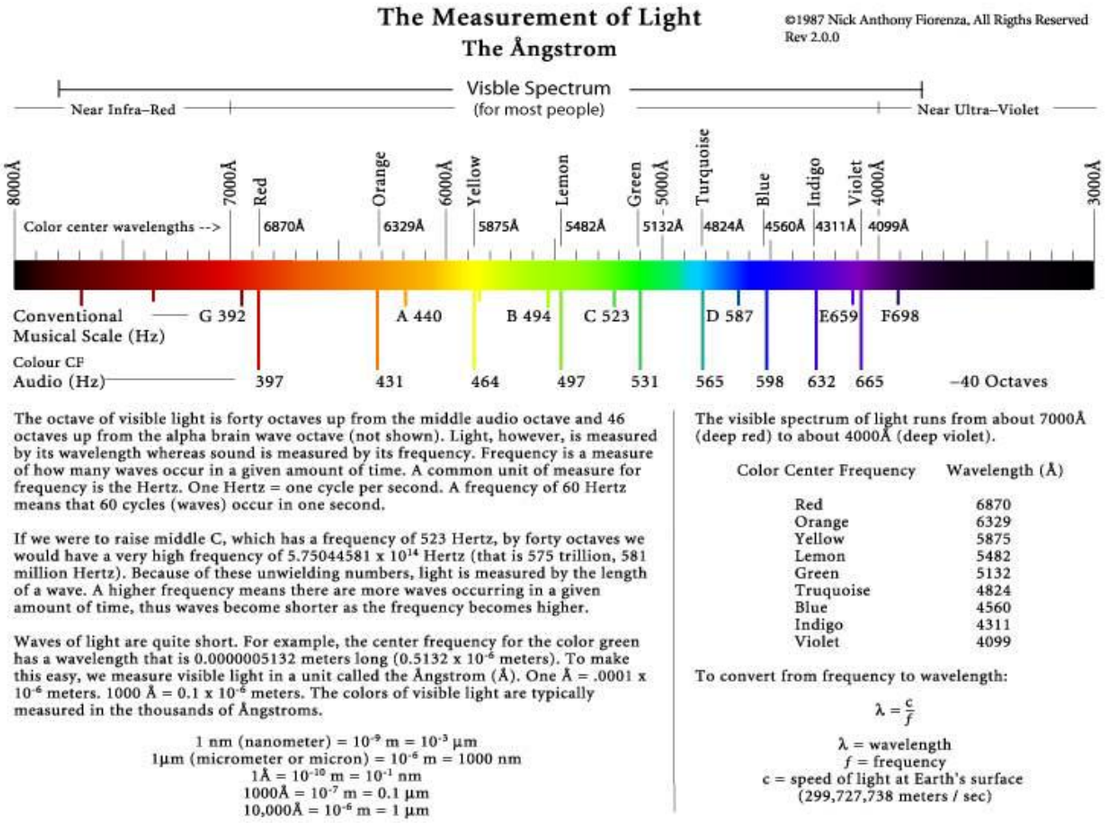

Figure 10. Fiorenza, N. (1997). "The Measurement of Light-The Angstrom." *Planetary Harmonics and Neurobiological Resonances.* Web. 22 Jan 2015.

The sound waves of tones can be transmitted as light waves in color. Neil Harbisson is an artist who was born completely color-blind, and he lived in a grey-scale world until 2003 when, at the age of 21, he began working with scientists who implanted a color-sensor device in his head, similar to a cochlear device for the deaf, which translates color frequency into sound frequency and allows him to hear color through bone conduction by holding a color up to the "eye" of the implant. Each color resonates with a tone that Neil now recognizes as the particular color. With his implant, Neil can also translate songs, speech, sounds and even faces into color patterns and can translate paintings into music. While Neil's eyes are still colorblind, he now dreams in color, suggesting the color/tone device has reprogrammed the subconscious "software" in his brain related to light and sound.
http://www.ted.com/talks/neil_harbisson_i_listen_to_color?language=en#t-99142

The interconnection of numbers displayed here is statistically unlikely to be mere coincidence. The intertwined mathematical and musical structures of our universal, galactic, planetary, terrestrial and human systems can be mapped out and navigated with relative confidence by applying the numerical values and correlations of sacred geometry to music in order to effect changes; these changes may occur on many levels, from molecular and cellular regeneration to mental, emotional, physical and energetic re-organization.

The renowned Mayo Clinic is currently using radio waves to disintegrate cancerous tumors of the liver, gallbladder and kidneys using a process called Radiofrequency Ablation, or RFA (Mayo Clinic). If sound can create, as it does, if sound can be mathematically arranged, as it is, and if sound can permeate, as it will, we can use sound as a most powerful source of healing, balance and creation with which to rise above the current vibrational level of our personal and collective realities to a higher level of being. Because sound is so powerful and can affect us and

our environment so intensely, we must be aware of that power and use it wisely in order to create a better future and eliminate the cancerous and defeating influences that so pervade our current reality and poison our search for higher meaning, holistic well-being and advanced consciousness.

432: Mother-number

"If you want to find the secrets of the universe, think in terms of energy, frequency and vibration." –Tesla

A=432 Hz was the primary instrumental tuning standard prior to the mid-20th century. Many ancient instruments, from Tibetan bowls to 35,000 year old bone flutes, are constructed in A=432 tuning. 432 Hz is the second note in a Pythagorean scale, a scale based on intervals of fifths and the basis for the widely used "Circle of Fifths" in Western music composition. Modern instruments continued to follow 432 tuning up until around the middle of the 20th century (Rankin) when A=440 Hz tuning became popularized. Our ancient ancestors must have collectively had an instinctual gravitation toward A=432 Hz in order for primitive instrument makers and musicians from opposite sides of the globe to adhere to the same tuning frequency. What is significant about the 432 Hz frequency and why has humanity gravitated toward it since, as evidence suggests, we began crafting instruments?

Physics has shown that everything exists due to vibration. Quantum physics and sonocytology have proven that atoms vibrate against each other to form a molecule and those atoms and molecules have signature vibrational waves that can be measured in Hertz. Scientists use vibrational spectroscopy to study the energy of the vibration of molecular bonds in order to identify frequency (Steele). Shapes and numbers also have frequencies. Early solfege notation

was written as shapes, called solfege singing or “shape-note singing.” Basic shapes were used as notation because it was easy for the layman to read and nearly anyone could read shape-note music (Stefanov-Wagner). Did shape-note notation have anything to do with the actual frequencies of geometrical shapes or was the musical language an intuitive form of musical notation drawing upon the mathematical properties of geometric shapes?

There are definite frequencies pertaining to individual geometric shapes. We can use the sum of the combined angles within a geometric shape to identify the frequency of the shape. The basic shapes are the triangle, circle, square and pentagon followed by the hexagon, septagon (heptagon) and octagon. The related frequencies are Triangle – 180 Hz; Circle and Square – 360 Hz; Pentagon – 540 Hz; Hexagon – 720 Hz; Septagon – 900 Hz; Octagon 1080 Hz. In an A=432 Hz tuning, these pitches form a major F# chord, beginning with F# at180 Hz, 360 Hz being a F# an octave higher, 540 Hz a C# (P5), 720 Hz another F# octave, 900 Hz an A# (MIII) and 1080 Hz another F# octave; this is also the inherent pattern noted by Pythagorus as the arrangement of harmonic overtones accompanying a single pitch in nature. The shapes of Platonic solids yield the same pattern: Tetrahedron – 720 Hz, F#; Cube – 2160 Hz, C#; Octahedron -1440 Hz, F#; Icosahedron – 3600 Hz, A#.

We can apply the same method for determining frequency to the symbols of sacred geometry. We create the seed of life, which is the base pattern for the central figure in sacred geometry, the flower of life, by interlocking six circles. One circle gives us 360 Hz; adding a second circle doubles the frequency to 720, the same as the triangle; adding a third circle results in 1080 Hz, the same as an octagon; a fourth circle gives us 1440 Hz, like an octahedron; the fifth and sixth circles yield 1800 and 2160 Hz, which are twice the cycles per second as the seven-sided septagon and the eight-sided octagon. Looking at the final frequency, it is worth

noting that 216 is half of 432. The seed of life vibrates with the same F# major chord as the basic geometric shapes and Platonic solids: the building blocks of our universe.

There is another interesting pattern that these shapes all share: the numbers of each and every frequency add up to the number 9. In fact, the number 432, for 432 Hz, adds up to 9. What is the significance of the number 9?

Nine: The Ennead and the Power of Three Times Three

The Mayan calendar is built around multiples of nine: One Great Year contains 25,920 years and one Mayan month is 2,160 years. Earth's moon is 2,160 miles in diameter which is half of 4,320 and our sun's diameter is 864,000 miles which is twice 432,000. There are 86,400 seconds in a 24-hour Earth day, or 43,200 in twelve hours of day and 43,200 in twelve hours of night. 432 squared is 186,624 which is approximately the speed of light (186,000 miles per second). 2,160 divided by 2 equals 1080, the octagon; divided by 3 equals 720, the hexagram and tetrahedron; divided by 4 equals 540, the pentagon; divided by 5 equals 432; divided by 6 equals 360, the circle and square. All of these numbers are multiples of 9.

A grouping of nine is called "The Ennead," the "triad of triads, the first odd square number," and 9:8 is the ratio for the whole tone in music. Nine is the number of lines in a magic square, an ancient number pattern dating back 4,000 years to the Chinese tale of a divine turtle emerging from the river Lo carrying the magic square on its shell. The magic square contains nine numbers divided into lines of three where all lines add up to the same total. There are nine regular three-dimensional geometric shapes: five Platonic solids and four stellar Poinsot Polyhedra (Lundy, Sutton, Ashton, et. al., 28). Ancient cultures employ the number nine toward their pantheons: Chinese and other Asian countries celebrate the Taoist Nine Emperor Gods with

a yearly festival held for the first nine days of the ninth month; there are nine Osirian Gods of ancient Egypt, Nine Mayan Gods, Nine planets in Vedic Astrology and Nine Greek Muses who ruled over the arts and sciences. Nine is the number of realms in the Yggdrasil World Tree, the Norse adaptation of the Fruit of Life. Nine has made it into common vernacular that gives cats nine lives, has us dressing to the nines and spending time on cloud nine. And again, nine is the second tone of the second octave in a Western major or minor musical scale and the second tone in a Pythagorean scale, vibrating at 432 Hz which equals…nine.

What does all this mean? Nine is its purest equated form when multiplying three times three. The number three is common to religious traditions throughout the ages. In Mesopotamia Anu, Bel and Ea were the ruling god triad. In Egyptian pantheons the Osiris-Isis-Horus trinity is sacred and in Christianity the Holy Trinity is comprised of Father, Son and Holy Ghost. Hindu religion venerates Brahma, Vishnu and Siva as a trinity. The Vesica Piscis invokes triangles in the overlapping of two circles, and pagan and Wiccan religions call upon the power of three times three to seal their magick rituals. Humanity's religions play a crucial role in our concepts of creation, life and transformation as well as in creating and maintaining social order throughout history, for better or worse. Nine is known as the celestial number of order, and order is surely an important element in the foundation of mathematics, which many great men and women consider to be the very foundation of our universe. Without order we could not have stable enough frequencies, equations or even thought patterns to perhaps even exist in physical, three-dimensional form at all, much less understand or create anything in this reality. The number nine seems to play a major mathematical role in our very existence in this dimension, which may help explain why A=432 Hz tuning was so pervasive in music until very recently and could be used as a relevant argument for returning to A=432 tuning.

Beyond the Numbers

The synchronicities in the properties and patterns between number, sacred geometry and music are astonishing, but the profundity of what all this means lies in the possibilities of how we can use this powerful system. Music has always been, first and foremost, a modality of emotional expression and a vehicle for communicating information. We carry this pre-evolutionary instinct for communicating through musical patterns with us across the ages.

Music can cross cultural boundaries with ease. Music needs no language to communicate. Music unites people and solidifies the bond and purpose between like-minded individuals. Music gives us goose bumps, brings tears to our eyes and sends a chill up our spine when it resonates with us just the right way. Music makes every movie what it is: without music the emotional involvement from viewers would be drastically reduced. Advertisers use music to catch potential clients' attention, engage them, gain their trust and become memorable. We've all been caught singing that line from the insurance company commercial or any number of other advertising campaigns. Politicians choose campaign songs to promote the image they want to portray and protest groups choose songs that infuse their message with power or poignancy.

There is another way to talk about the frequency of music in that music is literally everywhere. You cannot really escape it. Even in the remote wilderness or driest desert, the birds sing, insects play their orchestral tones, frogs croak in intervals, water rushes or trickles like a rhythmic chant, wind tickles the leaves in harmonic overtones, ocean waves rush in and out from shore with nearly 17 harmonic tones.

The Sound of the Future

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The relatively new field of "Sonocytology" is the study of cell sounds. Scientists are discovering that cells, from human heart cells to yeast cells, emit sound frequencies as they vibrate against one another, much like a violin string sounded by a bow. Anything that vibrates produces a wave that can potentially be measured as sound in Hertz. Even light waves can produce sound. Fluorescent lighting in particular emits a noticeable hum when turned on. Researchers are currently focusing on using this information for diagnosing diseases by the particular sound of it, but think of the possibilities for curing those diseases using sound, as in the Mayo Clinic's RFA treatments for eliminating cancerous cell groups.

Through RFA, the medical sector is showing us that it is possible to bring damaged, deformed or otherwise diseased cells back to their normal, healthy state through the use of sound frequencies. Amazing and innovative as it is, RFA is only a beginning stage in the emerging field of sound healing. As we discover the prevalence and power of sound energy in our world, we can discover the power to rise above our current accepted paradigm into a far vaster and holistic reality in which everyone has the ability to heal or even reject disease, distress and devastation.

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"Flash sonar" uses sound to help blind people "see" and become independent of guidance and less reliant on other people. Flash sonar borrows from the principles of echolocation and helps the blind determine where objects ranging in size and velocity such as buildings, trees, cars, stairs and other people are; the individual emits a continuing series of noises, commonly tongue clicks, that bounce off the surface of objects and create a sense of distance, size and stability or movement that the brain can use in lieu of sight.

https://www.youtube.com/watch?v=PLPEcu6523Q

The human ear does not have to hear frequencies for them to permeate the body and brain, just as we don't have to see the sun at night for us to receive its warmth. Because of the enormous power inherent in frequency, audible, visual or not, we must be very careful how we use this information. What we call "[sound and] light is actually a rate of vibration causing certain reactions upon the optic [and cochlear] nerve" (Hall, p. 257). There is so much more to our universe than anyone has ever seen or heard or can ever register with our technological equipment. Humans only see a tiny sliver of the known light spectrum and hear a miniscule portion of the sonic spectrum. "[Hu]Man is thus surrounded by a supersensible universe of which [we] know nothing because the centers of sense perception have not been developed sufficiently to respond to the subtler rates of vibration of which that universe is composed" (Hall, p. 257).

Perhaps our ancient ancestors, like Pythagoras, kept much of their esoteric information hidden to protect the masses of humanity from powerful forces that could be manipulated by power-driven rulers, who do not grasp the scope and influence of those unknown subtleties, to bend the world to greedy whims. There have always been influential leaders of the world, kings, queens, emperors, advisors, religious leaders and all type of men and women who wished to rule the entire world according to a personal or small-collective ideal. Those in power often seek to censor music, keep it only for themselves or eradicate it altogether. The power of even simple, commonplace music was evident even in distant ages and considered a threat to society.

Today, we are in an age where instant, global communication is the norm, accountability is becoming required of our world leaders more often and we have the technology to discover more information and do more with it than ever before in our recorded history. Today, perhaps we are re-learning old secrets, but we are learning them and we are building upon them to counteract the damage done by millennia of unjust, unhealthy, unsafe, often primitive and even

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tortuous lifestyles, social norms and living conditions. Today, through increasing awareness and understanding, we are capable of using the powerful knowledge we have discovered regarding energy, frequency and vibration in accordance with our advanced capability for detection and implementation to affect real-world solutions to personal and collective imbalance and dis-ease on many levels; by doing so we can enhance the healing process for us all. In the words of Plato, "Music and rhythm find their way into the secret places of our soul."

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Deleted[Lisabeth Fauble]: to help improve and elevate each other and our world than it is that we will destroy one another and our earth.

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