

THE MUSICAL UNIVERSE: NUMBER, COLOR AND THE SOUL

By

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## **Abstract**

Rooted in the historical philosophy of the ancient Greeks such as Pythagoras and Plato, and including later sources like medieval theorist Boethius, the idea of a sacred musical mysticism abound. Referred to by the ancients as the “music of the spheres,” this idea is centered on cosmic music governed by proportional structures in the universe. Modern day thinkers such as Joscelyn Godwin, James Hurtak, Robert Lawlor and Manly Hall embrace the mystical traditions of non-linear thought (the realm of the spirit beyond the world of form), linking the corporeal and incorporeal natures of man with the sacred nature of music. After an in-depth historical overview, ideologies will be presented by Pythagoras, Robert Fludd, Plato, the Cabbalists and Johannes Kepler, revealing their visions of the Universe in connection to music, number, astrology, astronomy and theosophy. It will then be shown how the physical body in alliance with the spirit are linked harmoniously to music, with further study revealing the inherent presence of such mathematical systems known as the Golden Proportion and the Fibonacci series. Finally, an association between the orders of color and sound will be explored. Music is one of the most powerful ways of entering into the domain of the spirit (the macrocosm) where we experience a transcendence beyond our physical forms (microcosm) allowing us to experience and express the divinity and universality within us.

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## List of Illustrations

### Chapter One

Figure 1-1: Karl Geiringer, Numbers in Relation to Letters.....	16
1-2: Gioseffo Zarlino, The Harmony of Human Music.....	21
1-3: The dot, line and circle.....	27
1-4: Pyramidal Structure with pendulum.....	29
1-5: James Hurtak, Soul-Spirit.....	31
1-6: Ęrno Lendvai, The Golden Proportion system.....	49
1-7: Ęrno Lendvai, The Fibonacci series and Bach's <i>The Art of Fugue</i> ....	51
1-8: Roy Howat, The Golden Proportion in Debussy's <i>La Mer</i> .....	53
1-9: Ęrno Lendvai, The Fibonacci series and Bartók's <i>Music for Strings, Percussion and Celesta</i> .....	55
1-10: Ernest G. McClain, The Tetractys.....	57
1-11: Nichomachus, Pythagorean table of opposites.....	60
1-12: Albert von Thimus, Lambdoma.....	61
1-13: Rudolph Haase, Lambdoma.....	62

### Chapter Two

Figure 2-1: Manly Hall, The Intervals and Harmonies of the Spheres.....	75
2-2: David Fideler, Harmonic Proportion.....	77
2-3: Robert Fludd, The Macrocosm as Universal Man.....	79
2-4: Robert Fludd, The Divine Monochord.....	81
2-5: A - Robin Waterfield, Plato's Universe.....	98
B - Robin Waterfield, Greek spindle associated with whorl.....	98

2-6: Manly Hall, Cabbalist arrangement of the Sephiroth, Number and Body.....	99
2-7: A.T. Mann, Platonic Solids.....	102
2-8: Jamie James, Musical Pitch of Saturn and Mercury.....	106

### Chapter Three

Figure 3-1: Ted Andrews, Chakras.....	117
3-2: Manly Hall, The Tetragrammaton outlined in the Tetractys.....	119
3-3: Alain Daniélou, Sanskrit words, moods and mode.....	122
3-4: Alain Daniélou, Modes, tones and colors.....	122
3-5: Percy Scholes, Rimsky-Korsakov and Skryabin tone-color charts...	123
3-6: H.P. Blavatsky, Relationship between pitch, color, the seven levels of man and matter.....	124
3-7: George Gurdjieff, Cosmic scale.....	125
3-8: Joscelyn Godwin, The Scale as the Seven Rays.....	126
3-9: Manly Hall, Colors and Musical notes.....	130
3-10: Manly Hall, Colors, Musical notes and planets.....	131
3-11: Ted Andrews, Astrological and tonal correspondence reflecting the energies of each individual sign.....	132
3-12: Bertrand Castel: Colors and the diatonic scale.....	135
3-13: Bertrand Castel: Colors and the chromatic scale.....	135
3-14: Abbe Lacuria: Relationship between the seven divine attributes, colors, tones and the Trinity.....	137

## CONTENTS

Acknowledgments.....	iv
List of Illustrations.....	v
Introduction.....	1
Chapter One: The Music of the Spheres - an Historical Context.....	4
— Sacred Sounds and Spirituality.....	4
— Boethius: <i>musica humana</i> and <i>musica mundana</i> .....	12
— Music and the Body: Embryology and Harmony.....	17
— Censorinus.....	18
— Gioseffo Zarlino.....	20
— Jacques de Liège.....	24
— Manly Hall: Concept of the Trinity.....	26
— Physical/Spiritual Matter and transformation through music.....	34
— Harmony modified by sense of beauty.....	42
— Plato's numerological writing.....	44
— Law of music in proportion to mathematics: Pythagoras.....	46
— The Golden Proportion and the Fibonacci Series.....	47
— Roy Howat: Debussy.....	51
— Ęrno Lendvai: Bartók.....	54
— Tetractys.....	56
— Plato: Number and the 'World-Soul'.....	58
— Lambdoma.....	61

— Theories on Ascension: <i>Poimandres</i> discourse.....	66
— <i>Discourse on the Eighth and Ninth</i> .....	68
— James J. Hurtak.....	70
 Chapter Two: Music, Number and the Historical Visions of the Universe.....	73
— Pythagorean scale and the structure of the Universe.....	73
— Monochord: Pythagoras.....	77
— Robert Fludd.....	77
— Plato’s “Myth of Er”.....	83
— numerology.....	86
— Harmony of the Spheres.....	94
— Cabbala.....	98
— Johannes Kepler.....	100
 Chapter Three: Music and Color.....	108
— Vibrations.....	109
— Olivier Messiaen - synaesthesia.....	112
— Hurtak: Nogan Shells.....	115
— Ted Andrews: Chakras.....	116
— Hurtak: Mantras.....	118
— Ragas of Northern India.....	121
— Skryabin and Rimsky-Korsakov.....	123
— George Gurdjieff.....	124
— Spectrum of Seven Rays: Joscelyn Godwin.....	126
— Isaac Newton.....	126



— Louis Bertrand Castel.....	133
— Abbe Lacuria.....	136
<b>Conclusion.....</b>	<b>139</b>
<b>Bibliography.....</b>	<b>143</b>

## INTRODUCTION

“To the man who pursues his studies in the proper way, all geometric constructions, all systems of numbers, all duly constituted melodic progressions, the single ordered scheme of all celestial revolutions, should disclose themselves... [by] the revelation of a single bond of natural interconnection.”

(Plato: *Epinomis* 991e, 992a)

In the late twentieth century, some segments of Western culture have begun to embrace a kind of synthetic spirituality derived from a multitude of different sources, among them ancient Greek, medieval and later origins within Western culture. This “new spirituality” draws largely on mystical traditions, in which music has played a central role. Historical accounts of *musica humana*, (the music of the human being), *musica mundana*<sup>1</sup> (the music of the universe or spheres), music and number and the link between music and color have been explored for the purpose of investigating the sacred use of music and its connection to us and to all aspects of the universe, including the Creator. This paper is an

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<sup>1</sup> Albert Seay writes, “Boethius interpreted *musica ‘humana’* both physically and spiritually. In the first sense, reference is made to the external symmetry of the body, the balance of our members and their placement; in addition, there is the beauty of our internal organs and their arrangement, as well as the harmony between their functioning and man’s well-being. On the other hand, there is also a harmonious relation between the body and the soul, a harmony seen in the health of the body and the functions of the soul, intelligence, love, etc. These relationships are a form of music, for they are, like music, founded on the same numerical laws. The highest level, that of *musica mundana* or, as it is usually called, “the music of the spheres,” is that harmony standing as the foundation of all the world about us, not only that on earth, but that of the stars and planets, as well as heaven itself. It is the regular succession of the seasons, the months, and years; the movements of the heavens; the varying combinations of the four elements; and as a purely Christian addition to Boethius’ original definition, the music heard around the throne of God, when the angels sing, ‘Holy, Holy, Holy.’ *Musica mundana* has proportion as a governor and therefore is subject to interpretation as music.” See *Music in the Medieval World* (Englewood Cliffs, New Jersey: Prentice Hall, 1965), pp. 21-22.

historical survey, beginning with the Ancient Greeks, substantiating the historical background of music in relation to the sciences of number and geometry, astronomy, astrology, theosophy, and color in Western literature. Such a survey is necessary for the rational understanding of music's relationship to God, man and nature. This in turn establishes the historical foundations for current twentieth century ideas regarding the use of music in spiritual practices. This historical survey will be filtered through the writings of the "new spiritualists" reflected in, for example, the various works of Manly Hall, Joscelyn Godwin, Robert Lawlor and James Hurtak<sup>2</sup>.

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<sup>2</sup> Manly P. Hall is the Founder of the Philosophical Research Society, Inc., a non-profit organization founded in 1934, dedicated to the dissemination of useful knowledge in the fields of philosophy, comparative religion, and psychology. In his long career, spanning more than sixty years of dynamic public activity, Hall has delivered over 8,000 lectures in the United States and abroad, has authored over 150 books and essays, and has written countless magazine articles. (See the back cover of Manly Hall's *Lectures on Ancient Philosophy*).

Joscelyn Godwin, Professor of Music at Colgate University, is the author of *Harmonies of Heaven and Earth*, *The Harmony of the Spheres*, *The Theosophical Enlightenment*, and many other books on music and the Western esoteric traditions. A number of his works have been translated into French, Spanish, Greek and Japanese. He is author of a number of translations. All of the translations, for example, in his sourcebook entitled *Music, Mysticism and Magic* are his own, unless otherwise attributed. This sourcebook is invaluable in providing primary translations of works into English where no other such translations exist.

James Hurtak holds a Masters in Theology and two Ph.D's - one in History and the other in Social Science. He is the founder and executive director of The Academy For Future Science. Hurtak is the author of numerous texts including such disciplines as archaeology, linguistics, music and contemporary science. His most notable text is *The Book of Knowledge: The Keys of Enoch* - a parapsychical text or "code-book" written in 1973. It is a text of higher consciousness experience which explains how the human race is connected with a more advanced higher evolutionary structure of universal intelligence. The linkage is made through 64 areas of future science, the basis of an ongoing study that is part of a 30-year program of human development, covering a wide spectrum of independent scientific confirmations. He currently gives lectures on the teachings of Enoch world-wide and is presently in collaboration with NASA and the United Nations. He was recently involved in underwater expeditions investigating ancient monuments and pyramid-like temples off the coast of Taiwan and southern Japan.

Robert Lawlor is an independent scholar and translator who usually resides in Tasmania. He is responsible for the translation of Schwaller de Lubicz's, R.A., monumental work, *The Temple in Man*. (I thank Joscelyn Godwin for the information regarding Lawlor).

This paper draws together a variety of ancient and modern perspectives on numerology and its relationship to music and other systems. A number of strands have been interwoven to establish an harmonic framework underlying the universe. These are attempts to link the discourses of philosophy, cosmology, theology, numerology and mathematical factors prevalent in the discipline of music, producing a unified system of ordered harmony. Number is an essential binding component in theology. Numerology synthesizes the divine and natural order of things and within the Bible symbolizes a type of unified consciousness. Music in relationship to number and “harmony” (proportional relationships) can be sensed in various ways. ‘Divine arithmetic’ is utilized in an entirely symbolic fashion, implemented in ancient Orphic<sup>3</sup> and Egyptian ‘Chaldaeon’ wisdom, in Greek Pythagorean and Platonist traditions as well as in the Hermetica,<sup>4</sup> the Cabbala and Hebrew doctrines. Stemming from Greek and Medieval thought, there was an implicit desire to structure the universal body so as to demonstrate relationships of ideal order.

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<sup>3</sup>Orpheus means “he who heals by the light.” The traditional Myth of Orpheus, embracing one of the oldest forms of mysticism in the Greek world, considers Orpheus as “sage and theologian, not merely musician” and “concerns the mythical powers of Orpheus’ music over growing things. Orphic music is the all embracing science of things both natural and divine...governing those harmonic laws that lie behind all of Nature.” Quoted by Godwin (*Harmonies of Heaven and Earth*, pp. 8-10). The myth of the Thracian poet entails his beloved Eurydice whom he rescues from Hades, god of the underworld, by the beautiful sounds of the lyre.

<sup>4</sup>The Hermetic tradition is believed to have started in Egypt with the god Hermes, dating back to the Greek and Roman times. It is a humanist philosophy influenced by Platonism, Gnosticism, astrology and Oriental religions. See Brian P. Copenhaver’s Introduction in the *Hermetica* (Cambridge: Cambridge University Press, 1992).

## CHAPTER ONE

### The Music of the Spheres: an Historical Context

#### Sacred Sounds and Spirituality

Iamblichus<sup>5</sup>, explaining his ideas about the soul and the mystical in music states:

It is not appropriate to say that the soul primarily consists of harmony and rhythm. The soul, before she gave herself to body, was an auditor of divine harmony; Hence, when she proceeded into body, and heard melodies preserving the divine vestige of harmony, she embraced these, from them recollected divine harmony, allies to it, and as much as possible participates in it.<sup>6</sup>

Furthermore, as Manly Hall has recently written in *The Secret Teaching of all Ages* in reference to the 'Pythagorean Theory of Music,':

The seven sounding tones praise thee, The Great God. All creatures may eternally sing the praise of the creator. Man fails to hear these divine melodies because his soul is enmeshed in the illusion of material existence. When he liberates himself from the bondage of the lower world with its sense limitations, the music of the spheres<sup>7</sup> will be again

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<sup>5</sup>“Iamblichus (AD c. 250 -c. 325) was a philosopher who believed in the power of mystical divinity, respected pagan ceremonial magic and embodied the concept of polytheism. Guided by Platonism, Iamblichus strove to document his ideology pertaining to various religions and their gods, giving them intellectual justification. He was both Neopythagorean and Neoplatonist, bridging the dichotomy between Pythagoras and Plato.” Quoted by Godwin (*Music, Mysticism and Magic*, p. 25).

<sup>6</sup>Thomas Taylor, translator, *Iamblichus on the Mysteries of the Egyptians, Chaldeans, and Assyrians* (London, 1821), p.134.

<sup>7</sup>Stemming from a Babylonian concept, the idea of the spheres was understood as the cosmos consisting of the seven known planets. Godwin says that near the latter part of his life, Russian born composer Alexander Skryabin (1872-1915), “convinced of the tremendous power which music might have for the spiritual well-being of mankind,” set out to compose a piece of music entitled “*Mystery*.” Sketches exist for this music that was “to be held in a hemispherical temple in India [designed by Skryabin] containing an artificial lake, so that the audience would seem to be enclosed in a perfect sphere.” Skryabin died before he completed this work but his “vision of a spherical auditorium as the perfect vessel for the music

audible as it was in the Golden Age.<sup>8</sup>

These two quotations attest to the conviction that consciousness-expansion exists and that divine harmony is available to all who seek it. In order to awaken this celestial harmony within ourselves we need to tune into our higher intelligence (understood here as the Platonic *Nous* or 'Higher Mind') via meditation, chanting, prayer, yoga, etc., techniques which lead us to experience this universal-spiritual mysticism. These methods typically initiate a focus of concentration by intoning words, sentences or syllables such as *Om*, *Aum*, and *Amen* (sacred sounds). The goal is to overcome a dualistic<sup>9</sup> consciousness trapped in the material three-dimensional existence in which we live, and in turn, to expand and attune to the purification of the light and Divine Will within.

Delving into the spiritual realm of mystical harmonies and metaphysical accounts of higher realms may seem an impractical study; however, insights from both the arts and the sciences point to certain realizations. German philosopher Arthur Schopenhauer<sup>10</sup> (1788-

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of the New Age was partially realized when the works of Karlheinz Stockhausen (b. 1928) were performed in the geodesic sphere of the West German Pavilion at the 1970 Osaka World Fair." See *Harmonies of Heaven and Earth*, pp. 34-35. The eighth sphere and beyond refers to realms of pure intelligence and transcends earthly incarnation.

<sup>8</sup>Manly Hall, *The Secret Teachings of All Ages* (Los Angeles, CA: The Philosophical Research Society Inc., 1984), p. LXXXI.

Ancient mystics proposed that there were a total of fourteen spheres in the universe. The idea of the Golden Age, can, according to the teachings of Enoch, be understood as the interconnection of the seven planets of the lower spectrum with the seven of the higher spectrum, symbolized as a higher 'Golden Octave' or 'Golden Age' - what was interpreted by the ancient musicians as the music of the spheres. See James Hurtak's, *Harmonics of Light, Color & Sound* - audio-cassette (Los Gatos, CA: Academy For Future Science, 1978), part II, side a.

<sup>9</sup>In *The New Lexicon Webster's Dictionary of the English Language*, dualism is defined as "the quality of being twofold~the division of reality into two irreconcilable substances, *Platonic dualism*~the doctrine that two distinct principles, good and evil, govern the universe."(New York: Lexicon Publications, Inc., 1988), p. 287.

1860) expounds on music in relation to ‘cosmic manifestation.’ By the age of 30, Schopenhauer had published his monumental work, *Die Welt als Wille and Vorstellung* (The World as Will and Representation - 1818). Godwin points out that “it is a survey of the whole of human activity and knowledge in the light of a philosophical attitude that regards the manifested universe, for all its wonder and variety, as something eventually to be transcended.”<sup>11</sup> In volume I, Book III of his text entitled “The World as Idea - Second Aspect: The Platonic Idea as the Object of Art,” Schopenhauer expresses his views on music, an art he considers superior to all others because of its inherent elements that permeate not only man but nature itself. Music reveals a deeper wisdom beyond the language of reason, encompassing “in its highest degree a universal language. It is distinguished from all the other arts by the fact that it is not a copy of the phenomenon, or, more exactly, the adequate objectivity of will, but is the direct copy of the will itself, and therefore expresses the metaphysical to everything physical in the world, the thing-in-itself to every phenomenon.”<sup>12</sup> On the importance of music in relation to the metaphysical and number, Schopenhauer states:

At which the aesthetic effect is the criterion, we must attribute to music a far more serious and profound significance that refers to the innermost

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<sup>10</sup> Arthur Schopenhauer was the primary Western thinker in presenting his views on Hindu and Buddhist ideas and was famously recognized as the philosopher of “pessimism.” He had a large impact on Richard Wagner, also a Buddhist follower who, according to Godwin, “was able to embrace Schopenhauer’s [metaphysical oriental] philosophy in its entirety, at least while writing the poems for *Tristan and Isolde* and *Der Ring des Nibelungen*” (See *Music, Mysticism and Magic*, p. 213). Among Schopenhauer’s chief inspirations were Immanuel Kant and Plato.

<sup>11</sup> Joscelyn Godwin, *Music, Mysticism and Magic: A Sourcebook* (London: Routledge & Kegan Paul, 1986), p. 212.

<sup>12</sup> Arthur Schopenhauer, *The World As Will And Representation*, vol. I., translated by E. F. J. Payne (New York: Dover Publications, Inc., 1958), p 262.

being of the world and of our own self. In this regard the numerical ratios into which it can be resolved are related not as the thing signified, but merely as the sign. [Music] has the appearance of a certain infallibility, by the fact that its form can be reduced to quite definite rules expressed in numbers, from which it cannot possibly depart without entirely ceasing to be music.<sup>13</sup>

Others, like Robert Lawlor, express similar beliefs on metaphysical accounts.

In *Sacred Geometry*, Lawlor presents his perspective on mystical studies:

We have no linguistic form with which to image a process or activity that has no material carrier... Ancient cultures symbolized these pure, eternal processes as gods, that is powers or lines of action through which spirit is concretized into energy and matter.<sup>14</sup>

Throughout his book, Lawlor expresses the belief that transcendent power permeates the depths of music, independent of any material form, and that abstract, non-linear thought, where energies of the unconscious abound void of ego imposed limitations, parallels that of the linear, material world.

Eighteenth century writers had a different idea of the dualistic forces of good and evil. Louis-Claude de Saint-Martin (1743-1803) published a work entitled *Des Erreurs et de la vérité* in 1775 under his pseudonym 'The Unknown Philosopher' comparing the origin of the dissonant harmonic seventh with the origin of evil (Satan). Here, evil is understood as the dark forces within us that challenge virtue. He attributes unity to the perfect major chord calling it the "First Principle" (the Creator) whereas the "dominant

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<sup>13</sup>Ibid., p. 256.

<sup>14</sup>Robert Lawlor, *Sacred Geometry - Philosophy and Practice* (New York: Thames and Hudson, Ltd., 1982), p. 8.



seventh disturbs the harmonic temperament and is in need of resolution.”<sup>15</sup> My personal, metaphorical understanding of St.-Martin’s view is that the discordant seventh represents the physical shell of a human, which assumes a self created, illusionary separateness from the soul. The soul is in need of a spiritual rekindling with divine unity, thus the seventh resolving to the major chord establishes an equilibrium. However, the dichotomy of opposing forces presented by St.-Martin fails to justify the ideology that polarized<sup>16</sup> forces are necessary to activate a trinitized union; for it is only from our shadow that we can come to see the light. In his text *Harmonies of Heaven and Earth*, Godwin confirms this notion when he says, “Everything must have its opposites: in order to create beauty, Man has to have the stimulus of the ugly.”<sup>17</sup>

Many thinkers believe that a spiritual, physical and mental transformation can occur through sacred sounds, resulting in supernormal achievements. Godwin cites therapist Rudolf Steiner (1861-1925) and his educational philosophy regarding music and the soul:

Every child is a soul whose destiny is some day to enter the spiritual world in full consciousness. Music provides one of the closest images of that world; hence its value for reawakening the soul’s prenatal knowledge of spiritual realities.<sup>18</sup>

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<sup>15</sup>Joscelyn Godwin, *Harmonies of Heaven and Earth - from Antiquity to the Avant-Garde* (Rochester, Vermont: Inner Traditions International, 1987), p. 174.

<sup>16</sup>*Webster’s Dictionary* defines polarity as “the state of having one or other of two opposite polar conditions, *positive* or *negative polarity*.” All things are separated into a dichotomy ( irrational/rational, male/female, positive/negative), a lower state of consciousness and awareness, fusing in the middle. The aim is to internalize and understand this level of being in order to rise from a polarized existence to unified consciousness.

<sup>17</sup>*Harmonies of Heaven and Earth*, p. 31.

<sup>18</sup>*Ibid.*, p. 41.

Ted Andrews, author of *Sacred Sounds - Transformation through music and word*, states: “Sound is a direct link between humanity and the divine.”<sup>19</sup> For example, in many spiritual practices the repetition of invocations, mantras and chants is an essential technique for self-development, expanding and accelerating the consciousness of an individual to a sense of unity with the divine source. The mind is cleared of fallen thought-patterns (impurities) and arrives completely in the present, allowing for the direct experience of one’s own essence which is often seen as identical with that of the divine. Later in the text, Andrews states: “[sacred sounds allow] us in the physical to contact and attune ourselves to those entities and energies in the spiritual or more ethereal dimensions of life.”<sup>20</sup> A musical composition reflecting this thought is Gustav Holst’s *The Planets* (1915). At the end of the last movement, entitled “Neptune, the mystic,” a six-part unaccompanied female choir chants the short syllable *u*. No definitive ending is apparent, as an endless stream of chanting fades into inaudibility, as if traveling into spherical realms of infinity. The two chords executed here are a tri-tone apart, providing no sense of tonic or resolution. Two other works that have non-endings suggestive of human evolution, or lack thereof, are Gustav Mahler’s *Das Lied von der Erde* (The Song of the Earth; 1908) and Alban Berg’s *Wozzeck* (1914). Mahler’s *Symphony No. 9, in D minor* (1909) - his last complete work - along with the song cycle *Das Lied von der Erde* represent the composer’s withdrawal from the world of conflict. The last section of the song cycle is entitled “Farewell.” Here

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<sup>19</sup>Ted Andrews, *Sacred Sounds-Transformation through Music and Word* (St. Paul, MN: Llewellyn Publications, 1982), p. 15.

<sup>20</sup>*Ibid.*, p. 24.

the singer repeatedly sings the word “*Ewig*” (ever) and the orchestra repeats the final cadential chord, which is simultaneously major and relative minor (added to a major triad is a sixth [clarinet] and a fading ninth [voice] on the last pronouncement of the word “*Ewig*.”) Berg’s *Wozzeck* also has no definitive ending - the music simply stops. The opera is about abuse in all its aspects and the ending symbolizes the human condition in which abuse never ends. This abrupt ending would imply self-imposed limitations, stemming from a lack of internalized higher wisdom, preventing individuals from evolving beyond the linear plane.

In *The Keys of Enoch*, theologian James Hurtak elaborates on how mantras, specifically the sounding of “Sacred Names,”<sup>21</sup> resonate through specific wave patterns of harmonics giving way to higher perceptual levels of communication. He describes a ‘harmonic system’ in terms of energy frequencies produced by the mantras, activating a Divine energy exchange:

Geomagnetic harmonics are used to form vibrational frequencies which use the pyramidal building blocks of measurable grids to tap into a larger harmonic system [which] allows for structured patterns of waves to unite and form myriads of chemical waves and elements. Through the wave harmonics set in motion by the mantras, positive thought-forms can be shared with selected points of communication.<sup>22</sup>

This evolutionary experience of consciousness advancement into higher realms of realities is defined by Hurtak as ‘non-linear cosmic language.’ Hurtak maintains that it is possible

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<sup>21</sup>See page 274 of James Hurtak’s, *The Book of Knowledge: The Keys of Enoch* (Los Gatos, CA: The Academy For Future Science, 1977) for a complete outline of the “Sacred Names.” A musical compilation of the “Sacred Names” is available on CD entitled *Sacred Liturgy and the Hymns of Transformation* by Fritz Heede, 1996.

<sup>22</sup>Hurtak, p. 108.

to tap into a myriad of Divine hierarchies.<sup>23</sup> Like Hurtak, Hall and Godwin believe that sacred sounds and melodies are divinely inspired.

Such ideas are not new. Iamblichus writes: “Sounds and melodies are appropriately consecrated to the Gods, having also an alliance to the motions in the universe itself, and to the harmonious sounds which proceed from the motions.”<sup>24</sup> Just as there is an alliance between music and the motions of the universe itself, there is also unity between celestial hierarchies<sup>25</sup> and the individual who utilizes music as a divine gift or creative force.

Iamblichus makes further reference to the supreme relevance of the celestial hierarchy in “*Pythagoras’ Use of Music*”:

Conformably, therefore, to such like adaptations of melodies to the Gods, the Gods themselves become present. A perfect possession immediately takes place, and a plentitude of a more excellent essence and power results. The inspiration of the Gods is not separated from divine harmony; Gods participate in appropriate measures.<sup>26</sup>

According to Iamblichus, inspiration is supernally derived from the Gods. Sources indicate that composers from the Romantic era felt the experience of such an inspiration. Drawing on the interviews of American music critic Arthur Bell, Godwin cites quotations from Brahms and Wagner. Brahms was recorded as saying, “When I compose, I feel that

<sup>23</sup>Ibid., p. v.

<sup>24</sup>Taylor, p. 134.

<sup>25</sup>“The Hierarchies evolve around the programs of Divine authority expressed through the High Command of Metatron, Michael and Uriel operating with the Deity Absolutes of Gabriel, Raphael, Ariel and the Creative Forms of the Holy Spirit Shekinah in Deity Trinitization. They do the will of YHWH Yahweh/Jehovah, manifesting His wondrous joy and rapture for His Divine Seed in the myriad universes without beginning and end.” Asserted by Hurtak (*The Keys of Enoch*, p. 577).

<sup>26</sup>Taylor, p. 134.

I am appropriating that same spirit to which Jesus so often referred.” In the same context, Wagner stated that “...while in that trance-like condition, which is the prerequisite of all true creative effort, I feel that I am one with this vibrating Force, that is omniscient, and that I can draw upon it to an extent that is limited only by my own capacity to do so.”<sup>27</sup>

### **Boethius: *musica humana* and *musica mundana***

Subsequent to the mystical theories of philosophers like Iamblichus, Medieval writer Boethius<sup>28</sup> considered theories of celestial harmony governed by proportional, ordered movement; described by Albert Seay as “Boethius’ concept that music is number made audible.”<sup>29</sup> In his treatise, *De Institutione Musica*, Boethius suggests three divisions of music and categorizes these types as follows: *musica mundana*, *musica humana* and *musica instrumentalis*. In reference to all of these subject areas, Boethius generalizes that music “is related to us by nature and has the power to enoble or corrupt the character.”<sup>30</sup> The ear delights in sweet and well-ordered modes but the senses are pained and offended

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<sup>27</sup>*Harmonies of Heaven and Earth*, p. 75.

<sup>28</sup>“Boethius (c. 480-524/5), Roman philosopher, became Consul in 510 and counselor to Theodoric, King of the Ostrogoths, who had him executed on charges of treason. He wrote several treatises, *Consolations of Philosophy* being most noteworthy. His aim was to translate the works of Plato and Aristotle expanding the readership of Greek literature. Boethius was interested in music’s effect on the soul and perceived music in terms of cosmic harmony. His music treatise, *De Institutione Musica*, is a theoretical work, following the Platonic use of music as a speculative and mathematic science divorced from practice.” Quoted by Godwin (*Music, Mysticism and Magic*, p. 43.)

<sup>29</sup>Albert Seay, *Music in the Medieval World* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965), p. 20.

<sup>30</sup>Oliver Strunk, *Source Readings in Music History*, vol. 1 (New York: W. W. Norton and Company, 1950), p. 84.

when disordered and incoherent modes present themselves. He alludes to Plato's belief that by listening to the highest quality of music, "the soul of the universe is united by musical concord."<sup>31</sup> The last type, instrumental music, is the only category that has anything to do with actual sound, but, since the main issue for Boethius is order in the sense of harmony, only the first two categories will be expanded on here.

The first category of music, *musica mundana*, is that which combines the four elements (earth, air, water, fire) and the various seasons that are observed in the heavens. Boethius believes that the planets do not move silently in their course but move in rapid motion. All of the spheres are part of an ordered septenary but are situated at various levels in the universe. With reference to Aristotelian thought, Boethius asserts that from their different proportions with relation to one another, a set order of their courses may be deduced, and concludes that sound may also be present. "For this reason," Boethius maintains that "a fixed sequence of modulation cannot be separated" from what he terms "the celestial revolution."<sup>32</sup> In music, there exists a measure of sound in both low and high strings. If the low strings were to descend to inaudibility, or the high strings were shattered by a thinness of the sound, discord would result due to the excessiveness of sound. Just as in the diversity produced by the variety of seasons and fruits, if one factor were removed, all would perish, and the element of yearly consonance would be destroyed. Boethius states that:

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<sup>31</sup>Ibid., p. 80.

<sup>32</sup>Calvin Bower, translator, *Fundamentals of Music / Anicius Manlius Severinus Boethius* (New Haven: Yale University Press, 1989), p.9.

all is congruous and fitting, so we perceive that in the music of the universe nothing can be excessive and destroy some other part by its own excess, but each part brings its own contribution or aids others to bring theirs.<sup>33</sup>

Harmony unifies the differences, establishing a stream of consonance. In his text, *History of Aesthetics*, Wladyslaw Tatarkiewicz highlights an essential feature of Pythagorean theory, a primary influence on Boethius: “Etymologically, harmony meant the same as attunement and unification, and signified the concord and unity of the constituent parts.”<sup>34</sup>

Boethius’ second category, *musica humana*, correlated the examination of human nature and symmetry expressed in musical terms. As in nature, an inherent order coexists between the elements of the human body. All parts are congruent with one another just as a perfect “tuning” unifies astronomical structures (i.e. the movement of the heavenly bodies in the celestial spheres). Boethius elaborates on the unification of discord and harmony for if asked what parts constitute the soul Boethius would reply: “According to Aristotle, [this would be defined as] as the composition of the rational and the irrational.”<sup>35</sup> Lawlor explains the idea of the rational and irrational by contextualizing the concepts symbolically. The rational or ‘sacred’ aspect pertains to fixed or permanent applications. Lawlor relates this idea with “the fused sacral bones of the spine which make possible the stable, seated posture.” He then continues with the irrational as the ‘Principle of Alternation’ by which all things alternate towards their opposites “symbolizing the

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<sup>33</sup>Strunk, p. 85.

<sup>34</sup>Wladyslaw Tatarkiewicz, *History of Aesthetics, Volume I - Ancient Aesthetics* (Mouton: Polish Scientific Publishers, 1970), p. 80.

constant, creative process of acting and reacting energy.”<sup>36</sup> Boethius concludes that with the “incorporeal nature of reason with the body, a certain mutual harmony [must exist, balancing] low and high pitches into a single consonance,”<sup>37</sup> whereby the body serves as an image of the low notes and the soul of the high ones. The tempering of both positive and negative energies produces a harmonious and unified state.

Likewise, the foundation of order is prevalent in musical works, for example, those of Berg, Wagner and J.S. Bach, and in the philosophical works of Plato and his Hindu predecessors. Berg’s *Concerto for Piano, Violin, and Thirteen Wind Instruments* of 1925 implements three and its multiples as a proportional foundation. In his three-movement concerto for three specific categories of instruments (keyboards, strings and wind) Berg creates a symmetry structured on predominantly three tone-row themes. Order is prevalent in the unending flow of melody in Wagner’s Prelude to *Tristan and Isolde*. A five-bar phrase (17-21) repeats itself three times at precisely equal distances creating a harmonious balance. Bach’s *Brandenburg Concerto no. 3* contains “three-way symmetries deriving from the use of three each of violins, violas and cellos with continuo.”<sup>38</sup> Bach incorporates symbolic number schemes in relation to the number 14. Musicologist Karl Geiringer, in his essay “Symbolism in the Music of J.S. Bach,” shows

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<sup>35</sup>Bower, p 10.

<sup>36</sup>Lawlor, p. 38.

<sup>37</sup>Bower, p. 10.

<sup>38</sup>Stanley Sadie, ed., *The New Grove Dictionary of Music and Musicians, vol. 1* (London: MacMillan Pub. Limited, 1980), p. 815.



how Bach practiced substituting numbers for letters of the alphabet, as demonstrated in the following chart:

A-----	1	K-----	10
B-----	2	L-----	11
C-----	3	M-----	12
D-----	4	N-----	13
E-----	5	O-----	14
F-----	6	P-----	15
G-----	7	Q-----	16
H-----	8	R-----	17
I, J-----	9	S-----	18

Figure 1-1: Numbers in Relation to Letters<sup>39</sup>

If we apply this number scheme to the word Bach the number generated is 14 (2+1+3+8).

Adding the first initials of his name, J. S., with his last name numerically corresponds to 41 (9+18+2+1+3+8), the inversion of 14. Geiringer cites several examples containing the symbolic nature of the number 14 in the works of Bach. Regarding the organ chorale *Before Thy throne my God I stand*, Geiringer indicates that Bach “ornamented the hymn tune in the top voice in such a way as to have a first line comprising *fourteen notes*, while the whole melody consisted of *forty-one notes*” and in the *Musical Offering*, “a personal tribute of the composer to King Frederick the Great of Prussia, the core of the work, a Trio Sonata for flute, violin and clavier, displays fourteen entrances of the theme.”<sup>40</sup>

Geiringer also mentions that Bach’s personal seal reveals fourteen jewels and that when asked to join the “Mizlersche Societät” in Leipzig, a scholarly organization, he refused the

<sup>39</sup>Karl Geiringer, “Symbolism in the Music of Bach” in *Lectures on the History and Art of Music - The Louis Charles Elson Memorial Lectures at the Library of Congress, 1946-1963* (New York: Da Capo Press, 1968), p. 135.

<sup>40</sup>*Ibid.*, p. 136.

invitation choosing to wait until he could join as the fourteenth member [when Bach was initially asked he would have been the eleventh member, a position accepted by Handel instead].<sup>41</sup> The number 14 was considered important by many ancient philosophers who recognized fourteen spheres in the total universe. Plato and the Hindu philosophers conclude that “sound is the primary guide to ‘interiority’ [and] movement is the ‘embodied movement’ of the soul through which creation becomes manifest. Without ordered movement we are in the field of ‘non-being’ (i.e., chaos).”<sup>42</sup>

## **Music and the Body**

Stemming from Boethian philosophy, the study of *musica humana* has been further developed in relation to music and number, enhancing the connection between the body and the incorporeal nature of the soul-spirit (to which both Platonists and Pythagoreans would agree when considering the numerical connection to the body). Theorists such as Censorinus, Jacques de Liège and Gioseffo Zarlino present works based on “The Music of the Human Being.” Censorinus expands on Pythagoras’ doctrine regarding embryology<sup>43</sup> by showing the connection to numbers and to the heavenly bodies; Jacques and Zarlino relate qualities of the body and the senses to music, and link this music to the spiritual nature.

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<sup>41</sup>Ibid., p. 136.

<sup>42</sup>*Harmonies of Heaven and Earth*, p. 131.

<sup>43</sup>Webster’s Dictionary defines embryology as “the branch of biology concerned with the formation of the embryo and its development from the egg to birth.”

From his research on the Pythagorean arrangement of numbers and geometrical structures in combination with music and astrology, medieval theorist Censorinus (early third century AD) presents Pythagoras' account of embryology in relation to harmony.

Godwin points out the connection made by Censorinus concerning these ideas:

The aspects made by the transiting Sun to its position at conception make harmonies which can bring about birth. The number of days of gestation are musically harmonious, too. The actual distances between the planets which make up the nativity or horoscope are in musical proportion. Music affects the soul, the divine part of us, which is what enters at birth.<sup>44</sup>

According to Censorinus, the number of days preceding the birth of a child are theoretically significant for Pythagoras. Pythagoras rationalized two types of birth: "the lesser one of seven months, issuing from the womb on the 210<sup>th</sup> day after conception, and the greater one of ten months, issuing on the 274<sup>th</sup> day."<sup>45</sup> It is questionable as to how Pythagoras surmised these disparate ideas, for neither matches the nine-month gestation period. For example, assuming a thirty day month, ten months would be closer to 300 days. However, assuming a twenty-eight day lunar month, ten months would be 280 days and the gestation period in humans is approximately 280 days so Pythagoras' second calculation of a 274 gestation period would be very accurate. Censorinus attempts to expand on Pythagoras' ideas in order to extend to the reader a greater sense of the ancient philosopher's rationale. The first process, the 'lesser one,' is divisible by six<sup>46</sup> ("ekrysis")

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<sup>44</sup>*Music, Mysticism and Magic*, p. 17.

<sup>45</sup>*Ibid.*, p. 18. The Censorinus extract, translated by Godwin, is taken from his work, *De die natali* (On the Day of Birth - AD 238), XI-XII, ed. Otto Jahn, Berlin, 1845.

and Censorinus proposes four stages in relation to four numbers (six, eight, nine, twelve). Censorinus says that from the first six days “that which is conceived out of the seed is of a milky humor (*ekrysis*), then for the following eight it is sanguine (*ektrosmos*)... in the third stage of nine days it is made into flesh [and] in the following twelve days the body is formed.”<sup>47</sup> The numbers six, eight, nine and twelve are directly proportional to some musical intervals of the diatonic scale: eight days combined with six equals the ratio of a perfect fourth [4:3]; nine days combined with the six equals a perfect fifth [3:2]; twelve days combined with six equals an octave [2:1]. The four numbers add up to 35, and multiplied by six equals 210 days, the day upon which man is “born mature.”

The second process of longer duration is comprised of the septenary. Censorinus notes that “the time taken for the seed to turn into blood is seven days [versus six days in the first process]... the infant [then] receives all its members in 40 days [versus 35].<sup>48</sup> 40 days multiplied by seven equals 280 (40 weeks), but “since the birth takes place on the first day of the last week, six days are subtracted and the 274<sup>th</sup> day is counted.”<sup>49</sup>

Censorinus applies this theory to astrology:

This number of days corresponds exactly to the [astrological] square aspects of the Chaldeans. The sun circles the Zodiac in 365 days and a few hours: if a quarter is subtracted (91 days and a few hours), it will take just short of 274 days to traverse the other 3 quadrants until

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<sup>46</sup>Godwin says that six symbolizes “the foundation of birth, described by the Greeks as a *teleios* (a perfect number) whose three factors - the sixth, the third and the half, i.e. one, two, three - add up to the number itself.” See *Music, Mysticism and Magic*, p. 19.

<sup>47</sup>*Music, Mysticism and Magic*, p. 18.

<sup>48</sup>*Ibid.*, p. 18.

<sup>49</sup>*Ibid.*, p. 18.

it reaches the point which makes a square aspect [assuming he means a right angle, since all designs of the universe are circular] with the place of conception.<sup>50</sup>

By this reasoning, music, number and astrology have a direct association with embryology.

In the Renaissance period, Gioseffo Zarlino (1517-1590) expanded on the numerological formulation of the embryological process in his treatise, “The Music of the Human Being.” Like Censorinus, Zarlino concludes that there are four stages that occur in the birth process:

The human seed within the female womb breaks down in the space of six days and is converted into milk; in nine more days it is transformed into blood; after twelve days a formless mass of flesh develops, which little by little takes on form until in eighteen days it becomes human. Then, after forty-five days when gestation is completed, the Omnipotent God instils the intellectual soul.<sup>51</sup>

These stages are the product of a harmonic and balanced state. Zarlino outlines the musical concordance prevalent in the numerical gestation process: “Between the first and second stage is the interval of a fifth [ $9:6 = 3:2$ ]; from the second to the third, the interval of a fourth [ $12:9 = 4:3$ ]; from the third to the fourth stage another fifth [ $18:12 = 3:2$ ]. “From the first to the third, and from the second to the last, there are octaves; from the first to the last we perceive the interval of a twelfth which is a compound fifth (seen in Zarlino’s figure).”

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<sup>50</sup>Ibid., p. 18.

<sup>51</sup>Ibid., p. 134. The Zarlino extract, translated by Godwin, is taken from his work *Institutioni harmoniche*, Pt. I, ch. 7, edition of Venice, Gregg Press, 1966.

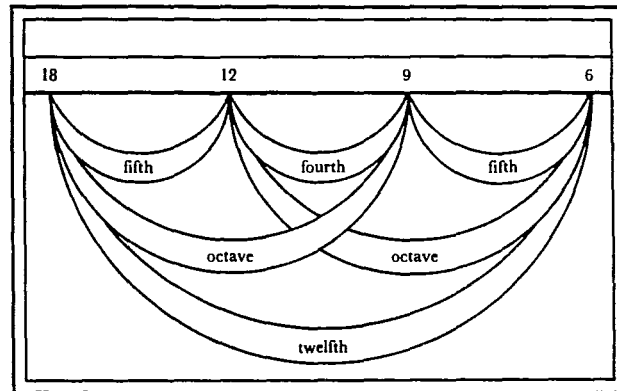


Figure 1-2: The Harmony of Human Music<sup>52</sup>

Zarlino continues with the idea of harmony and human music. The understanding of human music for Zarlino is rooted in three things: “the body, the soul, and the conjunction of one with the other.”<sup>53</sup> Harmony of the body is presented as the process of growth. The body undergoes a natural growth process, and, as humans, we are aware of this. Zarlino says that “we see each living thing changing its state with a certain harmony [for example, children growing old]... but we still cannot perceive this change.”<sup>54</sup> This principle follows the natural law of the universe. Zarlino maintains that in music one cannot hear the space which lies between a high and a low note when produced, either vocally or instrumentally; ‘one can conceive of it, but not hear it,’ and suggests that this parallels the invisible process of natural growth. Harmony of the soul can be observed “in human behavior [whereby] the rational soul within man...is directed and governed by reason. Passing in its operation through the proper means, it conducts his affairs with a certain harmony to a

<sup>52</sup>Ibid., p. 134.

<sup>53</sup>Ibid., p. 134.

perfect conclusion.”<sup>55</sup> Much earlier, Ptolemy had elaborated on harmony and the soul by illustrating the soul’s division into three parts: “the intellect, the senses, and the autonomous functions [habito],” and proposed that these “correspond to the ratios of three consonances - the octave, the fifth and the fourth.”<sup>56</sup> Zarlino largely agrees with Ptolemy’s proposal and elaborates on the relationship of the seventh, fifth and fourth intervals with respect to the intellect, the senses and the natural functions of the body, but he unfortunately does not indicate which interval relates to the particular aspects outlined. Zarlino relates the seven intervals of the octave to the seven members of the intellect: “mind, imagination, memory, cogitation, opinion, reason, and knowledge.” The interval of the fifth contains four intervals relating to the four divisions of the senses: “vision, hearing, smell, and taste (touch being common to all of them, particularly to taste).” The interval of the fourth is made up of three intervals linked to “the autonomous functions of growth, maturity, and decline.”<sup>57</sup> Throughout the growth process, rational behavior is shown to be conducive to one’s harmonious evolution. However, discordant qualities may also affect parts of the soul.

Similarly, Zarlino shows how portions of the soul can correlate with reason, anger and desire. In order to connect to the seven intervals of the octave, Zarlino uses the example of reason and divides it into seven parts: “subtlety, skill, diligence, judgement,

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<sup>54</sup>Ibid., p. 134.

<sup>55</sup>Ibid., p. 135.

<sup>56</sup>Ibid., p. 135.

<sup>57</sup>Ibid., p. 135.

wisdom, prudence and experience;” the four divisions of anger correlate with the interval of the fifth: “gentleness or temperance of the soul, animosity, fortitude, and tolerance;” with desire, three divisions occur, correlating to the fourth interval: “sobriety or temperance, continence, and respect.”<sup>58</sup> Zarlino suggests that these qualities balance one another like upper and lower notes that ‘harmonically unite.’ Human music embraces the natural conjunction of the body and soul, “joined (as the Platonists believe) by the spirit which is incorporeal.”<sup>59</sup>

Many earlier philosophers believed that the human body was composed of four differing elements, (‘earth, water, air and fire’) that interact with one another creating homeostasis. Zarlino associates flesh, sinews and bones with the four elements: “flesh is generated by the tempering of all four elements together; sinews by earth and fire; lastly bones by water and earth.”<sup>60</sup> Furthermore, he concludes that our bodies contain qualities found in the four humors (four bodily fluids capable of regulating temperament and health): “melancholy, phlegm, blood, and choler. These fluids are contrary to one another” but Zarlino says that “in their mixture and composition they are harmonically united.”<sup>61</sup> If the body suffers a physical or mental malfunction, the body is in a state of discord. Thus, only when there is a harmonic concordance between the spiritual nature, mentioned earlier, and the corporeal, does human music exist. This concordance also

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<sup>58</sup>Ibid., p. 135.

<sup>59</sup>Ibid., p. 136.

<sup>60</sup>Ibid., p. 136.



provides the possibility of a connection with the divine mind, allowing one to attune to God's love and wisdom.

Medieval theorist Jacques de Liège wrote the longest of all medieval music treatises, *Speculum musicae* (between 1325-1350), in which he discusses three kinds of music: the Boethian ideas of *musica humana* (the only category addressed by Jacques that will be discussed here), *musica mundana*, and the higher realms of *musica coelestis* or *divina* ('intelligible heavens beyond the visible ones'). Jacques lived 200 years before Zarlino, but they both incorporated the Boethian logic of *musica humana* and *musica mundana* into their theoretical dissertations.

Therefore, before Zarlino, Jacques recognized three components concerning the composition of man: "the soul, body, and the union of these two elements."<sup>62</sup> Upon creation of man, formed in the image of God, the soul is the initial spiritual element residing in the physical body giving life to man's spiritual temple. But balance within an individual occurs not only through the perfecting of the soul, but requires what Jacques stipulates as a "better disposed and organized body [for] the human soul is considered the most perfect of the forms which can be united with a body."<sup>63</sup> Jacques states:

A marvelous proportion is required between the soul of man and the body which it has to inform. The soul itself, existing incorruptibly, is not led either by the active power of any natural agent, nor by the passive power of the matter itself, but is induced from outside, namely

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<sup>61</sup>Ibid., p. 136.

<sup>62</sup>Ibid., p. 103. The Jacques de Liège extract, translated by Godwin, is taken from his work *Speculum musicae*, ch. 14, ed. R. Bragard, vol. 1, Rome, American Institute of Musicology, 1955

<sup>63</sup>Ibid., p. 103.

by God himself creating directly and instilling it into a corruptible body.<sup>64</sup>

According to Jacques, *musica humana* must also review the many powers housed in the parts of the soul itself. The soul activates internal powers such as “understanding, willing, feeling, moving and growing: some rational, which are not essentially tied to the organs, others irrational, tied to the corporeal organs.”<sup>65</sup> When regarding the powers of the soul, Jacques proposes that certain powers dominate over others, and that man is to some degree ruled by them. To further understand the music which embraces the soul and its powers, Jacques quotes Boethius and his theory regarding the division of the soul: “which are superior and nobler, which are rational, and which are parts of the image by which man is capable of acts of blessedness (such as memory, which corresponds to the Father; intelligence, to the Son; will to the Holy Spirit); how these should dominate the others, and how man should chiefly be ruled by them.”<sup>66</sup>

Censorinus, Jacques and Zarlino brought the ancient Greek idea of numerical ratios controlling the universe to the structure of the human being. This is a specific type of music that constitutes the human soul (i.e. *musica humana*) but which does connect to the idea of the music of the spheres. Musical ratios correlate in an orderly fashion to the planets producing a type of cosmic music underlined by a sequence of numbers.

Censorinus, for example, connects the science of embryology, accounting for the number of days before a child’s birth, with musical harmonies. In addition, when the child enters

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<sup>64</sup>Ibid., p. 104.

<sup>65</sup>Ibid., p. 104.

at birth, the divinity of the Soul becomes present and is affected by music. The theorists present dissertations involving a direct link between the corporeal nature (physical) and the incorporeal (spiritual), postulating the harmonious product of “The Music of the Human Being” versus “The Music of the Universe.”

## The Trinity

Hall wrote on the “*Nature of the Absolute*,” in his text, *Lectures on Ancient Philosophy*, where he presents a fundamental symbol of unification in relation to the concept of the “dot,” “line,” and the “circle.” He places great importance on these primary symbols, devoting his introductory lecture to this subject. Hall cites the threefold manifestation accordingly: “The dot is universal consciousness, the line is universal intelligence, and the circle is universal force.”<sup>67</sup> Pythagoras and Plato, revealed through Orphic theology, referred to this concept as the “supreme, superior and inferior,” encompassing “Absolute Unity” from above, to “Absolute Diversity”<sup>68</sup> from below. From above means proceeding from the dot, through the line, to the circle, with the dot referring to specific individuals and the circle below representing everyone. The reverse of this application - from the circle, through the line, to the dot - is the evolution to the place of

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<sup>66</sup>Ibid., p. 105.

<sup>67</sup>Manly P. Hall, *Lectures on Ancient Philosophy - An Introduction to Practical Ideas* (Los Angeles, CA: Philosophical Research Society, Inc., 1988), p. 8.

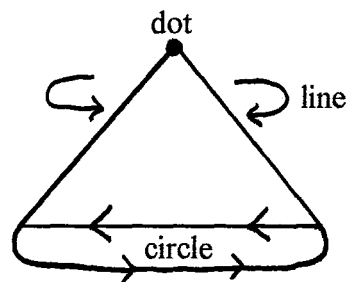
<sup>68</sup>Ibid., p.23.

Absolute Unity. More specifically, Platonic philosophy expands on the three degrees accordingly:

(1) gods, or those most proximate to the Absolute, who dwell within the nature of the dot; (2) men, or those who are most distant from the Absolute, who dwell in the circumference of the circle; (3) the heroes and the demi-gods, who are suspended between Divinity and humanity and who dwell in the sphere of the line.<sup>69</sup>

Hall's rationalization of this trinity working towards a state of oneness is such that "it is to the lower world of men that the light (the dot pouring into the line), personified as the Universal Savior, descends to redeem consciousness from the darkness of a living grave (the circumference of the circle)."<sup>70</sup> Stemming from this ancient philosophy, I consider this trinitized theory in pyramidal alignment:

Divine Soul = Higher Mind/Universal Consciousness/Absolute Unity



Lower Mind/Five Senses/Absolute Diversity

Figure 1-3

The circle represents the cycle of life. The line represents the motion of a consciousness awareness state (level of being) to or from Universal Consciousness seeking to align with one's universal self (the dot). Hall concludes that "motion away from self brings a

<sup>69</sup>Ibid., p.24.

<sup>70</sup>Ibid., p.23.

decrease in consciousness and power; motion toward self brings a corresponding increase in consciousness and power. The farther the light ray travels from its source, the weaker the ray.”<sup>71</sup> As one ascends toward the dot, toward universal truth or Absolute Unity, the space between the lines diminishes. Conversely, as one descends from the dot, the space expands, encompassing the increased dimensions of the circle and consciousness awareness state is weakened. From Hall’s philosophical conclusion, “the line is a ladder up which man ascends to light from his infernal state and down which he descends in his involution (the descent of the rational nature of man into its irrational body).”<sup>72</sup> The *fall of man* is the descent down the ladder from the dot to the circumference; the *resurrection* or *redemption* of man is his return from the circumference to the dot.”<sup>73</sup>

To Hall, the symbolic nature of the three-fold alignment is without question the foundation from which all human thought evolves; the “basis upon which the entire structure of existence and function - both universal and individual - has been raised.”<sup>74</sup>

Hall correlates three major areas of study to the symbolic pyramidal triad: “mathematics is the dot, music (the profundities of aesthetics and harmonics) the line, and astronomy the circle.”<sup>75</sup> Hall points out particular areas of study analogous to the construction of the trinity such as the chemical elements, color, grammar and music. A possible analysis of

<sup>71</sup>Ibid., p. 6.

<sup>72</sup>Ibid., p. 80.

<sup>73</sup>Ibid., p. 24.

<sup>74</sup>Ibid., p. 22.

music in relation to the dot, line and the circle is as follows: The composer and his composition are analogous to the circle; the performance, which is the execution of the composition, is analogous to the line; and the musical experience, which is the product of the performance, is analogous to the dot.

Another example of this threefold manifestation was assumed in Boethius' theory of *musica mundana* - the idea that all things in the universe are balanced by a temperate amount of negative and positive charge. The synthesis of these two principles in all things could create a third principle - neutrality. These three (positive, negative, neutral) symbolize the trinity. These principles suggest the following application in relation to frequency, in the outline of a pyramidal structure with a pendulum hanging from its central axis, acting like a gong:

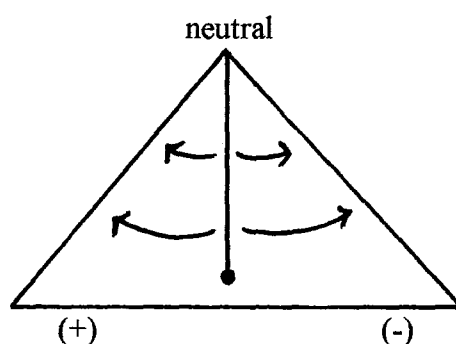


Figure 1-4

The pendulum emits a specific frequency by swaying from side to side. The length of the pendulum will dictate the speed which controls the change in pitch. This in turn will vary the volume ratio accordingly; the lower the pendulum swings, the fewer number of

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<sup>75</sup>Ibid., p. 125.

vibrations, the louder the tone, oscillating closely to the polarized state; likewise, the higher the pendulum swings, the greater number of vibrations, the softer the tone, the closer to the dot. The apex of the pyramid (the dot) essentially links the positive and negative polarities. This is the neutral zone embracing truth and light (as opposed to falsities and darkness). A state of unified consciousness embraces opposites symbolizing oneness, wholeness and complete divinity. According to Trichy Sankaran in *The Rhythmic Principles and Practice of South Indian Drumming*, Indian philosophy embraces the idea of “oneness;” the material and spiritual world are regarded as inseparable while unity in diversity constitutes the essence of Hindu philosophy.<sup>76</sup>

Universal evolution is referred to in Gnostic theology as the ‘Word’ (*logos* in Greek and *saabda* in Sanskrit).<sup>77</sup> Lawlor interprets this transcendent Word, “the naming of God’s idea, as a [pure] vibration (a materialization) of the Divine thought which gives rise to the fractioning of unity which is creation. Prevalent in all existing nature, these concentric vibrational waves emit sound; what the Pythagoreans would call the Music of the Spheres.”<sup>78</sup> The mystical Cabbalists, whose doctrines influenced both Christian and Jewish medieval thought, correlate the Absolute to the “*Ain Soph*,” “The Most Ancient of all the Ancients,”<sup>79</sup> defined by Hurtak as the “limitless Light; the Light that ‘sees’ and

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<sup>76</sup>Sankaran, Trichy S. *The Rhythmic Principles and Practice of South Indian Drumming*. (Toronto: Lalith Pub., 1994), p. 2.

<sup>77</sup>Lawlor, p. 22.

<sup>78</sup>*Ibid.*, p. 22.

<sup>79</sup>*The Secret Teachings of All Ages*, p. CXVII.

‘knows’ the *Nartoomid* - the Eternal Light - as the synthesis of the many Creator Gods.”<sup>80</sup>

It is considered sexless, abstract and of measureless infinity; the ‘universal germ’ (in other words, the dot) providing nourishment for all growth.

The following diagram is Hurtak’s pyramidal alignment illustrating the trinitized union of the soul and the spirit aligning with the ‘Overself’ body (eighth sphere and beyond), passing into the light spectrum (the notion of color and sound) of the ‘*Ain Soph*:’

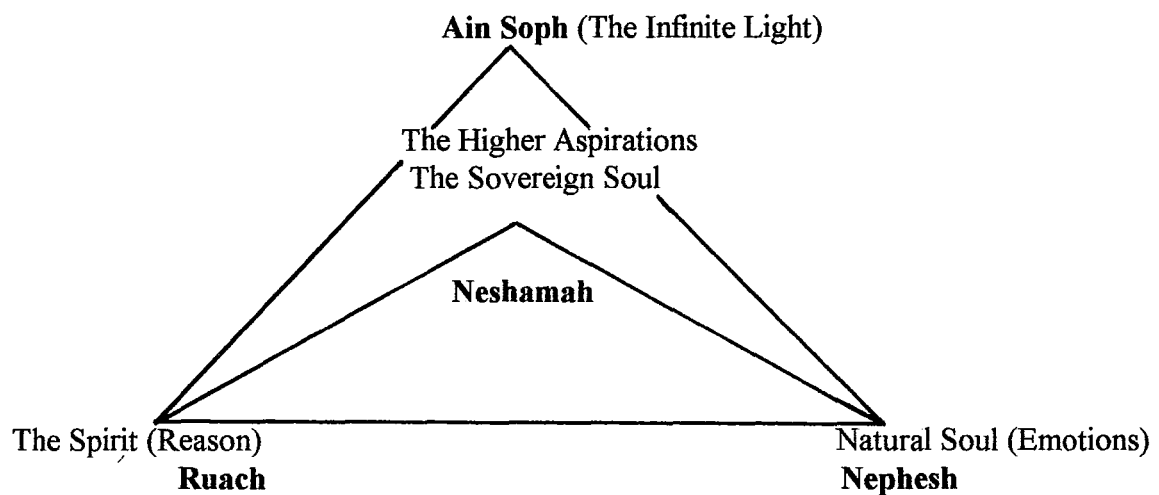


Figure 1-5: Soul-Spirit<sup>81</sup>

The *Ruach* and *Nephesh* must balance one another in order to join as one, producing the *Neshamah*. Reason (intelligence) represents man’s search for wisdom; Will represents man’s freedom to choose; and the Father, the eternal symbol of the divine mind associated with memory represents the awakening of the blue print within man, in other words, the

<sup>80</sup>Hurtak, p. 566.

<sup>81</sup>Ibid., p. 608.



soul that has gone through self-realization. Upon entering the realm of the ‘*Ain Soph*,’ man will then hear what the ancients referred to as the “music of the spheres.”

We aspire to ascend to the level of the dot. Drawing on Immanuel Kant’s views considering the trinity, Hall claims: “We find the dot designated the *noumenon* and the circumference the *phenomenon*; the former the Reality, the latter the Unreality. The line (the human mind) must ever be the agency that bridges the void between them.”<sup>82</sup> The cycles of life need to be understood through introspection before one can truly internalize higher teachings and begin to resonate with the higher forces of light. Hermetic teaching stipulates “that if one can understand the human microcosm, then one can understand the cosmos; and that means, in the first instance, ‘knowing oneself.’”<sup>83</sup> In addition, Godwin suggests that “it is only by reawakening our own microcosmic nature that we can achieve any understanding of the macrocosm.”<sup>84</sup> The musical experience (the dot) has the power to emit a resonance which upon hearing permeates and affects our state of being. It enhances our consciousness level as it pours into the line of our physical, spiritual and mental state of being, awakening, in turn, the dormant consciousness of our existence (within the circle).

The Buddhist writer Marco Pallis (1896-1989) correlates imitative counterpoint, the unification of independent musical voices harmonically and thematically, to the symbolic

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<sup>82</sup>*Lectures on Ancient Philosophy*, p. 23.

<sup>83</sup>*Harmonies of Heaven and Earth*, p. 86.

<sup>84</sup>Joscelyn Godwin, *The Mystery of The Seven Vowels - in Theory and Practice* (Grand Rapids, MI: Phanes Press, 1991), p. 71.

nature of the polarized forces and the universal dot: "...its continual interplay of tensions and releases, expresses that unity out of which all its constituent elements have arisen."<sup>85</sup>

Similar to Pallis' notion of 'polarized forces,' Godwin proposes a theory related to the idea of the "universal forces of contraction (overtones) and expansion (undertones) [Godwin posits the theory of overtones as a series of harmonics determined by progressive string lengths and undertones as their exact inversion or unmanifested counterpart],"<sup>86</sup> considered by many theosophers "necessary for Creation to emerge from chaos."<sup>86</sup> It is worthwhile to note that one can theoretically postulate the existence of inversions of the intervals making up the harmonic series but in the physics of sound any "undertones" that can be detected are not inversions of the intervals comprising the harmonic series - they are larger and larger intervals below the fundamental, and in most cases can only be detected electronically. Godwin contemplates on the symbolic value reflecting the vibratory rate of overtones to undertones:

The overtones correspond to successively faster vibrations and smaller vibrating particles [e.g., progressively shorter fractions of the monochord, or the pendulum mentioned earlier], the undertones represent slower and slower vibrations such as would be caused by increasingly large resonant bodies. The overtones lead to the 'microscopic' diminution of time and space, the undertones to 'astronomical' expansion... In just the same way, we know that every one of our actions and thoughts must affect all the cells, the molecules, and eventually the atomic particles within our body.<sup>87</sup>

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<sup>85</sup>Marco Pallis, 'The Metaphysics of Musical Polyphony,' in *Studies in Comparative Religion*, vol. 10, no. 2 (1976), p. 108.

<sup>86</sup>*Harmonies of Heaven and Earth*, pp. 176-7.

<sup>87</sup>*Ibid.*, p. 176.

Godwin fuses the disciplines of science and music noting that “all matter is perpetually in a state of vibration”<sup>88</sup> and asserting that it is conceivable that inaudible music surrounds us, infiltrating the cells of our bodies.

### **Physical/Spiritual Matter and Transformation Through Music**

Some modern physicists understand the world of material flesh as an illusionary perception. We recognize the body as a solid form when in fact, if we accept Godwin’s view, the composition of our living bodies is in a state of perpetual vibration in accordance with universal energy. Furthermore, in Bruce Cathie’s *The Bridge to Infinity*, a text based on theoretical research involving highly advanced mathematical calculations, he concludes that “all electromagnetic waves, including those of light, travel at the speed of approximately 186,300 miles per second.”<sup>89</sup> Many scientists theorize that the human body is composed of particles resonating at a speed relative to the speed of light (relative to Cathie’s figure, for example) so that our essence, for the most part, is recognized as space. Expanding metaphorically on Godwin’s account is Hall’s rationalization of physical matter linked with spiritual matter - he eloquently asserts that “human nature is but a drape concealing an inner and most transcendent part.”<sup>90</sup> Also, echoing Godwin is Lawlor’s account of the physical world in conjunction with musical or harmonic laws: “Every living

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<sup>88</sup>Ibid., p. 6.

<sup>89</sup>Bruce L. Cathie, *The Bridge to Infinity - Harmonic 371244* (Kempton, Illinois: Adventures Unlimited Press, 1997), p. 79.

<sup>90</sup>*Lectures on Ancient Philosophy*, p. 355.

body physically vibrates, all elemental or inanimate matter vibrates molecularly or atomically, and every vibrating body emits a sound.”<sup>91</sup> We may conclude from these various doctrines that wave patterns permeate our bodies, composed of interval and frequency, defining the nature of matter (i.e. substance).

Likewise, Cathie proposes that wave patterns, or what he calls ‘light-waves,’ produce harmonic resonance or vibrations of sound - sounds which may initially be inaudible to the human ear. He suggests that all universal Creation is manifested by “a harmonic unified field equation (light), or pure electro-magnetic waves,” referring to such facets as “the seen and the unseen, to forms, solids, liquids, gases and stars...all consisting of visible and invisible waves of light.”<sup>92</sup> Like Hurtak, Cathie believes that “light-waves, guided seemingly by superior intelligence, form intricate interlocking grid patterns.”<sup>93</sup> In our physical universe 110 elements are presently documented. Cathie’s mathematical research indicates that there may be 144 individual elements to be found in the atomic table, all correlating to what he refers to as a ‘natural harmonic series,’ whereby “the whole series [generates] a repetition of octaves (harmonic value=144) of wave-forms.”<sup>94</sup> The geometries of light (‘harmonic resonance’) progressively intensify as the value of the elements grow in number “from a foundation of fundamental wave-patterns”, hence,

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<sup>91</sup>Lawlor, p. 12.

<sup>92</sup>Cathie, p. 24.

<sup>93</sup>Ibid., p. 29.

<sup>94</sup>Ibid., p. 30.

creating an “interlocking of harmonic wave-forms.”<sup>95</sup> Highly involved structures are produced from each of the elemental intricacies of vibratory harmonics.

Cathie elaborates on the harmonic resonance in the Great Pyramid, relative to magnetic forces that unify the universe. This ‘biocosmic energy,’ a term Cathie borrows from a document written in 1972 by Dr. G. Patrick Flanagan, correlating this type of energy to the Pyramid, operates on microscopic levels which can attune with the greater harmonic forces of the Pyramid:

The Pyramid generates millimicrowave or nanowave radiation by the simple fact that it has five corners - the four base corners plus the apex. The corners are in effect a type of nanowave radiator. The radiation from the molecules or the atoms of matter in the pyramid combine by the angles of the corners into a beam which bisects the angles and transmits a beam of this radiation towards the centre of the pyramid. The molecules or atoms of this area absorb these energies by resonance.<sup>96</sup>

Cathie’s analysis focuses on the most important area of the pyramid - the ‘King’s Chamber.’ His calculations designate this chamber as “a cavity resonator harmonically tuned to the wave-lengths of atomic structures and the earth’s magnetic field.”<sup>97</sup> Scientists assume that the Coffin (or sarcophagus) located in the chamber was originally in line with the north-south axis of the pyramid. Cathie’s computer analysis indicates that the Coffin’s alignment is thus placed accordingly for the highest order of harmonic resonance. If Cathie’s theory is valid, then it is understood that “if any person lay prone in the Coffin

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<sup>95</sup>Ibid., p. 31.

<sup>96</sup>Ibid., p. 53.

<sup>97</sup>Ibid., p. 62.

with his head towards the north, the head would be bombarded with a complex interweaving of resonating wave-forms tuned to the infinite.”<sup>98</sup>

Hurtak refers to the Great Pyramid of Egypt as an ‘acoustical architecture’ that exemplifies “the largest musical instrument on earth.”<sup>99</sup> In his article entitled “Music and Acoustical Resonance Patterns of the Great Pyramid,” he documents his recent musical experiments conducted in the Pyramid, concluding that the resonance patterns emitted in both the sarcophagus and King’s Chamber ‘affect the total body state:’

The mathematical-musical relationships engineered in the room or chamber correspond to a steady mode of vibration of the space, which is multiplied in the sense that at any particular point the vibrations of sound induction repeat themselves over and over, in time with the body at near points of the same part of the wave pattern.<sup>100</sup>

Hurtak says that these ‘vibrating patterns’ initially produce sound inaudible to the human ear. The numerous musical tests performed in the King’s Chamber established a tuning between F and F#. Individuals experimenting with these musical tones (in combination with meditation) led to “the entrainment of consciousness transformation into altered states” enhancing the “body-mind-spirit”<sup>101</sup> connection of each individual, removing one’s psyche from conditioned patterns of behavior.<sup>102</sup> While one can report on

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<sup>98</sup>Ibid., p. 62.

<sup>99</sup>*Exposition Series II on The Book of Knowledge: The Keys of Enoch*, 1980.

<sup>100</sup>James Hurtak, “Tischrede: Music and Acoustical Resonance Patterns of the Great Pyramid,” *Future History*, series 2, vol. 7, Spring 1988, p. 10.

<sup>101</sup>Ibid., p. 10.

<sup>102</sup>In October of 1996 I personally experimented with this theory at Giza by placing myself in the Coffin of the King’s chamber with my head aligned with the northern axis, singing a variety of the 72 Divine

such notions, these experiments are personal experiences and cannot be measured. The reason people experienced such things may well be because they expected to experience them - hence, psychologically induced - rather than being based on measurable physics. In any case, it is difficult to scientifically document experiences of a non-linear nature, leaving room for many interpretations and a healthy skepticism.

Some writers have attempted to objectify the transformative power of music through the physical properties of spiritual transformation. One of Hurtak's principal notions is rooted in the combined forces of spirituality and science working together in order to elevate universal consciousness. Boethius states:

The power of the mind should be directed to the purpose of comprehending by science what is inherent in nature. Just as in the study of vision, the learned are not content to behold colors and forms without investigating their properties, so they are not content to be delighted by melodies without knowing by what proportion of sounds these are interrelated.<sup>103</sup>

To Hurtak, Andrews and others, 'sympathetic vibrations' are considered a fundamental factor of sound permeating the cells within the human body. They have the capability of responding to any other sound outside of the body - positive or negative - therefore, it is essential to be aware of the various sounds capable of penetrating our energy fields.

Andrews says, "every organ, in which cells of like vibration have gathered to form that organ, will respond as a group to particular sound vibrations."<sup>104</sup> In addition, the body

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Names of God. Upon completion, my body felt extremely light, as if the forces of gravity had been somewhat lifted. I felt an ethereal intoxication, like I was resonating with a higher unknown force and was emotionally moved beyond description.

<sup>103</sup>Strunk., p. 84.

will respond to specific types of sound vibrations and these affect the levels of ‘emotional, mental and spiritual states of consciousness.’ Based on the theories of physics, Andrews states:

Life is contained of atoms which [comprise] protons and electrons - electrically and magnetically charged particles of energy. Sound vibrations are connected to the vibrations or undulation of atoms and molecules within the air... The human body is a bio-electrical system, created in varying frequencies through muscular actions and can be altered, strengthened or balanced through the use of sacred sounds. This occurs through the quality of resonance.<sup>105</sup>

Andrews applies this principle using the example of a tuning fork and a piano. If we were to connect a tuning fork of a particular pitch to the piano key of the same pitch, we would find that that tone would resonate along a specific piano wire within the piano. The tuning fork would be instigating a vibrational response of similar frequency. When we produce and direct sacred sounds through our “chakra centers”<sup>106</sup> and attune particular frequencies to the physical body, we begin to create an equilibrium which energizes our entire system.

Andrews states:

The most effective and simple means of restoring balance is through sound and music. The chakras and their electro-magnetic emanations respond to specific musical tones and vocalizations. If there is an imbalance, we can use specific tones or combinations of tones to restore homeostasis to the function of our electro-magnetic aspects.<sup>107</sup>

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<sup>104</sup> Andrews, p. 9.

<sup>105</sup> Ibid., p. 8.

<sup>106</sup> Hurtak defines Chakra centers as “Centers of energy alignment connected with the human body where the biological clocks work together with external energy fields so as to provide for a mutual portal line between complex spiritual, mental and biological networks. See *The Keys of Enoch*, p. 569.

<sup>107</sup> Andrews, p. 38.



We then have greater access to our true essence and its manifestation within our day-to-day life. In alliance with Andrews notion regarding the physical body as a resonator of sound are the thoughts conveyed by Indian musician Hazrat Inayat Khan (1882-1927), founder of the Sufi<sup>108</sup> movement:

There is no greater and more living resonator of sound than the human body. Sound has an effect on each atom of the body, for each atom resounds; on all glands, on the circulation of the blood and on pulsation. ... [Music] creates that resonance which vibrates through the whole being, lifting the thought above the denseness of matter; it almost turns matter into spirit, into its original condition, through the harmony of vibrations touching every atom of one's whole being.<sup>109</sup>

Music enables man to embrace a spiritual life which comes from within. It broadens one's soul immersion and denseness in a material existence clarifying man's perceptions and lightening personal burdens through the faculty of appreciation, uplifting the soul.

Andrews theorizes that we are a microcosm of the universe. In our physical or "subtle bodies we have all of the inherent energy vibrations of the universe,"<sup>110</sup> vibrations, according to Andrews, that are contingent on physical and non-physical properties

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<sup>108</sup>In his text, *World's Religions*, Huston Smith writes: "Sufis were drawn to the Koranic disclosure that there is an inward as well as an outward side to the divine nature. God's relatively obvious aspects might suffice for the majority of Muslims, but the Sufis wanted to plumb Allah's depths. And they wanted to experience him now, in this lifetime, and not wait until the afterlife. This required drawing close to Him, and the Sufis developed three overlapping but distinguishable routes," what Huston calls "the mysticisms of love, of ecstasy, and of intuitive discernment," which he goes on to describe at great length. See *The Illustrated World's Religions* (New York: Harper Collins Publishers, 1986), pp. 170-171.

<sup>109</sup>Hazrat Inayat Khan, *The Sufi Message of Hazrat Inayat Khan*, vol. II, *The Mysticism of Sound; Music; the Power of the Word; the Cosmic Language* (London: Barrie and Rockcliff, 1962), pp. 107/151-2.

<sup>110</sup>Andrews, p. 9.

involving tangible and intangible energies capable of enhancing our intuitive and physical perceptions. When responding to a certain resonance, Andrews says that it is important to distinguish between ‘sympathetic’ and ‘forced vibrations.’ According to him, a “sympathetic vibration (or resonance) occurs when two or more bodies have similar or identical vibrational frequencies, making them more easily compatible. This is an innate sympathy...sometimes known as free resonance;” forced resonance occurs when “two energy systems have different frequencies, and the stronger vibration is transmitted to the other by force.”<sup>111</sup> It is essential to discriminate amongst these energies by sensing what is potentially conducive in strengthening or weakening each individual’s overall nature. By placing oneself in what seems to be an appropriate setting, one is more likely to respond to a positive frequency, maintaining a vibrant, strong and resonant energy field. The Neoplatonist, Plotinus (AD 205-269/270), discussing music as a metaphor in his musical treatise entitled *Universal Harmony*, (taken from his *Enneads*<sup>112</sup>), suggests the following:

All Souls are adjusted, most legitimately, to the appropriate environment, as every string of the lyre is set in the precisely right position, determined by the Principle directing musical utterance, for the due production of the tones within its capacity...the harmony is made up from tones of various grades, all the tones differing, but the resultant of all forming one sound... and out of this concordance rises as it were one musical utterance: the music, the harmony, by which all is described (the harmony of the spheres), is the best witness to this truth.<sup>113</sup>

Many ancient historians and modern day philosophers concur with the latter thought

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<sup>111</sup>Ibid., p.11.

<sup>112</sup>Six groups of nine treatises each.

<sup>113</sup>Plotinus, *The Enneads*, Stephen MacKenna, translator, 4<sup>th</sup> revised ed. (London: Faber and Faber Ltd., 1969), pp. 177, 271.

regarding a harmonious existence. Andrews states: “The human body is bio-electrical. Our auric fields are electro-magnetic energy fields surrounding the body. We are constantly giving off (electrical aspect) and absorbing (magnetic aspect) energy...the vibrating origin is passed from one molecule of air to another and so on. The human ear can pick up vibrations somewhere between sixteen and twenty thousand vibrations per second.”<sup>114</sup> Positively charged electrical energy can be used to overcome discordant conditions in the body and to force various organs and systems back within their normal parameters, restoring homeostasis.

### **Harmony Modified by Sense of Beauty**

Hall presents a dissertation on harmony, modified by the sense of beauty congruent with order, measure and proportion combining to create a balanced state of existence:

Harmony is a state recognized by great philosophers as the immediate prerequisite of beauty. A compound is termed *beautiful* only when its parts are in *harmonious* combination. The world is called beautiful and its Creator is designated the *Good* because good performance must act in conformity with its own nature; and good acting according to its own nature is harmony, because the good which it accomplishes is harmonious with the good which it is. Beauty, therefore, is harmony manifesting its own intrinsic nature in the world of form.<sup>115</sup>

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<sup>114</sup> Andrews, p.12.

<sup>115</sup> *The Secret Teachings of All Ages*, p. LXXXI.

Hall's theory on harmony centres on levels of good rising from matter, where inharmonious acts are more likely to be experienced (the lowest degree of good), to spirit (the highest degree of goodness and natural events). Hall states,

In man, his superior nature is the *summum bonum*. It therefore follows that his highest nature most readily cognizes good, because the good external to him in the world is in harmonic ratio with the good present in his soul. What man terms evil is therefore, in common with matter, merely the least degree of its own opposite. The least degree of good presupposes likewise the least degree of harmony and beauty. Thus deformity (evil) is really the least harmonious combination of elements naturally harmonic as individual units.<sup>116</sup>

Viewing Hall's concepts of evil and good as relative to one another will initiate an aspiration toward a higher consciousness. In alliance with Hall's theory are the thoughts of Inayat Khan:

Beauty is born of harmony. Harmony is right proportion, in other words, right rhythm. And what is life? Life is the outcome of harmony. At the back of the whole creation is harmony, and the whole creation is harmony. Intelligence longs to attain to the perfection of harmony... The object attained by both good and bad methods is the same, but the way one tries to attain it makes it right or wrong. It is not the object which is wrong, it is the method one adopts to attain it.<sup>117</sup>

Beauty awakens consciousness and the soul enmeshed in a material existence far removed from spirit. Harmonious aspirations attune one to the universe and the path to spiritual attainment.

Andrews creates the connection between these high-minded concepts and the actual practice of music. He links rhythm, melody and harmony to the body, mind and spirit.

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<sup>116</sup>Ibid., p. LXXXI.

Rhythm affects changes in physical states, whereas melody and harmony affect emotional and mental states. From rhythm “comes all motion in the universe;” from melody “comes the interaction between the divine in the physical and our own interactions with other light forms;” from harmony “comes the true spiritual power manifesting in the universe and in humans as our interaction with all elements of life are harmonized.”<sup>118</sup> The combination of these various forms assists in elevating consciousness levels and promoting spiritual awareness. These considerations lead to the following thesis forwarded by ancient authorities (that is, the practitioners of the Pythagorean and Platonic traditions): “The study of sound provides a key to understanding [ourselves and] the universe.”<sup>119</sup>

### **Plato’s Numerological Writings**

In discussing Plato’s teachings on symmetry and ascension to an elevated consciousness, musicologist Ernest McClain attempts to interpret Plato’s numerological writings, which are interlaced with such ordered arrangements as the three-fold model (1-2-3). In the opening of the *Timaeus* creation myth Socrates cites the numbers “One, two, three,” numbers, according to Plato, which generate the ‘World-Soul,’<sup>120</sup> and its tonal imagery is realized by McClain as “products of two and three...or of sequences of octaves

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<sup>117</sup>Inayat Khan, p. 148..

<sup>118</sup>Andrews, p. 13.

<sup>119</sup>Lawlor, p. 13.

<sup>120</sup>Ernest G. McClain, *The Pythagorean Plato - Prelude to the Song Itself* (York Beach, Maine: Nicolas - Hays Inc., 1978), p. 57.

(2:1) and fifths (3:2).”<sup>121</sup> In the “Marriage Allegory” of Plato’s *Republic*, the perfect number defining divine births for Plato is the number six.<sup>122</sup> McClain explains this by pointing out that “it is the sum of all of its divisors (1+2+3=6).”<sup>123</sup> In addition, Robin Waterfield, in the notes preceding his translation of Plato’s *Republic*, states that “a perfect number is, in strict arithmology, one which is equal to the sum of its factors: 6(1+2+3), 28(1+2+4+7+14), 496 [i.e., 6 is the only perfect number between 1 and 10; 28 between 10 and 100; 496 between 100 and 1,000]”<sup>124</sup> confirming McClain’s affirmation.

Pythagoreans called the hexad, the number six, “the perfection of all the parts” representing “the creation of the world.”<sup>125</sup> According to the Biblical prophets and the ancient Mystics, the world was considered instantly created and therefore the numerical value is recorded solely for human understanding. Hall indicates that the hexad symbolizes marriage, “formed by the union of two triangles [the star hexagon], one masculine and the other feminine.”<sup>126</sup> He identifies various keywords applied to the hexad:

time, for it is the measure of duration; panacea, because health is equilibrium, and the hexad is a balance number; omnisufficient,

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<sup>121</sup>Ernest McClain, *The Myth of Invariance - The Origin of the Gods, Mathematics and Music From the Rg Veda to Plato* (York Beach, Maine: Nicolas Hays, Inc., 1976), p. 5.

<sup>122</sup>Allan Bloom, ed., *The Republic of Plato* (New York: Basic Books, Inc., 1968), p. 223-4 [546a - this number refers to the paragraph location in *The Republic of Plato* . All further paragraph references in any of the works of Plato will be cited in the same manner].

<sup>123</sup>*The Myth of Invariance*, p. 126.

<sup>124</sup>Robin Waterfield, ed., *The Republic of Plato* (New York: Oxford University Press, 1993), p. 432.

<sup>125</sup>*The Secret Teachings of All Ages*, p. LXXII.

<sup>126</sup>*Ibid.*, p. LXXII.

because its parts are sufficient for totality ( $3+2+1=6$ ); unwearied, because it contains the elements of immortality.<sup>127</sup>

## **Law of Music in Proportion to Mathematics: Pythagoras**

The established connection between sound frequencies and number ratios is attributed to Pythagoras. The laws of music are structurally proportional to the rules that govern mathematics, as initially described by Aristotle and expanded upon by others like Plato. Pythagoras demonstrated that mathematical proportion governed the creation of those intervals which produced either dissonant or consonant harmonies.<sup>128</sup> To explain this theory, Seay reports a legend in which Pythagoras reportedly heard beautiful harmonies executed by four individual hammers pounding on anvils. He assumed the sounds were coming from the heads of the hammers and weighed them, identifying their weights accordingly as 12, 9, 8, and 6 pounds.<sup>129</sup> Numerical ratios of frequency were then applied to these harmonies: “The sound of the octave was given by relation of the 12-pound hammer to that of the 6, or 2:1, the perfect fifth resulted from the comparison of that of 12 and that of 8, or of those of 9 and 6, or 3:2, the perfect fourth from that of the 8 and 6, or 12 and 9, or 4:3, and the whole tone from that of 9 and 8.”<sup>130</sup> The ratios derived

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<sup>127</sup>Ibid., p. LXXII.

<sup>128</sup>Ibid., p. LXXXI.

<sup>129</sup>*Music in the Medieval World*, p. 20.

<sup>130</sup>Ibid., p. 20.

from the numbers 1, 2, 3, 4 established the Pythagorean musical consonances: 2:1, 3:2, 4:3, 3:1, (octave plus fifth), and 4:1 (double octave).

## The Golden Proportion and the Fibonacci Series

Integral to the architectural foundation of musical structure is a sense of proportional symmetry. Composers frequently produce coherent, balanced designs that are not solely based on conventional musical forms, but draw on mathematical systems. Two of the most common are the Greek Golden Proportion (Golden Section, Golden Mean, Golden Division - henceforth 'GP') and the Fibonacci series. In order to understand the Golden Proportion<sup>131</sup> in music, other connections will be established to clarify its relevance.

Roy Howat, in his text *Debussy in Proportion*, defines the GP as "the way of dividing a fixed length in two so that the ratio of the shorter portion to the longer portion equals the ratio of the longer portion to the entire length...in mathematical terms,  $b/a = a/a+b$ ."<sup>132</sup> The mathematical constant is realized as two numbers that are reciprocals - 1:1.618034 (GP plus value) or 0.618034 (GP minus value) - realized primarily as a proportion and not a number. Lawlor indicates mathematical symbols for patterns of growth characteristic in producing the Golden Proportion through the combined effect of multiplication and addition revealed in the relationship of the arithmetic, geometric and

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<sup>131</sup>Named according to the 21<sup>st</sup> letter of the Greek alphabet - *phi* ( $\Phi$ ), the proportion of 1:1.618. (See Mann's *Sacred Architecture*, p. 18).

<sup>132</sup>Roy Howat, *Debussy in Proportion: A Musical Analysis* (New York: Cambridge University Press, 1983), p. 1.



harmonic proportion. He gives the following example for attaining the harmonic proportion of 6:8::9:12: “given two extremes, 6 and 12, the product of 6 and 12=72, the arithmetic mean between 6 and 12 is 9, and 72 divided by 9=8.”<sup>133</sup>

$$\text{Arithmetic: } b = (a + c)/2$$

$$\text{Geometric: } b = ac$$

$$\text{Harmonic: } b = 2ac/a + c$$

The law governing the arithmetic proportion is addition and its inverse, subtraction; the geometric proportion is multiplication and its inversion, division; the harmonic proportion is a combination of the first two (multiply any two extremes ( $a,c$ ) dividing this product by the arithmetic mean  $(a + c)/2$ ).

From his work, *The Workshop of Bartók and Kodály*, Ęrno Lendvai defines the GP as “the proportion of the whole to the large part [which] corresponds geometrically to the proportion of the larger part to the smaller one.”<sup>134</sup> Integrated into the design of the GP is the ascending set of whole numbers of the Fibonacci series - 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144 - adhering to the rule that the sum of each number is equal to the two preceding numbers. “Each number in this series... gives the nearest whole number to the GP of its two neighbouring terms in the series.”<sup>135</sup> Lendvai charts the GP, which is based on the Fibonacci sequence ( $2/3$ ,  $3/5$ ,  $5/8$ , etc.), using the following formula:

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<sup>133</sup>Lawlor, p. 81.

<sup>134</sup>Ęrno Lendvai, *The Workshop of Bartók and Kodaly*, (Editio Musica Budapest, 1983), p. 33.

<sup>135</sup>Howat, p. 2.

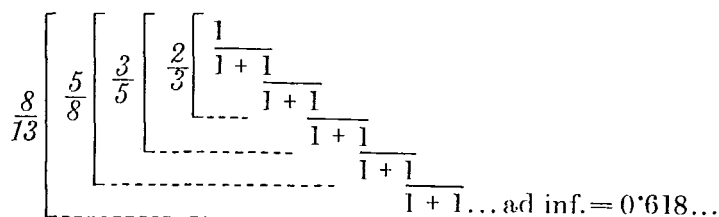


Figure 1-6: The Golden Proportion system<sup>136</sup>

The Fibonacci series was named after the thirteenth-century Italian mathematician Leonardo da Pisa (1170-1250), “known to his contemporaries as ‘Figlio Bonaccio,’ and instrumental in establishing the use of Arabic numbers in Europe.”<sup>137</sup>

The Golden Proportion and the Fibonacci series have been recognized since ancient times in other areas of study such as art, architecture<sup>138</sup> and natural organic growth. Artist Leonardo da Vinci (1452-1519) referred to the GP as the “golden rule.”<sup>139</sup> He graphically represented proportions of the human figure in a pentagon, having five equal sides, to which man’s head, hands and feet correspond to five apexes inscribed within the circumference of both a circle and a square. The perimeter of the circle is the same as that of the square and this “integration is a metaphor for equilibrium between earth (square) and heaven (circle).”<sup>140</sup> The Golden Proportion appears in the fivefold symmetrical

<sup>136</sup>Lendvai, p. 66.

<sup>137</sup>Howat, p. 3.

<sup>138</sup>The Great Pyramid in Egypt and the Parthenon in Athens are two examples of architecture revealing dimensions of the Golden Mean.

<sup>139</sup>Lendvai, p. 33.

structure of the pentagon and is symbolic of life for it emerges only in living organisms. This geometric form can be found in flowers generating 5 petals or multiples of 5; exotic flowers (of love) such as the orchid, azalea and the passion flower are ruled by the fivefold synthesis.<sup>141</sup> According to Lawlor,

It is through the golden Division that we can contemplate the fact that the Creator planted a regenerative seed which will lift the mortal realms of duality and confusion back towards the image of God.<sup>142</sup>

In *The Divine Proportion*, H.E. Huntley highlights Pythagoras' claim that the proportions of the Golden Mean were musical and that the musical intervals governed by the series are harmoniously combined.<sup>143</sup>

The Fibonacci series is instilled in the laws of cellular growth (the natural structure of all things) revealing the regenerating growth pattern in geometrical proportion and number:

The architecture of bodily existence is determined by an invisible world of pure form and geometry...and this form is responsible for the replicating power of the molecular composition of the DNA [and] its helix, which is a special type from the group of regular spirals, [the Fibonacci series which] results from sets of fixed geometric proportions.<sup>144</sup>

Lawlor indicates that the sequence governs "the laws involved with the multiple reflections of light through mirrors...rhythmic laws of gains and losses in the radiation of

<sup>140</sup>Mann, p. 34.

<sup>141</sup>Lendvai, p. 58.

<sup>142</sup>Ibid., p. 36.

<sup>143</sup>H.E. Huntley, *The Divine Proportion: A Study in Mathematical Beauty* (New York: Dover, 1970), p. 54.

energy and the distribution of leaves around a central stem: 3 leaves in 5 turns, 5 leaves in 8 turns, etc.,”<sup>145</sup> understood as the ‘natural branching’ process. The petals of the Daisy family are an example of this sequential series. Lendvai reveals that the sunflower was Bartók’s favorite plant. “The number of spirals on its disc follows the sequence 21, 34, 55, 89” and “the number of its petals is 34.”<sup>146</sup>

Many musicologists, like Lendvai and Howat, have traced the GP and the Fibonacci series in musical compositions. Lendvai reveals the proportions of the Fibonacci series in Bach’s *The Art of Fugue (triple-fugue no. 11)*:

Theme in ROOT position	Bars:	13	
First interlude			21
Theme in INVERSION		8	
Second interlude			34
Theme in ROOT + INVERSION		13	

Figure 1-7: The Fibonacci series and Bach’s *The Art of Fugue*<sup>147</sup>

### Roy Howat: Debussy

Howat shows in detailed analysis how a clear and logical construction can be found in strategic sections of Debussy’s music, using the Golden Proportion from which arises the Fibonacci series. He cites several well-defined examples of music with respect to such properties; for example, the 21 bars of introduction to ‘Rondes de Printemps’ from the

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<sup>144</sup>Lawlor, p. 4.

<sup>145</sup>Ibid., p. 58.

<sup>146</sup>Lendvai, p. 48.

orchestral *Images*; the 34 bars comprising the first 3/8 section of *Jeux*; the 34 bars of build-up to the climactic coda of *L'isle joyeuse* (bars 186-219), and likewise to the recapitulation of *Masques* (bars 236-69), etc., all of which can be sub-divided into sections that relate to the Fibonacci series. Debussy refers to “the divine number” in one of his letters, written to his publisher and dated August 1903, which Howat believes is an indication that the composer was consciously constructing with numbers in mind. Howat indicates that “number and proportion were ideals much in circulation among the French Symbolist artists with whom Debussy mixed in his formative years.”<sup>148</sup> He gives two possible reasons for the Symbolist’s interests - the Cabbala and the hidden connotations of numbers which in turn leads to a balanced formal construction.<sup>149</sup>

Howat investigates many of the musical works by Debussy and *La Mer* is just one example of a work analyzed with respect to the properties of the GP. This large-scale orchestral tone-poem contains three contrasting movements incorporating changes in metre, tempo, key and thematic content with the 2/2 metre in the finale providing the counterbalance. Five distinct sections establish the design of the first movement, “*De l’aube à midi sur la mer*,” as follows: Introduction (mm. 1-30: arch-form ABCBA); First Principal Section (mm. 31-83: idiosyncratic rondo); Second Principal Section (mm. 84-121: strophic); Transition (mm. 122-131: repeated melody over dominant pedal); and Coda (mm. 132-141: extended plagal cadence with thematic returns). From this plan,

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<sup>147</sup>Ibid., p. 52.

<sup>148</sup>Howat, p. 7.

<sup>149</sup>Ibid., p. 164.

Howat then divides the internal format of the two principal sections as well as the entire movement as a whole, according to the GP. The phrase sequences in the First Principal Section follow a pattern of multiples of four, totaling 107 units.

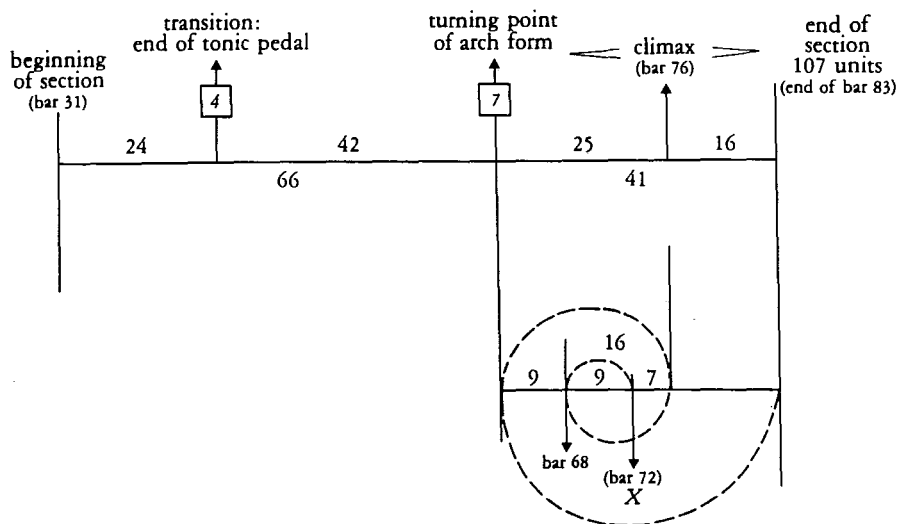


Figure 1-8: The Golden Proportion in Debussy's *La Mer*<sup>150</sup>

The GP is comparable to the spiral-shape of various marine organisms (for example, sea shells) and the last 41 units in Fig. 4-3 illustrate the GP spiral construction in the First Principal Section as opposed to the much more regular flow of the preceding 66 units. The remaining circular nature of the 41 units follows a 'summation series' based on the following numerical pattern: 7, 9, 16, 25, 41, 66, 107..., with a division occurring between the climax (25:16) followed by yet another subdivision. Howat indicates that "the music in this passage provides a strong evocation of a vortex, with the feeling of rapid descent from the plunging bass sequence in bars 67-72, followed by swirling textures

and circular repetitions in the strings and woodwind in bars 69-75.”<sup>151</sup> The remaining movements also reveal the properties of the GP. Howat investigates other composers works like, Schubert’s *Piano Sonata in A, D.959*, first movement exposition, Ravel’s ‘*Oiseaux tristes*’ from *Miroirs* and Fauré’s ‘*Reflets dans l’eau*’ from *Mirages, op. 113*, providing evidence of the GP inherent in their compositions. To investigate any of these works in detail is beyond the scope of this thesis; but Howat’s in-depth analysis of the many works of Debussy and the above mentioned compositions demonstrates idiosyncrasies in the formal construction and integration of the GP.

### **Ērno Lendvai: Bartók**

Lendvai, in his comprehensive study of Bartók’s tonal and harmonic system, revealed the relationship between Bartók’s music and both the GP and Fibonacci series. According to Lendvai, Bartók adopted the Fibonacci series early in his career (1911), as evident in, for example, *Allegro Barbaro*, with its “throbbing F-sharp minor ostinato appearing in groups of 3, 5, or 8, or 13 measures.”<sup>152</sup> Another obvious example is Bartók’s *Music for Strings, Percussion and Celesta*. The first movement, referred to as the “pyramid fugue,” establishes the format of an arc beginning pianissimo and ending *ppp*. It climaxes to a fortissimo where the 89 bars of the fugue are divided accordingly into two section of 55 + 34 bars. The movement opens *con sordino*. With the removal of mutes, the first section

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<sup>150</sup>Ibid., p. 77.

<sup>151</sup>Ibid., p. 77.

is further separated into 34 + 21 bars and the second section split into 13 + 21 bars, emphasized by sharp contrasts. The exposition ends at bar 21 and the first 34 bars are subdivided into 21 + 13 bars. The remaining bars of the movement reflect a 13 + 8 ratio.

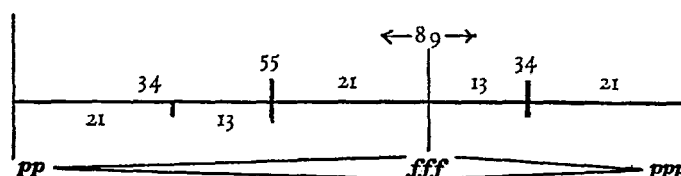


Figure 1-9: The Fibonacci Series and Bartók's *Music for Strings, Percussion and Celesta*<sup>153</sup>

The outline of the arc creates the image of a 'single wave' rising upwards, with the division of the 34 + 21 assuming an upward thrust, reaching a peak between the two sections, and then a subsequent fall with a 13 + 21 division. The third movement reveals similar proportions evident with the opening of the xylophone solo: "the repeated f''s follow a sequence of 1, 2, 3, 5, 8, 5, 3, 2, 1, per crotchet beat between the beginnings of bar 2 and 4."<sup>154</sup> Lendvai's analysis presents a convincing case for the conscious application of the GP in Bartók's work. It is interesting to note that Bartók was inspired by the music of Debussy, a composer whose use of the GP and the Fibonacci series was evident, not only in the format of his compositions, but through written documentation.

<sup>152</sup>Lendvai, p. 51.

<sup>153</sup>Ibid., p. 51.

<sup>154</sup>Howat, p. 187.



Debussy and Bartók are two composers whose music prominently reveals the presence of the GP and the Fibonacci series - Lendvai and Howat's detailed studies unveil clear and logical numerical constructions. It has been suggested by other musical theorists that composers such as Schoenberg and Messiaen also show patterns of the GP and the Fibonacci series in their music. More detailed analysis is necessary to reveal such hidden techniques that may be embedded in the more obvious and overall existing formal organization.

## **Tetractys**

The numbers 1, 2, 3, 4 added together equal 10, and to the Pythagoreans the "decad" - the number "10" - is considered "divine." Hall states: "It is perceived as the great number of all things, the archetype of the universe, encompassing all arithmetic and harmonic proportions."<sup>155</sup> Pythagoreans also considered the decad extremely important because it outlined the *tetractys*; four rows of dots forming a triangle containing ten dots that establish the key to harmonic ratios. The Pythagorean contention was that the *tetractys* "symbolizes, like the musical scale, a differentiated image of unity" containing "the symphonic ratios which underlie the mathematical harmony of the musical scale: 1:2, the octave, 2:3, the perfect fifth; and 3:4, the perfect fourth."<sup>156</sup> McClain presents the

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<sup>155</sup>*The Secret Teachings of All Ages*, p. LXVII.

<sup>156</sup>Kenneth Sylvan Guthrie, translator., edited and introduced by David Fideler, *The Pythagorean Sourcebook and Library* (Grand Rapids, MI: Phanes Press, 1987), p. 33.

*tetractys* in the “point-line-plane-solid” progression applying the structure to number and form.

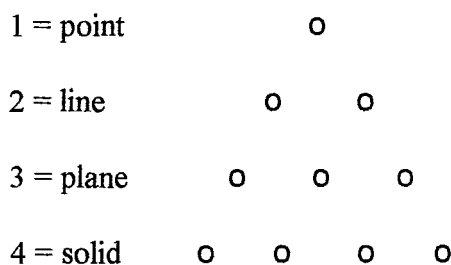


Figure 1-10: Tetractys<sup>157</sup>

Through numbers one to four we see the formulation of the progression ‘point-line-plane-solid,’ connecting whatever elements one might wish to apply. Hall indicates that for the Pythagoreans, the “*tetractys* was symbolic of the stages of creation.”<sup>158</sup> Similar symbolic references have been made with respect to numbers four and ten. In the Christian scriptures, chapter two of the book of Daniel, Prophet Daniel relates Nebuchadnezzar’s dream in which four represents the “kingdoms” of evolution. Chapter seven in the Book of Revelation alludes to the “four angels standing upon the four corners of the earth, holding tight the four winds of the earth” as if to produce a vibration of such intensity for the purpose of initiation into advanced stages of evolution. We can assume that the fourth dimension is “the essential harmonic division of both Time (music) and Space (geometry).”<sup>159</sup> The wooden Cross upon which Jesus, “the Creative Logos,” was crucified is symbolic, according to Godwin, “with its four beams representing among other

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<sup>157</sup>*The Myth of Invariance*, p. 6.

<sup>158</sup>*The Secret Teachings of All Ages*, p. LXXII.

things the four elements that make up the material world.”<sup>160</sup> The decad, according to Hurtak, “is the great unity and plurality number symbolizing the macrocosm, the greater universe, which is the expansion of the microcosm.”<sup>161</sup> The number five represents the equilibrium dividing the number ten, the perfect number for Pythagoreans, into two equal parts. Rebirth and regeneration are symbolized by the number five, governing the substructure of living compositions. Five establishes arithmetical proportions which regulate all natural processes and form the construction of the soul and the Universe.

### **Plato: Number and the World Soul**

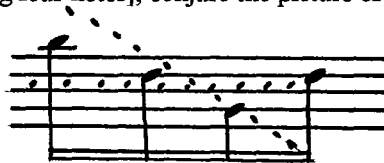
Linked by numbers, Plato constructs his world soul using the four subject areas of arithmetic, geometry, astronomy and harmonics. The three elements, Sameness, Otherness, and Being are the focus of Socrates discussion regarding the world soul: “Taking these three ingredients together, the Demiurge (the Master-Craftsman) blended them all into a single form, forcing Otherness to come into tune with Sameness despite its

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<sup>159</sup>Lawlor, p. 85.

<sup>160</sup>*Harmonies of Heaven and Earth*, p. 9

Geiringer shows the symbolism of the Cross found in Bach’s *St. Matthew Passion*. “After Judas realizes the full horror of his betrayal, an aria on the words “Give me back my Lord, I pray ye” expresses his remorse. Throughout this aria a motive of the violins, which consists of a diagonally descending line and a horizontal one [containing four notes], conjure the picture of the Greek letter X, which symbolizes both Christ and the Cross:



The violin motive thus expresses the vision of Christ crucified which the repentant betrayer cannot shake off. Similar allusions to the Cross are quite frequent in Bach’s music.” See “Symbolism in the Music of J. S. Bach,” p. 126-7.

unwillingness to mingle. Mixing them with Being, the Demiurge made from the three a unity and next proceeded to divide this whole into as many parts as was suitable.”<sup>162</sup>

Jamie James in his book, *The Music of the Spheres*, suggests that Plato essentially uses these ‘three ingredients’ to act as a wrap for the spherical universe. The world soul (the universe) is symbolized by Plato as the ‘Greek chi X;’ conceived as a malleable band split lengthwise into two strips which are then joined and bent in the middle to form two rings. This cosmological division adheres to the ‘Same,’ representing the indivisible outer stationary ring of the fixed stars, and the ‘Different,’ the inner variable ring or the ‘zone of the zodiac’ which, in the *Timaeus*, is “subdivided by the Demiurge into the planets, each of which will occupy its own celestial sphere.”<sup>163</sup> The spheres are divided into seven parts, which might be seen as analogous to the seven note names of contemporary diatonic scales. James suggests that an eighth sphere may be applied to the indivisible ring which would then represent ‘the outermost sphere of the fixed stars.’ Plato wrote an eloquent myth based on the celestial spheres, the *Myth of Er*, which will be explored in Chapter Two to enhance our understanding of Plato’s cosmological philosophy. Plato began the numerical division as such:

In the first place, he received one part from the whole [equals 1]. Then he separated a second part, double of the first [equals 2]; afterwards a third, sesquialters of the second, but triple of the first [3]: then a fourth, double of the second [4]; in the next place a fifth, triple of the third [9]; a sixth,

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<sup>161</sup>*Harmonics of Light, Color & Sound*, part I, side a.

<sup>162</sup>Flora R. Levin, ed., *The Manual of Harmonics of Nicomachus the Pythagorean* (Grand Rapids, MI: Phanes Press, 1984), p. 113.

<sup>163</sup>Jamie James, *The Music of the Spheres - Music, Science, and the Natural Order of the Universe* (New York: Grove Press, 1993), p. 49.

octuple of the first [equals 8; 9 precedes 8 because it is a square number, while 8 is the cube of 2]; and lastly a seventh, twenty-seven times more than the first [27].<sup>164</sup>

Through harmonic and arithmetic means, Jamie James, in *The Music of the Spheres*, clarifies the mathematical relationship to music intervals: “These links give rise to intervals of 3:2 and 4:3 and 9:8,”<sup>165</sup> intervals creating the fourth, fifth and whole step. Levin indicates that Plato’s numbers generate “a series of terms - 1, 2, 3, 4, 8, 9, 27 (a combination of the two geometric progressions - 1, 2, 4, 8, and 1, 3, 9, 27) - between the terms of which he inserted the harmonic and arithmetic means.”<sup>166</sup> The following diagram outlines this structure by providing numbers in a geometrical pattern, borrowed from the arithmetical tradition of Nichomachus of Gerasa<sup>167</sup>:

	1	
	2	3
	4	9
	8	27

Figure 1-11: Pythagorean table of opposites<sup>168</sup>

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<sup>164</sup>Thomas Taylor, translator, *The Works of Plato*, vol. 2 (London, 1804), [35b/c].

<sup>165</sup>James, p. 47.

<sup>166</sup>Levin, p. 44.

<sup>167</sup>McClain writes, “Our most important guide to early Pythagorean number theory is the *Introduction to Arithmetic* written by Nicomachus (fl. C. 100 A.D.), intended in part as an introduction to Plato’s mathematical allegories. Nicomachus quotes extensively from the *Republic*, *Timaeus*, and *Laws* while leading us systematically into an understanding of numerical relations and the metaphor in which they are described.” See *The Pythagorean Plato*, p. 144.

<sup>168</sup>Iamblichus, translated by Robin Waterfield, *The Theology of Arithmetic* (Grand Rapids, Michigan:

The numbers 1, 2, 4 and 8 are factors of the prime number 2. The even numbers aligned on the left side of the diagram are defined by Pythagoreans as feminine, signifying the passive side. The numbers 1, 3, 9, 27 are factors of the prime number 3, aligned on the right, and are defined as masculine, signifying the active side. These two sequences are referred to by the Greeks as the Lambdoma.

## Lambdoma

As a metaphysical analogy, the Lambdoma is an important structure relating to music and the ascension process because the notion of God (Absolute Divinity) is reached at the apex of the Lambdoma, represented harmonically by 1/1, enabling one to hear the ‘music of the spheres.’ Plato integrates the idea of the Lambdoma in his analysis of the world-soul.

Albert von Thimus (1806-1878), a polymathic researcher exploring the intricacies of ancient harmonic theory, rediscovered this concept and traced the origin of the Lambdoma from neo-Pythagorean sources, and enhanced the basic form of the ‘Pythagorean table’ (Fig. 1-11) by using fractions to construct a table of tones or intervals:

	1/1	
2/1	1/2	
3/1	1/3	
4/1	1/4	
5/1	1/5	
	etc.	

Figure 1-12: Albert von Thimus’ Lambdoma<sup>169</sup>

This table illustrates an organized, twofold series of tones or intervals harmonically symbolizing what musical theorists today call the “overtone series” and “undertone series.” Rudolf Haase (b. 1920), noted author on Harmonic principles and their prevalence throughout the universe, illustrates the Lambdoma by presenting an extended interpretation applied to the latter two diagrams (Fig. 1-11 and 1-12).

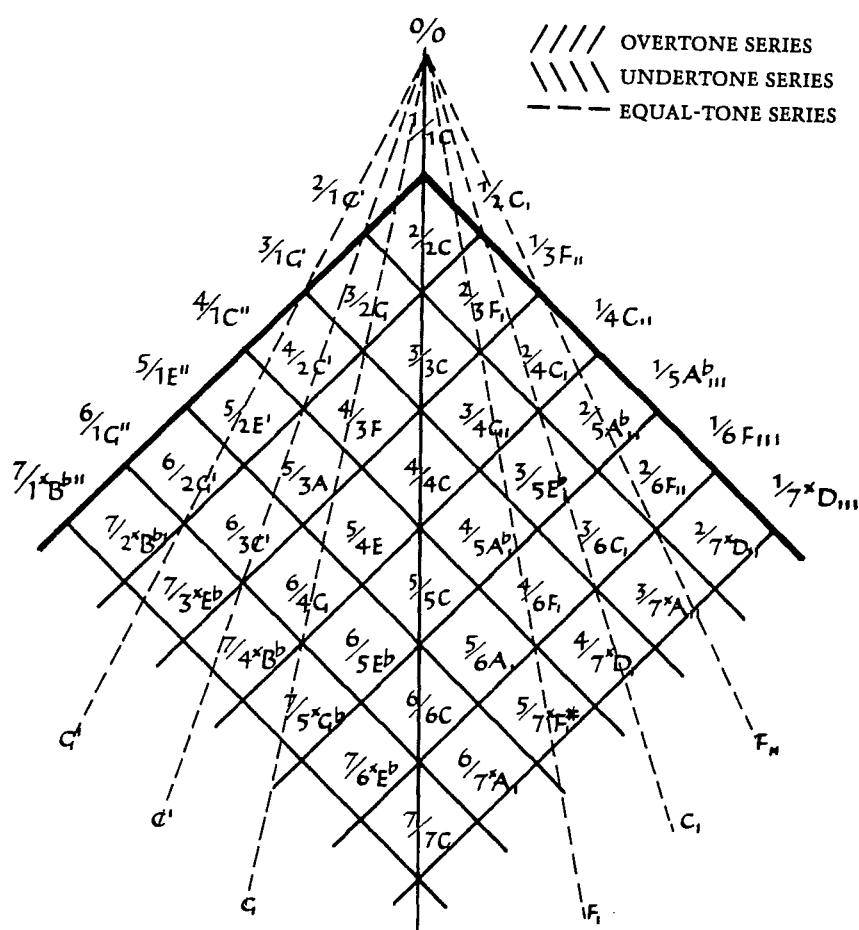


Figure 1-13: Rudolf Haase and the Lambdoma<sup>170</sup>

<sup>169</sup>Joscelyn Godwin, ed., *Cosmic Music - Musical Keys to the Interpretation of Reality* (essays by Marius Schneider, Rudolf Haase and Hans Lauer, trans. M. Radkai (Rochester Vermont: Inner Traditions, 1989), p. 93.

<sup>170</sup>*Ibid.*, p. 94.

Beginning with unity (1/1), the sequence generates overtones down the left side and undertones down the right and “thus, every tone is at the intersection of an overtone and an undertone row.”<sup>171</sup> According to Haase, viewing the diagram from the “vertical line forming the axis of symmetry, the tones are all identical with the generating note [1/1], just as the fractions have identical values: 1/1, 2/2, 3/3 etc.,” and all other tones “relate to the common generating note as fractions or multiples of its frequency.”<sup>172</sup> 1/1 is the only tone whose value is not a product of the combined overtone and undertone series and therefore remains independent, or as Haase says is “not sexual.”<sup>173</sup> Other musicologists have similar insights regarding the 1/1 tone. In Godwin’s view:

Whenever the two forces of contraction and expansion meet and are held in some proportional balance, a being arises - and a tone is sounded. Every being is both number and tone; both quantity and quality; both existence and value. All have the same root: the originating 1/1 tone that represents God the Creator.<sup>174</sup>

Plato develops the idea of the Lambdoma in his description of the world soul in the *Timaeus* (35a-36d), “used to describe the structure of the strips of the Same and Different which form the circles corresponding to the celestial equator and the ecliptic in the model of the heavens,”<sup>175</sup> namely, the cosmos. According to Haase, Plato represents the notion of the “Demiurge” by the symbol 1/1 and equates the “highest divinity” with the symbol

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<sup>171</sup>Ibid., p.94.

<sup>172</sup>Ibid., pp. 94-5.

<sup>173</sup>Ibid., p. 100.

<sup>174</sup>*Harmonies of Heaven and Earth*, p. 180.



0/0: “There is a highest divinity who created the ideas (the plan of the world), and who then instructed an undergod, the Demiurge, to create the material world according to the model of the ideas.”<sup>176</sup> This Platonic order of creation has been recognized by many authors. Plato’s idea is a reflection of the first words written in the book of *Genesis* (“In the beginning, God created the heavens and the earth”).

Marius Schneider (1903-1982), the Alsatian musicologist and ethnologist observes, in relation to the harmonic interval 1/1 regarded as the higher internal state of man’s existence, that “this inner center of man is a cosmic center, not an individual, personal one.”<sup>177</sup> All values embracing the symbol 1/1 prove to be in a state of equilibrium, supported by the dual structure of the Lambdoma, because it appears at the top of the pyramid. The evolution of duality begins with the first two harmonics, 1/2 and 2/1, emitting octave harmonies above and below the central tone (1/1), which in turn spread into opposite directions creating a polarized state. Godwin refers to these opposites as the play between “good and evil” from “which the whole world conflict is played out,” and refers to Haase who maintains “that good and evil, while complementaries, are not equals.”<sup>178</sup> Based on the principle of reciprocity, Haase postulates that undertones are “merely reflections; inversions of the mathematical law of the overtone row” thus “the evil

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<sup>175</sup>*Cosmic Music*, p. 118.

<sup>176</sup>*Ibid.*, p. 96.

<sup>177</sup>*Ibid.*, p. 21.

<sup>178</sup>*Ibid.*, p. 17.

in the world... derives secondarily from a superior good by way of inversion.”<sup>179</sup> In its entirety, all values of the Lambdoma are in equilibrium, operating in a perfect harmonic state. Extending beyond the fundamental structure of the Lambdoma are what Haase refers to as ‘equal-tone lines,’ straight dotted lines meeting at the point 0/0, symbolizing a ‘superior divinity,’ reminiscent of the eternal limitless light, the *Ain Soph*. The apex of the diagram simultaneously joins the three tones, 1/1c, 2/1c, and 1/2c, portraying a trinity within a unity.

Haase introduces a biblical concordance with the Lambdoma. He indicates that Melchizedek is referred to as both king and priest (Genesis 14:18), ‘symbolized in the Lambdoma as 1/1’<sup>180</sup>: “And Melchizedek, king of Salem (translated as ‘peace’) brought out bread and wine, and he was priest of the Most High God.” Furthermore, it is stipulated that Melchizedek, the “King of Peace, [is] fatherless, motherless [and] without genealogy” (Hebrews 7: 2-3) confirming the notion of the 1/1 value as a sexless gender. Hurtak defines Melchizedek as an “Order in charge of the consciousness reprogramming that is necessary to link physical creation with the externalization of the divine hierarchy.”<sup>181</sup> Operating above the Order of Melchizedek is “the Most High God,” *El El Elyon* (whose symbol in the Lambdoma is 0/0)<sup>182</sup>, “redirecting subsystems of intelligence back into Divine programs” (defined in Hurtak’s *The Seventy-Two Sacred Names*). *El El*

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<sup>179</sup>Ibid., pp. 103-4.

<sup>180</sup>Ibid., p. 100.

<sup>181</sup>*The Keys of Enoch*, p. 594.

*Elyon* is one of the sacred names used in mantras and chants for the purpose of ascension and elevating consciousness to unite with divine hierarchies.

## Theories on Ascension

Written in the early centuries AD, the *Poimandres*<sup>183</sup> discourse from the *Corpus Hermeticum*,<sup>184</sup> marked as treatise number one, outlines a process of purification in association with the ‘Ascent of the Soul.’ In the Classic version, the soul elevates beyond Earth and ascends into the planetary spheres. Poimandres is referred to in the Hermetic text as the “mind of sovereignty” and reveals to Hermes (the initiate) the creation of the Universal Spheres and of Man, and the soul’s journey. The treatise applies hierarchies of harmonies to the celestial bodies and to the psychological nature of Man, and it is because of these different harmonies that *musica humana* resembles *musica mundana*. In the Hermetic treatise, Poimandres correlates astrology and music when describing the distinction between the ascent and descent of the soul (a theory already explained in relation to the dot, line and circle). In Hermetic astrology it was understood that if the Hermetic soul ascended through the spheres there must have been a prior descent of the

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<sup>182</sup>*Cosmic Music*, p. 100.

<sup>183</sup>Brian P. Copenhaver, *Hermetica, the Greek Corpus Hermeticum* (Cambridge: Cambridge University Press, 1992), p. 1.

<sup>184</sup>There are nineteen treatises in all of the *Corpus Hermeticum* submitted by Hermes Trismegistus. They date back to the early centuries A.D. and embody Egyptian doctrines invested in ancient Greek theology and what Godwin refers to as *theurgia*, “the ritualistic and magical approach to Divinity.” (*Music, Mysticism and Magic*, p. 14). In the Preface of the *Hermetica* Copenhaver writes, “The Gnosis of the multiple treatises supports the revelations in the Bible and embodies the philosophy of Plato and Plotinus. They were later brought forth in the Renaissance periods (c. 1470-1650) as a principal

inferior self into earthly incarnation, inheriting the corrupt nature of the planetary powers. A similar idea emerges from Gnostic doctrines indicating that souls initially inhabited the *nirvana* of the heavenly realms and for whatever reason chose to descend to the earthly sphere. Such a descent/ascent is also the most important idea of Christian doctrine (i.e. the role of Christ). Based on the Hermetic treatise, Godwin points out that the descending soul assumes “the psychological qualities of each planet, to varying degrees, as it passes down through the spheres.”<sup>185</sup> The following chart outlines the soul’s journey in ascending order and what Poimandres calls “the Harmony,” emphasizing each planetary sphere and its power in relationship to the body’s senses beginning with the nature of the first sphere, and represents the abandonings of the characteristics described:

First zone [Moon] - man abandons the power of growth and decay;  
 Second zone [Mercury] - return of evil schemings;  
 Third zone [Venus] - the illusions of desire;  
 Fourth zone [Sun] - the arrogance of power;  
 Fifth zone [Mars] - impious daring and presumption;  
 Sixth zone [Jupiter] - the striving for wealth by evil means;  
 Seventh zone [Saturn] - ensnaring falsehood;

And then, with all the energies of the Harmony stripped from it clothed only in its proper Power, it enters that Nature which belongs to the Eighth Sphere, and with the beings there it sings hymns to the Father, and all who are there rejoice at its coming.<sup>186</sup>

Psychologist Carl Gustav Jung states, “The ascent through the planetary spheres meant something like a shedding of the characterological qualities... a retrogressive liberation

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authority on religious thought.”

<sup>185</sup> *Music, Mysticism and Magic*, p. 14.

<sup>186</sup> *Ibid.*, p. 15. Source: G.R.S. Mead, *Poimandres in Thrice Greatest Hermes*, vol. II [English translation] (London: Watkins, 1949), p. 16.

from the character imprinted by the archons [planetary rulers].”<sup>187</sup> Godwin, drawing on the *Poimandres* dialogue, asserts: “Upon ascent of the soul your Ethos [character] is now devoid of power. The body’s senses return to their respective sources, becoming absorbed in the [astral] energies; passion and desire withdraw to the irrational Nature.”<sup>188</sup> The Hermetic ascent occurs after physical death. After the ascent, the celestial harmonies will be heard, but remain inaudible to those who dwell in the earthly realm. This Hermetic imagery would suggest that the soul’s ascension through all seven levels is necessary to attain Eternal life in the heavens where Man is destined to hear the musical nature of the planets. The pure philosophy of Light and music leads to God (eighth dimension and above) through stages of initiation after the soul enters the Kingdom of the Heavens.

Another Hermetic dialogue concerning the soul’s attainment of the eighth and ninth spheres (what may be referred to as the ‘Imaginal Heavens’) of an initiate by a spiritual guide (mystagogue) unfolds in *The Discourse on the Eight and Ninth*, from the Nag Hammadi<sup>189</sup> library. A successful journey through the first seven spheres, indicated by one’s spiritual advancement and presumably the ability to hear the celestial harmonies, would provide the possibility of arriving at the eighth and ninth spheres. The latter

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<sup>187</sup>C. G. Jung, *Collected Works*, translator, R. F. C. Hull, vol. 14 (*Mysterium conjunctionis*) (Princeton: Princeton University Press (Bollingen Series), para. 308.

<sup>188</sup>*Music, Mysticism and Magic*, p. 15. Source: G.R.S. Mead, p. 15.

<sup>189</sup>Rediscovered in Egypt in 1945, the Nag Hammadi library is a collection of religious texts translated from Greek into Coptic. In the introduction of *The Nag Hammadi Library* James Robinson writes: “The focus that brought the collection together is an estrangement from the mass of humanity, an affinity to an ideal order that completely transcends life as we know it, and a life-style [that] involved giving up all the goods that people usually desire and longing for an ultimate liberation. The focus of this library has much in common with primitive Christianity, with eastern religion...as well as with the

spheres prepare the initiate for the passage into the divine realm. Upon the initiate's ascension into the higher realm, the discourse reveals a silent hymn sung by the chorus of the eighth sphere. To offer his praise to the universal God, the initiate says, "My mind wants to sing a hymn to you [Lord] daily. I am the instrument of your spirit."<sup>190</sup> Finally, passage into the ninth sphere synthesizes with the powers of the universal mind, a movement in soul evolution where, according to Hurtak, one "can experience spherical musical energy field relationships which death has not touched at all."<sup>191</sup> Ancient musical theory from the Hermetic perspective teaches that one can shed the physical form to enter a dimension of higher harmonics (light vibrations).

Other sources do exist that reveal the possibility of ascension during life on earth in a meditative (as described earlier in this discussion) or dream-like state (i.e., supernatural states). In *Harmonies of Heaven and Earth*, Godwin refers to a quote by therapist Hildemarie Streich regarding internal sensations from the experience of dreams:

There are dreams in which music acts as a kind of leader of the soul into the life after death. The music to be heard in such cases is mostly of indescribable beauty and leaves behind a feeling of consolation and of a certainty of the existence of timeless forces which exist beyond death and transcend human experience.<sup>192</sup>

The body serves its purpose within one's life-cycle but many hold the belief that once ascension takes place into higher spheres, one sheds the illusion of flesh. A majority of

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more secular equivalents of today, such as the counter-culture movements coming from the 1960s."

<sup>190</sup>James M. Robinson, ed., [Nag Hammadi] *The Nag Hammadi English Library in English*, (San Francisco: Harper & Row, 1977), p. 326.

<sup>191</sup>*Harmonics of Light, Color & Sound*, part II, side b.

theological doctrines conclude that when the soul leaves the material body it becomes light, entering the musical realm of the eighth sphere and beyond. It is the belief of many scholars that Pythagoras shed his physical garment when enveloped in a celestial vehicle “where he heard the Music of the Spheres,”<sup>193</sup> the planetary harmonies which ostensibly govern the workings of the physical universe. A similar experience in 1973 by Hurtak is the origin of all his theories. While in prayer, Hurtak experienced a personal encounter with the Master Enoch who placed him in the Merkabah, a divine light vehicle enabling human creation to travel beyond three-dimensional existence in preparation for advanced stages of evolution, encoding him with a genetic blueprint of information.<sup>194</sup> Godwin recites another metaphor presented by German writer E.T.A Hoffmann who relates the image of the soul’s ascension to a butterfly:

Here on Earth we are like mere caterpillars until we let ourselves be entranced and enwrapped by the music which has its origin in the starry spheres - the silken harp-strings of the stars. Then we await the moment, whether in trance or at death, when our cocoons will fall away and we will awaken as winged soul-beings who can fly back to our true home of light.<sup>195</sup>

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<sup>192</sup>*Harmonies of Heaven and Earth*, p. 52.

<sup>193</sup>*Ibid.*, p.48.

<sup>194</sup>Hurtak’s experience is documented in *The Keys of Enoch* where he emphasizes the convergence of spiritual and scientific understanding. He asserts that “we are one singularity of light within the pluralism of the Divine Light” (p. 343) and the Merkabah acts as the interconnecting vehicle for systems of higher intelligence. Many of his predictions, given by Enoch, have been scientifically validated. (Refer to Hurtak’s *The Scientific Confirmations of The Keys of Enoch*, volumes I and II.) Hurtak has recently produced a computer animated video simulating his Merkabah journey entitled, *Merkabah - Voyage of a Star Seed* (1998, The Academy For Future Science), which has been shown at many universities and the United Nations. Hurtak’s video explores sacred sounds, color and superluminal light geometry, travelling into realms of multi-dimensionality.

<sup>195</sup>*Harmonies of Heaven and Earth*, p. 52.

Furthermore, Godwin alludes to *Oriental Theosophy* and the personal experience of ethereal ascension by twelfth century Iranian sage, master Suhrawardī:

The pilgrim rising one degree to another discovers on each higher level a subtler state, a more entrancing beauty, a more intense spirituality, a more overflowing delight. The highest of these degrees borders on that of the intelligible pure entities of light and very closely resembles it.<sup>196</sup>

It appears that the purity of the higher degrees of light can only be understood by those who have experienced such an ascent. For others, such a sphere manifesting in celestial music and Light and permeating their souls, can only be imagined.

From the ancient Greeks through the Renaissance and early Baroque, Western thinkers did not hesitate to attempt to link the functioning of mind, body and spirit to music. With Descartes and the Enlightenment, a skepticism with regard to this affective power of music arose, but in the late twentieth century there has been a return to spirituality and with it a renewed interest in ancient ideas about music and affect. The historical background of music and numerology, astrology, theosophy, and color in Western literature provides the foundation upon which current ideas regarding the use of music in spiritual practices is based. Furthermore, the connection between science and spirituality is integral to people's evolution into the 'music of the spheres.' Like the growth of plant life or the continual change of the DNA genetic coding within our bodies, a continual timeless flow of universal energy penetrates the cells, masked by human sensory perception, manifesting a greater need for spiritual insight; channeling the spirit and intellect to receive the abstract mysteries of cosmic energy and music in the heavens.

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Everyone possesses the capability of attaining the truths of higher learning, to develop and release the human soul into conscious communication with spiritual wisdom and the realities of divine music. What limits man from spiritual attainment is that he is unconscious of his spiritual nature, engrossed in the denseness of a material existence, preventing the natural flow of life from permeating his being. Music appears to be a force joining the polarity between form and formlessness and enabling one to evolve beyond duality towards unity, perfection, and thus spirituality.

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<sup>196</sup>Ibid., p. 47.

## CHAPTER TWO:

### Music, Number and the Historical Visions of the Universe

#### Pythagorean Scale and the Structure of the Universe

According to Pythagoras' vision, the "music of the spheres" was a product of the numerical ratios governing the universe. It was the contention of the Pythagoreans that numbers, and the symmetries found within them, were the source of order and harmony defining the structure of the cosmos. Plato embraced Pythagoras' ideas and in the final passage of the *Republic* wrote the *Myth of Er*, relating number to an ordered cosmos which generates divine music. Following Pythagoras' doctrine related to number and the universe were Robert Fludd and Johannes Kepler who expanded on the relationship between music, number and the heavenly spheres. The science of numerology was symbolically significant to the ancient Cabbalists and to such philosophers as Hall and Lawlor, and theologians like Hurtak, enhancing the relevance of number in connection to music which constitutes the structure of the universe, and more precisely in the works of Pythagoras and Plato who considered number a sacred science.

To Pythagoras, music was one of the disciplines within the divine science of mathematics.<sup>197</sup> Hall magnificently expounds on this theme in his chapter, *'The Pythagorean Theory of Music.'* Among Pythagoras' aphorisms were, "All things are

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<sup>197</sup>*The Secret Teachings of All Ages*, p. LXXXII.

number” and “God is a geometer.” He further stipulated that “each number was a symbol possessing its own particular significance, mechanisms and harmonic relationships to other numbers.”<sup>198</sup> He “divided the multitudinous parts of creation into a vast number of planes of intelligence or spheres, to each of which he assigned a tone, a harmonic interval, a number, a name, a color, and a form.”<sup>199</sup> Pythagoras contemplated harmony<sup>200</sup> within the framework of the cosmos, considering harmony in relation to mathematical proportion, measure and number. According to Hall, he concluded that “mathematics established the exact method by which the Good established and maintained its universe.”<sup>201</sup> Number was considered absolute in regulating all harmonic proportions including, but not limited to, music.

Pythagoras applied the law of harmonic intervals to the planets and constellations. Pythagoreans believed that each of the seven spheres plus the sphere of the fixed stars emitted a tone “caused by its continuous displacement of the *ethereal diffusion*,” and these tones were regarded as “a manifestation of divine order and motion.”<sup>202</sup> To each of these spheres was assigned one of the seven sacred vowels<sup>203</sup> of the Greek alphabet - “first heaven (Moon) - A (Alpha); second heaven - E (Epsilon); third heaven - H (Eta); fourth

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<sup>198</sup>Mann, p. 20.

*The Secret Teachings of All Ages*, p. LXXXII.

<sup>200</sup>Used in this context, the term ‘harmony’ does not mean music.

<sup>201</sup>*The Secret Teachings of All Ages*, p. LXXXII.

<sup>202</sup>*Ibid.*, p. LXXXIII.

<sup>203</sup>Cabbalists attributed these sacred letters to the gods.

heaven - I (Iota); fifth heaven - O (Omicron); sixth heaven - Y (Upsilon); seventh heaven -  $\Omega$  (Omega)” - and when combined like a musical choir were said to “produce a perfect harmony which ascends as an everlasting praise to the throne of the Creator.”<sup>204</sup>

Pertaining to the structure of the universe, Hall outlines the most generally accepted Pythagorean system:

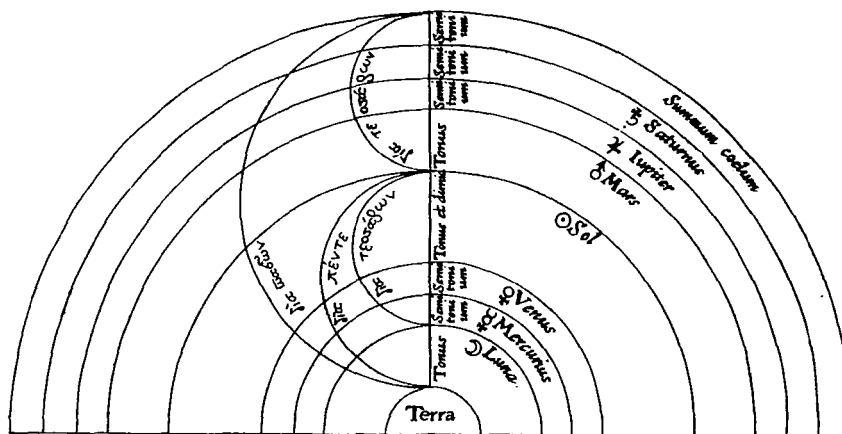


Figure 2:1: The Intervals and Harmonies of the Spheres<sup>205</sup>

From the sphere of the earth to the sphere of the moon: one tone  
 Moon to Mercury: one-half tone  
 Mercury to Venus: one-half tone  
 Venus to the Sun: one and one-half tone  
 Sun to Mars: one tone  
 Mars to Jupiter: one-half tone  
 Jupiter to Saturn: one-half tone  
 Saturn to fixed stars: one-half tone<sup>206</sup>

This Pythagorean scale - C, D, E-flat, E, G, A, B-flat, B, C - is not diatonic. Two identical tetrachords make up the Pythagorean scale: C, D, E-flat, E and G, A, B-flat, B. According to *The New Harvard Dictionary of Music*, “the basic building block of Greek

<sup>204</sup>*The Secret Teachings of All Ages*, L XXXIII.

<sup>205</sup>*Ibid.*, p. LXXXI.

music was the tetrachord, four notes and three intervals spanning a perfect fourth” rather than an eight-note scale, and “larger systems were composed by combining tetrachords conjunctly or disjunctly.”<sup>207</sup> Hall’s version of Pythagoras’ scale doesn’t quite follow the latter definition - his tetrachords only span a major third, not a perfect fourth. Hall indicates that all of the above intervals combined equals the six whole-tones of the octave. The interval spanning the interior circumference from within the earth to the sphere of the fixed stars was recognized as a “diapason - the most perfect harmonic interval,” defined as the “octave by ancient Greeks.”<sup>208</sup> In his introduction to *The Pythagorean Sourcebook*, David Fideler outlines the complete formation of the Pythagorean scale - a creation of the diatonic scale.

The vibration of the tonic C is increased by the ratio 8:9 to arrive at D. D is increased by 8:9 to arrive at E. Now, if E were increased by that ratio, it would overshoot F; hence there we must stop. The ratio between E and F ends up being 243:256, called in Greek the *leimma*, or “left-over,” corresponding to our semitone. Ascending from G, the same 8:9 ratio is used to fill up the remaining intervals. Likewise, the interval between B and C is the *leimma*.<sup>209</sup>

Figure 2-2 shows the foundation of musical notes in relation to ratios manifesting the perfect fourth (6:8::9:12), the perfect fifth (6:9 - 8:12) and the whole tone (8:9).

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<sup>206</sup>Ibid., p. LXXXI.

<sup>207</sup>Don Michael Randel, ed., *The New Harvard Dictionary of Music* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 1986), p. 347.

<sup>208</sup>*The Secret Teachings of All Ages*, p. LXXXI.

<sup>209</sup>*The Pythagorean Sourcebook and Library*, pp. 27-8.

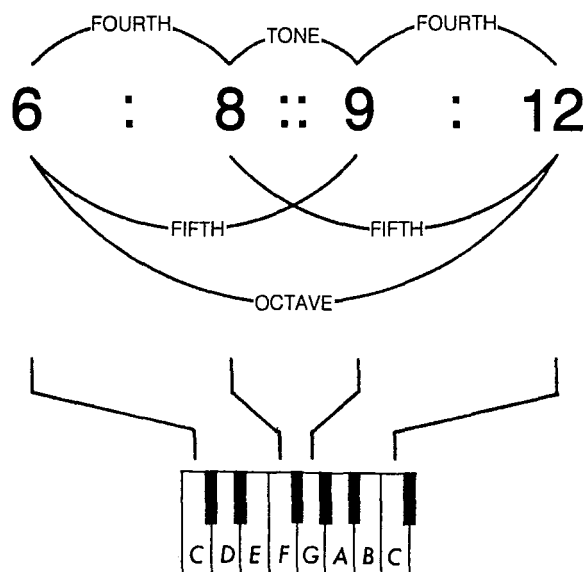


Figure 2-2: Harmonic Proportion<sup>210</sup>

This detailed system represents Pythagoras' conception of the music of the spheres.

## The Monochord

Pythagoras identified the structure of the universe in relation to an immense two-octave monochord;<sup>211</sup> a single string "connected at its upper end to absolute spirit and at its lower end to absolute matter - a cord stretched between heaven and earth."<sup>212</sup> Godwin notes that English Hermeticist Robert Fludd,<sup>213</sup> like Pythagoras, correlated musical tones

<sup>210</sup>Ibid., p. 27.

<sup>211</sup>A monochord consists of one string attached to both ends of a sounding board. A moveable bridge divides the string into two parts. Ratios are created depending on the placement of the bridge. See Ernest McClain's Glossary of Terms in *The Myth of Invariance*.

<sup>212</sup>*The Secret Teachings of All Ages*, LXXXIII.

<sup>213</sup>Robert Fludd (1574-1637) was an English doctor and occult philosopher who attempted to connect the study of science, philosophy and religion in his numerous treatises. The aim of his major work,

along the string of a monochord by translating the distance between the planets or levels of being directly into pitch relationships. Fludd, however, extended the cosmological matrix of the Greek and Medieval theorists to symbolically represent a system containing three worlds: “the elemental, comprising Earth, Water, Air and Fire; the Ethereal, comprising the spheres of the planets and Fixed Stars; and the Supercelestial, imagined as a further series of spheres containing the Angelic Hierarchy.”<sup>214</sup> Godwin’s chart<sup>215</sup> alongside Fludd’s schemata,<sup>216</sup> taken from his text *De Musica Mundana* (1623), outlines this three-fold cosmic structure [i.e. three octaves each containing seven notes] (fig. 2-3). The notes range from the bottom G of the bass clef to the top F of the treble. Fludd omits the Fixed Stars and stretches the four elements to encompass the lowest octave of the three. Figure 2-3 is philosophically designed to illustrate “the Incarnation of God through the ideal of Universal Man.”<sup>217</sup>

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*History of the Macrocosm and Microcosm*, was to summarize the relationship between the universe (macrocosm) and man (microcosm). He drew most notably on the *Corpus Hermeticum* and the Bible, was influenced by Rosicrucian philosophy and expanded on the notion of the ‘Great Chain of Being.’ Fludd’s intention was to present a system that illuminated concepts similar to Boethius’ *musica mundana* and *musica humana*. See Jamie James, *The Music of the Spheres* (New York: Grove Press, 1993), pp. 128-9.

<sup>214</sup>*Harmonies of Heaven and Earth*, p. 158.

<sup>215</sup>*Ibid.*, p. 159.

<sup>216</sup>Joscelyn Godwin, *Robert Fludd - Hermetic Philosopher and Surveyor of Two Worlds* (Grand Rapids, MI: Phanes Press, 1979), p. 48.

<sup>217</sup>*Harmonies of Heaven and Earth*, p. 158.

Supercelestial		Ethereal		Elemental	
ff	God the Father	f	Saturn	F	Fire
ee	The Word	e	Jupiter	E	Higher region of Air
dd	Holy Spirit	d	Mars	D	Middle region of Air
cc	Mind	c	Sun	C	Lower region of Air
bb	Intellect	b	Venus	B	Fresh Water
aa	Reason	a	Mercury	A	Salt Water
gg	Will	g	Moon	G	Earth

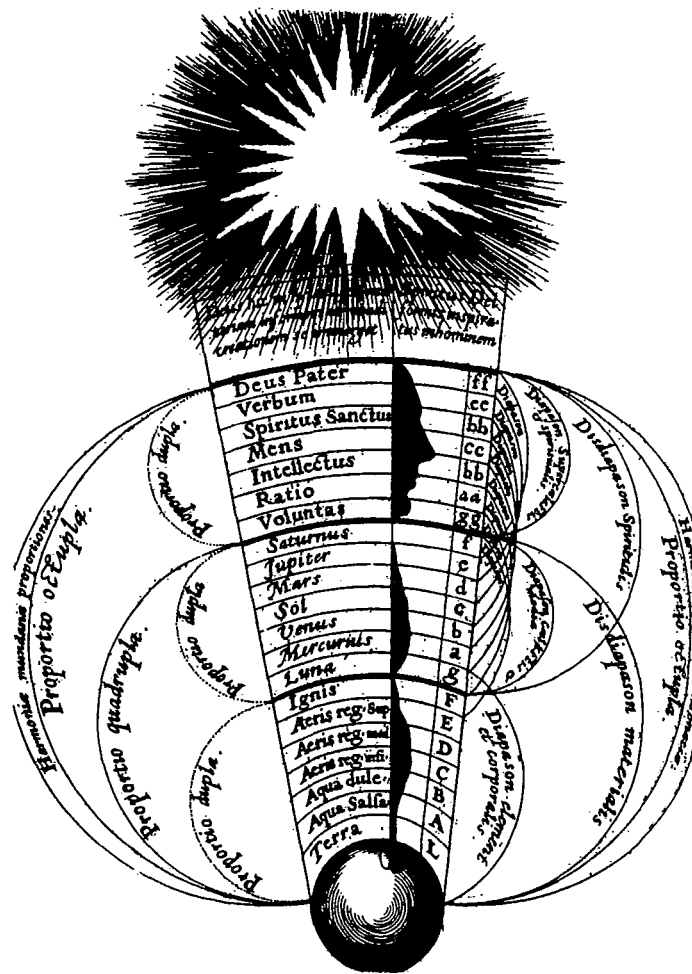


Figure 2-3: The Macrocosm as Universal Man



In essence, the monochord came to symbolize a “celestial measuring-rod that determines the distances between the spheres”<sup>218</sup> with the highest octave emulating the symbolic nature of the divine Holy Trinity.

At the top of Fludd’s cosmos one God reigns supreme, usually represented by the Hebrew Tetragrammaton YHWH.<sup>219</sup> Like Pythagoras, Fludd correlated the number one to the essence of the Absolute Creator known as the ‘Monad,’ embodying the concept of the Alpha and the Omega - the beginning and ending of all things. This idea is illustrated in his plate labeled “The Great Monochord,” or “The Cosmic Monochord,” an immense and detailed diagram summarizing his cosmological scheme. In this particular diagram there is an interesting correlation to the division of the world-soul as described in Plato’s *Timaeus* - the numbers located at the bottom section of this scheme outline the numbers 1, 2, 3, 4, 8, 9 and 27. Nevertheless, a multitude of charts pertaining to monochords appear in his books, including the “Descent and Re-ascent of the Soul” and “The Seven Chakras.”

In creating another design called the “Divine Monochord,” (Fig. 2-4) Fludd divides the monochord into the three realms, noted in the last diagram (Fig. 2-3 - specified on the left side of the string), charting the proportions of the musical intervals between the different spheres. This diagram concentrates on illustrating a musical matrix containing

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<sup>218</sup>Ibid., p. 115.

<sup>219</sup>YHWH (pronounced, ioh-hey-vau-hey) is the name of God also recognized as Jehovah, revealed at the Burning Bush, (Exodus 3:15). It is now generally written as Yahweh and referred to in the scriptures by the word *Adonai*, meaning “Lord.” In April of 1998, at ‘The Keys of Enoch’ Easter conference in Nashville, Tennessee, entitled *The Dawn of the Third Millennium*, Hurtak correlated the significance of the sacred letters of the Hebrew Tetragrammaton, YHWH, to the four corners of the Great Pyramid (symbolized as the four elements or cardinal directions into a higher unified state), forming the cross from which Jesus transcended the fourth dimension of time and space.

two octaves, in conjunction with a system containing three separate worlds, similar to Fig. 2-3.

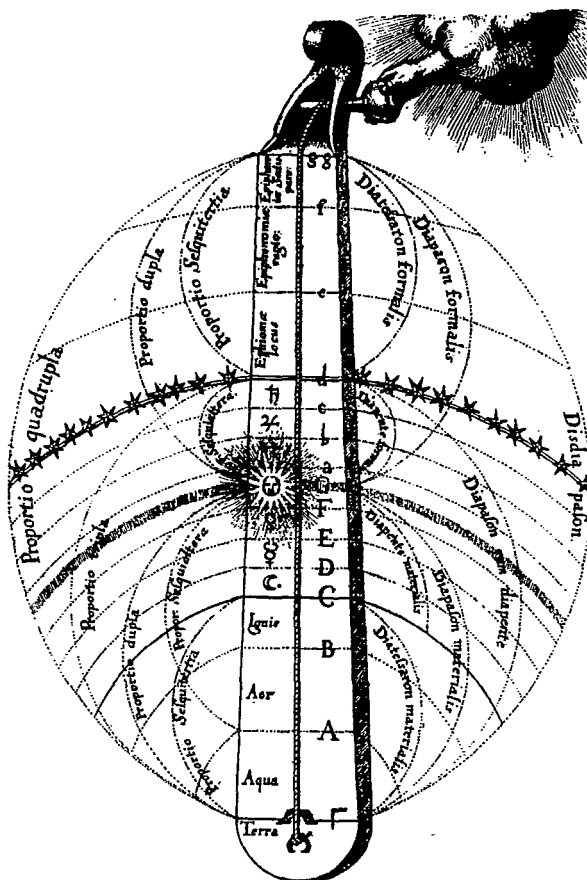


Figure 2-4: The Divine Monochord<sup>220</sup>

Hall states:

“The highest heaven, the sun, and the earth have the same tone, the difference being in pitch. The sun is the lower octave of the highest heaven and the earth the lower octave of the sun. The lower octave comprises that part of the universe in which substance predominates over energy. Its harmonies, therefore, are more gross than those of the higher octave wherein energy predominates over substance.”<sup>221</sup>

<sup>220</sup>Robert Fludd, p. 45.

The monochord begins from the low G (the Greek letter *Gamma*), representing the Earth, extending two octaves to gg indicating the highest realm. The first octave, the *Proportio dupla* (2:1) spans the circumference from the Earth to the Sun (G). Fludd applies Greek names to the threefold division of the Supercelestial hierarchy: “*Epiphaniae* = apparitions, *Epiphonomiae* = voices, and *Ephiomae* = acclamations.”<sup>222</sup> The right side reveals the Greek names for the musical intervals in relation to each proportion: *Disdiapason* = double octave = 4:1; *Diapason* = octave = 2:1; *Diapente* = fifth = 3:2; *Diatessaron* = fourth = 4:3.<sup>223</sup> Godwin points out an apparent error in the ‘*Diapente materialis*’: “it should join the Sun’s G to the C of fire, as should the corresponding *proportio sesquialtera* (2:3 - fifth)” and “in order for the tones and semitones to be correct (to the right of the string), we have to imagine the Fs as sharp,”<sup>224</sup> in relation to the modern diatonic major scale. However, with respect to the latter insight, the major scale was only one of many scale structures in use in Fludd’s time. Fludd’s scale is mixolydian mode, which was perfectly acceptable in his lifetime.

The several charts appearing in Fludd’s texts indicate that there are no fixed ideals. He chooses instead to establish various viewpoints. That Fludd and Pythagoras use completely different scales has a lot to do with the musical practice of their times. The

<sup>221</sup>*The Secret Teachings of All Ages*, p. LXXXII.

<sup>222</sup>*Robert Fludd*, p. 44.

<sup>223</sup>*Ibid.*, p. 44.

<sup>224</sup>*Ibid.*, p. 44.

music of Pythagoras' period is little known to us so the scale may well be representative of Greek practices at the time. Fludd's scale is modal which fits with Renaissance music practices that would have dominated the music that he would have been familiar with. More specifically, Fludd's theory differs from that of Pythagoras in that he labels the distance between the interval of the earth and the highest heaven as a "double octave" expressing "two extremes of existence" considered to be in "disdiapason harmony."<sup>225</sup> However, similar to Pythagorean thought, the higher extremes on the monochord express spiritual nature whereas the lower extremes are rationalized in terms of a corporeal existence.

Plato, who lived only a little more than a century after Pythagoras, subscribed to the Pythagorean idea of mathematical principles related to harmony and the universe. The numerical division of Plato's cosmic creation in the *Timaeus*, for example, is based on a musical universe synonymous with Pythagoras' mathematical principles of harmony. The following Plato myth is quintessentially a Pythagorean concept.

### **Plato's "Myth of Er"**

In the "Myth of Er,"<sup>226</sup> a tale told by Socrates in the final passage of Plato's *Republic*, Socrates articulates the orderliness of things<sup>227</sup> through a cosmic vision. The

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<sup>225</sup>*The Secret Teachings of All Ages*, p. LXXXII.

<sup>226</sup>We are not sure why Plato chose the name "Er" but it did impact on subsequent Biblical writers. The following Christian imagery has been added to potentially give more depth to the meaning of "Er" and its possible relation to Plato's text. Cited in the book of *Genesis* (38: 3-7), "Er" is the son of Judah.

*Myth of Er* encompasses the sciences of astronomy, geometry and theology and is one of the first references to allude to the ‘Music of the Spheres.’ It incorporates numerical and spatial relations and relates specific musical tones to the motion of the heavenly bodies. The following is a brief synopsis of Plato’s myth, highlighting Er’s journey to heaven and his depiction of the planetary composition.

Amongst the spheres a “strong man, Er, son of Armenius,” came to a daemonical place where he saw two openings in the earth and two other openings in the heavens in opposition to one another. When the gods gave judgment, they commanded the just to go to the right hand and upwards through the heavens; but the unjust were commanded to proceed to the left and downwards. The duration of reward or punishment was a thousand years. After the souls were judged, Er saw that those rising out of the earth were full of squalidness and dust and others he saw descending pure from heaven. Those descending from the purity of the heavens appeared as if they had been on a long journey and always came to a resting point in a meadow. As if each of them knew the other, those who rose out of the earth asked about things concerning the above, and those from the heavens asked about the things below. Those who journeyed underneath the earth saw only suffering and those from heaven experienced immense joy and beauty. The ones who

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Jesse Lyman Hurlbut’s *Bible Encyclopedia* defines the term as ‘watcher.’ (see *Hurlbut’s Handy Bible Encyclopedia* (Philadelphia: The John C. Winston Company, 1908). A more concentrated definition comes from Hurtak’s *The Scrolls of Adam and Eve* (Los Gatos, CA: The Academy For Future Science, 1989), p 29. *Lucifer* (Ancient etymology from the Latin meaning “light-giver”), a fallen Lord of Light who put himself in charge of the lower ordering of soul progression which denies the implant of the Divine Image, and is responsible for the rebellion in the heavens. “Ur” (instead of “er” taken from the Babylonian texts) means light from the earth radiating heavenward which could fall back upon itself, versus “Or” Light which emanates from the heavens. (Isaiah 14: 12-14).

were polluted with wickedness or who had not been sufficiently punished could not ascend into the higher spheres of eternal light. Waterfield indicates that “the soul’s time in the underworld is described as a journey because specific punishments for specific crimes were located in different regions of the underworld, so the souls would have gone from region to region before being allowed back.”<sup>228</sup>

Er asserts that those who rested in the meadow were only allowed so many days until it was mandatory for them to depart. After all had remained in the meadow for seven days, they were required to depart on the eighth day and arrive elsewhere four days later. Those who were of purity were able to perceive the whole heaven and earth and “a light extended as a pillar<sup>229</sup>, mostly resembling the rainbow, but more splendid and pure.”<sup>230</sup> This light represents the belt of heaven keeping the entire celestial circumference united in an orderly manner. McClain correlates this belt to the octave, “the ratio (2:1) that binds the tones of scale.”<sup>231</sup> However, a transformation occurs on the final day (12<sup>th</sup> day) when Er’s journey takes him to the centre of the universe where he now sees the light in circular formation: “the extremities of the bonds of the heavens” are held together by this light and “as the girth that underpins a trireme holds a trireme together, so this light holds the

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<sup>227</sup>Boethius’ *musica humana* and *musica mundana*.

<sup>228</sup>Robin Waterfield, p. 453.

<sup>229</sup>In the Hebrew tradition a similar pillar of light is referred to as the ‘*Layoesh*.’ Refer to Hurtak’s *The Keys of Enoch*, p. 584.

<sup>230</sup>Thomas Taylor, translator, *Republic*, X in *The Works of Plato*, vol. 1 (London, 1804), [616 b].

<sup>231</sup>*The Pythagorean Plato*, p. 46.

whole rotation together.”<sup>232</sup> This simile represents a binding force. Waterfield suggests that from Er’s position (the central axis of the universe), “he can see the ends of the outer rim of the universe join on to the shaft of light; [a] shaft [that] extends into a kind of strap which pulls the two halves of the universe together.”<sup>233</sup> Er now sees this light as circular, and for McClain, this would imply that the heavens are in cyclic motion.<sup>234</sup>

Plato places special significance in the myth on specific numbers indicating precisely when events occur. He writes: “...as a general rule numerical division in all its variety can be usefully applied to every field of conduct;...it is relevant to sound and to motion, straight up or down or revolution in a circle.”<sup>235</sup> In the *Myth of Er*, Plato reveals that a departure must occur after the seventh day and further asserts that on the fourth day after the eighth all will arrive at another place. These numbers resemble the journey for the ‘Ascent of the Soul’ detailed by Poimandres, and further suggest the seven energy centres operating within the human body identified as “chakras” in Hindu and “seals” in Western philosophy. When all seven energy fields are balanced the body experiences a harmonious alignment, in turn, activating the power of the eighth chakra - the divine over-self body<sup>236</sup> - a higher body of light which transcends the physical. This enables one to be wrapped in the garment of the divine light. Hurtak relates the body to a “biotransducer system”

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<sup>232</sup>Waterfield, p. 374 [616c].

<sup>233</sup>Ibid., p. 454.

<sup>234</sup>*The Pythagorean Plato*, p. 46.

<sup>235</sup>Trevor J. Saunders, ed., *Plato: The Laws*, (Harmondsworth: Penguin Classics), 1970 [747a].

<sup>236</sup>*The Keys of Enoch*, p. 595.

capable of “aligning itself with a high frequency resonance,” namely the eighth energy grid of light where “the whole membrane of human intelligence on this planet meets [and] Man is graduated to go into the next electrochemical frequency.” Evoking ancient Egypt, Hurtak writes, “The Nile, from the region of On to the region of Abu Dis, acts as the spinal column connecting the grids of the eight pyramidal temple areas with the eight chakras working with the human body.”<sup>237</sup>

Numerology plays a significant role in the cosmic order of things and in music, as established in Pythagorean tuning. Er’s seven day journey spent in the Meadow is equivalent to the seven pitches in the Western diatonic scale or any other seven note scale, and the departure on the eighth day signifies the octave limit reached.<sup>238</sup> The eighth day through to the twelfth highlights Er’s five day journey, the number of days required to

<sup>237</sup>Ibid., p. 487.

Hurtak explains in greater detail the power behind each chakra and the city that it is associated with: “On represents the eighth chakra, the creative power which is necessary to transplant creation from one level to another” and “represents the spiritual-scientific synthesis.”

“The Pyramid at Giza exemplifies the recorder cell known to man as the seventh chakra, for there the Lords of Light have coded the necessary information to enable the evolution of man to find its ultimate linkage.”

The sixth chakra is represented at Memphis, the ‘city of rebirth.’”

“Abydos,” the fifth chakra “(the voice resonance grid), represents the tomb of Osiris, where vibrations of the Word of God quicken the body to rise from the dust and put on the imperishable crown of Light - from the Lords of Light in Orion.”

“Karnak,” the fourth chakra, “or heart chakra...represents the life transition from the common logarithm to the interplay with the Living Light.”

“Thebes,” the third chakra area, represents “the navel connecting with the cycle of the earth.”

“The towering colossi” located at the second chakra, “Abu Simbel...represent the fertility of the earth being bathed with the golden light of the Sun” and “indicate that we are offspring of God through the Lords of Light.”

The final chakra is in the region of “Abu Dis, the place at the base of the spinal column which, in the blueprint of man, is the place of the primal energy change.”

“Thus,” Hurtak concludes, “the ‘beginning and the end’ is actually coded into the pyramidal structures of the earth.” See *The Keys of Enoch*, pp. 487-489.

<sup>238</sup>*The Pythagorean Plato*, p. 43.



reach the Spindle of Necessity. The complete journey totals the number twelve, the notes in a chromatic scale. Theories have been introduced that link the tonal qualities of twelve, seven and five to the chromatic, diatonic and pentatonic scales, to the universal organization of things.

Er's five day journey could metaphorically correlate to what Hurtak refers to as the "Five Bodies" - *Electromagnetic, Epi-kinetic, Eka, Zohar, Gematrian* - an idea connected to the traditions of Buddhism, Hinduism and mystical Christianity as a means of experiencing a 'human-divine experience.' To the ancient Buddhists, the Five Bodies represented 'the vehicle of liberation,'

developing a greater relationship to the Divine Law; liberation of the physical body and the soul body; and the transcendent nature that quickens the power of prayer and meditation, to aid in enlightenment and the raising of the consciousness of humanity.<sup>239</sup>

A transformation into a hierarchy of higher intelligence systems is achieved when the Five Bodies, also referred to as the 'five vehicles of sound and light,' are merged in a unified manifestation. Through this integration, sound and '*multi-colored*' frequency harmonics can be experienced as one enters the *Eka* universe which is one plane above the physical universe, composed of "various color patterns." "Cosmic light perfection" symbolizes the *Zohar* body followed by the *Gematrian* representing "inner mathematical perfection."<sup>240</sup> The idea of the multi-colored emanation symbolizes a realignment. As Er advances to the eighth day of his journey in Plato's myth, he perceives a belt of light 'resembling the

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<sup>239</sup>James Hurtak, *The Five Bodies*, (Los Gatos, CA: The Academy For Future Science, 1994), p. 3.

rainbow,' an idea similar to Hurtak's notion of the multi-colored realignment that occurs 'one plane above the physical universe.' From the Book of *Revelation* (ironically chapter 7, verse 8), Hurtak refers to Joseph, one of the twelve sons of Israel, assuming a multicolored garment representing the Christ Light releasing twelve vibratory grids of light.<sup>241</sup> Hurtak relates the five bodies to the five books of *Psalms* and indicates that Noah symbolized the five perfected bodies when he 'got to be five hundred years old' (Genesis 5:32). In the Book of *Matthew*, Jesus fed "five loaves and two fishes" to "five thousand men." (14:17-21) Hurtak asserts that the 'five loaves' symbolize the feeding of the five bodies (spiritual food) perfecting the spiritual levels of the 'five thousand,' whereas the 'two fishes' represent duality and consequently do not feed the higher self.' Lawlor maintains that in the Middle Ages the principal diagram of Sacred Geometry in Christian mysticism was the "Vesica Piscis (literally, a bladder [*vesica*] which when filled with air would be in the form of a fish [*piscis*]);" the construction of "two equal circles [whereby] the centre of each lies on the circumference of the other."<sup>242</sup> The central area of the fish is symbolic for two reasons; firstly, Jesus joining the regions of "heaven and earth, above and below, creator and creation" and secondly, the Piscean Age through which "Jesus carries the idea of the non-substantial, universal 'Christic' principle entering into the manifest world of duality and form."<sup>243</sup> The Word manifests into physical flesh.

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<sup>240</sup>*Harmonics of Light, Color & Sound, part II, side b.*

<sup>241</sup>James Hurtak. *The Scrolls of Revelation - audiocassette* (Los Gatos, CA: The Academy For Future Science, 1984).

<sup>242</sup>Lawlor, p. 31.

The number twelve has significant implications for Plato and is, for example, the first number to be mentioned in the *Republic* (337). McClain suggests that the significance of this number is that it appears at the beginning and at the end of the *Republic*, and it is not until the *Myth of Er* that its true meaning is revealed.<sup>244</sup> Regarding Er's journey to Heaven, Plato writes:

Once upon a time he died in war; and on the tenth day, when the corpses, already decayed, were picked up, he was picked up in a good state of preservation. Having been brought home, he was about to be buried on the twelfth day; as he was lying on the pyre, he came back to life, and, come back to life, he told what he saw in the other world.<sup>245</sup>

According to McClain, the number twelve is Plato's symbol representing the day of rebirth.<sup>246</sup> Corinne Heline, in her text *Healing and Regeneration Through Music*, states:

The numerical power of twelve is the highest spiritual emanation active in the universe, and seven transforms that power into the concreting and building forces that operate on the physical plane... In the musical laws underlying creation the twelve semitones of the chromatic scale sound the initial music of the twelve Zodiacal Hierarchies, and the seven notes of the diatonic scale transmit the key tones of the seven Spirits before the Throne of God, or the seven planets of this solar system.<sup>247</sup>

Heline's reference to the heptad as sacred number, namely the 'seven Spirits,' is analogous to what Hurtak, along with other ancient philosophers, call the *Elohim*, "the Creator Gods/Divinities of YHWH [supposedly seven in number] who control the calibrations of

<sup>243</sup>Ibid., p. 33.

<sup>244</sup>*The Pythagorean Plato*, p. 43.

<sup>245</sup>Ibid., p. 41.

<sup>246</sup>Ibid., p. 42.

<sup>247</sup>Corinne Heline, *Healing and Regeneration Through Music*, (Los Angeles, CA: New Age Press, 1978),

Light.”<sup>248</sup> Drawing on the Book of *Revelation*, Hurtak refers to the sounding of the trumpet by the seventh angel as initiating “a way of opening the consciousness [of man] to receive and participate in the return of the *Ophanim* (‘the higher angelic minds of light’),”<sup>249</sup> hence, greater vibrations. Hurtak points out that “in the historical biblical scriptures the number three expresses structural perfection, the number seven expresses temporal perfection, the number ten expresses perfect order,” which in turn leads us to “the number twelve - the perfect integration of all three.”<sup>250</sup> In the Book of *Revelation* we find the application of several numerical references elaborating on the understanding of the value of 12 that correlates to the numbers 72 and 144. The imagery of the new “holy city Jerusalem” moving downward from heaven places great emphasis on the 12 gates of heaven: “It had a great and lofty wall and had twelve gates, and at the gates twelve angels, and names were inscribed which are those of the twelve tribes of the sons of Israel” (21:12). Within the Great Pyramid, Hurtak indicates that there are twelve “entrances or portals to be passed through before finally reaching the highest degree.”<sup>251</sup> In *Revelation*, the wall of the “holy city” had “twelve foundation stones” measuring “one hundred and forty-four cubits” (21:14-17). From each of the twelve tribes comes twelve thousand male virgins equaling a choir of 144,000 resurrected to “sing a new song before

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pp. 1, 3.

<sup>248</sup>*The Keys of Enoch*, p. 573.

<sup>249</sup>*Harmonics of Light, Color & Sound*, part III, Side b.

<sup>250</sup>*Ibid.*, part I, side a.

<sup>251</sup>*Ibid.*, part I, side a.

the throne,” a song that “no one was able to master” (14:3) but themselves. The wall is comprised of 144 digits and multiplied by 1,000 for the choir (a matrix of 12 cubed). In biology, twelve plays a principle role in the architecture and proportion of all living things. With respect to the molecular hierarchy of living organisms, Lawlor cites the importance of twelve: Plants, for example, can carry out the process of photosynthesis only because the carbon, hydrogen, nitrogen, and magnesium of the chlorophyll molecule are arranged in a complex twelvefold symmetrical pattern, rather like that of a daisy.<sup>252</sup> The synthesis of chemical substances with the arrangement of light energy (photosynthesis) transforms into a life substance which completes itself through a pattern of twelve, establishing a theory of perfect movement. Plato reasoned that from geometry and number came pure form revealing eternal truths. From Plato’s *Seventh Letter*, Lawlor cites the Platonic view that “the fundamental relationship between Music and Geometry [is] more revered than any other study of knowledge.”<sup>253</sup>

Plato’s myth continues with the idea that within the spheres great hollow whorls were observed. There were eight whorls in all, but as circles, like that of a bowl with its lip appearing upwards, one within another (these cosmic whorls may be thought of as synonymous with the Pythagorean spheres, and analogous to the number of notes in the musical scale, even though Plato was not specific about these correspondences) and reveal how Plato determines the ratio of the eight circles within the one by circumference, color,

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<sup>252</sup>Lawlor, p. 4.

<sup>253</sup>Ibid., p. 85.

motion and velocity - correlations that will be discussed further in this chapter. Hurtak refers to such a theory as 'Wheels-within-Wheels,' a "galactic configuration created by the Higher Evolution to pass one level of creation within another,"<sup>254</sup> symbolizing oneness. In the Old Testament, the prophet Ezekiel talks about wheels in the sky and intimates that the creation consists of wheels within wheels.<sup>255</sup> Plato describes the unification of the circles physically and in musical terms as "forming round a spindle one united convexity of one whorl... composed of a single harmony,"<sup>256</sup> sung by the eight Sirens uttering a single sound on one pitch, each octave related to one of the eight circles.

Integral to Plato is the circle<sup>257</sup>, representing what McClain terms a "cyclic metaphor," prevalent in the myth of Er. Within the belt of the heavens, around the spindle at equal distance from one another, each on a throne, sat the three daughters of Necessity, the Fates - Clotho, Atropos and Lachesis - and "from the extremities [of the light]

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<sup>254</sup>*The Keys of Enoch*, p. 608.

<sup>255</sup>*New World Translation of the Holy Scriptures* (Brooklyn, New York: Watchtower Bible and Tract Society of New York, Inc., 1961), p. 1057 (Ezekiel Chapter 1, Verse 16).

<sup>256</sup>*Republic, X* in *The Works of Plato*, [617b].

<sup>257</sup>Plato expounds on the importance of circles as symbols and many other great thinkers follow in their interpretations regarding the symbolic value of the circle. Joseph Campbell, in *The Power of the Myth*, says that Jung speaks of the circle as a "Mandala," the sanskrit word for "circle," but, according to Campbell, "a circle that is coordinated or symbolically designed so that it has the meaning of a cosmic order," whereby "you are trying to coordinate your personal circle with the universal circle." To cite an example, Campbell describes a Buddhist mandala: "you have the deity in the center as the power source, the illumination source. The peripheral images would be manifestations or aspects of the deity's radiance." (Campbell 1988, pp. 216-217) This sacred diagram is considered by many to be one of the most powerful symbols associated with the meaning of cosmic order. It embodies the relationship of form and movement, of space and time, recognizing reality as an organized, unified whole (Campbell 1988, p.214). Hall refers to the Pythagoreans who declared "the motion of God to be circular, the body of God to be composed of the substance of Light and the nature of God to be composed of the substance of truth." See *The Secret Teachings of All Ages*, p. LXVI.

stretched the spindle of Necessity by which all the revolutions are turned.”<sup>258</sup> Lady Necessity appears to govern the cosmos and in this sense monitors the activity within the musical octave. The daughters were dressed in white and had crowns on their heads. In the early Hebrew scriptures, Cabbalists refer to the jewel structured crown as the ‘Kether,’<sup>259</sup> and one is adorned with this crown as his/her soul evolves. Hurtak refers to a multi-colored capstone placed over the crown chakra (the seventh) as a “crystal pyramidal energy cap [which] demonstrates how the consciousness of man can be attached to other space-time dimensions.” Hall alludes to the crown as being ‘intangible’ and an ‘immovable foundation of Absolute Divinity.’ In the Hebrew tradition it represents all that was, is, and will be, understood as the all-encompassing “I am that I am,” translated in Hebrew as “*Ehyeh Asher Ehyeh*.”<sup>260</sup>

The daughters sing to the harmony of the Sirens, assisting in regulating the harmony sung by them (each sounding her single note as she stands on one of the circles). Clotho sings of the present and at certain intervals her right hand lays hold of the outer circle of the spindle. Atropos sings for the future and in like manner, turns the inner circle of the spindle with her left hand. Lachesis sings of the past and touches the inner and outer circles, alternately, with either hand. The daughters keep the planetary orbits (integers) perfectly coordinated. Within this trinity, Lachesis is the binding force. She partakes

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<sup>258</sup>*The Pythagorean Plato*, p. 47.

<sup>259</sup>*The Keys of Enoch.*, p. 582.

<sup>260</sup>*Ibid.*, p. 575.

in all of the harmonies in her song but she remains in the middle, maintaining a balance.<sup>261</sup>

Plato states: It is necessary that a man should “know how to choose always the middle life and shun the extremes on either hand, both in this life as is possible, and in the whole of Hereafter. For thus man becomes most happy.”<sup>262</sup> Er visits a world where perfect balance and equity prevail:

the good and the wicked each receive their deserts; the souls of the stars [Sirens] sing in harmony; the three Fates [daughters] apportion the destiny of man and cosmos in ideal symmetry; and above all presides Necessity, the unmoving law which even the gods must obey. Freewill exists there only for the human soul, which can choose, wisely or foolishly, the pattern of its incarnation.<sup>263</sup>

Plato’s philosophy emphasizes discernment and free choice (that which will lead the individual to become more just and resilient in resisting the temptations placed before him/her), reflecting the notion that it is the individual who must determine and choose his/her destiny within an existing (or as Plato describes, “unalterable”) universal framework. Throughout the myth of Er, Plato sought to theoretically develop coordinated systems that would produce balanced and harmonious celestial logic reconcilable with a system of mathematical harmony, planetary orbits and men. For Hurtaq, an harmonious union, attainable through a purified existence free of vices and desires, embodies the eternal emanations of the ‘*Chochma*’ (wisdom), ‘*Binah*’ (Understanding) and ‘*Daat*’

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<sup>261</sup>It is interesting to note that Plato, who assigns to Lachesis the songs of the past, considers the past to be the binding force.

<sup>262</sup>*Music, Mysticism and Magic*, p. 7.

<sup>263</sup>*Ibid.*, p. 3.



(Knowledge or Gnosis) of the Creator,<sup>264</sup> emanations which relate to the dot, line and circle. Spiritual ascent necessitates that man must focus beyond the horizontal (physical) plane and look upwards towards God (the dot).

Plato cites different sizes for each of the circles. The order indicates that the largest circle symbolizes “the fixed stars” embracing the planets, followed in order by Saturn, Jupiter, Mars, Mercury, Venus, Sun and the smallest, the Moon, while the interior of the spindle is suggestive of “the locus of the Earth.” The origin of Plato’s view of the universe closely resembles the wisdom of the ancient Egyptians and their spherical design, as outlined by A.T. Mann in *Sacred Architecture* who postulates that fourteen spheres are prevalent in the total universe:

Chaldaean astronomer-astrologers assigned a sphere to each of the seven planetary bodies which they saw as existing within the sphere of the fixed stars like the skins of an onion. Each sphere revolved at its own rate, determined by its distance from the centre. This logic also postulated seven spheres below the earth representing the seven regions of the underworld, through which the soul passed at death before rebirth into the upper realm.<sup>265</sup>

Like Pythagoras’ structure of the universe, Plato adheres to the spherical system of the seven planets with the three outermost planets in the same order, and uses the Greek term, “fixed stars,” for the outermost ring. Plato postulated a frequency system of harmonic and planetary concordance. The lunar sphere (smallest) produces the deepest tone. Earth is stationary and therefore silent, for without motion no sound is produced. The fixed stars

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<sup>264</sup>*The Five Bodies*, p. 4.

<sup>265</sup>A.T. Mann, *Sacred Architecture* (Rockport, Massachusetts: Element Books Ltd., 1993), p. 42.

of the higher heavens, including the planets within the largest circle, are continuous and swift in movement emitting higher tonal frequencies.<sup>266</sup>

The velocity and color of the whorls<sup>267</sup> in the myth of Er are congruent with the planetary system. Platonists identify the speed and color of the whorls beginning with the highest degree of the musical octave (in this case, the 8<sup>th</sup> whorl) to the lowest degree. In the *Republic*, the motion of the planets are indicated as follows: associated with the smallest orbit, the Moon, “*the eighth goes most quickly*” producing the greatest speed. Plato then states that the second fastest were “*all at once, the seventh, sixth and fifth*” planets (Sun, Venus, Mercury). Plato refers to “*the fourth*” planet (Mars) as “*the third fastest...in retrograde motion.*”<sup>268</sup> Although Plato did not assign specific musical concepts to the circles it should be noted that velocity is clearly related to pitch.<sup>269</sup>

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<sup>266</sup>*Harmonies of Heaven and Earth*, p. 119.

<sup>267</sup>McClain writes, “Plato fuses the shape of the whorls with a metaphor borrowed from spinning - a spindle of which the nested whorls hold the various threads with which the Fates spin our destiny. The whorls are ‘scooped out...fitting into each other as bowls fit into each other...lying in one another with their rims showing as circles from above.’” See McClain’s *The Pythagorean Plato*, p. 48.

<sup>268</sup>Waterfield, p. 375 [617b].

<sup>269</sup>Similar to the *Myth of Er*’s astronomical allegory is Plutarch’s ‘The Vision of Timarchus.’ Godwin writes, “Plutarch (c. 50-120 A.D.) was a writer, lecturer, and for his last thirty years a priest at Delphi. Though best known as a biographer (Plutarch’s *Lives*) his *Moralia* essays contain several works of considerable philosophical and esoteric interest. (See *Music, Mysticism and Magic*, p. 12). When Timarchus beheld the vision of the revolving spheres “he fancied that their circular movement made a musical whirring in the aether, for the gentleness of the sound resulting from the harmony of all the separate sounds corresponded to the evenness of their motion.” See Plutarch’s *Moralia*, translated by Phillip H. de Lacy and Benedict Einarson (Cambridge, Mass.: Loeb Edition, 1959), [590c].

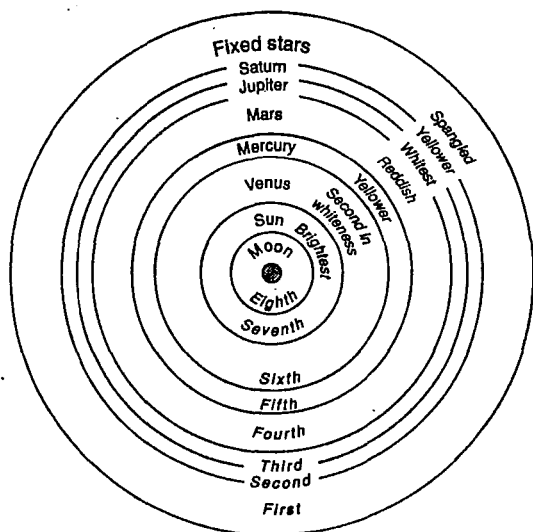


Figure 2-5A:  
Waterfield's diagram of Plato's Universe



Figure 2-5B:  
Greek spindle associated with whorl<sup>270</sup>

Plato's description of color corresponds to the relative placement of the planets and the whorls associated with them. He identifies "the lip" of the whorl, the fixed stars in heaven, as "spangled" or "multicolored." The seventh planet "is the brightest" and represents the Sun. "The eighth" planet, the Moon, "gets its color from the seventh's shining on it," (the Moon reflects the Sun's light). Finally, "the second [Saturn] and fifth [Mercury] are yellow; the third [Jupiter] has the whitest color; the fourth [Mars] is reddish; and the sixth [Venus] is second in whiteness."<sup>271</sup>

## The Cabbala

Throughout the myth, Plato implements multiples of the Pythagorean sacred number ten. "Modern Cabbalists," McClain writes, "still pay fervent respect to the first ten

<sup>270</sup>Waterfield, pp. 454-455.

<sup>271</sup>The Pythagorean Plato, p. 51.

integers.<sup>272</sup> The Cabbalistic Tree of Life, known as the *Sephiroth*, is an ancient archetype linking the pathways between heaven and earth. In its totality, the *Sephiroth* symbolizes a cosmic system with its numerous pathways created by “three *Sepharim*, namely, Numbers, Letters, and Sounds, which are in Him one and the same.”<sup>273</sup> The *Sephiroth* is composed of ten circular globes or spheres of light aligned in three vertical columns, interlocked by twenty-two paths correlating to the letters of the Hebrew alphabet considered the Foundation of all things. Hall points out that the Cabbalist’s view the *Sephiroth* as a depiction of the human body and in this manner “establishes the true identity of the first, or Heavenly, Man-*Adam Kadmon*-the *Idea* of the Universe.”<sup>274</sup> Hall outlines the Cabbalist arrangement of the ten divine globes (*Sephiroth*) in relation to the composition of the ten organs of the body:

No.	The Sephiroth	The Body
1	Kether - the Crown	Prototypic Head and perhaps refers to the pineal gland
2	Chochmah - Wisdom	right hemisphere of the Great Brain
3	Binah - Understanding	left hemisphere of the Great Brain
4	Chesed - Mercy	right arm
5	Geburah - Severity	left arm (the right and left arms signifying the active creative members of the Grand Man)
6	Tiphereth - Beauty	heart, or, according to some, the entire viscera
7	Netsah - Victory	right leg
8	Hod - Glory	left leg (the right and left legs understood as the supports of the world)
9	Jesod - the Foundation	generative system, or the foundation of form
10	Malchuth - the Kingdom	represents the two feet, or the base of being

Figure 2-6: The Sephiroth, Number and Body<sup>275</sup>

<sup>272</sup>Ibid., p. 139.

<sup>273</sup>*The Secret Teachings of All Ages*, p. CXIV.

<sup>274</sup>Ibid., p. CXXI.

<sup>275</sup>Ibid., p. CXXI

In the Book of *Exodus* (24:2), Moses received the Ten Commandments atop Mount Horeb, in the desert of Sinai. Hall says that “medieval Cabbalists assigned one of the Ten Commandments and a tenth part of the Lord’s Prayer in sequential order to each of the ten *Sephiroth*.”<sup>276</sup> It should be noted that the higher meanings encoded in the *Sephiroth* can only truly be understood and internalized by means of one’s devotion to study and meditation for the purpose of higher attunement.

### **Johannes Kepler**

German scientist Johannes Kepler (1571-1630), a contemporary of Fludd, recognized Pythagoras and Plato as masters in creating an ideal structure of the cosmos, governed by a supreme mathematical music. His first book, *Mysterium cosmographicum*, along with his major work, the *Harmonices Mundi Libri V* (‘Five Books on the Harmony of the Universe,’ 1619) illuminate the context of the cosmic spheres in a manner analogous to Platonic thought. Like Plato and Pythagoras, Kepler employed the following areas of study: geometry, music, astronomy, astrology and epistemology.<sup>277</sup> What distinguished Kepler from others was his vision of the celestial spheres as polyphonic, unlike, for example, Plato’s structure of the universe which consisted only of scales. It was Kepler’s understanding that the relationship of numbers found in music would decipher what was harmonious and what was discordant. Furthermore, for Kepler numbers united Man’s

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<sup>276</sup>Ibid., p. CXXI.

<sup>277</sup>Epistemology is the branch of philosophy dealing with the study of the nature of knowledge, its origin,

soul and the stars and from this perspective, he created mathematical harmonies.

According to Kepler, his aim was “to erect the magnificent edifice of the harmonic system or of the musical scale [which] presents itself in conformity with reason and nature, [to which] God the Creator, himself, expressed it in harmonizing the heavenly motions.”<sup>278</sup>

The Supreme or archetypal meaning of the number three is the three-lettered name of God, written in Hebrew as **YAH** (Psalms 68:4), symbolizing the Eternal Father, Son and Holy Mother Shekinah (the feminine aspect of the divine). These three persons of the Trinity “correspond, in the Copernican system, as Kepler had adopted it, to the central sun, the fixed stars, and the planetary system in between.”<sup>279</sup> From Plato’s *On the Heavens* [268a], Pythagoreans state that “the world and all that is in it is determined by the number three.” Kepler was deeply religious, evident in a variety of his texts where numerous interpolations of worship and invocations are directed to God the Creator.

The Creator, the source of all wisdom, the permanent preserver of order, the eternal, supernatural source of geometry and harmony... connected the harmonic proportions resulting from the plane figures, with the five spatial regular figures, in order to form... a single most perfect model of the heaven.<sup>280</sup>

It was Kepler’s belief that harmony in the universe was divinely created.

Kepler concluded that the solar system was rooted in the five ‘perfect’ or ‘Platonic solids,’ just the appropriate “number of figures that would be necessary to describe the

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foundations, limits and validity. See Webster’s Dictionary, 1988.

<sup>278</sup>Max Caspar, *Kepler* (New York: Abelard Schuman, 1960), p. 282.

<sup>279</sup>Christopher Butler, *Number Symbolism* (New York: Barnes & Noble, Inc., 1970), p. 81.

<sup>280</sup>Caspar, p. 277.

intervals between the planetary spheres.”<sup>281</sup> Lawlor proposes that the solids are considered ‘Platonic’ because “it is assumed that Plato has these forms in mind in the *Timaeus*, [where] he outlines the cosmology through the metaphor of planar and solid geometry.”<sup>282</sup> Tatarkiewicz cites Plato’s theory on the regularity of the five perfect solids as “five regular three-dimensional figures... with the most perfect proportions,” to which Plato “ascribed cosmological significance, maintaining that the world was founded on them.”<sup>283</sup> All five solids are perfectly symmetrical polygons consisting of the same shape and size (i.e. related by identical sides and angles).

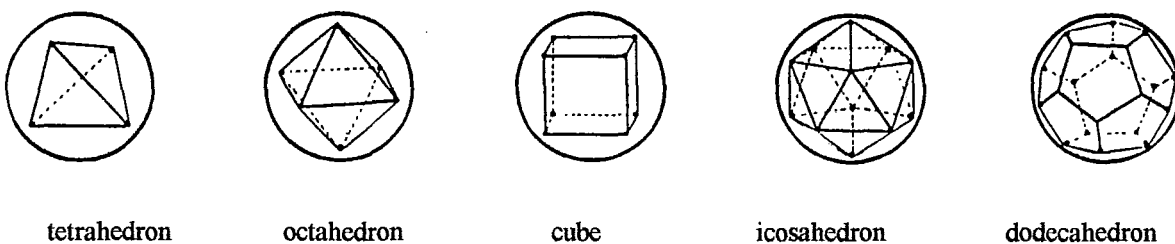


Figure 2-7: Platonic Solids<sup>284</sup>

The solid Platonic shapes define mathematical movement within the spherical dimensions and are composed of the following elements: “tetrahedron (pyramid - fire), cube (earth), octahedron (faced with eight equilateral triangles - air), icosahedron (twenty equilateral triangles - water), and dodecahedron (twelve pentagons - universe).”<sup>285</sup> Mann states that

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<sup>281</sup> James, p. 145.

<sup>282</sup> Lawlor, p. 96.

<sup>283</sup> Tatarkiewicz, p. 117.

<sup>284</sup> Mann, p. 19.

<sup>285</sup> *Ibid.*, p. 21.

the five regular elemental solids “can be inscribed within a sphere, with all their apexes touching, identified by Plato as the “form of the atoms which produced all things at Creation.”<sup>286</sup> Hurtak confirms this notion in his discussion of the geometry of star mathematics [the interlocking of two pyramids] whereby “the pyramidal units in hydrogen atoms reveal a Star of David as a life giving form.”<sup>287</sup> As Kepler’s theory evolved, he observed that the “insphere-to circumsphere ratios” of the five solids “would locate the heavenly spheres in space around the sun” which “seemed to match with the ratios of the planetary motions.”<sup>288</sup> Kepler never lost his belief in the notion that the intervals within the spheres were underlined by the five solids.

The dodecahedron is an all encompassing model. Twelve geometrical pentagons are all interconnected, operating in an endless state of harmonics. In the *Timaeus* dialogue, Plato stipulates that the construction of the dodecahedron is that “which God used for arranging the constellations on the whole heaven.” (55c) Hurtak states that our bodies are aligned with a “biotransducer system” capable of activating the “pentagon geometries which operate within the human body,”<sup>289</sup> illuminating a hologram of harmonics. Here we would transcend duality and work together in unity consciousness. Hurtak refers to the Great Pyramid of Cheops as “a tetrahedron (within an octahedron), a perfect model for

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<sup>286</sup>Ibid., p. 20.

<sup>287</sup>*The Keys of Enoch*, p. 33.

<sup>288</sup>James, p. 145.

<sup>289</sup>*The Keys of Enoch*, p. 517.



the carbon atom, the model for the material grid of all living organisms on this planet.”<sup>290</sup>  
 The Great Pyramid is considered “the most precise grid of sacred geometries ever coded in stone,”<sup>291</sup> directly linked with other sacred areas of the world - Bolivia, Peru, Mexico, etc.

In the fifth book of the *Harmonices Mundi Libri V*, Kepler sought to formulate a musical harmonic system connecting musical ratios and the movements of the planets - the celestial universe. Unlike Pythagoras and Plato, Kepler’s observational evidence led him to postulate that it was not the distance but the speed of the planets from their central axis of revolution which determined pure musical harmonies. In addition, Kepler determined that the planets did not move in perfect circular motion but in elliptical orbits. He rationalized the angular velocities of each planet at its perihelion (closest to the sun) where the planets move most readily, and at its aphelion (furthest from the sun) where the speed of the planets diminishes. His ratios are a product of what he calls “diurnal movements,” that is, “the arcs that to a solar observer would appear to be traveled in the course of a twenty-four period at perihelion and aphelion.”<sup>292</sup> Inscribed by the five solids inserted within the successive spheres,<sup>293</sup> the following mathematical ratios are the musical

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<sup>290</sup>Ibid., p. 487.

<sup>291</sup>Ibid., p. 311.

<sup>292</sup>James, p. 152.

<sup>293</sup>To describe the five solids placed within the six planetary orbits, Caspar writes: “The earth is the measure for all other orbits. Circumscribe a twelve sided regular solid [dodecahedron] about it; the sphere stretched around this will be that of Mars. Let the orbit of Mars be circumscribed by a four sided solid [tetrahedron], the sphere which is described about this will be that of Jupiter. Let Jupiter’s orbit be circumscribed by a cube. The sphere circumscribed about this will be that of Saturn. Now,

intervals in a scale correlating almost precisely to all six planets (Mercury, Venus, Earth, Mars, Jupiter and Saturn):

Saturn perihelia/aphelial ratio was, more or less, 5:4, a major third; that of Jupiter's 6:5, a minor third; that of Mars 3:2, a fifth; that of earth 16:15, a semitone; that of Venus 24:25, barely equivalent to the Pythagorean comma; and that of Mercury 12:5, an octave and a minor third.<sup>294</sup>

A major third results from the differences in Saturn's orbit and the same differences apply to each planet and its mathematical ratio. Slight discrepancies occurred in his method which some modern scientists might deem as inaccurate results; however, James points out that "nowhere in Kepler's writings does he cut corners. Rather, he devotes pages and pages of ingenious explanation in *The Harmony of the Universe* to disposing of all those troublesome little fractions."<sup>295</sup> Furthermore, it is reasonable to surmise that earthly and celestial music will not duplicate each other but will rather be reflections of each other.

Kepler then began to produce ratios by pairing the planets to enable him to construct a musical scale. By doing this, Kepler found that "each of the planets has its own scale, which is also determined by its speed at perihelion and aphelion."<sup>296</sup> For example, James' table (Fig. 2-8) demonstrates the notation of Saturn as the gravest pitched and Mercury as the highest pitched:

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place a twenty sided figure [icosahedron] in the orbit of the earth; The sphere inscribed in this will be that of Venus. In Venus' orbit place an octahedron. The sphere inscribed in this will be that of Mercury." See Caspar's *Kepler*, p. 63.

<sup>294</sup>James, p. 152.

<sup>295</sup>Ibid., pp. 152-3.

<sup>296</sup>Ibid., p. 153.

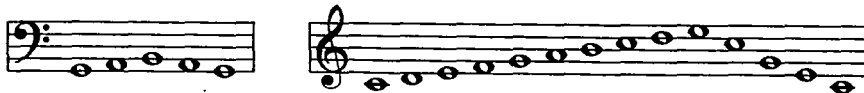


Figure 2-8: Musical Pitch of Saturn and Mercury<sup>297</sup>

(Interestingly, reference was made earlier to Mercury's ratio as an octave plus a minor third but is shown in Fig. 2-8 as an octave plus a major third.) Such celestial tones would not require staff notation because they would not be divided into what modern musicians realize as tones and semitones. Rather, James indicates that it would be "an eternal note that rises and falls continuously, like a trombone player forever moving his slide back and forth, or a violinist pushing his finger up and down a string."<sup>298</sup> Because the range for the scale of the earth is less than a semitone, James points out that it would be more like a 'vibrato.'

Another source, *Kepler's Geometrical Cosmology*, written by J.V. Field, points out how Kepler designated a particular musical voice to each planet: "The properties usually associated with the Bass are given to Saturn and Jupiter in the heavens, those of the Tenor we find in Mars, those of the Alto occur in the Earth and Venus, and the Descant's properties belong to Mercury."<sup>299</sup> Kepler proposed these musical observations stemming

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<sup>297</sup>Ibid., p. 153.

<sup>298</sup>Ibid., p. 153.

<sup>299</sup>J.V. Field, *Kepler's Geometrical Cosmology* (Great Britain: Cambridge University Press, 1988), p. 153.

from their relative pitch not as fact, which could not be confirmed, but as theory. James states:

Mercury...is the freest and swiftest, making it most like a soprano. The narrow range of the earth and Venus...makes them suitable altos ... As the tenor is free, but nonetheless progresses with moderation, so Mars...can make the greatest interval, namely a perfect fifth. And since the bass, like the alto, had to be doubled, the inaudibly deep scales of Saturn and Jupiter, just an octave apart, make them ideal for the part.<sup>300</sup>

Kepler's theories engendered enormous controversy from many of his contemporaries, including Fludd. Nevertheless, Kepler managed to advance the concept of the music of the spheres by using mathematics and astronomy, and preserved the cosmic vision of both Pythagoras and Plato.

The historical visions of the cosmic universe, initiated by Pythagoras, and developed by Plato, Fludd, the Cabbalists and Kepler, show a distinct correlation to numbers and to music. Pythagoras initiated the theory of the 'Divine Monochord' producing musical ratios in concordance with the universe. Fludd enhanced Pythagoras' monochord by outlining three realms related to the musical scale, and Kepler devised a musical scale for each planet. In accordance with the Pythagorean tradition, Plato's "Myth of Er" connects the order of the universe to numbers, and the specific numbers chosen for Er's journey hold sacred value in relation to the ascension process. All of the doctrines presented here develop the theory of the music of the spheres where divine music is heard beyond the realm of the physical plane.

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<sup>300</sup>James, p. 154.

## CHAPTER THREE: Music and Color

Mystics and modern-day spiritualists alike have presented associations between the orders of color and sound. Many theorists believe that Ptolemy (much of whose work stems from the Babylonian tradition of astronomy and numerology) was the first ancient scientist to have proposed a relationship between colors and tones. Referring to the connection between color and sound at the most superficial level, Percy Scholes in *The New Oxford Companion to Music* relates a common bond between the languages of art and music: “In discussing painting, we speak of ‘tones’ (‘quiet’ or ‘loud,’ or ‘low’ or ‘high’); in the parlance of music, we make use of ‘chromatic’ and ‘coloratura’ (both of them implying the introduction of tints - the former by the addition of notes extra to the diatonic scale, the latter by the addition of decorative passages to a simple melody).”<sup>301</sup> Both theorists and musicians, such as, L. B. Castel (drawing on the research of Isaac Newton - much of which was rejected by other scientists very quickly), Schoenberg and Skryabin, proposed concrete, linear arrangements between the two orders. Very little scientific evidence has ever been established. The experiments in which composers link sounds with color have been highly subjective, based largely on what the particular experimenter wanted to happen. Schoenberg, both a musician and painter, was influenced by the work of Russian Expressionist, Wassily Kandinsky. According to Glenn Watkins,

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<sup>301</sup>Scholes, Percy. “Music and Colour” in *New Oxford Companion to Music*, Denis Arnold - General Editor, vol. I, A-J (New York: Oxford University Press, 1983), p. 424.

in *Soundings*, Schoenberg adopted Kandinsky's color-emotion tables from his work, *Concerning the Spiritual in Art*, which proposed "a specific correlation between colors and emotional states and even associative instrumental timbres (e.g., yellow = trumpet fanfares)<sup>302</sup> (Kandinsky made some loose connection to music, which Schoenberg ignored, but the musical connection was strictly subjective). As an example, Watkins describes Schoenberg's demonstration of the "Wind-Light-Sound crescendo" in his opera, *Die glückliche Hand* (1910-13), where Schoenberg correlates Kandinsky's color scheme to the music: the opera moves "from a state of motionless morbidity (brown, green, violet) through a state of excitement (shades of red) to a climax in orange and yellow (which Kandinsky associated with insanity) and a final repose in a mild bluish vapor (celestial exaltation).<sup>303</sup> Others, like Hazrat Inayat Khan, Messiaen and Hurtak, link color and sound from scientific and spiritual perspectives; color and sound experienced beyond the limitation of human three-dimensional perspective (i.e. color permeating the sixth chakra [third eye] releasing inner geometries of color in conjunction with cosmic resonance [light vibrations] experienced during meditation, or for example, through the ascension process).

## Vibrations

There is general agreement amongst certain theorists that subtler mechanisms operate within the spectrum of colors and sounds. Certain levels of sound penetrate our existence

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<sup>302</sup>Watkins, Glenn. *Soundings: Music in the Twentieth Century* (New York: Schirmer Books, 1988), p. 163.

(“the ear can register from nine to eleven octaves of sound”<sup>304</sup>) yet others are inaudible to us. Likewise, we may not perceive all visible manifestations of color through our sense of sight because we are not sufficiently developed to respond to these subtler rates of vibration. Some philosophers, like Hall, indicate that “the eye is restricted to the cognition of but seven fundamental color tones, or one short of the octave,”<sup>305</sup> however, this is a questionable statement since it assumes a different definition of ‘fundamental’ - many researchers in light and color recognize far more than seven colors. Furthermore, an octave in music involves twelve pitches but the notes of an octave are named using only seven different letter names.

According to the definition of color and sound in *The New Oxford Companion to Music* “the sole genuine correspondence between sound and color is, indeed, that both are the effect of vibrations.”<sup>306</sup> The difference, however, lies in the rate of vibration: “Sound vibrations perceptible to the human ear range from about 16 to about 20,000 per second (individuals varying somewhat in the range of their aural perception; the second figure just given is that for the squeak of a bat, which some people cannot hear) and colour vibrations from about 451, 000,000,000,000 to 780,000,000,000,000 per second - covering the complete range of the spectrum from red to violet.”<sup>307</sup> Sound and color represent two

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<sup>303</sup>Ibid., p. 163.

<sup>304</sup>*The Secret Teachings of All Ages*, p. LXXXII.

<sup>305</sup>Ibid., p. LXXXII.

<sup>306</sup>*The New Oxford Companion to Music*, p. 428.

<sup>307</sup>Ibid., p. 428.

different orders of existence but they stem from the same source, uniting as a vibration. Inayat Khan maintains that “the original state of the whole creation is vibration... in its original condition vibration is inaudible and invisible, but in its first stage towards manifestation it becomes audible, and in its next step visible.”<sup>308</sup> Taken from the Vedas (any of the four books of the ancient Hindu scripture), he explains the Vedic principles of the audible stage referred to as “*nada* (sound)” or “*Nada Brahma* (sound the Creator/sound the creative spirit),” and the ensuing stage as “*jatanada* (light).”<sup>309</sup> Inayat Khan stipulates that there is unity in color and sound because all colors and variations of sound evolve from one source. With regard to music he states:

The different notes are the various degrees of breath: human breath, or the echo coming from a vessel, an instrument, or a bell, for that also is breath - the breath of human beings as well as the breath of objects. From the one breath many sounds manifest; so that takes one back to the idea of unity.<sup>310</sup>

Khan then attempts to show that all forms of color, like sound, emanate from a single source of light. Using the example of the light emanating from the sun, he states: “...the sun which has no particular color of its own, but the light of which plants partake manifests in the colors of their flowers.”<sup>311</sup> When we see the color of things in nature such as vegetables and plant life, what we are really seeing is the colors produced by the light,

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<sup>308</sup>Hazrat Inayat Khan, *The Mysticism of Sound and Music - A Sufi Message of Spiritual Liberty*, vol. II., (Rockport, Massachusetts: Element Books, 1991), p. 34.

<sup>309</sup>*Ibid.*, p. 34.

<sup>310</sup>*Ibid.*, p. 35.

<sup>311</sup>*Ibid.*, p. 35.



hence colors of the sun. “That which is called *Light*,” writes Hall, “is actually a rate of vibration causing certain reactions upon the optic nerve.”<sup>312</sup> In his text, *The Principles of Light and Color*, Edwin D. Babbitt (1828 - 1905) says that “Light reveals the glories of the external world and yet is the most glorious of all. It gives beauty, reveals beauty and is itself most beautiful. It is the analyzer, the truth-teller and the exposé of shams, for it shows things as they are.”<sup>313</sup>

### **Olivier Messiaen: Synaesthesia**

French composer and devout Catholic, Olivier Messiaen (1908-1993), produced a wealth of sacred music to which he ascribes three categories in order of their importance: ‘coloured’ music, ‘religious’ music and ‘liturgical plainchant.’ He was also interested in Indian and Arabic music, and was particularly fascinated with their rhythmic and melodic content (in his scores, Messiaen actually names the Indian/Arabic rhythms and melodic patterns) and these two influences produce a strong sense of mysticism permeating nearly all of his work. Adding to this sense of mysticism was his innate love for nature and bird songs. He collected bird calls all over the world and they form an important part of much of his music, including *Oiseaux exotiques* and *Chronochromie*.<sup>314</sup> The term

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<sup>312</sup>*The Secret Teachings of All Ages*, p. LXXXIII.

<sup>313</sup>*Ibid.*, p. LXXXIII.

<sup>314</sup>See David Mott’s programme notes in CD entitled *Virtuoso Piano Music of Our Own Time*, Christina Petrowska, pianist.

*synaesthesia*<sup>315</sup> is used to define ‘coloured’ music and is explained by Godwin as “the perceiving of sounds as colors and of colors as sounds, or perhaps of both as something not definable through either sense.”<sup>316</sup> Messiaen describes this sensation as an *éblouissement* - a ‘dazzling’ or ‘dizzying’ effect. He uses the example of a stained glass window to suggest that when we stare at it “we do not understand, we are *éblouis*.” Godwin draws on Messiaen’s speech, *Recherches et expériences spirituelles* (Paris, December 4, 1977), to summarize his belief:

This experience puts us in touch with another reality. It shows us that God is beyond words, thoughts, and concepts. Most of all, it prepares us for the life to come in the Resurrection Body, when we will know God. This knowledge will be a perpetual *éblouissement*, an eternal music of colours, an eternal colour of music.<sup>317</sup>

Analogous to the thoughts of Messiaen are those of Rudolf Steiner (1861-1925, founder of the Anthroposophic movement - a form of theosophy associated with Steiner), presented by him in a lecture on music. He says: “when a sufficient degree of spiritual consciousness or initiation has been attained, the Astral world is experienced as a glorious play of light and colours, indeed as being oneself light and colour.”<sup>318</sup> Steiner interprets the transition into the higher divine spheres as an “angelic world” or “Devachan (*deva* =

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<sup>315</sup>*The New Harvard Dictionary of Music* defines the term synaesthesia as “a given stimulus within the domain of one sense (sound waves) [which] elicits percepts belonging to the domain of another sense (images). (1986, p. 179.) The German word for ‘sound-color’ is *Klangfarbe*.”

<sup>316</sup>*Harmonies of Heaven and Earth*, p 59.

<sup>317</sup>*Ibid.*, pp. 59-60.

<sup>318</sup>*Ibid.*, p. 67.

angel or lesser god in Sanskrit).” Godwin points out that ascension into Devachan is initiated by the ‘sounding of a tone’ simultaneous with the display of a spectrum of color.

In applying a color to the first sounding tone, Hurtak considers the color red to be the first to have unfolded from the higher spheres. In his work, *Harmonics of Light, Color and Sound*, Hurtak expands on this notion citing several reasons for his belief: “Red is the most important color in hydrogen... red is the beginning of nature, the color of fire, the beginning of the color spectrum, the primal color of the rainbow, of blood.”<sup>319</sup> Hurtak associates the first sound of the original scientific phenomenon labeled the ‘big bang’ (a hydrogen eruption) with the color red. He refers to Metraton, who, “in the language of Enoch,” considers red as “one of the primal emanations from the higher states of creation which allowed the divine self to be embodied or intuned in the matrix of three-dimensional form.”<sup>320</sup> From the other perspective, when one is being prepared for stages of spiritual advancement into the higher divine spheres, Hurtak says that the color of “reddish lavender” is the initial color that is seen.<sup>321</sup> Others, like Skryabin and Kandinsky connected different shades of blue to the highest levels of spiritual advancement. With advanced initiation one experiences “celestial music churned by a vast array of colors... not for the audible ear, but for the inner spiritual ear.”<sup>322</sup>

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<sup>319</sup>*Harmonics of Light, Color & Sound*, part II, side b.

<sup>320</sup>*Ibid.*, part II, side b.

<sup>321</sup>*The Keys of Enoch*, p. 150.

<sup>322</sup>*Ibid.*, p. 390.

## James Hurtak: Nogan Shells

Many theorists, like Hurtak and Edwin Babbitt believe that we are members of a universe (microcosm) within universes (macrocosm). Discussing psychological states from a metaphorical stance, not the physical universe we inhabit Babbitt states:

The condition of things which we inhabit is not the real universe, but the mere shadowy outer shell of being, while the real cosmos is so much more intense and swift and powerful than the grosser grade of materiality around us that the latter compares with the former somewhat as a mist compares with a solid substance.<sup>323</sup>

Most astronomers would agree. Hurtak confirms Babbitt's notion in his explanation of what he calls "Nogan shells: The spherical screen of colors created around the energy force field of man through which your body vehicle, as your natural soul, is prepared to momentarily be united with [celestial music and] the 'Living Light.'"<sup>324</sup> Color and sound are "the modeling ground structures which shape the visible and invisible *nogan* shells from all preexisting geometries."<sup>325</sup> Alignment is enhanced through the intonation of sacred language which activates color codes; assigned to each of the seven chakras are seven 'basic' colors which, according to Hurtak, when harmonically aligned, "merge with myriad colors to aid the body for spiritual development" where "Man will [then] see other

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<sup>323</sup>*The Principle of Light and Color*, p. 186.

<sup>324</sup>*The Keys of Enoch*, p. 593.

<sup>325</sup>*Ibid.*, p. 283.

forms of color that he presently cannot work with.”<sup>326</sup> This enables a transformation to occur in the ‘biochemical DNA-RNA’ structure of the physical body (perfecting genetic patterns), generating a higher vibratory body of Light, and such “preparation,” says Hurtak, is “necessary for the infusing of the Christ Body of Light.”<sup>327</sup> In the ascension process one passes through a spectrum of colors with the *nogan* acting as a cloak “helping you code into those higher realities of luminosity and color which you do not normally see, but exist.”<sup>328</sup> Your physical body is wrapped in a garment of color to protect your soul from the dualistic forces. In describing the aura of colors, Hurtak begins by saying that the “holy sanctuary [one’s soul] begins to glow...and the colors of white, loving-kindness, and red, power, are seen melting into a blue and purple background of knowledge and wisdom, surrounding the mind and unfolding the forces of Hokmah (*Sephirah*, Wisdom).”<sup>329</sup> Hurtak believes that color and sound are the most essential orders involved in soul evolution.

### **Ted Andrews: Chakras**

Before ascension can occur, all seven chakras must be completely balanced. This is achieved by unifying the color and harmonic codes of the body, enhanced by the use of

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<sup>326</sup>*Ibid.*, pp. 150/298.

<sup>327</sup>*Ibid.*, p. 290.

<sup>328</sup>*Ibid.*, p. 593.

<sup>329</sup>*Harmonics of Light, Color & Sound*, part I, side a.

sacred language. Andrews presents a chart correlating the chakras to tones, mantras, colors, attributes, and healing properties, beginning with the first chakra:

<b>Chakra</b>	<b>Tone</b>	<b>Mantram</b>	<b>Color</b>	<b>Attribute</b>	<b>Healing Property</b>
Root	Middle C (Do)	Lam	Red	Vitality, kundalini, life force.	Circulation, low blood Pressure, colds and shocks.
Spleen	D (Re)	Vam	Orange	Creativity, reserve energy, sexual.	Muscles, reproduction, Detoxifying, emotional balance, sexuality.
Solar Plexus	E (Mi)	Ram	Yellow	Inspiration, intellect, wisdom, psychism.	Digestion, laxative, headaches, adrenals.
Heart	F (Fa)	Yam	Green	Love/healing, balance.	Heart trouble, lungs, ulcers, Hypertension, circulation.
Throat	G (Sol)	Ham	Blue	Clairaudience, cooling, relaxing.	Throat, fevers, asthma, lungs, Thyroid.
Brow	A (La)	Aum/Om	Indigo	Third eye, clairvoyance, spirituality.	Purifier (blood), obsessions coagulant, sinuses, head- aches, stroke afflictions.
Crown	B (Ti)	Om	Violet	Christ Consciousness, inspiration.	Soothing to nerves, stress Confusion, neurosis, insomnia, skeletal problems.
Soul Star	High C	Om	Purple	That part of the soul linked to matter, link to our true spiritual essence.	Building the Body of Light, key to burning away negative thought forms that hinder Physical and spiritual health for discipleship.

Figure 3-1<sup>330</sup>

According to Andrews, the mantras, most often chanted, have the power to change one's auric field; to decrease or abolish negative energies and restore synthesis to our physical, emotional, mental or spiritual components. Tones of the musical scale and colors resonate with each of the major chakras of the body. Concentrating on a particular tone in

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combination with the visualization of a specific color are conducive to healing - opening up the energy flow within the body - necessary for balance and spiritual evolution.

### **Hurtak: Mantras**

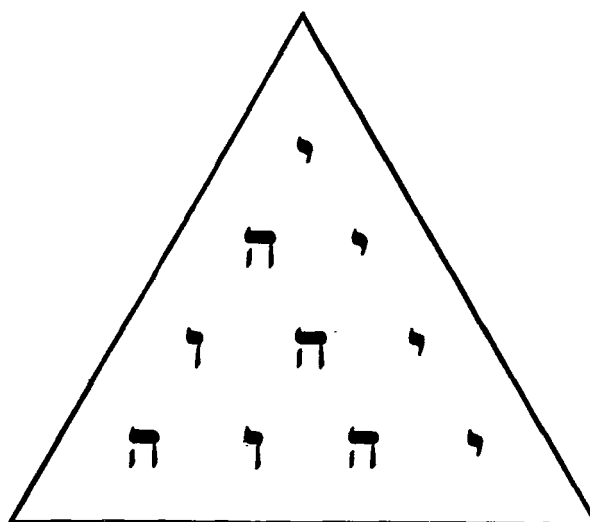
In the process of working with mantras, the use of sacred god-names invokes energies that resonate with the body. Andrew suggests that “when we tone the names, we are aligning ourselves to that aspect of the divine creative intelligence represented by the name. When the sound of the divine name vibrates throughout our body and our consciousness, we bring our energy into resonance with it.”<sup>331</sup> An elaborate compilation of the Names of God can be found in Hurtak’s, *The Seventy-Two Sacred Names of the Myriad Expressions of the Living God*. Each sacred name in the text is outlined by a specific color design and geometry (*Gematria*) used in combination with the sounding of each name; a myriad of colors in conjunction with the utterance of the Divine Language is activated by the third eye, namely, the inner mind. One of the many researchers of vowels and harmonics in correlation with divine names, names most often consisting purely of vowels, is composer Karlheinz Stockhausen. One example can be found in Stockhausen’s prophetic composition, *Stimmung*, written for six voices. The text is comprised of the names of the Gods, drawn from various religions, with emphasis placed on specific harmonics enhanced by particular vowels.<sup>332</sup> According to the Hebrew Cabbalists, one of

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<sup>330</sup>Andrews, p. 99.

<sup>331</sup>Ibid., p. 94

the best known examples is the Tetragrammaton (YHWH), outlined in the following Pythagorean tetractys, containing the 72<sup>333</sup> great names of Gods:



THE TETRAGRAMMATON.

By arranging the four letters of the Great Name,  $\text{H V H I}$  (I H V H), in the form of the Pythagorean Tetractys, the 72 powers of the Great Name of God are manifested. The key to the problem is as follows:

$$\begin{array}{r}
 \cdot = \text{I} = 10 = 10 \\
 \cdot \cdot = \text{H I} = 5+10 = 15 \\
 \cdot \cdot \cdot = \text{V H I} = 6+5+10 = 21 \\
 \cdot \cdot \cdot \cdot = \text{H V H I} = 5+6+5+10 = 26 \\
 \text{The Great Name of God} = 72
 \end{array}$$

Figure 3-2: The Tetragrammaton outlined in the tetractys<sup>334</sup>

With respect to the *Twenty-Four Elders* mentioned in *Revelation*, Hurtak reports that they operate on the highest level of a “Father universe” and are the ones “who sit in the presence of YHWH [and] behold all seventy-two faces of the Father unfolding into the infinite manifestations of the Father in glorified bodies of Light.”<sup>335</sup> Hurtak highlights

<sup>332</sup>*The Mystery of the Seven Vowels*, p. 53.

<sup>333</sup>The number 72 is significant since it comprises the “legendary number of translators of the Septuagint [the Greek version of the Old Testament], that is, the number of scholars who produced identical Greek versions of the Hebrew Bible during the years 278-270 B.C.” (See *The Myth of Invariance*, p. 109.)

<sup>334</sup>*The Secret Teachings Of All Ages*, p. CXIV.



the importance of 72 from a scientific perspective, elaborating on the idea of ‘divine superscripts’ in relation to the “music of the spheres”:

In the lower heavens, the divine superscripts operate within a thirty-six and thirty-six flow pattern for the music of the spheres. Seventy-two open-ended scales of vibration propagate the emanations of divine thought into material form. The flow pattern is a storehouse for harmonics in our universe.<sup>336</sup>

The ‘divine superscripts’ are a reference to the Ten Commandments of “Thou shall be” which, according to Hurtak, are “ten pyramidal grids of astro-harmonics [Divine harmonics equivalent to geometric patterns of mathematical perfection] used to code man,<sup>337</sup> restructuring his genetic programming [aligning the seven chakras/colors] via the ‘flow pattern’ [vibratory harmonics] in preparation for man’s higher evolution.

Symbolically, the ‘thirty-six and thirty-six’ relates to the Deca-Delta system; Deca is a reference to ‘Ten Light emanations,’ akin to the *Sephirothic* Tree of Life, and the four sides of the pyramid symbolize the Delta. When considering the ‘pyramid relationships of music’ Hurtak stipulates that ‘the thrust is up and inward in terms of an eventual outward spiral into a new myriad relationship of color.’ According to Hurtak, ancient musicians understood the interpretation of the “music of the spheres” to symbolize “the Christed Overself or the divine Adam Kadmon,<sup>338</sup> the divine self dawning or descending and

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<sup>335</sup>*The Keys of Enoch*, p. 373.

<sup>336</sup>*Ibid.*, p. 461.

<sup>337</sup>*Ibid.*, p. 460.

<sup>338</sup>Referring to the ‘Adam Kadmon’ Hurtak says, “The Light manifestation...who have evolved beyond body form as Man knows it. The Light Body that has the ability to take on any form necessary to create and teach all manner of thinking creation, including super-species creations which exist as energy

interconnecting the seven planets [seven chakras/colors] with a higher Golden octave or a Golden spectrum that would define a new Era/Kingdom.”<sup>339</sup> In essence, this ‘flow pattern’ is a bringing forth of the ‘Adam Kadmon.’ Rooted in color and sound, ancient theories regarding sacred god-names are globally integrated, derived from Sanskrit, Tibetan and Chinese lineage.<sup>340</sup>

### **Ragas of Northern India**

In all Sanskrit treatises the notes of a scale each have their own distinct expression and are applied to particular moods, colors or energy centres of the body (chakras). The *ragas* of Northern India are an example of the collaboration of color and sound in generating balance and order to the body and soul. In his text, *The Raga-s of Northern Indian Music*, Alain Daniélou outlines nine moods in relation to musical modes (*ragas*<sup>341</sup>) which are then applied to a system of pitches and colors.

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entities. The **Adam Kadmon** is bestowed upon the Light Body which becomes an extension of YHWH.” (see “The Keys of Enoch, p. 566).

<sup>339</sup>*Harmonics of Light, Color & Sound*, part II, side a.

<sup>340</sup>See the Introduction to Hurtak’s, *The Seventy-Two Sacred Names of the Myriad Expressions of the Living God*. (Los Gatos, CA: The Academy For Future Science, 1989).

<sup>341</sup>The primary feature of a *raga* is to create a particular mood with the intent of evoking powerful emotions.

Moods	Sanskrit words	Mode
1. love	<i>shringāra</i>	<i>Madhyama</i> (fourth) and <i>Panchama</i> (fifth) - applied to moods one and two.
2. laughter	<i>hāsya</i>	
3. compassion	<i>karuna</i>	<i>Nishāda</i> (minor seventh) and <i>Gāndhāra</i> (minor third).
4. heroism	<i>vīra</i>	<i>Shadja</i> (tonic) and <i>Panchama</i> (or <i>Rishabha</i> , second) - applied to moods four, five and eight.
5. wrath	<i>raudra</i>	
6. fear	<i>bhayānaka</i>	<i>Dhaivata</i> (sixth) - applied to moods six and seven.
7. disgust	<i>bībhatsa</i>	
8. wonder	<i>adbhuta</i>	
9. peace	<i>shānti</i>	<i>Madhyama</i>

Figure 5-3<sup>342</sup>

He then associates these modes with specific tones and colors:

<i>Shadja</i>	(C, the tonic) is bright like the petals of a lotus.
<i>Rishabha</i>	(D) is like the parrot.
<i>Gāndhāra</i>	(E flat) is golden.
<i>Madhyama</i>	(F) is like jasmin.
<i>Panchama</i>	(G) is dark (or, of the color that attracts). [That which attracts is called 'Krishna' (dark).]
<i>Dhaivata</i>	(A) is yellow.
<i>Nishāda</i>	(B flat) is of all colors.

Figure 5-4<sup>343</sup>

This color chart is unique in the concept of color expressing a vivid pictorial image, partly a reflection of the symbolized nature of Sanskrit itself.

Hall's account of "The Philosophy of Color" explores the spectrum of color in relation to the Babylonians and Tibetan mythology. Referring to L. Austin Waddell's writing on Northern Buddhist art in *The Buddhism of Tibet*, Hall points how, in Tibetan mythology, colors are related to particular moods: "White and yellow complexions usually typify mild moods, while the red, blue, and black belong to fierce forms, though

<sup>342</sup> Alain Daniélou, *The Raga-s of Northern Indian Music* (London: Barrie & Rockliff (Barrie Books Ltd), 1968), p. 93.

sometimes light blue, as indicating the sky, means merely celestial.”<sup>344</sup> Some persons generally correlate sharp keys with joyful and harmonious moods (luminous colors) and flat keys with solemn and temperate emotions (darker colors).

### Skryabin and Rimsky-Korsakov

Akin to Messiaen’s interest in the synaesthesia of color and sound, are the ideas of Russian composers Skryabin and Rimsky-Korsakov. During a discussion in 1902 they expressed their interest involving these two orders, publishing systematic color charts in a ‘circle of fifths’ arrangement based on subjective, personal theories:

Key	Rimsky-Korsakov	Skryabin
C major	White	Red
G major	Brownish-gold, bright	Orange-rose
D major	Yellow, sunny	Yellow, brilliant
A major	Rosy, clear	Green
E major	Blue, sapphire, sparkling	Bluish-white
B major	Sombre, dark blue shot with steel	Same as above
F# major	Greyish-green	Bright blue
D flat major	Dusky-warm	Violet
A flat major	Greyish-violet	Purple-violet
E flat major	Dark, gloomy, bluish-grey	Steel-colour with metallic lustre
B flat major	--	Same as above
F major	Green	Red

Figure 3-5<sup>345</sup>

Although some of the colors are similar in association the only exact concurrence is D major and yellow. Characteristic of both these charts is the outline of the color scheme

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<sup>343</sup>Ibid., p. 93.

<sup>344</sup>*The Secret Teachings of All Ages*, LXXXIV.

which could suggest the following application: the highest section from C to A major incorporates radiant, expressive colors; from E to F# major, blue and white are predominant, suggestive of an ethereal, spiritual nature; the remaining ascending fifths are darker, proposing a more mysterious and unrevealing realm.

The theory of color has been explored in relationship to man, matter and the trinity, connected, in turn, with sounds and planets. Investigating the esoteric philosophy of the East, H.P. Blavatsky (1831-1891), founder of the Theosophical society, shows the relationship between pitch, color, the seven levels of man and matter:

Pitch	Color	Principles of Man	States of Matter
B	Violet	<i>Chaya</i> , or Etheric Double	Ether
A	Indigo	Higher <i>Manas</i> , or Spiritual Intelligence	Critical State called Air
G	Blue	Auric Envelope	Steam or Vapour
F	Green	Lower <i>Manas</i> , or Animal Soul	Critical State
E	Yellow	<i>Buddhi</i> , or Spiritual Soul	Water
D	Orange	<i>Prana</i> , or Life Principle	Critical State
C	Red	<i>Kama Rupa</i> , or Seat of Animal Life	Ice

Figure 3-6<sup>346</sup>

Unlike Skryabin and Rimsky-Korsakov's tone-color charts, which move in a circle of fifths, Madame Blavatsky's chart progresses stepwise diatonically.

## George Gurdjieff

George Gurdjieff (1877-1949), from whom the Institute for the Harmonious Development of Man originated, was inspired by Hermetic wisdom (the prominence of

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<sup>345</sup>*The New Oxford Companion to Music*, p. 426.

<sup>346</sup>*The Secret Teachings of All Ages*, p. LXXXIV.

numbers in relation to laws). He designed a system called the ‘Law of the Octave’ or ‘*Heptaparaparshinokh*,’ a process which “follows a distinct series of steps and ends up at a point analogous, though not identical, to its beginning,”<sup>347</sup> like the process in the musical scale. Gurdjieff created a sevenfold cosmic scheme related to the Western diatonic scale, intended to give cosmological meaning to the tones of the scale.

C'	The Absolute as All
B	All created worlds
A	Our galaxy, the Milky Way
G	Our solar system; the Sun
F	The planetary world
E	The Earth
D	The Moon
C	The Absolute as Nothing

Figure 3-7: Gurdjieff’s cosmic scale<sup>348</sup>

Although Gurdjieff’s design outlines a hierarchical dimension it was not the authors’ intent to exclusively bind it to this particular structure. The tones of the scale are “qualitatively different from one another, but such that a higher (or lower) pitch is not ‘superior’ to its neighbor.”<sup>349</sup>

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<sup>347</sup>*Harmonies of Heaven and Earth*, p. 168.

<sup>348</sup>*Ibid.*, p. 170.

<sup>349</sup>*Ibid.*, p. 171.

## The Spectrum of Seven Rays

Godwin shows how Gurdjieff's scale can be conceived equally well as the depiction of the septenary as a Pleroma: "the fullness of manifestation on any or all levels into which flow the seven primal differentiations of God's power."<sup>350</sup>

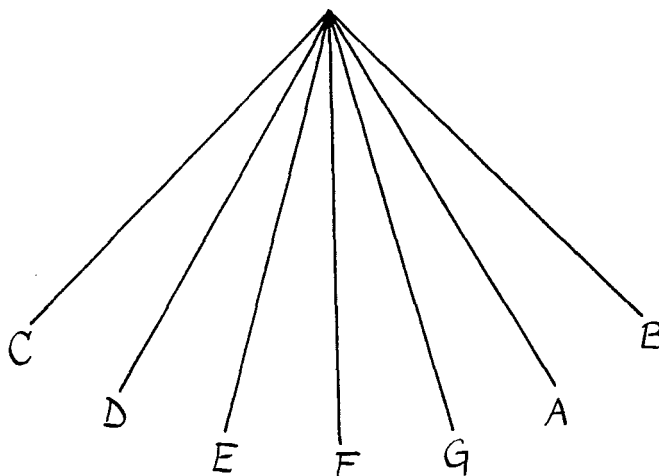


Figure 3-8: The Scale as the Seven Rays<sup>351</sup>

From Godwin's design all seven levels unfold equally as a reflection of God's power. The notion of the 'Seven Rays' (a notion expanded upon in many theosophical studies - for example, H.P. Blavatsky's *The Secret Doctrine*) dividing light into a spectrum of seven colors is analogous to Gurdjieff's musical scheme.

The idea of the spectrum consisting of seven colors, which originated with mathematician and astronomer Sir Isaac Newton (1642-1725), has been subject to

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<sup>350</sup>Ibid., p. 171.

<sup>351</sup>Ibid., p. 171.

considerable criticism. Newton presented his theories of color and light in his dissertation entitled *Opticks* (1704). Scholes indicates that Newton, using prisms and lenses in his scientific experiments:

laid out a scheme of seven chief colors (red, orange, yellow, green, blue, indigo, violet) and remarked on analogies that he found between these and the seven different notes of the diatonic scale. These analogies were based on the breadth of the seven colour-bands in the spectrum and the seven string lengths required to produce the scale.<sup>352</sup>

Later scientists challenged his idea recognizing color spectrums that go beyond Newton's seven colors. Their primary criticism was that Newton recognized indigo (between blue and violet) as a fundamental color, but did not recognize other intermediary colors.<sup>353</sup>

Hurtak's definition of the 'Seventh Ray' further develops the preceding ideas. I shall quote from Hurtak at some length, as this passage exemplifies quite clearly the concept of the 'Seventh Ray':

This Ray is used by the higher Lords of Light to combine the mathematical frequencies of color within sound ranges that are not audible to the human ear [and] can move entire octaves of Light measurement to function in the new mathematics of 12-24-36 and 72 tones; this is the foundation on which Man can receive the music of the spheres. This scale of musical function is a vibration which functions in every vibration of light, in every pitch of music and on every factor of a diminishing chord structure, which draws together the music of the spheres and its corresponding color form, into the right geometries not of lines nor of curves but of floating Light grids. When people are coded into the Seventh Ray of Light, they have the ability to participate in whatever dimension of Light uses that function... this is the Ray of the *Adonai Tsebayoth*, the Host which visits on the seventh level of Light.<sup>354</sup>

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<sup>352</sup>*The New Oxford Companion to Music*, p. 428.

<sup>353</sup>*Ibid.*, p. 428.

<sup>354</sup>*The Keys of Enoch*, pp. 282-3.



Hurtak's definition shows how the culmination of the color spectrum, called the 'Seventh Ray,' operates in conjunction with the music of the spheres. When Hurtak proposes 24, 36 and 72 tones we may assume that he is referring to micro-tones, specific sounding tones which initiate a vibration to which a certain energy responds in a given light dimension, activating, in turn, a geometry of color frequencies. Color does have frequency with vibrations in the thousands of trillions of pulses per second far above the human visible range. Since Hurtak is referring to the music of the spheres, these colors and sounds may only be perceived by those operating in spheres above the physical plane (i.e. the ascension process into the eighth sphere and beyond). In *The Discourse on the Eighth and Ninth*, drawn from the "Nag Hammadi," the initiate asks the Lord to ingratiate all souls with the collage of colors from the septenary structure of the Pleroma: "Lord, grant us the truth in the image. Allow us through the spirit to see the form of the image that has no deficiency, and receive the reflection of the Pleroma from us through our praise."<sup>355</sup> Hurtak refers to the eighth and ninth as rays having higher color coding functions which can only be internalized when all seven colors have been integrated into the idea of the 'Seventh Ray.'<sup>356</sup>

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<sup>355</sup>*Nag Hammadi*, p. 324.

<sup>356</sup>*The Keys of Enoch*, p. 282.

## Colors, Musical Notes and Planets

Ancient mystics noted the significance of color in association with the *Elohim*, (“seven Creators of the inferior spheres) shown as streams of force issuing from the mouth of the Supreme Deity,<sup>357</sup> the Eternal *Logos* (God). Hall indicates that “this signifies the spectrum being extracted from the white light of the Supreme Deity.”<sup>358</sup> Related to this idea is the structure of the tetractys (explained earlier on page 37); the first three dots represent the Eternal Creator God, “the threefold White Light... containing potentially all sound and color” and the remaining seven dots represent the *Elohim*, the “colors of the spectrum and the notes of the musical scale.”<sup>359</sup> The Babylonians were apparently aware of this notion. “The famous *zikkurat* or astronomical tower of the god Nebo at Borsippa [which] ascended in seven great steps or stages, each step being painted in the key color of one of the planetary bodies.”<sup>360</sup> To show a mutual arrangement of colors to planets, we must first set forth the relationship between colors and musical notes. A number of relationships have been previously documented, but according to Hall, the most plausible system is formulated upon the ‘law of the octave,’ a principle analogous to Newton’s scheme:

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<sup>357</sup>*The Secret Teachings of All Ages*, p. LXXXIV.

<sup>358</sup>*Ibid.*, p. LXXXIV.

<sup>359</sup>*Ibid.*, p. LXXXIV.

<sup>360</sup>*Ibid.*, p. LXXXIV.

Red	Orange	Yellow	Green	Blue	Indigo	Violet
<i>do</i>	<i>re</i>	<i>mi</i>	<i>fa</i>	<i>sol</i>	<i>la</i>	<i>ti</i>

Figure 3-9<sup>361</sup>

This system is considered satisfactory for two reasons. Firstly, painters generally assign three primary colors to the general scheme of colors - red, yellow, and blue -<sup>362</sup> which correlate with the root, third and fifth of the musical scale (C,E,G). Secondly, the sixth degree of the scale corresponds to indigo, and the seventh degree in this scheme (the seventh note, B), plus the color violet are considered the 'least perfect' within their fields. To show the relationship between colors and the musical notes from the bottom of scales, based on C (red) to B (violet), Babbitt states the following:

As C is at the bottom of the musical scale and made with the coarsest waves of air, so is red at the bottom of the chromatic scale and made with the coarsest waves of luminous ether. As the musical note B requires 45 vibrations of air every time the note C at the lower end of the scale requires 24, or but little over half as many, so does extreme violet require about 800 trillions of vibration of ether in a second, while extreme red requires only about 450 trillions, which also are but little more than half as many.<sup>363</sup>

Babbitt maintains that for each additional musical octave twice as many vibrations are produced. The same law is inherent in color in that each color becomes "finer" to the eye

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<sup>361</sup>Ibid., p. LXXXIV.

<sup>362</sup>It is interesting to note the ideas of ancient philosophers such as Pythagoras, Aristotle and Plato regarding primary colors and light, for they are quite different in comparison to modern day thought: "Pythagoras had *yellow, red, white, and black* as the primaries; Aristotle called *yellow, white and black* the three primary colors; Plato supposed that an inward fire in the organ of the eye caused the effect of light; just as Pythagoras recognized hot vapor emanation as causing the effect of light." (See Babbitt's *The Principles of Light and Color*, p. 108.). These ideas would indicate that accurate proposals regarding such principles were difficult even for the greatest of ancient philosophers.

<sup>363</sup>*The Secret Teachings of All Ages*, p. LXXXIV.

when the vibrations double.<sup>364</sup> Hall outlines a relationship between musical tones and planets that correlates with the color analogy based on the ‘law of the octave’:

Mars	Sun	Mercury	Saturn	Jupiter	Venus	Moon
<i>do</i>	<i>re</i>	<i>mi</i>	<i>fa</i>	<i>sol</i>	<i>la</i>	<i>ti</i>
Red	Orange	Yellow	Green	Blue	Indigo	Violet

Figure 3-10<sup>365</sup>

Hall also shows the correlation between colors, and the twelve signs of the zodiac: “To Aries is assigned pure red; to Taurus, red-orange; to Gemini, pure orange; to Cancer, orange-yellow; to Leo, pure yellow; to Virgo, yellow-green; to Libra, pure green ; to Scorpio; green-blue; to Sagittarius, pure blue; to Capricorn, blue-violet; to Aquarius, pure violet; and to Pisces, violet-red.”<sup>366</sup> Comparable to the twelve zodiac colors presented by Hall is Andrews chart aligning the twelve zodiacal signs, commonly arranged in the shape of a wheel, which govern the parts of the body. The chart is based on the chromatic scale beginning with middle C (fig. 5-11). Andrews does not directly apply a color scheme to this chart but he does correlate crystal and stones to the seven chakras which, for the most part, follow the color - zodiac scheme presented by Hall (i.e. tone C - Smoky Quartz [and all red stones], D - Carnelian, Citrine [and all orange stones], E - Citrine, Topaz [and all yellow stones], F - Rose Quartz, Amethyst, Tourmaline [and all green stones], etc.).<sup>367</sup>

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<sup>364</sup>Ibid., p. LXXXIV.

<sup>365</sup>Ibid., p. LXXXIV.

<sup>366</sup>Ibid., p. LXXXIV.

<sup>367</sup>Andrews, p. 207.

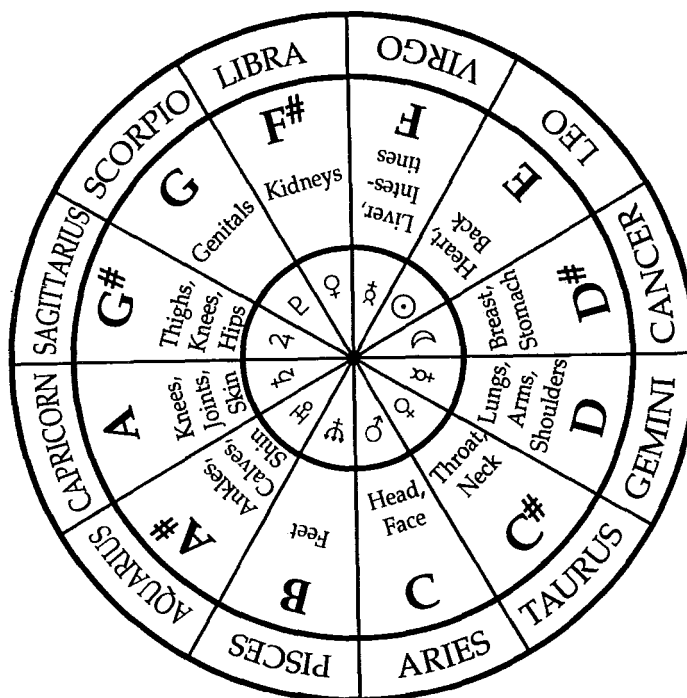


Figure 3-11: Astrological and tonal correspondence reflecting the energies of each individual sign<sup>368</sup>

These astrological energies, linked with specific color combinations, tones (vibrations) and planets can affect the energies within us capable of restoring homeostasis to the body (i.e. influencing healing capacities) and elevating soul consciousness levels. Andrew's chart is just one example that illustrates the doctrine rooted in traditional astrology, linking the twelve signs to the body with Aries at the head to Pisces at the feet. Many other tonal-astrological relationships have been established. Rudolph Steiner, for example, presented his own tonal-zodiac association based upon tonal fifths. For Pythagoras and Kepler, correlation's were based on mathematical relationships. Andrews maintains that these

“correspondences may seem arbitrary at times for the modern spiritual student” but he suggests that “it is important to breathe as much significance into whatever system is employed,” for in this manner “the associations become a tool to assist in the developing of growth and perception beyond the tangible.”<sup>369</sup> Hurtak indicates that when the mind and body are sufficiently prepared to advance into a “higher circulatory system,” other major color harmonics will be harmonized with the seven colors of the chakra system within man. This will occur with the help of advanced “forms of intelligence” that will assist in “respatializing” man, enabling him to “exist in other planetary environments.”<sup>370</sup>

### **Louis Bertrand Castel**

A theory culturally situated in Western tonality is presented by Jesuit scientist Louis Bertrand Castel (1688-1757) who published *La musique en couleurs*. In 1724, intrigued by Athanasius Kircher’s *Musurgia universalis*, Castel began his investigation into the correspondence between colors and tones. He had read that “if, during a beautiful concert, we could see the air agitated by all the tremblings caused in it by the voices and instruments, we would be astonished to see it suffused with the brightest and most various of colors.”<sup>371</sup> Inspired by Newton to some degree, Castel’s principle hypothesis concerns

<sup>368</sup> *Ibid.*, p. 55.

<sup>369</sup> *Ibid.*, p. 53.

<sup>370</sup> *Harmonics of Light, Color & Sound*, part II, side b.

<sup>371</sup> Joscelyn Godwin, *Music and the Occult - French Musical Philosophies 1750-1950* (Rochester, New York: University of Rochester Press, 1995), p. 12.

the series of colors between black and white and those colors produced from these extremes. He then correlated these colors to various tones in music. In his *Optique des couleurs*, Castel investigated his theory of color by sticking a poker into a fire. “The colors of the iron changed from black to blue, then to purple, red, yellow and finally white” showing him that “all visible colors are situated between black and white, just as all audible tones lie between the inaudible limits of the too-high and the too-low.”<sup>372</sup> After the color black, the first color to unfold is blue, to which Castel applies the tone C.<sup>373</sup> The other tones follow:

Deep blue, as I have said, always carries within itself the birth of red. Is it not the C-string that makes the dominant G sound? Red is certainly the dominant color of nature. Now, the deepest shade of red is always a degree less deep than blue, which gives it birth by increasing in brightness [...] And yellow, whose nature makes it a degree brighter than red, seems to be the exact correspondence to the tone E, all the more so since, when one raises blue two degrees of brightness by mixing in white, and raises red a degree above its natural pitch to bring them both to the level of E, then the latter finds itself naturally positioned between blue and red, just as E is between C and G in the diatonic order of the scale.<sup>374</sup>

In addition to the three primary colors, Godwin notes that “Castel added two more, green and ‘aurore,’ so as to make five ‘tonic colors’ complet[ing] the diatonic scale with two ‘semitonic colors’: violet, and *violant* (an old dyers’ term for a hue tending towards violet).”<sup>375</sup>

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<sup>372</sup>Ibid., p. 13.

<sup>373</sup>Many, like Castel, relate the seven color spectrum to a C major scale which only claims precedence over other scales by convenience. This raises the question as to why such a simplistic and superficial scale is utilized when just as convincing a case could be made for any other scale.

<sup>374</sup>*Music and the Occult*, p. 13.

C	D	E	F	G	A	B	(C')
BLUE	green	YELLOW	aurore	RED	violet	violant	(BLUE)

Figure 3-12<sup>376</sup>

The following sketch is an expansion of Castel's diatonic scale. Here he inserts "half shades" to furnish all twelve tones of a chromatic scale:

C	C#	D	D#	E	F	F#	G
BLUE	celadon	GREEN	olive	YELLOW	AURORE	orange	RED
G#	A	A#	B	(C')			
crimson	VIOLET	agate	VIOLANT	(BLUE)			

Figure 3-13<sup>377</sup>

Twelve different shades are revealed from the darkest to the lightest color. Castel presents a color system that correlates to the twelve notes of the chromatic scale to which "twelve shades of every color correspond[s] to the twelve octaves,"<sup>378</sup> totaling the number 144.

None of these color/pitch concordances agree, showing how arbitrary and subjective this process is. Even though one may not be convinced by such an argument, Godwin maintains that what is of utmost relevance is that "all 'esoteric' color-systems are based either on the sevenfold division of Newton, or on the triple one (black, colors, white) of Castel."<sup>379</sup>

<sup>375</sup>Ibid., p. 13.

<sup>376</sup>Ibid., p. 14.

<sup>377</sup>Ibid., p. 14.

<sup>378</sup>Ibid., p. 14.

<sup>379</sup>Ibid., p. 13.



## Abbe Lacuria

In “The Pythagoreans of Mid-Century,” chapter six from his text *Music and the Occult*, Godwin introduces the writings of Christian Hermeticist Abbe Lacuria (1808-1890) and his philosophy regarding the Holy Trinity, in relation to colors and the tones of the diatonic scale. Referring to the concept of duality which governs all aspects on the physical level, Lacuria proposes that every “creature” is that of “being and non-being” to which both are “equally admirable” because they are “considered as God’s ideas.”<sup>380</sup> To expand on this notion Lacuria discusses the forces of light and shadow. Light may symbolize for many “good,” but, shadow, “the manifestation of non-being,” can, according to Lacuria, symbolize goodness as well, “as, for example, in the case of the protecting shadow of Jehovah’s wings.”<sup>381</sup> From such opposing forces, Godwin says that “there is always a third element that makes harmony [God].”<sup>382</sup> Essential to Lacuria’s scheme is the harmonic resonance operating in conjunction with “seven divine attributes,” (evolving from his theological studies) seven colors, seven tones and the Trinity:

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<sup>380</sup>Ibid., p. 130.

<sup>381</sup>Ibid., p. 131. In Psalms, chapter 63, verse 7, King David kneels before Jehovah, saying “You have proved to be of assistance to me, And in the shadow of your wings, I cry out joyfully.” The parting of the clouds allow David to visualize the Tetragrammaton, understood in Hebrew theology as *Adonai* (the Lord).

<sup>382</sup>Ibid., p. 131.

Life	Liberty	Harmony	Holiness	Wisdom	Justice	Eternity
Red	Orange	Yellow	Green	Blue	Indigo	Violet
C	D	E	F	G	A	B
Father		Spirit		Son		

Figure 3-14<sup>383</sup>

Lacuria assigns the major chord, C-E-G, to the Trinity. The minor triad, C,E,A, corresponds to the “Son [who] enters into non-being in taking birth on earth... that of the Incarnation, whose tonic [is] A.”<sup>384</sup> The remaining tones, B-D-F, are considered “intermediary” and are applied to both major and minor modes. In his explanation concerning tones and the “divine attributes” he states: “E and F correspond in the scale to Harmony and to Holiness, which is the love of harmony. B and C correspond to Life and to the Memory that is the consciousness of [Eternal] life. E-F is thus the semitone of love which gives itself, B-C the semitone of the inner need of aspiration.”<sup>385</sup> Although Lacuria’s color scheme differs from that of Castel, three primary colors are again applied to the three tones - C-E-G - of the musical scale although the order is not consistent.

The association between these orders of color and sound is highly arbitrary and subjective - no ‘natural’ association exists. Without doubt, light and color permeate our bodily existence, both affecting and influencing our mind and emotions. Color and sound are healing remedies and the more accomplished one’s light vibration the more apt one will be to heal oneself or others. Although the eye and the ear are different types of sensory preceptors, differing degrees of discord and concord affect emotion and

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<sup>383</sup>Ibid., p. 131.

<sup>384</sup>Ibid., p. 132.

temperament according to altered combinations of sound and color. Darker colors (i.e. black, brown) are associated with discordant harmonies holding little intrinsic spiritual value whereas brighter colors (i.e. yellow, blue) correlate to a more harmonious state and, therefore, a higher spiritual consciousness, all of which opens the pathway to the experiential interplay of Light, unearthly color and the “music of the spheres.”

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<sup>385</sup>Ibid., p. 131.

## Conclusion

The certitude that existed in the ancient traditions of a musical cosmos embracing aspects of the mystical were sundered in the Renaissance with its concentration on science in the physical world and Descartes' philosophical division of matter from intelligence. Only in the last half of our century has there been a renewed concentration of Western thought regarding music, the universe and spiritual enlightenment - a new system embodying metaphysical realities. The metaphysical nature of the disparate cosmological doctrines presented by such philosopher-theorists as Pythagoras, Plato and Boethius may seem paradoxical and difficult to rationalize when expressed through language. However our relationship to music in this context deals more with the supernatural and that which we feel, rather than the language of reason. Non-linear language transcends the written and spoken word, focusing on expanding states of consciousness for the purpose of communicating on hierarchical levels of heightened awareness. As human beings, man (microcosm) is a reflection of the structure of the macrocosm, the phenomenal universe and, in essence, the Creator. Both music and the human soul are aspects of the eternal. Our physical matter acts as a mask that does not merely constitute the make-up of our bodies. A divine seed within us, our soul is moved by the mystical essence of music.

The central aim of both Pythagoras' system and of Western philosophy established a relationship between man, the finite, and the cosmos, the infinite. A sublime cosmic order

presides in the movement of the heavenly bodies modified by number, color, planet and zodiac-tone theories, penetrated by a theosophical nature. Pythagoras was a mystic and a principal thinker in the science of philosophy, mathematics, music and cosmology, and a primary source of esoteric tradition. He expressed his theories using mathematics as the basis for the structure of the universe. An important example of this is Pythagoras's symbolic tetractys. Pythagoras is generally credited with the discovery of the system of mathematical interrelationships, and with demonstrating music's foundation on musical intervals defined by mathematical ratios.

Plato explicitly subscribed to the Pythagorean concept of a musical universe founded on mathematical principles of harmony, establishing Pythagoras's vision of a musical cosmos. In Plato's *Timaeus*, he presents a cosmogonic view underlined by a mathematical-musical division outlining the creation of the cosmos and what he refers to as the 'world-soul.' Plato's "Myth of Er" reveals the relationship of earthly music to the celestial spheres in accordance with the musical scale, describing each planetary sphere in correlation to one pitch; the Sirens, each of whom stands on one of the eight whorls rotating around the earth singing a note, together producing a harmony.

Boethius distinguished two kinds of music, *musica humana* and *musica mundana*, revealing an essential mystical congruency. The revival of these ancient disciplines, linking the transcendental essence between man and the cosmos, was further developed by Robert Fludd. He presented cosmic schemes rationalizing the visible and invisible properties of the universe, illustrating cosmological systems through the union of a musical-numerical correspondence. Fludd showed harmonious relationships between human and celestial

realms using the symbolic monochord, producing several schemata with shifting viewpoints. Another follower of Pythagoras and Plato was Johannes Kepler who discovered that the heavenly bodies were not circles but ellipses. His study of the structure of the cosmos adhered closely to an idealistic system of an ordered universe governed by mathematical music.

Modern thinkers of the twentieth century, like Joscelyn Godwin, James Hurtak, Robert Lawlor and Manly Hall, recognized the views by such philosopher-scientists as Pythagoras and Kepler, recasting the metaphysical tradition for the modern mind. With reference to sound, number and color, various modern-day theories have been proposed. Musicologists like Ęrno Lendvai and Roy Howat have shown how numerological schemes of subtler inner constructions in relation to music have been revealed in the musical compositions of Bartók and Debussy - namely the Golden Proportion and Fibonacci series that permeate some of music's inherent structure. Some thinkers assert that one aid on the path to a spiritual awakening is the use of mantras. Invested with symbolic meaning and cosmic significance, mantras, combined with concentrated attention on the inner vision of the third eye, produce inner quietude allowing one to rise above ego-bound consciousness. After man's descent into the physical body, higher spiritual aspects were lost. Many believe the rediscovery and recovery of spiritual illumination is enhanced by music in alliance with color, making possible the ascent through the spheres and the emancipation of the spirit from the flesh. The seven planets are congruent to the seven energy centers of the soul (chakras). A necessary journey through them is the prelude to a successful manifestation of the eighth sphere and beyond - an ascension process where

man evolves into the emergence of celestial music. Experiencing the seven chakras simultaneously in alignment creates a sense of oneness - a union with the inner organization of the Godhead, the divine symbol of the Holy Trinity, and the four-fold Tetragrammaton, YHWH - shedding initial preconceptions of a dualistic separation. Schoenberg, Messiaen, Rimsky-Korsakov and Stockhausen are just a few examples of composers who believed in the integration of color and sound in creating order and balance within the body and the soul - a theory embedded in many ancient traditions. When a sufficient degree of spiritual consciousness or initiation has been attained, the cosmic world is experienced as an interplay of color and sound, bringing us into a relationship that may seem abstract and void of intellectual understanding, but which permeates the cells of our bodies, our emotions, and overall existence. Throughout the ages numerical harmony served as a means of relating various realms of experience, whether of matter or spirit.

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