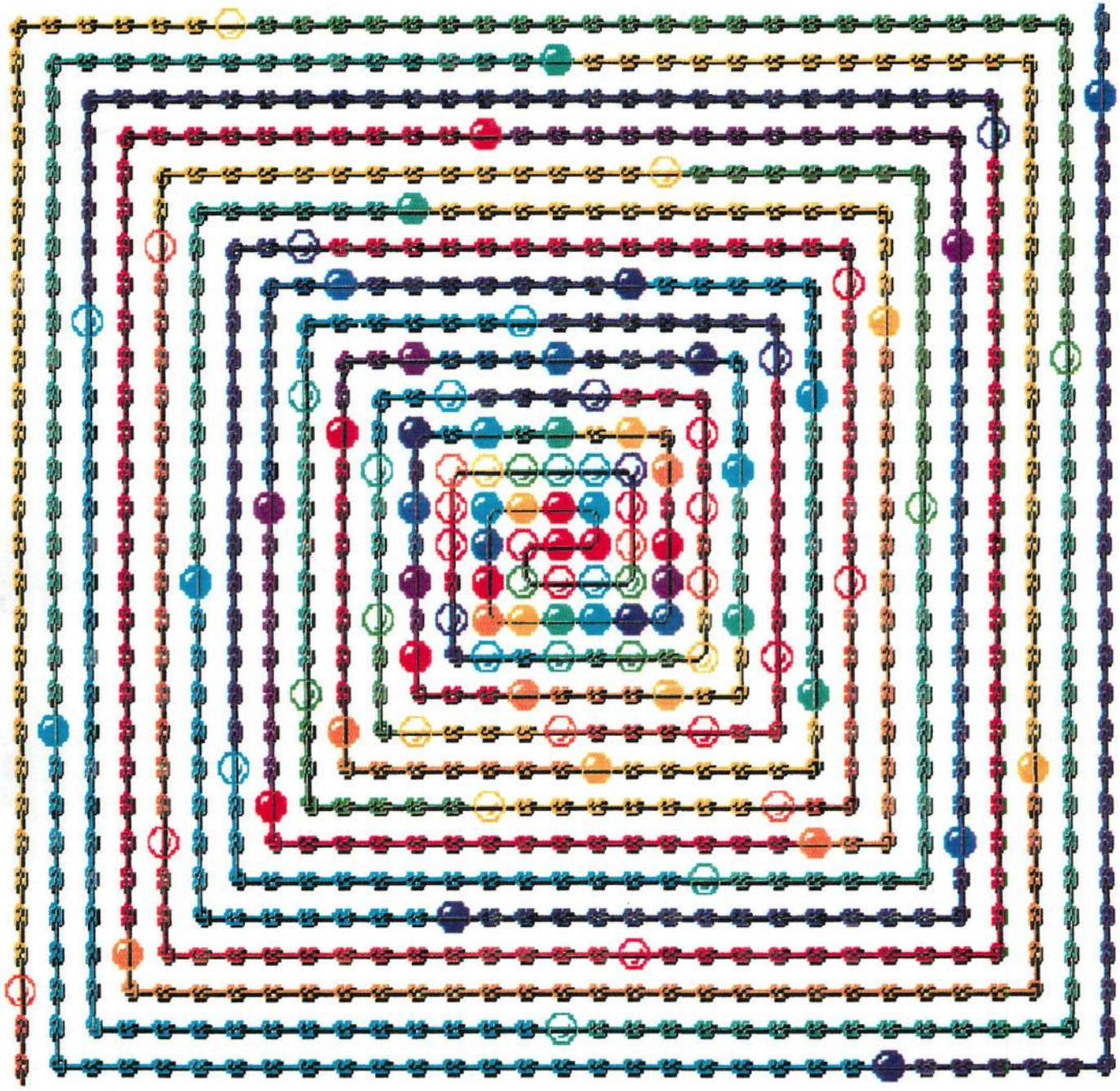
THE GLASS BEAD AND KNOT THEORY OF RELATIONSHIPS



Barbara Hero

Second Edition

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ACKNOWLEDGMENT

My thanks go to the following people who have been so helpful in facilitating this work: Robert Miller Foulkrod who has computer generated many of the figures and tables, including the cover - Richard Norley who has generated and scanned figures and tables, and formatted this booklet - all the kind people among the many audiences who have requested that this information be made available - and to all the future generations who may find this a stepping stone to their own discoveries of the importance of translating frequencies, colors, and all other phenomena into harmonic relationships.
Barbara Hero, June 7, 1996

COVER ILLUSTRATION

This cover illustrates a type of bead necklace which reflects the color-coding of the Lambdoma overtone and undertone series. Beginning in the center all reds are the notes C, all oranges D, all yellows E, all greens F, all blues G, all indigos A, and all violets and lavenders Bs. They are arranged in an ordered sequence of the Lambdoma harmonic series. This string of beads on the front cover is similar to the colors and placement of the beads of Figure 1. THE LAMBDOMA CHAKRA MEDITATION NECKLACE on page 2.

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DESCRIPTION OF FIGURES 10, 11, 12, AND 32 AND TABLES 19, 20, 21, AND 27

Figure 10, page 18. LAMBDOMA MATRIX OF LISSAJOUS FIGURES (FOURTH QUADRANT)

These figures called "Lissajous" were generated by an algorithm using the arc tan of the Cantor Array (Lambdoma Matrix). These figures are also generated electronically when a fundamental frequency is sounded and any other harmonic in a 8 by 8 or 16 by 16 matrix is also sounded. A laser scanner device vibrates two mirrors which then create the shapes on a screen when the intervals chosen are sounded. It is important to realize that audible sound also has characteristic shapes when a harmonic array is used based on ratios which follow the Lambdoma Array. The fundamental frequency of 1:1 . . . n:n will always form a circle when two voices are singing in the same musical pitch. If a man and a woman sing an interval exactly one octave apart by halving or doubling the given frequency, a figure eight will always result. The title includes the FOURTH QUADRANT as the array is in the fourth quadrant of the Cartesian coordinates.

Figure 11, page 19. TIME COMPARISON WITH RATIO, RAY SPIRAL, LISSAJOUS FIGURES

By comparing the ratios and notes in Table 1, and the visual symbols in Figure 9 and Figure 10 which all code the Lambdoma Array in different systems they can all be compared with the frequencies and notes of the Tables 12 through 15 which represent the frequencies of the periods of time.

For example, 1 second is coded as a 1:1 ratio multiplied by 2 to the nth power until it reaches an audible reference frequency of 256 cps, (Table 5). The 1:1 ratio forms a Lissajous circle in one case, and the same ratio also forms a Cartesian coordinate along with an isometric coordinate in the case of the Spiral Array. One day (as a ratio of 3:2 at 388 cps.) forms a Lissajous fish like shape, while the Spiral forms a galaxy type figure. These comparisons are examples of a kind of symbolic logic. These comparisons also illustrate the differences in the counting of time from seconds, to days, to weeks in terms of musical harmonic ratios.

Figure 12, page 20, I CHING LAMBDOMA MATRIX

This matrix is one more example of coding the Lambdoma Array into symbols. In this case the matrix is represented by the ancient Chinese I Ching trigrams. Each trigram has its own particular quality. This was only one attempt to assign the qualities of each trigram to the intervals on the Lambdoma matrix. The P, Q, R, S, T, U, V and W scale notation was deemed necessary to focus attention on the Lambdoma Harmonic scale, and unlock from the 12th root of 2, Western non-harmonic scale notation. *Reference: Book, "The Lambdoma Resonant, Harmonic Scale (P, Q, R, S, T, U, V and W)" by Barbara Hero.*

Table 19, page 30, FREQUENCIES AND MUSICAL NOTES RELATIVE TO LIGHT YEARS, ONE LIGHT YEAR EQUALS 272 CPS = Db NOTE

Robert Miller Foulkrod designed a computer software program to determine the musical frequency of a star system if the distance in light years is known. This program was used to determine the musical frequencies and their corresponding musical notes of the star systems on page 21, Table 6. *Reference: Cassette, "Music of Our Organs" by Barbara Hero*

Table 20, page 31. CHAKRA CYCLES BASED ON HOURS OF THE DAY

These correspondences of times of day with the chakra energies somewhat reflect the ragas of India, where each time of day has a musical articulation. For example, music sung or played in the key of F at 7:00 am in the morning might keep one in tune with the cycles of the day. F is assigned the heart chakra energy of unconditional love. The musical key of D at 8:00 am might awaken the polarity energies of creativity. The key of C represents the grounding energy of the root chakra at 9:00 am. At 10:00 am the 3rd eye of clairvoyance might be sounded in the key of B^b. Then at 11.00 am the psychic center of A^b might be stimulated. The key note of G at 12 noon might signal the time of communication. The keynote of Eb at 3:00 pm reflects the solar plexus energy of mental and emotional combined. *Reference: Cassettes, "Lambdoma Chakra Meditations" by Barbara Hero et al. and "Music of Our Organs" by Barbara Hero*

Table 21, page 32. CHAKRA CYCLES BASED ON DAYS OF THE MONTH

The same system (used in Table 20) may apply to the days of the month for finding the keynotes of each day. One day is equal to a frequency of 388 cps G a throat or communication chakra energy. The seventh day at 443 cps B^b might reflect the clairvoyance of the 3rd eye chakra. The keynotes of each day might bring a focus of the qualities inherent in chakra energies to measurements of time in our daily lives.

Tables 25 and 26, page 36. RATIOS OF FREQUENCIES TO DECELERATE ENERGY IN ORDER TO HELP OTHERS DEAL WITH THE ACCELERATION OF ENERGY ON THE PLANET

The voice can be used to apply this principle of retardation. First, sound the lowest comfortable pitch of the voice. Then find the note on a piano (for example) which might match the keynote, when you sound your most comfortable pitch in a higher range. The ratio of 15:16 is the second note of your keynote scale (i.e. Do is your keynote and **Re** is the second step). The ratio of 16:15 is the eighth note, **Ti** of your keynote Do , Re, Mi, Fa, Sol, La, Si, Ti and Do. The ratios 8:15 and 15:8 are also the second and eighth intervals on the scale, **Re** and **Ti**. Slide your voice up and down these intervals to feel their effects.

Reference: Cassette "Music of Our Organs" by Barbara Hero

Table 27, page 38. FUNDAMENTAL FREQUENCIES FOR THE "LAMBDOMA HARMONIC KEYBOARD"

This chart was used so that the sounds might be played in lectures using the Lambdoma Harmonic Keyboard and sounding the keys with the ratio notations (Figure 14) when the fundamental pitch was tuned to the Sun's orbital frequency around our galaxy. Figure 14 is the First quadrant of the Lambdoma Harmonic Keyboard which allows the musical intervals from 1:8 through 8:1 to be played.

Reference: Paper, Proceedings 1995 United States Psychotronics Association. Article "A Brief History of the Lambdoma" Xenharmonikon 16, Autumn 1995

Figure 32, page 68. TETRA-HARP, 3rd Eye, Heart and Dolphin

The Tetra-Harp was conceived after recalling that Pythagoras played a 3-sided lyre. The harp was conceived by Barbara Hero and Marcia Epstein. The Tetra-Harp, commissioned by Barbara Hero, was designed and fabricated by T. Gordon Anderson. It was designed to have a Lambdoma harmonic tuning of intervals based upon the overtone series of 256 cps C-. The Dolphin side of the harp had the harmonic scale of C, C, G, C, E-, G, B^b, c, d, e-, f# and g. The other two sides of the harp were tuned to a somewhat chromatic scale of 12 strings., one tuned to C the other to G.

Reference: Paper, Proceedings United States Psychotronics Association, 1996.

PREFACE
to
GLASS BEAD AND KNOT THEORY OF RELATIONSHIPS

SECOND EDITION

This book was originally prepared as notes for an art/mathematics conference at the University of Albany in New York. It then became a manual that I took with me to refer to when giving other lectures and workshops on harmonics. It included the Lambdoma table of frequencies and wavelengths to be used to determine the musical harmonics of lecture rooms, as well as other data that I had compiled. It became a reference manual with which I could make analogies between space/time, symbols, and other phenomena which could be translated into musical harmonics.

Therefor, much of the material consists of visual figures and tables which are basically self- explanatory. Then some of the participants at the conferences began asking that these notes be made available to others. Finally, people wanted copies of the overheads from the lectures so that they could be studied. Because of these requests, the booklet has been expanded during the past several years.

This book is a growing concord of data, analogies, ideas conceived and it is my hope that it will give others a foundation from which to dig further to discover other links which may be applied to musical laws from atomic elements to planets and star systems. The book contains a new vocabulary of symbols and frequencies, reciprocals and patterns which may tie together apparently dissimilar phenomena. The most definitive experiences may be enhanced by sounding the exact frequencies, electronically generated by simple software computer programs. For those not well versed in computer programming, these relationships can be experienced even by playing some of the notes on a piano or on other more traditional instruments.

The inspiration for the title came from a book by Hermann Hesse "**Magister Ludi** The Glass Bead Game", a story about a futuristic society based upon musical harmonies, as I interpreted it. It is for this reason that the notes start with a description of how a necklace might be constructed based upon a theory of harmonics and color-coding (The Lambdoma). Each bead represents a musical note (frequency), a fixed order and a color-code.

My thought is that if we could translate all phenomena into a musical vocabulary we might see the Universe in a slightly different way, perhaps as a unified field theory of harmonics. If we could find a way to translate between the physics of matter and consciousness, and translate the laws of human interaction into a musical vocabulary, we could build our structures in accordance with harmonic laws, sound our voices in harmonic intervals with each other and keep our thoughts in harmony with our higher selves for the greater good. We would live lives of fulfilled expectations of our world harmonics.

GLASS BEAD AND KNOT THEORY OF RELATIONSHIPS

By: Barbara Hero

One can take a set of whole number integers (1, 2, 3, 4, ..) , choose a limit of 450, start at a center point of a 29 by 31 matrix and count counter clockwise. [Cover figure] The numbers from 1 to 16 encompass a line which has the following one to one relationship with musical notes in the key of C (using C as 256 cycles per second):

1, 2, 4, 8 & 16 = the musical note C

3, 6 & 12 = the musical note G

5 &10 = the musical note E

7 & 14 = the musical note B^b

9 = the musical note D

11 = the musical note G^b

13 = the musical note A^b

15 = the musical note B

These notes (harmonics) are color coded in their appropriate colors, attributed to Pythagoras (c 500 BC), and are represented by colored beads. When the next set of eight beads is drawn, the beads (from the sixteenth harmonic through the thirty-first harmonic) are each separated by one knot.

The beads, in the next set of eight beads, are each separated by three knots, and in the next set the beads are separated by seven knots. The formula for the number of knots between beads is 2^n -1. Therefore, the beads of the next set of eight beads are each separated by fifteen knots.

The significance of this method of counting is that one can determine the range and the boundaries of the eight distinct musical intervals as their numerical frequencies (in cycles per second) are increased. In this version of the *Glass Bead and Knot Theory of Relationships* the knots are colored the same as the bead preceding them. [Cover figure] By just glancing at the figure the pattern of the beads becomes clear.

The hollow beads represent the subharmonic intervals relative to the chosen fundamental and are color coded as well as representing the mirror image or inverse of n or (1/n). There is no zero in the entire line. The number line runs as follows:

1/450, ..., 1/3, 1/2, 1/1, 2/1, 3/1, ..., 450/1.

A quantum leap of an entire octave is encompassed in the ratios from 1/1 to 2/1 and from 1/1 to 1/2. It is not until the eighth harmonic, 8/1, that a sequence of colors from red to yellow-orange to yellow to blue-green to blue to purple to blue-purple to red-purple occurs. The sequence of colors becomes different when one counts down from 1/8 to 1/16 on the subharmonic scale:

8	RED	1/8	RED
9	YELLOW-ORANGE	1/9	BLUE-PURPLE
10	YELLOW	1/10	BLUE
11	BLUE-GREEN	1/11	BLUE-GREEN
12	BLUE	1/12	GREEN
13	PURPLE	1/13	YELLOW
14	BLUE-PURPLE	1/14	ORANGE
15	RED-PURPLE	1/15	RED-ORANGE

REFERENCE: 1) Hermann Hesse - Magister Ludi (The Glass Bead Game) - Translated from the German Das Glasperlenspiel, by Richard and Clara Winston, Bantam Books, New York City, 1986.

LAMBDOMA CHAKRA MEDITATION NECKLACE

By: Barbara Hero

Figure 1 is a gray tone print showing the construction details for a Lambdoma Chakra, Meditation necklace. The original of this drawing is in color to indicate the color choice of gem stones and beads to use. There are seven different arrangements chosen to match the seven major chakras in the body. There is another layout for the Psychic Chakra. Figure 1 describes the gem and bead layout fitting for the energy of the crown Chakra.

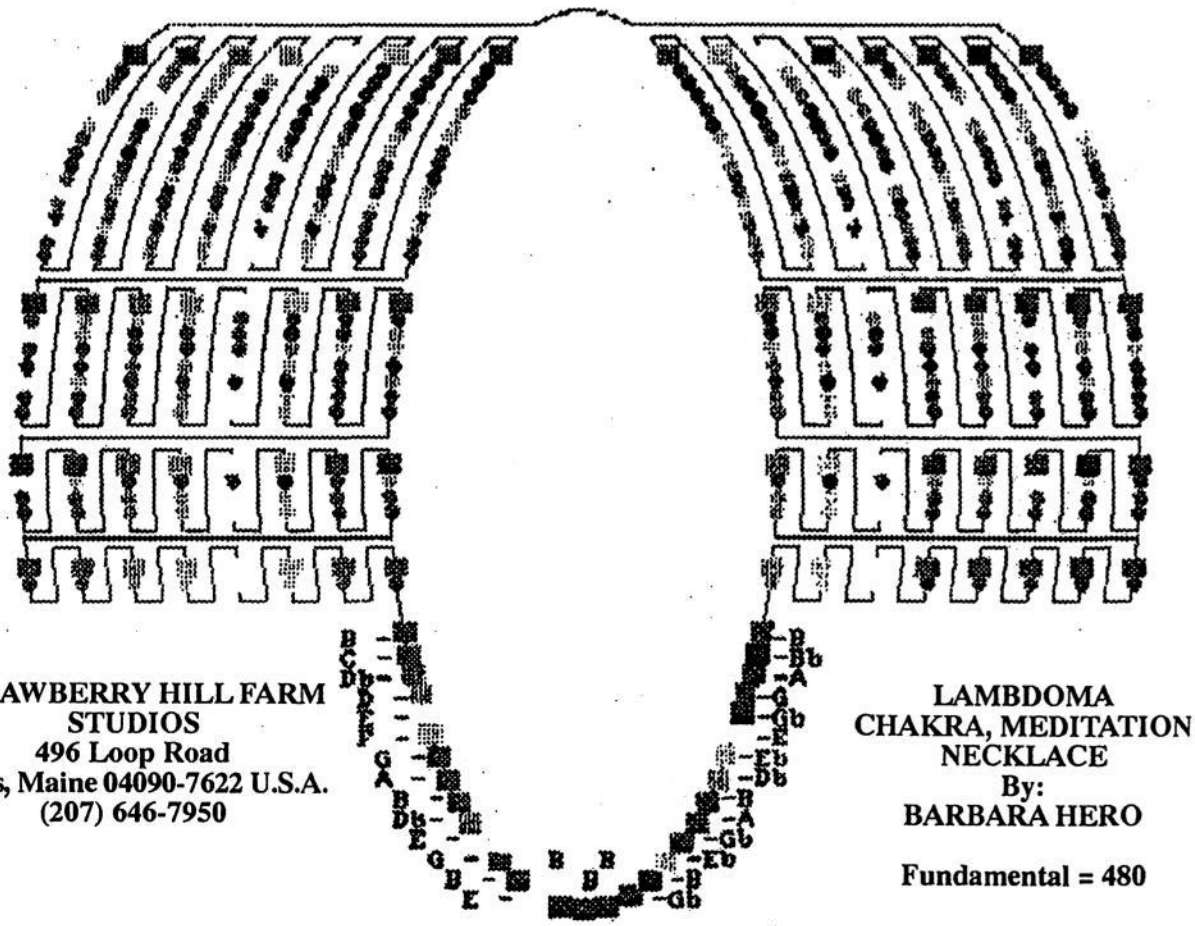
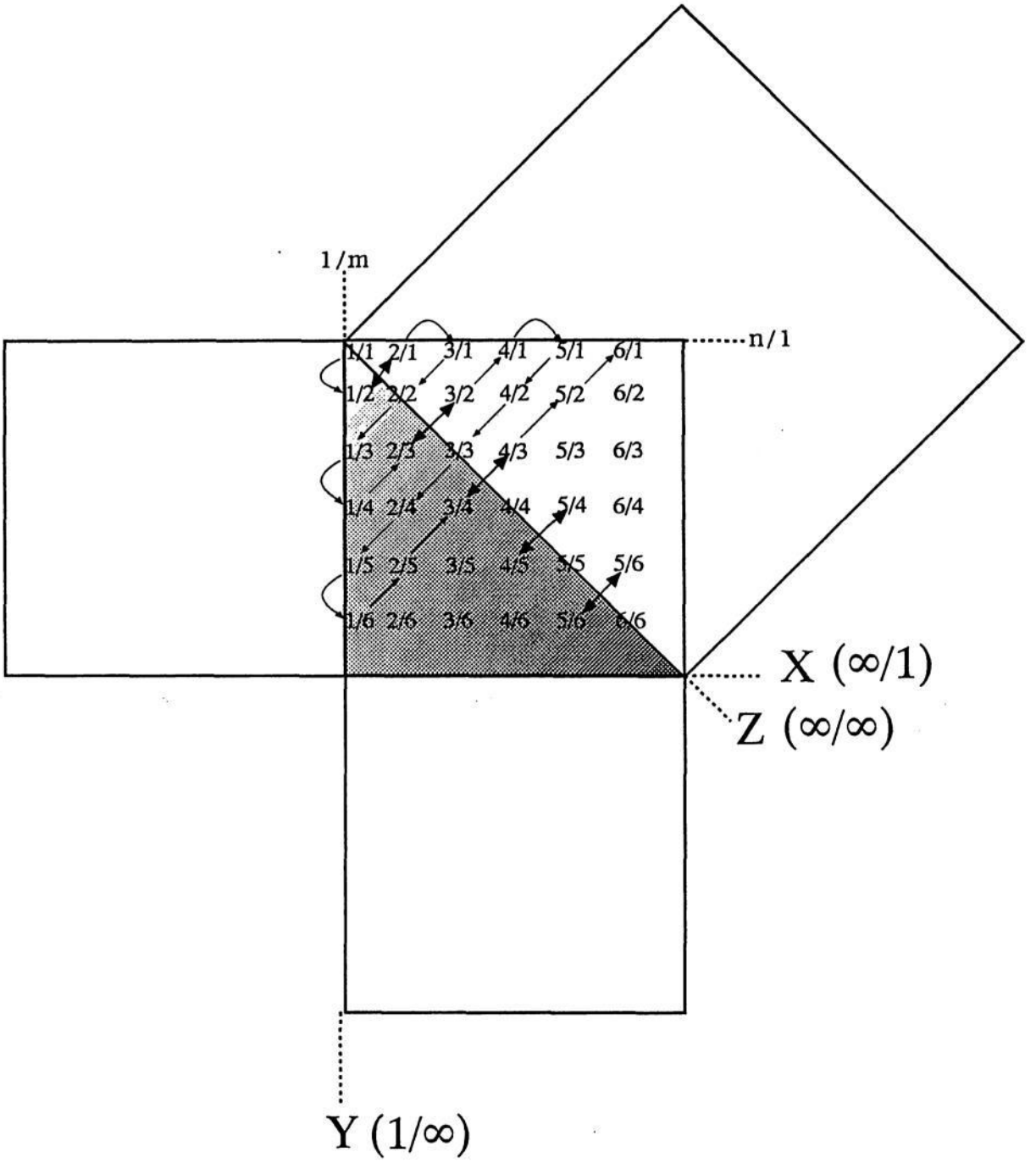


Figure 1



IAMBLICHUS (NEO-PYTHAGOREAN)/CANTOR ARRAY

Figure 2

CANTOR'S NONDENUMERABLE CLASSES

"1. The class of transcendental numbers is not only infinite, but also not countable, i.e., nondenumberably infinite.

2. The real numbers between 0 and 1 are infinite and not countable.

3. A *fortiori*, the class of all real numbers is nondenumerable.

To the noncountable class of real numbers, Cantor assigned a new transfinite cardinal. It was one of the alephs, but which one remains unsolved to this day. It is suspected that this transfinite, called the "cardinal of the continuum," which is represented by c or C, is identical with $\aleph_1$. But a proof acceptable to most mathematicians has yet to be devised."*

*Mathematics and the Imagination.
Edward Kasner & James R. Newman. Simon and Schuster 1940/1967.

Figure 3

Cantor's Color-Coding

**"A simple geometric interpretation of the class of all one-valued functions *F* is the following:
With each point of a line segment, associate a color of the spectrum. The class *F* is then composed of all possible combinations of colors and points that can be conceived."***

*Mathematics and the Imagination.
Edward Kasner & James R. Newman. Simon and Schuster 1940/1967.

Figure 4

THE FIRST SET IS THE SET OF ALL RATIONAL NUMBERS.*

Between 0 and 1 lie the rational numbers:

$1/2, 2/3, 3/4, 4/5, 5/6, \ldots, n/(n+1), \ldots;$

Between 0 and 1/2 lie the rational numbers:

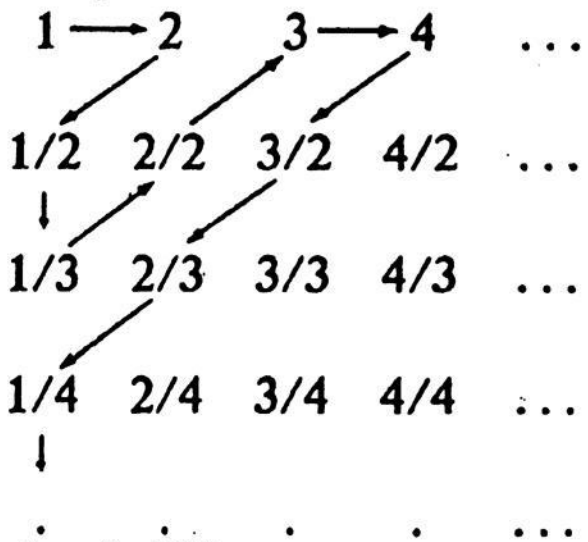
$1/3, 2/5, 3/7, 4/9, 5/11, \ldots, n/(2n+1), \ldots;$

Between 0 and 1/3 lie the rational numbers:

$1/4, 2/7, 3/10, 4/13, 5/16, \ldots, n/(3n+1), \ldots;$

Theorem 1. ***The set of all rational numbers is denumerable.***

Consider the array:



*Great Moments in Mathematiecs after 1650.
Howard Eves. The Mathematical Association of America. 1983.

Figure 5

FREQUENCIES ACCORDING TO THE LAMBDOMA SCALE

By: Barbara Hero

Frequency in cycles per second is one of the most accurate ways of determining an exact pitch. The Lambdoma Matrix (Figure 5) is made up of whole number ratios, and the fundamental frequency, in cycles per second, becomes the 1:1 ratio. 1:1 means that the frequency can be any whole number ratio. We can pick for our matrix any set of frequencies which enclose or describe either biological frequencies from 1 to 16 cycles per second, or power frequencies in the 60 to 400 cycles per second range, or audio frequencies in the 20 to 20,000 cycles per second range. Also, a matrix could be made from either light frequencies in the 1016 cycles per second range, or gamma and cosmic rays, in the 1020 and 1030 cycles per second bands.*

A convenient way of working with frequency in music is to start with what we call the middle C octave. When we start here we are halfway between the lowest and highest pitches on the piano keyboard, which is a convenient place to start. We choose the simplest frequency of 2 cycles per second and multiply this number by 2 repeatedly until we reach what is known as Middle c. Therefore, our Middle C is 256 cycles per second. Our C note sounds somewhat lower than the C of 261.6 cycles per second to which our familiar keyboards are generally tuned. In fact, some might consider this pitch more like a B note. However, in physics C is generally 256 cycles per second.

So the question becomes, " If 256 cycles per second is C what is the frequency of the second note of the scale?". The answer is that it is the ninth harmonic. This harmonic is found by multiplying our fundamental of 32 cycles per second by 10, 11, 12, 13, 14 and 15. The results are the frequencies of 256, 288, 320, 352, 384, 416, 448 and 480 cycles per second.

When this scale is compared with other scales, such as the "Equal Tempered" scale (which has each note multiplied by the twelfth-root of 2 which is 1.059463094), the notes and their frequencies would be markedly different. We assign boundaries to define the frequency where one note becomes the next note. When on deals with the octave from the 8th harmonic to the 16th harmonic in the middle C range there is an equal difference of 32 cycles per second between each note. When one analyses the difference in cycles per second from the 8th harmonic to the 16th harmonic in the octave above middle C there is a deference of 64 cycles per second between each of the eight notes of the Lambdoma scale.

*BEMI Currents, Newsletter of the Bio-Magnetics Institute, Volume 1, number 3, Late Fall-Early Winter, 1989.

THE LAMBDOMA TABLE

By: Barbara Hero

The key to the frequencies on the harmonic scales is found in the Lambdoma Table. If we meditate on this matrix, it will yield many of the insights with which the ancient initiates were familiar. This diagram is the master key to the entire study of the Lambdoma. There is much more to be discovered by meditating upon it.

We notice that there is a one to one relationship between each ratio and its musical interval from the musical vocabulary C, D, E, F, G, A, B. with their various degrees of sharps and flats. We notice that if we choose audible frequencies in the middle c range of the piano, i.e.. 256 cycles per second (cps) to 512 cps, and generate these frequencies electronically then we hear these harmonic relationships audibly.

We can also take any phenomena with a limit of 1 to 16 in a fixed scale appropriate to each dimension, and reduce or expand this phenomena to audible sounds. This system would apply, for example, to cell dimensions in microns, to light years and to any phenomena in between. We might identify the emotions or energy centers in our bodies (if we could actually hear them) and react to them in a way that is measurable.

The principles in the Lambdoma matrix identify the harmonics of audible sound which can be experienced by our senses. We can code the intervals in absorbing colors as Pythagoras and Issac Newton did, or we can code the intervals in transmitting colors which represent frequencies rather than wavelength. The absorbing colors begin with C as red and go up the rainbow, while the transmitting colors begin with C as green and go up the rainbow from this different starting color. When color is translated into frequency rather than wavelength, the mobius strip of frequency to wavelength is changed to an untwisted state.

We can code this Lambdoma matrix in wavelengths suitable for building harmonic architecture and rooms resonant to different Chakra centers as energy systems in our bodies.

This Lambdoma matrix is a key to the lost understanding of harmonics which can be utilized in our lives in harmonious sounds, colors and living spaces. All of the above is a beginning explanation of the ramifications of using harmonics in our daily lives.

The Lambdoma Table of Angles is to be used as a cross-reference to find the most common fit to the ratios and the frequencies based upon a fundamental of 256 cps (C-). We multiply the fundamental frequency of 256 cps by the ratio of a particular angle to determine the frequencies of the Platonic solids, for example, and translate these angles into sound.

RATIOS OF FREQUENCIES: A LAMBDOMA TABLE
(FOURTH QUADRANT)

FUNDA-	C = 256 Hertz															A = 430.5 Hertz
MENTAL	1:1 C	2:1 C	3:1 G	4:1 C	5:1 E	6:1 G	7:1 $B^{\flat}$	8:1 C	9:1 D	10:1 E	11:1 $G^{\flat}$	12:1 G	13:1 $A^{\flat}$	14:1 $B^{\flat}$	15:1 B	16:1 C
OCTAVE	1:2 C	2:2 C	3:2 G	4:2 C	5:2 E	6:2 G	7:2 $B^{\flat}$	8:2 C	9:2 D	10:2 E	11:2 $G^{\flat}$	12:2 G	13:2 $A^{\flat}$	14:2 $B^{\flat}$	15:2 B	16:2 C
4 TH	1:3 F	2:3 F	3:3 C	4:3 F	5:3 A	6:3 C	7:3 $E^{\flat}$	8:3 F	9:3 G	10:3 A	11:3 $B^{\flat}$	12:3 C	13:3 $D^{\flat}$	14:3 $E^{\flat}$	15:3 E	16:3 F
OCTAVE	1:4 C	2:5 C	3:4 G	4:4 C	5:4 E	6:4 G	7:4 $B^{\flat}$	8:4 C	9:4 D	10:4 E	11:4 $G^{\flat}$	12:4 G	13:4 $A^{\flat}$	14:4 $B^{\flat}$	15:4 B	16:4 C
6 TH minor	1:5 $A^{\flat}$	2:5 $A^{\flat}$	3:5 $E^{\flat}$	4:5 $A^{\flat}$	5:5 C	6:5 $E^{\flat}$	7:5 $G^{\flat}$	8:5 $A^{\flat}$	9:5 $B^{\flat}$	10:5 C	11:5 D	12:5 $E^{\flat}$	13:5 F	14:5 $G^{\flat}$	15:5 G	16:5 $A^{\flat}$
4 TH	1:6 F	2:6 F	3:6 C	4:6 F	5:6 A	6:6 C	7:6 $E^{\flat}$	8:6 F	9:6 G	10:6 A	11:6 $B^{\flat}$	12:6 C	13:6 $D^{\flat}$	14:6 $E^{\flat}$	15:6 E	16:6 F
2 ND	1:7 D	2:7 D	3:7 A	4:7 D	5:7 $G^{\flat}$	6:7 A	7:7 C	8:7 D	9:7 E	10:7 $G^{\flat}$	11:7 $A^{\flat}$	12:7 A	13:7 B	14:7 C	15:7 $D^{\flat}$	16:7 D
OCTAVE	1:8 C	2:8 C	3:8 G	4:8 C	5:8 E	6:8 G	7:8 $B^{\flat}$	8:8 C	9:8 D	10:8 E	11:8 $G^{\flat}$	12:8 G	13:8 $A^{\flat}$	14:8 $B^{\flat}$	15:8 B	16:8 C
7 T minor	1:9 $B^{\flat}$	2:9 $B^{\flat}$	3:9 F	4:9 $B^{\flat}$	5:9 D	6:9 F	7:9 $A^{\flat}$	8:9 $B^{\flat}$	9:9 C	10:9 D	11:9 $E^{\flat}$	12:9 F	13:9 $G^{\flat}$	14:9 $A^{\flat}$	15:9 A	16:9 $B^{\flat}$
6 TH minor	1:10 $A^{\flat}$	2:10 $A^{\flat}$	3:10 $E^{\flat}$	4:10 $A^{\flat}$	5:10 C	6:10 $E^{\flat}$	7:10 $G^{\flat}$	8:10 $A^{\flat}$	9:10 $B^{\flat}$	10:10 C	11:10 D	12:10 $E^{\flat}$	13:10 F	14:10 $G^{\flat}$	15:10 G	16:10 $A^{\flat}$
5 TH diminished	1:11 $G^{\flat}$	2:11 $G^{\flat}$	3:11 $D^{\flat}$	4:11 $G^{\flat}$	5:11 $B^{\flat}$	6:11 $D^{\flat}$	7:11 E	8:11 $G^{\flat}$	9:11 A	10:11 $B^{\flat}$	11:11 C	12:11 $D^{\flat}$	13:11 $E^{\flat}$	14:11 E	15:11 F	16:11 $G^{\flat}$
4 TH	1:12 F	2:12 F	3:12 C	4:12 F	5:12 A	6:12 C	7:12 $E^{\flat}$	8:12 F	9:12 G	10:12 A	11:12 $B^{\flat}$	12:12 C	13:12 $D^{\flat}$	14:12 $E^{\flat}$	15:12 E	16:12 F
3 RD minor	1:13 E	2:13 E	3:13 B	4:13 E	5:13 G	6:13 B	7:13 $D^{\flat}$	8:13 E	9:13 $G^{\flat}$	10:13 G	11:13 A	12:13 B	13:13 C	14:13 $D^{\flat}$	15:13 D	16:13 E
2 ND	1:14 D	2:14 D	3:14 A	4:14 D	5:14 $G^{\flat}$	6:14 A	7:14 C	8:14 D	9:14 E	10:14 $G^{\flat}$	11:14 $A^{\flat}$	12:14 A	13:14 B	14:14 C	15:14 $D^{\flat}$	16:14 D
2 ND minor	1:15 $D^{\flat}$	2:15 $D^{\flat}$	3:15 $A^{\flat}$	4:15 $D^{\flat}$	5:15 F	6:15 $A^{\flat}$	7:15 B	8:15 $D^{\flat}$	9:15 $E^{\flat}$	10:15 F	11:15 G	12:15 $A^{\flat}$	13:15 $B^{\flat}$	14:15 B	15:15 C	16:15 $D^{\flat}$
OCTAVE	1:16 C	2:16 C	3:16 G	4:16 C	5:16 E	6:16 G	7:16 $B^{\flat}$	8:16 C	9:16 D	10:16 E	11:16 $G^{\flat}$	12:16 G	13:16 $A^{\flat}$	14:16 $B^{\flat}$	15:16 B	16:16 C
		OCTAVE	5 TH	OCTAVE	3 RD	5 TH	7 TH minor	OCTAVE	2 ND	3 RD	4 TH sug-men-ted	5 TH	6 TH minor	7 TH minor	7 TH major	OCTAVE

Table 1

THE LAMBDOMA DIAGRAM (FREQUENCIES)

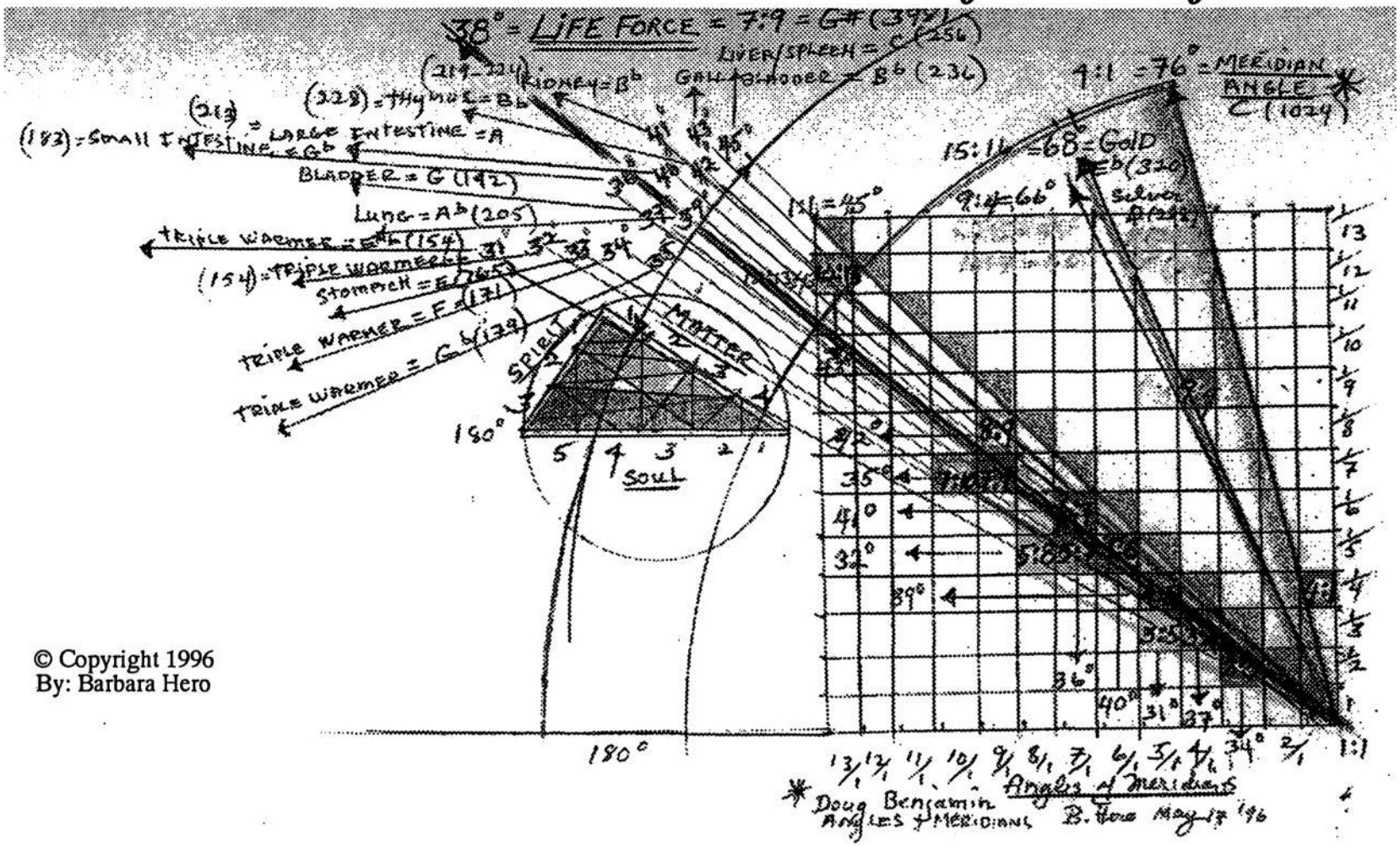
1:1	2:1	3:1	4:1	5:1	6:1	7:1	8:1	9:1	10:1	11:1	12:1	13:1	14:1	15:1	16:1
45	63	72	76	79	81	82	83	84	84	85	85	86	86	85	86
1:2	2:2	3:2	4:2	5:2	6:2	7:2	8:2	9:2	10:2	11:2	12:2	13:2	14:2	15:2	16:2
27	45	56	63	68	72	74	76	77	79	80	81	81	82	82	83
1:3	2:3	3:3	4:3	5:3	6:3	7:3	8:3	9:3	10:3	11:3	12:3	13:3	14:3	15:3	16:3
18	34	45	53	59	63	67	69	72	73	75	76	77	78	79	79
1:4	2:4	3:4	4:4	5:4	6:4	7:4	8:4	9:4	10:4	11:4	12:4	13:4	14:4	15:4	16:4
14	27	37	45	51	56	60	63	66	68	70	72	73	74	75	76
1:5	2:5	3:5	4:5	5:5	6:5	7:5	8:5	9:5	10:5	11:5	12:5	13:5	14:5	15:5	16:5
11	22	31	39	45	50	54	58	61	63	66	67	69	70	72	73
1:6	2:6	3:6	4:6	5:6	6:6	7:6	8:6	9:6	10:6	11:6	12:6	13:6	14:6	15:6	16:6
9	18	27	34	40	45	49	53	56	59	61	63	65	67	68	69
1:7	2:7	3:7	4:7	5:7	6:7	7:7	8:7	9:7	10:7	11:7	12:7	13:7	14:7	15:7	16:7
8	16	23	30	36	41	45	49	52	55	58	60	62	63	65	66
1:8	2:8	3:8	4:8	5:8	6:8	7:8	8:8	9:8	10:8	11:8	12:8	13:8	14:8	15:8	16:8
7	14	21	27	32	37	41	45	48	51	54	56	58	60	62	63
1:9	2:9	3:9	4:9	5:9	6:9	7:9	8:9	9:9	10:9	11:9	12:9	13:9	14:9	15:9	16:9
6	13	18	24	29	34	38	42	45	48	51	53	55	57	59	61
1:10	2:10	3:10	4:10	5:10	6:10	7:10	8:10	9:10	10:10	11:10	12:10	13:10	14:10	15:10	16:10
6	11	17	22	27	31	35	39	42	45	48	50	52	54	56	58
1:11	2:11	3:11	4:11	5:11	6:11	7:11	8:11	9:11	10:11	11:11	12:11	13:11	14:11	15:11	16:11
5	10	15	20	24	29	32	36	39	42	45	47	50	52	54	55
1:12	2:12	3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12	13:12	14:12	15:12	16:12
5	9	14	18	23	27	30	34	37	40	43	45	47	49	51	53
1:13	2:13	3:13	4:13	5:13	6:13	7:13	8:13	9:13	10:13	11:13	12:13	13:13	14:13	15:13	16:13
4	9	13	17	21	25	28	32	35	38	40	43	45	47	49	51
1:14	2:14	3:14	4:14	5:14	6:14	7:14	8:14	9:14	10:14	11:14	12:14	13:14	14:14	15:14	16:14
4	8	12	16	20	23	27	30	33	36	38	41	43	45	47	49
1:15	2:15	3:15	4:15	5:15	6:15	7:16	8:15	9:15	10:15	11:15	12:15	13:15	14:15	15:15	16:15
4	8	11	15	18	22	25	28	31	34	36	39	41	43	45	47
1:16	2:16	3:16	4:16	5:16	6:16	7:16	8:16	9:16	10:16	11:16	12:16	13:16	14:16	15:16	16:16
4	7	11	14	17	21	214	27	29	32	35	37	39	41	43	45

LAMBDOMA MATRIX OF RATIOS AND ANGLES

Table 2

ILLUSTRATION OF ANGLES/MERIDIANS

With Lambdoma Matrix Focused on Life Force of 38°



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By: Barbara Hero

Figure 6

ANGLES OF THE MERIDIANS

Translated into Ratios, Angles, and Musical Intervals of the Lambdoma Matrix.
By: Barbara Hero

All the ratios in the Lambdoma Matrix were translated into angles using the arc tan of the given ratio, based upon the 1:1 being 256 HZ

NOTES	FREQUENCIES	MERIDIANS*	ANGLES*	RATIO
Gb-	183Hz	Small Intestine	36 Degrees	5:7
G-	192Hz	Bladder	37 Degrees	3:4
Ab-	205Hz	Lung	39 Degrees	4:5
A-	213Hz	Large Intestine	40 Degrees	5:6
Bb-	228Hz	Paracardium Circulation, Sex Thymus	42 Degrees	8:9
F-	171Hz	Triple Warmer (3 Fires of the Body)	34 Degrees	2:3
Eb-	154Hz	First Fire	31 Degrees	3:5
E-	160Hz	Second Fire	32 Degrees	5:8
Gb-	224Hz	Third Fire	35 Degrees	7:10
C-	256Hz	Liver/Spleen	45 Degrees	1:1
E-	165Hz	Stomach	33 Degrees	9:14
Bb-	236Hz	Gall Bladder	43 Degrees	12:13
B-	238Hz	Gall Bladder	43 degrees	13:14
B-	239Hz	Gall Bladder	43 degrees	14:15
A-	219Hz	Kidney	41 Degrees	6:7
Bb-	224Hz	Kidney	41 Degrees	7:8

* SOURCE: Doug Benjamin

A COMPARISON OF THE NOTES AND FREQUENCIES TO THE SPEED OF SOUND THROUGH SOME OF THE SAME ORGANS AS ABOVE.

Small Intestine: D @ 281.6 Hz vs. Eb @ 366 Hz
Large Intestine: D @ 281.6 Hz vs. A @ 213 Hz (426 Hz)
Bladder: F @ 352 Hz vs. G @ 384 Hz
Lungs: A @ 220 Hz vs. Ab @ 205 Hz
Liver: Eb @ 317.83 Hz vs. C @ 256 Hz
Stomach: A @ 110 Hz vs. E @ 165 Hz (330 Hz)
Gall Bladder: F @ 164.3 Hz vs Bb @ 236 Hz, B @ 238 Hz, B @ 239 Hz
Kidney: Eb @ 319.88 Hz vs. A @ 219 Hz, Bb @ 224 Hz

Table 3

SPINE	GLANDS	MINERALS	FREQUENCIES	NOTES	FOODS
	Pineal	Sodium	352,372	F#, Gb	Green salads, fruits, melons, watermelon.
		Potassium	304,432	Eb, Ab	Cassaba, kelp, alfalfa, wheatgerm oil, fruit and vegetable juices.
Medulla	Pituitary	Manganese	400,328	Ab, E	Carrots, cottage cheese, kelp, celery, almonds, lettuce.
Cervical	Thyroid	Iodine	424,309	Ab, Eb	Kelp, watercress, raw milk, egg yolk, alfalfa, carrot and orange juice.
Dorsal	Thymus	Chlorine	272,482	Db, B	Raisins, spinach, nuts, lettuce, raw vegetables, egg yolk.
Lumbar	Adrenal	Magnesium	384,341	G, F	Tomatoes, alfalfa, celery, beets, cucumbers, grapefruit.
Sacral	Pancreas	Sulphur	256,128	C, C	Cabbage, figs, grapefruit, beets, raw onions, pineapple, brussel sprouts, artichokes.
Coccyx	Sex Glands	Iron	416,315	Ab, Eb	Wheat germ, alfalfa, parsley, tomatoes, raisins, carrots, garlic.
		Copper	404,283	Bb, D	

Notice that scales of Ab, Bb, C, Db, Eb, E, F, F#, Gb, and G are found in the harmonics and subharmonics of the minerals which are related to the glands and spinal column. As a consequence one might be able to have some form of nourishment by playing the notes and frequencies of these foods always remembering to have a drone of C 128 cps or some octaves higher or lower in order to have the benefits of an interval in music.

* The food mineral, gland and spinal column correspondences are from monograph #160 of the Coptic Master Hamid Bey. The ensuing musical correspondences are from Barbara Hero.

Table 4

LAMBDOMA LAWS APPLIED TO VIBRATIONAL HUMAN INTERACTION

(1) **UNISON: BECOMING ONE WITH ANOTHER.**
Becoming one with the person.

(2) **OCTAVE: SEEING THE COMPLETE VIBRATIONAL WHOLE OF 256 RELATIONSHIPS.**
Imagining the person completely whole.

(3) **MUSICAL FIFTHS AND FOURTHS: TAKING THE DOMINANT OR SUBDOMINANT ROLES.**
Discovering the persons greatest need.

(4) **2nd OCTAVE: REINFORCING BECOMING ONE WITH ANOTHER'S NEED.**
Being in unison with the person again.

(5) **MUSICAL THIRDS AND SIXTHS: RECOGNIZING EMOTIONAL AND MENTAL HARMONIES.**
Tuning in to the emotional and mental bodies of the person.

(6) **MUSICAL FIFTHS AND FOURTHS ON A HIGHER OCTAVE LEVEL: REINFORCING THE COMPASSION AND COMMUNICATION QUALITIES.**
Helping the subject to clear and release the person's greatest need.

(7) **SEVENTH HARMONIC: TUNING IN TO THE CLAIRVOYANT NEEDS OF THE SUBJECT.**
Working with the clairvoyance of the person.

(8) **3rd OCTAVE: BECOMING ONE WITH THE PERSON ONCE AGAIN.,**
Seeing the perfected wholeness of the person.

(9) **NINTH HARMONIC: WORKING WITH THE DESIRE BODY OF THE PERSON.**
Becoming aware of the person's ultimate need to become whole.

(10) **TENTH HARMONIC: REINFORCING THE EMOTIONAL AND MENTAL BODIES.**
Aligning the emotional and the mental for the desired results.

(11) **ELEVENTH HARMONIC: THE FRAMEWORK IS IN PLACE FOR A CHANGE OF ATTITUDE OF THE PERSON TOWARDS WHOLENESS.**
The stage is set for completion of the understanding of all the above.

(12) **3rd HARMONIC AGAIN IN THE HIGHER LEVEL OF THREE OCTAVES ABOVE AND THREE OCTAVES BELOW: WORKING AGAIN WITH THE DOMINANT AND SUBDOMINANT NEEDS OF THE PERSON.**
Replacing the dominant and subdominant needs of the person towards total wholeness.

(13) **13th HARMONIC: FINALLY THE PSYCHIC CENTER OF THE PERSON KICKS IN.**
The person sees beyond the physical needs to the quest of the psychic needs.

(14) **7th HARMONIC IS REPEATED AN OCTAVE ABOVE: THE 7th HARMONIC IS REINFORCED.**
The person is becoming clairvoyant as to the needs of all.

(15) **15th HARMONIC: THE SOUL IS NEARING COMPLETION OF ITS ONENESS AND WHOLENESS.**
The person is looking at an overview of needs, and desires unison with the soul.

(16) **4 OCTAVES ABOVE UNISON: UNISON IS COMPLETED.**
The sixteen steps have been completed and the person has completed unison with the physical, emotional, mental and spiritual needs of the body.

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Figure 7

THE

REFERENCE OCTAVE

LAMBDOMA OVERTONE

THE HARMONIC SERIES (Fundamental 32 Hertz)

8:1	9:1	10:1	11:1	12:1	13:1	14:1	15:1	16:1
256	288	320	352	384	416	448	480	512
C	D	E♭	F#	G	A♭	B♭	B	C

LAMBDOMA UNDERTONE

THE SUB-HARMONIC SERIES (Fundamental 4096 Hertz)

1:16	1:15	1:14	1:13	1:12	1:11	1:10	1:9	1:8
256	273	293	315	341	372	410	455	512
C	C#	D#	E♭	F	G♭	A♭	B♭	C

Table 5

A TRANSLATION OF THE LAMBDOMA DIAGRAM (CANTOR ARRAY*) INTO WEAVING

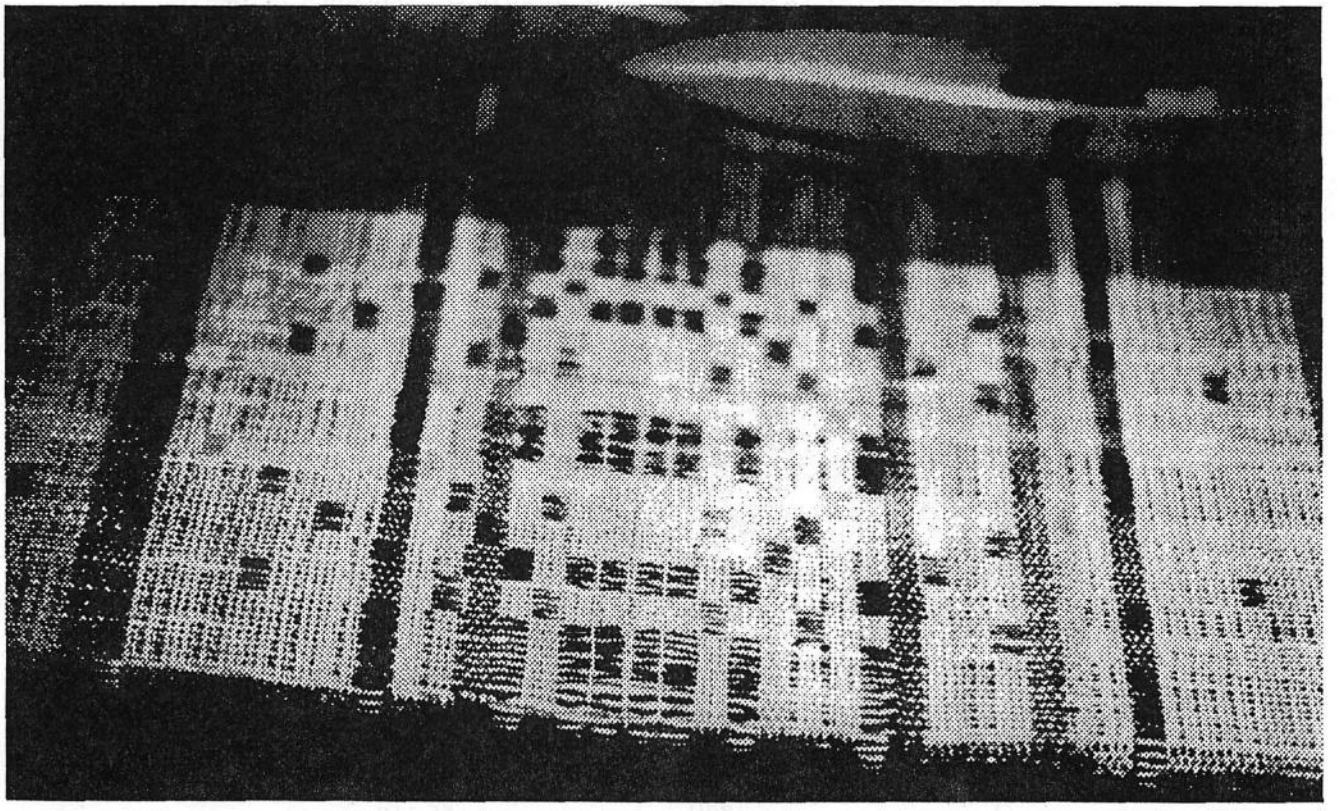
By: Barbara Hero

The warp and the weft of weaving represent the x and y axis, where the longitudinal warp can be considered the y axis. In music the warp (y) could be considered an undertone descending series or subharmonic, while the weft (x) could stand as the overtone ascending series or harmonic.

As the undertone series becomes the color coded warp where each colored thread, representing a specific note of music on the Lambdoma grid, runs the entire length of the fabric. The overtone series becomes the weft and each color of thread, in packets of 20 threads, runs across the grid. Therefore, the coding of the warp and weft represents musical intervals in color, using the overtone / undertone series of the ancient Lambdoma diagram as the pattern of colors where the undertone series is the warp and the overtone series is the weft. (Figure 8) This ancient musical system is attributed to Pythagoras by the neo-Pythagorean Iamblichus (c 200 ad).

The diagram is made up of ratios in a one to one relationship to specific musical interval. Each ratio in the diagram was coded to a color representing a musical interval.

*If Georg Cantor knew about the Lambdoma matrix he eliminated the musical interval correspondence from the array called by his name. However, he is considered to be a metaphysical mathematician and came from a musical family of violinists.



A LAMBDOMA WEAVING

Figure 8

AN INTRODUCTION TO THE MUSIC OF THE SPHERES

By Barbara Hero

We propose a new theory based upon a translation of whole ratios into corresponding musical harmonics. This method implies a new number theory based upon music which results in:

1) A fixed sequence of ordering
2) A matrix of 16 rows by 16 columns
3) Trigonometric Lissajous figures
4) A mathematics of doublings and halvings
5) Fixed relationships within a given scale of physical phenomena
6) Harmonics and Sub-harmonics
7) Quantum leaps from 1 to 8
8) A musical scale from 8 to 16
9) Four color mapping
10) Time signatures with one to one relationship to key signatures.

APPLICATIONS

1) Color Coding
2) Shape Coding (Figures 9 & 10)
3) Frequency in Cycles / Second Coding
4) Translation from Frequency to Wavelength
5) Translation to Periodic Motion
6) Translation of time in seconds, minutes, hours days, years, light years, half-lives.
7) Performing music with a one to one relationship of key signatures to time signatures.

TIME SIGNATURES IN MUSICAL PERFORMANCE

Many may not realize that a musical composition might have a more unified feeling in performance if a specific designated keynote is reduced to its corresponding frequency. For instance a piece in equal tempered tuning might be in the key of F at 392 cycles per second. Reducing this frequency by halving 2 times yields 98 cycles per second which could be the beat of a quarter note in a 3/4 piece.

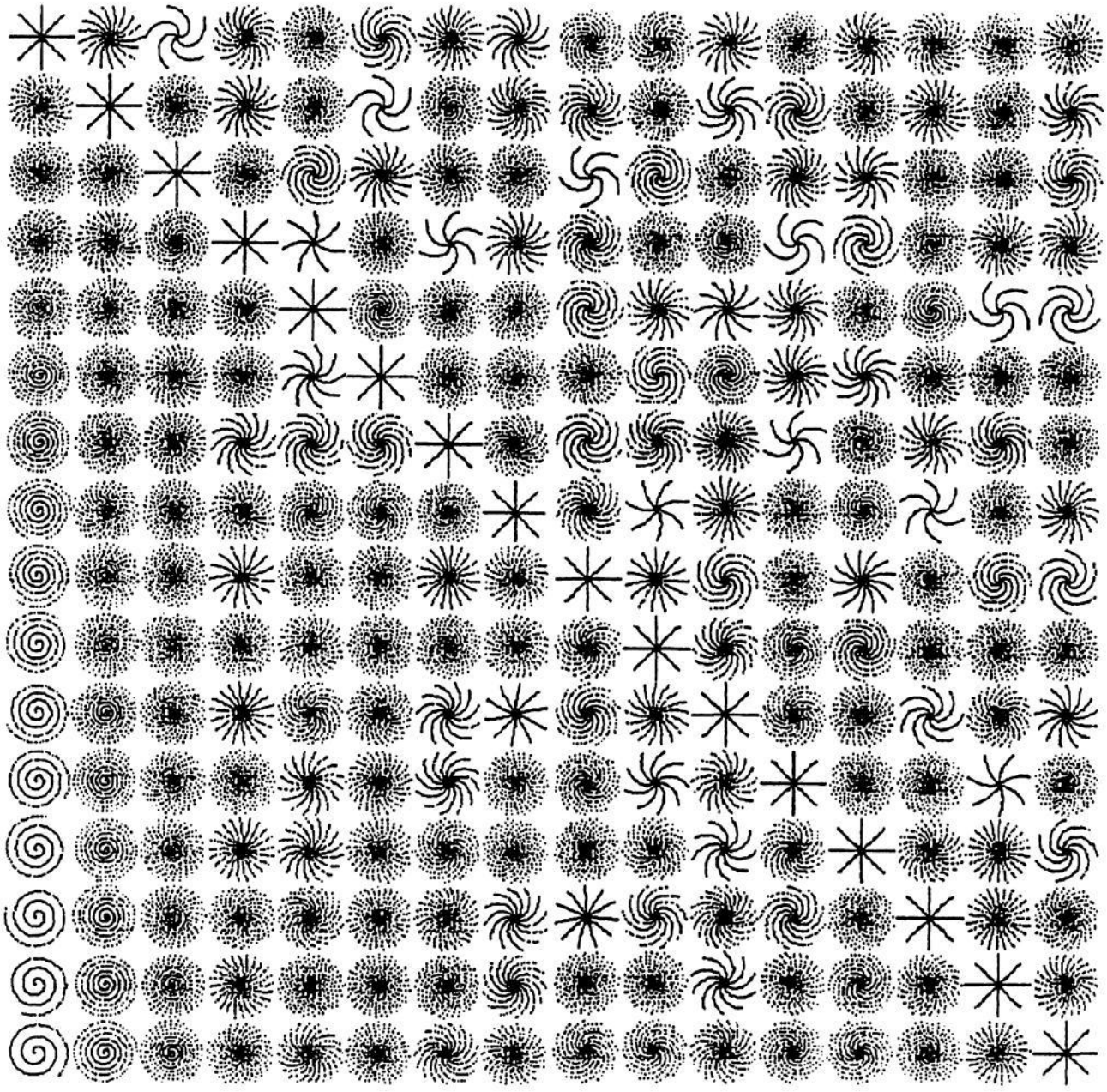
Below is a chart of frequencies based upon A at 440 cycles per second using the equal temperament tuning of the 12th root of 2.

NOTE	FREQUENCY (Cycles / Sec.)	METRONOME SETTING
C (middle)	261	65, 131
D^b	277	69,139
D	293	73,147
E^b	311	78,156
E	330	82
F	349	87
G^b	370	93
G	392	98
A^b	415	52,104
A	440	55,110
B^b	466	58, 117
B	494	62,124

In any tuning system (in cycles per second), halving from the middle C octave will result in a convenient beat commensurable with the specified key signature.

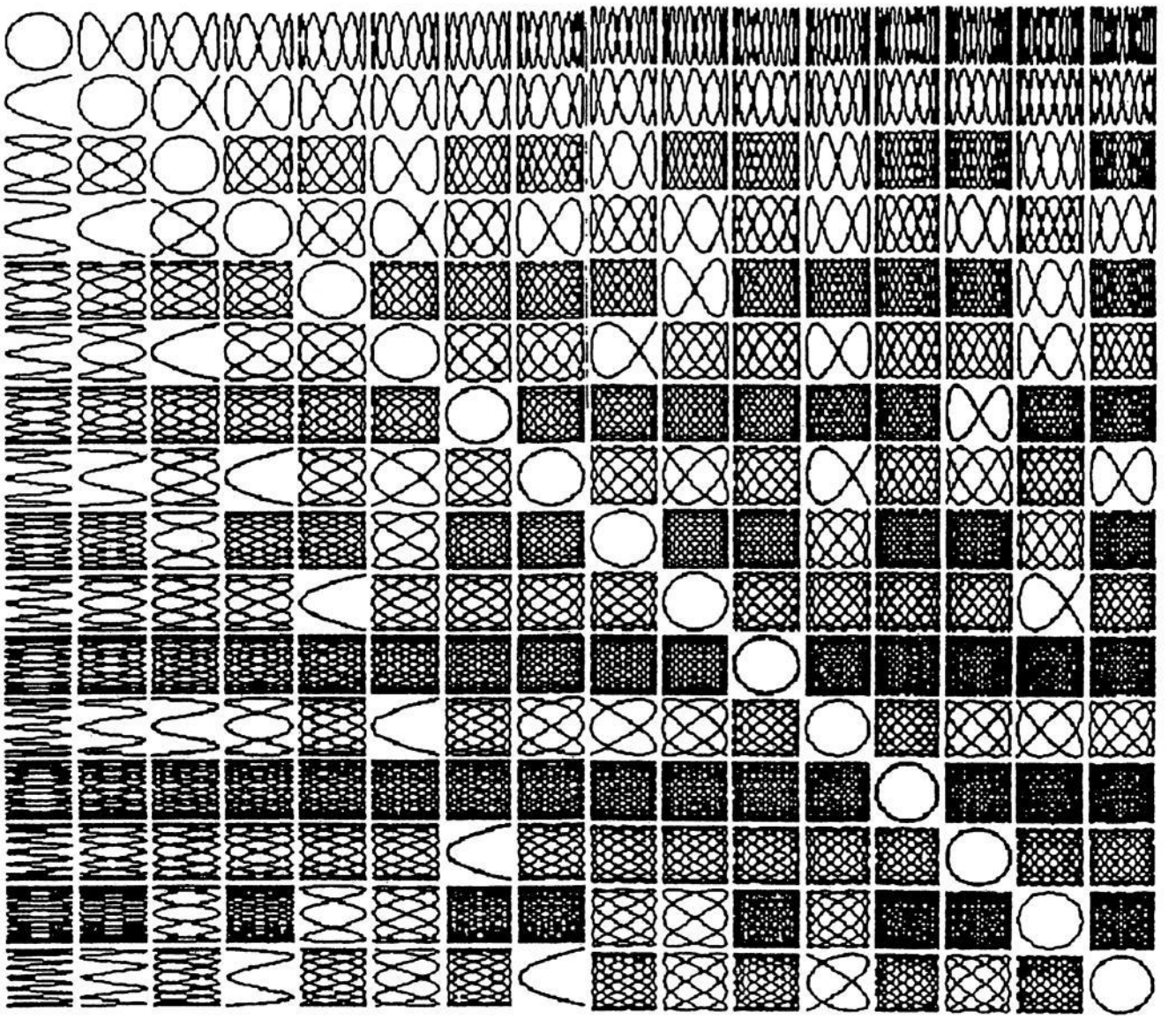
Lambdoma Ray Spirals
By Barbara Hero

The spirals in Figure 9 are created by moving a point outward from each center by one unit while at the same time rotating the pint counter clockwise by the angle determined by that center's ratio. The angle of ration is determined as the arctangent of the ratio for that position in the Lambdoma matrix. The star-like spirals along the diagonal from upper left to lower right show clearly their angle of 45 degrees which is derived as the arctangent of their ratios which all reduce to unity.



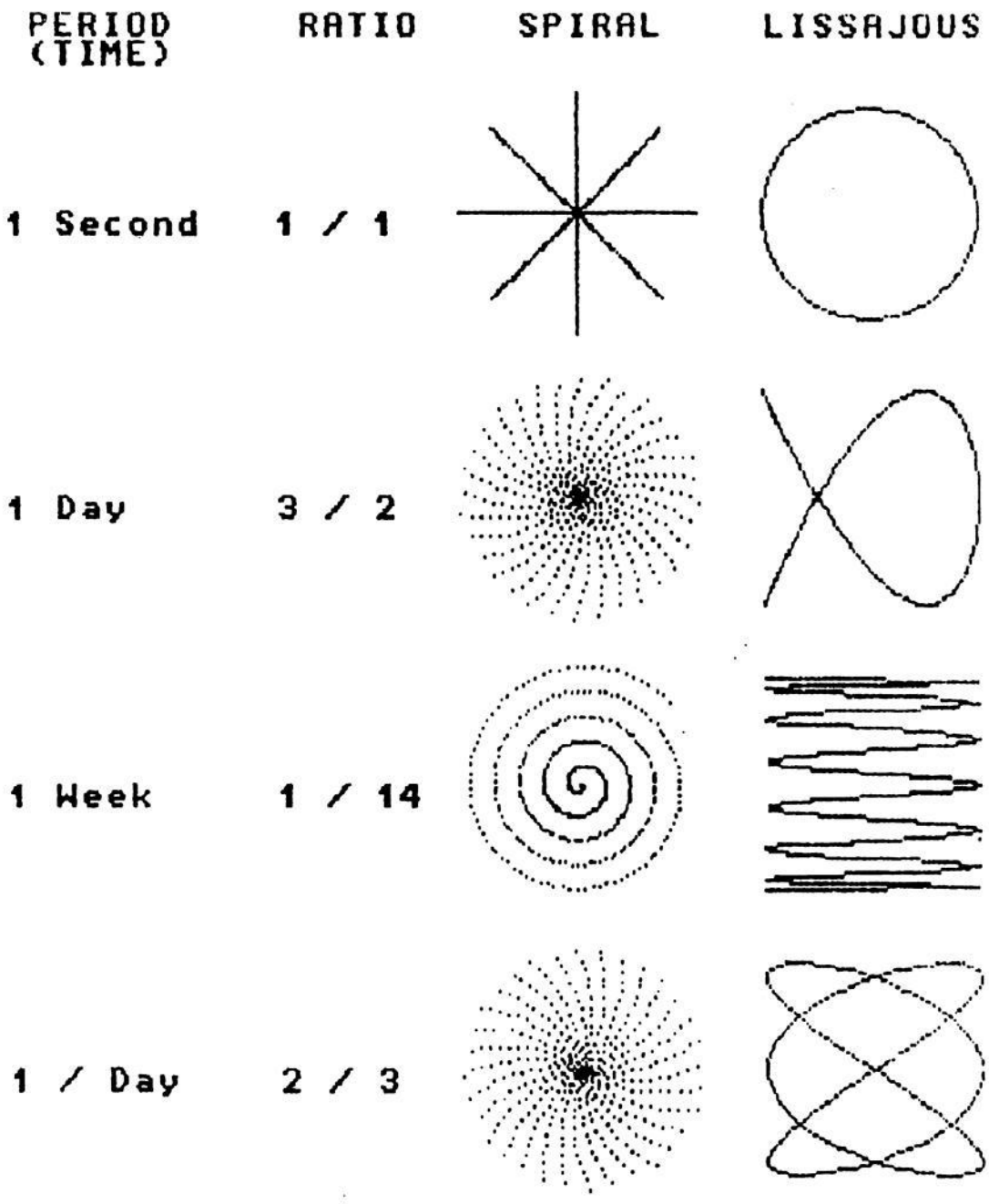
LAMBDOMA RAY SPIRALS (FOURTH QUADRANT)

Figure 9



LAMBDOMA MATRIX OF LISSAJOUS FIGURES (FOURTH QUADRANT)

Figure 10



TIME COMPARISON WITH RATIO, RAY SPIRAL, LISSAJOUS FIGURES.

Figure 11

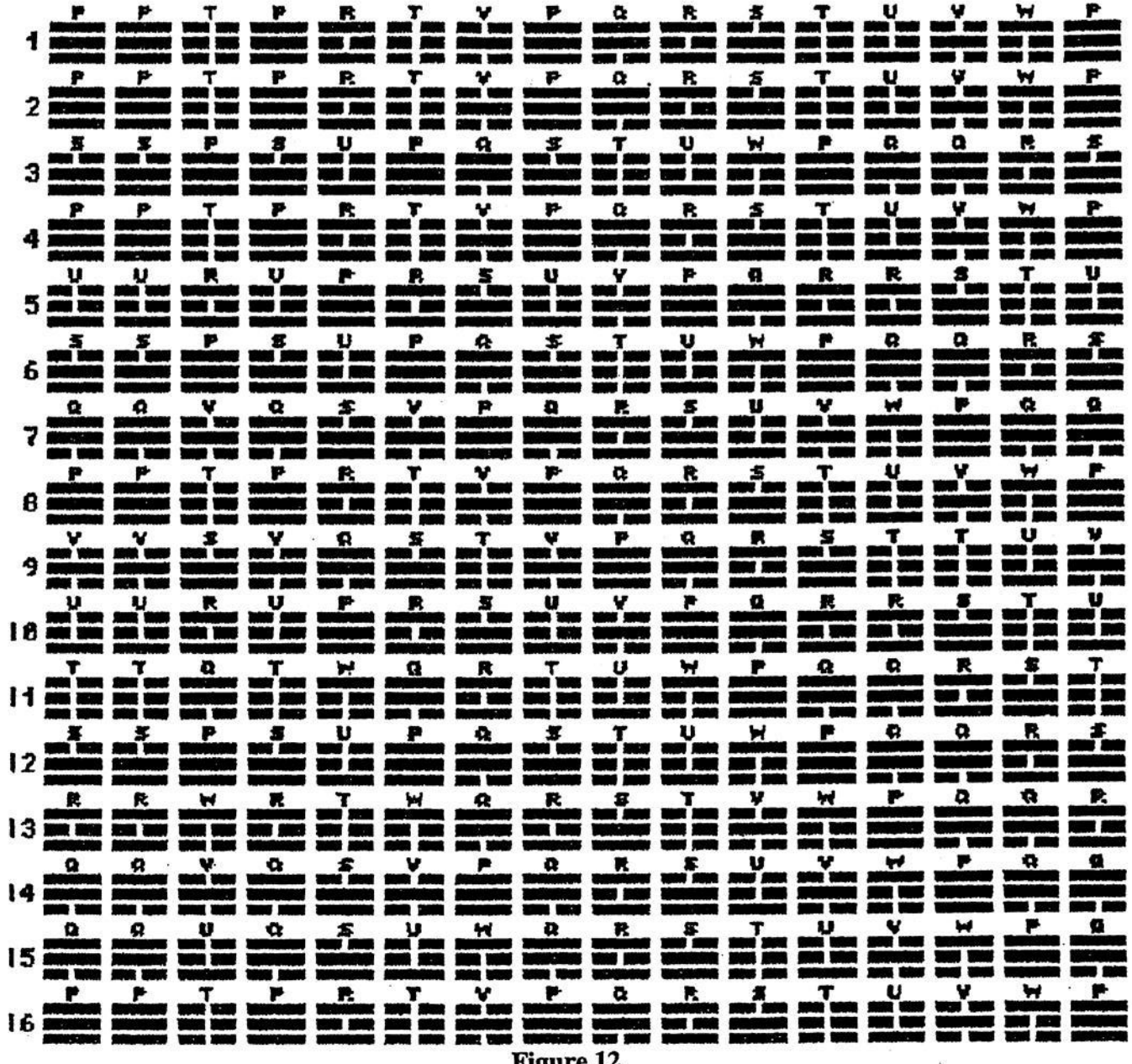


Figure 12

TRANSLATION OF DISTANCE IN LIGHT YEARS INTO MUSICAL FREQUENCIES

The data for these translations were from ASTRONOMY a Self-Teaching Guide by Dinah L. Moche, John Wiley & Sons, New York City, 1978.

Musically, the diameter of our galaxy (100,000 light years) translates to a G^b at 356.8 cycles per second. This diameter could be considered to be the fundamental note of our universe. A typical musical harmonic is the sequence G^b, B^b & D^b. The disk thickness of the Milky Way is 2,450 light years, which translates to a frequency of 455.1 cycles per second or a B^b. The absorbing color for B^b is a purple, a complementary color to green for G^b. When we look to find D^b (the musical third harmonic known as a fifth in music) we find the star Altair at 16 light years away from Earth and this distance give us a frequency of 272.2 cycles per second or a D^b. We also find the star Beta Crucis at 500 light years distance, equal to a musical frequency of 278.7 cycles per second which is also a D^b. The color translation of both of these is a red-orange. In Table 6, the star Canopus, with a frequency of 355.5 cycles per second or a G^b note is 98 light years distance from our sun. Our sun, which is on the outer rim of the galaxy, would seem to be harmonically compatible with the frequency of Canopus. The stars Sirius and Arcturus would be equivalent to a minor sixth harmonic to our sun. Our sun is at the distance of 340,000 light years from the center of our galaxy and this distance translates to a frequency of 297.3 cycles per second which is an E^b and an orange-yellow color. They are both B, the former 8.8 light years away at 494.9 cycles per second and the latter 4.3 light years distant at 483.9 cycles per second. G^b, B^b & D^b forms a harmonic, musical triad with G^b the fundamental, B the minor 6th harmonic and D^b the third harmonic. Incidentally, the colors are in a harmonious relationship as well with G^b being green, and B being red purple.

STARS, DISTANCES, FREQUENCIES, NOTES AND ABSORBING COLORS

STAR	DISTANCE (light years)	FREQUENCY (Cycles / Sec.)	NOTE (C=256)	COLOR (absorbing)
Sirius	8.8	494.9	B	Red-purple
Canopus	98	355.5	G^b	Green
Arcturus	36	483.9	B	Red-purple
Alpha Centauri	4.3	253.2	C	Red
Vega	26	335.0	F	Yellow-green
Capella	46	378.7	G	Blue-green
Rigel	900	309.7	E^b	Yellow-orange
Procyon	11	395.9	A^b	Blue
Achernar	150	464.6	B^b	Purple
Altair	16	272.2	D^b	Red-orange
Betelgeuse	700	398.2	A^b	Blue
Aldebaran	68	256.2	C	Red
Alpha Crucis	350	398.2	A^b	Blue
Spica	230	303.0	E^b	Yellow-orange
Antares	400	348.4	F	Yellow-green
Pollux	35	248.9	C	Red
Fomalhaut	23	378.7	G	Blue-green
Deneb	1,400	398.2	A^b	Blue
Beta Crucis	500	278.7	D^b	Red-orange
Milky Way (Diameter)	100,000	356.8	G^b	Green
Milky Way (Center bulge	13,000	343.1	F	Yellow-green
Milky Way (Disk Thickness)	2,450	455.1	B^b	Purple
Sun to center of the galaxy	30,000	297.3	E^b	Yellow-orange

Table 6

The significance of using musical harmonics with their corresponding color coding is a way of perhaps understanding the relationships of stars to one another musically. Mathematically, any numerical analysis can be reduced to musical frequencies using formulas such as F = V/W. This formula indicates that frequency is in inverse relationship to wavelength.

Where: F = frequency
V = velocity
W = wavelength

Frequency is in inverse relationship to period also as F = 1/P.

When we know any frequency or any wavelength or distance they can be translated into musical frequencies by the octave reduction method, for the macrocosmos. For the microcosmos the octave expansion method is used by doubling instead of halving. Mathematically these translations are expressed as 2 to the n^{th} power times any integer, rational or irrational number, or 1/2 to the n^{th} power of any integer, rational or irrational number.

Every 2 or 1/2 to the n^{th} power is an octave in music. This means it is the same musical note either a whole musical scale higher or lower. The Lambdoma scale has eight note in the overtone scale, and eight notes in the undertone scale which are of different frequencies. The Indian scale has as many as 52 articulations within one of its scales. Western 12 tone scales have twelve notes only.

Notes named as A, B, C, D, E, F and G and their sharps and flats and/or pluses and minuses have been used in most cultures and times. They form another framework on which to analyze any phenomena which can be defined numerically. To illustrate this the musical note we know as middle C can be said to have a frequency of 256 cycles per second. This number is 2 doubled 7 times to arrive at 256. Therefore C is any number 2 or 1/2 to the n^{th} power. D is any 9 times 2 or 1/2 to the n^{th} power or 288 in the middle C octave. E is the number five, F the number 11, G the number 3, A^b the number 13, B^b the number 7, B natural the number 15. The series runs 8, 9, 10, 11, 12, 13, 14 and 15 representing the scale from the 8^{th} harmonic , which reads in frequencies 256, 288, 320, 352, 384, 416, 448 and 480, representing the musical notes, C, D, E^b, F#, G, A^b, B^b, and B. This is what we call the Reference Octave. When we either expand or reduce any frequency in octaves to arrive at the reference octave, we know its musical note, whether it be the half-life of a radioactive element from the periodic table of elements or whether it be the light year distance between stars, or anything in between which can be measured in length or period.

INSIGHTS INTO DIFFERENCES BETWEEN OVERTONE AND UNDERTONE LAMBDOMA SCALES

By: Barbara Hero

We take 32 cycles per second as our fundamental for the Lambdoma Overtone Scale based upon the Lambdoma Matrix. Harmonics from the eighth through the fifteenth define our overtone scale.

LAMBDOMA OVERTONE SCALE

HARMONIC		FUNDAMENTAL		FREQUENCY	CLOSEST TEMPERED NOTE
8	x	32	=	256	(C)
9	x	32	=	288	(D)
10	x	32	=	320	(E)
11	x	32	=	352	(F#)
12	x	32	=	384	(G)
13	x	32	=	416	(A^b)
14	x	32	=	448	(B^b)
15	x	32	=	480	(B)

LAMBDOMA UNDERTONE SCALE

HARMONIC		FUNDAMENTAL		FREQUENCY	CLOSEST TEMPERED NOTE
1/ 8	x	4,096	=	512	(C)
1/ 9	x	4,096	=	455.1	(B^b)
1/10	x	4,096	=	409.6	(A^b)
1/11	x	4,096	=	372.4	(G^b)
1/12	x	4,096	=	341.3	(F)
1/13	x	4,096	=	315	(E)
1/14	x	4,096	=	292.5	(D)
1/15	x	4,096	=	273.1	(D^b)

SUM FREQUENCIES OF ADJACENT FREQUENCIES IN THE LAMBDOMA UNDERTONE SCALE

1/ 8 (C)	512	+	455.1	=	967.1	/	2*	=	483.6	(B)
1/ 9(B^b)	455.1	+	409.6	=	864.7	/	2	=	432.4	(A)
1/10(A^b)	409.6	+	372.4	=	782	/	2	=	391	(G)
1/11(G^b)	372.4	+	341.3	=	713.7	/	2	=	356.9	(F#)
1/12 (F)	341.3	+	315	=	656.3	/	2	=	328.2	(E)
1/13 (E)	315	+	292.5	=	607.5	/	2	=	303.8	(E^b)
1/14 (D)	292.5	+	273.1	=	565.6	/	2	=	282.8	(D)
1/15(D^b)	273.1	+	256	=	529.1	/	2	=	264.6	(D^b)

Tables 7, 8 and 9

DIFFERENCE FREQUENCIES BETWEEN FREQUENCIES IN THE LAMBDOMA UNDERTONES

1/ 8	(C)	512	-	455.1	=	56.9	x	8*	=	455.1	(B^b)
1/ 9	(B^b)	455.1	-	409.6	=	45.5	x	8	=	364	(G^b)
1/10	(A^b)	409.6	-	372.4	=	37.2	x	8	=	297.6	(E^b)
1/11	(G^b)	372.4	-	341.3	=	31.1	x	16	=	497.6	(B)
1/12	(F)	341.3	-	315	=	26.3	x	16	=	420.8	(A)
1/13	(E)	315	-	292.5	=	22.5	x	16	=	360	(G^b)
1/14	(D)	292.5	-	273.1	=	19.4	x	16	=	310.4	(E^b)
1/15	(D^b)	273.1	-	256	=	17.1	x	16	=	273.6	(D^b)

*Doubling or halving to locate the frequency within the middle C octave (256 through 512 cycles per second).

DIFFERENCE IN CYCLES PER SECOND BETWEEN OVERTONE AND UNDERTONE NOTES IN THE MIDDLE C OCTAVE

256	(C)	-	(C)	256	=	0	-	-	-	256	(C)
288	(D)	-	(D)	292.5	=	4.5	x	64	=	288	(D)
320	(E)	-	(E)	315	=	5	x	64	=	320	(E)
352	(F#)	-	(F)	341.3	=	10.7	x	32	=	342.4	(F)
384	(G)	-	(G^b)	372.4	=	11.6	x	32	=	371.2	(G^b)
416	(A^b)	-	(A^b)	409.6	=	6.4	x	64	=	409.6	(A^b)
448	(B^b)	-	(B^b)	455.1	=	7.1	x	64	=	454.4	(B^b)
480	(B)	-	(B^b)	455.1	=	24.9	x	16	=	398.4	(A^b)

In the overtone series of the middle C octave the difference between each note is 32 cycles per second. In the octave above middle C (512 through 1024 cycles per second) the difference between the notes in the overtone series is 64. Each time an octave is completed the number increases by doubling so that the next difference is 128. The same holds for octaves below middle C as the difference decreases to 16, 8, 4 and 2 consecutively.

Tables 10 and 11

INSIGHTS ON THE SPACE TIME CHARTS AND THEIR MUSICAL INTERPRETATIONS

By: Barbara Hero

An understanding of music is important to grasp better the significance of correlations of space and time with musical harmonies. It is up to an individuals knowledge as to how to use the charts. If one is a biologist, it might be helpful to know the musical equivalent of time of growth in seconds, minutes, hours, days, or years. If one is an astronomer it might be useful to know the musical equivalents of the rotation or spin of the planets, or the musical distance in light years of a quasar from our galaxy. If one is a psychologist, the musical notes of the alpha, beta, gamma and delta brain waves might prove useful in inducing those states. If one is an architect the musical proportions of a structure might influence the inhabitants, and one could refrain from putting dissonant proportions into a building. If one is a chemist, half-lives of some of the radioactive elements can also be translated into their musical components. By this method one could determine which were of the same musical family even if in different octaves. In psychology each person's keynote could be identified as a certain note, and it would be easier to know where conflicts might lie based upon dissonance of the keynotes, or better where harmonies could be found in individuals or groups

FREQUENCIES AND MUSICAL NOTES RELATIVE TO SECONDS, ONE TO SIXTY WHERE ONE SECOND EQUALS 256 CYCLES PER SECOND (CPS) = C NOTE.

By having a list of time charts where the period of one second is equal to the musical note C at 256 cycles per second, we can determine, by the use of the undertone series, the qualities of three seconds, or five seconds, seven seconds, and their multiples up to 60 seconds. Perhaps we can begin to understand the dynamics of cycles of time, using what we know about music as the framework. Even if we chose another frequency as our base the relationships of the sequence would still hold. 256 was chosen because it was based upon multiple of 1, 2, 4 etc. We also put all of the frequencies in the middle C octave for convenience of rapid identification of the notes. It is important to remember that it is the UNDERTONE sequence that is operating in these charts. So if you know the harmonics of the undertone series you can estimate the musical notes based upon the beginning note of the time or space values chosen.

SCALE BASED ON C = 256 AND INTERVALS = THE 12th ROOT OF 2; 29 Nov., 1990

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1 sec 256 cps C	16 sec 256 cps C	31 sec 264 cps Db	46 sec 356 cps Gb
2 sec 256 cps C	17 sec 481 cps B	32 sec 256 cps C	47 sec 348 cps F
3 sec 341 cps F	18 sec 455 cps Bb	33 sec 496 cps B	48 sec 341 cps F
4 sec 256 cps C	19 sec 431 cps A	34 sec 481 cps B	49 sec 334 cps F
5 sec 409 cps Ab	20 sec 409 cps Ab	35 sec 468 cps Bb	50 sec 327 cps E
6 sec 341 cps F	21 sec 390 cps G	36 sec 455 cps Bb	51 sec 321 cps E
7 sec 292 cps D	22 sec 372 cps Gb	37 sec 442 cps A	52 sec 315 cps E
8 sec 256 cps C	23 sec 356 cps Gb	38 sec 431 cps A	53 sec 309 cps Eb
9 sec 455 cps Bb	24 sec 341 cps F	39 sec 420 cps A	54 sec 303 cps Eb
10 sec 409 cps Ab	25 sec 327 cps E	40 sec 409 cps Ab	55 sec 297 cps Eb
11 sec 372 cps Gb	26 sec 315 cps E	41 sec 399 cps Ab	56 sec 292 cps D
12 sec 341 cps F	27 sec 303 cps Eb	42 sec 390 cps G	57 sec 287 cps D
13 sec 315 cps E	28 sec 292 cps D	43 sec 381 cps G	58 sec 282 cps D
14 sec 292 cps D	29 sec 282 cps D	44 sec 372 cps Gb	59 sec 277 cps Db
15 sec 273 cps Db	30 sec 273 cps Db	45 sec 364 cps Gb	60 sec 273 cps Db

Table 12

FREQUENCIES AND MUSICAL NOTES RELATIVE TO MINUTES, ONE TO 60. ONE MINUTE EQUALS 273 CPS = Db NOTE.

SCALE BASED ON C = 256 AND INTERVALS = THE 12th ROOT OF 2; 29 Nov., 1990

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1 min 273 cps Db	16 min 273 cps Db	31 min 281 cps D	46 min 379 cps G
2 min 273 cps Db	17 min 257 cps C	32 min 273 cps Db	47 min 371 cps Gb
3 min 364 cps Gb	18 min 485 cps B	33 min 264 cps Db	48 min 364 cps Gb
4 min 273 cps Db	19 min 459 cps Bb	34 min 257 cps C	49 min 356 cps Gb
5 min 436 cps A	20 min 436 cps A	35 min 249 cps C	50 min 349 cps F
6 min 364 cps Gb	21 min 416 cps Ab	36 min 485 cps B	51 min 342 cps F
7 min 312 cps Eb	22 min 397 cps Ab	37 min 472 cps B	52 min 336 cps F
8 min 273 cps Db	23 min 379 cps G	38 min 459 cps Bb	53 min 329 cps E
9 min 485 cps B	24 min 364 cps Gb	39 min 448 cps Bb	54 min 323 cps E
10 min 436 cps A	25 min 349 cps F	40 min 436 cps A	55 min 317 cps E
11 min 397 cps Ab	26 min 336 cps F	41 min 426 cps A	56 min 312 cps Eb
12 min 364 cps Gb	27 min 323 cps E	42 min 416 cps Ab	57 min 306 cps Eb
13 min 336 cps F	28 min 312 cps Eb	43 min 406 cps Ab	58 min 301 cps Eb
14 min 312 cps Eb	29 min 301 cps Eb	44 min 397 cps Ab	59 min 296 cps Eb
15 min 291 cps D	30 min 291 cps D	45 min 388 cps G	60 min 291 cps D

Table 13

FREQUENCIES AND MUSICAL NOTES RELATIVE TO HOURS

SCALE BASED ON C = 256 AND INTERVALS = THE 12th ROOT OF 2; 29 Nov., 1990

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1 hr 291 cps D	7 hr 332 cps F	13 hr 358 cps Gb	19 hr 490 cps B
2 hr 291 cps D	8 hr 291 cps D	14 hr 332 cps F	20 hr 466 cps Bb
3 hr 388 cps G	9 hr 258 cps C	15 hr 310 cps Eb	21 hr 443 cps Bb
4 hr 291 cps D	10 hr 466 cps Bb	16 hr 291 cps D	22 hr 423 cps A
5 hr 466 cps Bb	11 hr 423 cps A	17 hr 274 cps Db	23 hr 405 cps Ab
6 hr 388 cps G	12 hr 388 cps G	18 hr 258 cps C	24 hr 388 cps G

Table 14

FREQUENCIES AND MUSICAL NOTES RELATIVE TO DAYS

SCALE BASED ON C = 256 AND INTERVALS = THE 12th ROOT OF 2; 29 Nov., 1990

''Barbara Math 1:PeriodNote'' Copyright 1990 by Robert Miller Foulkrod

1 day 388 cps G	9 day 345 cps F	17 day 365 cps Gb	25 day 497 cps B
2 day 388 cps G	10 day 310 cps Eb	18 day 345 cps F	26 day 477 cps B
3 day 258 cps C	11 day 282 cps D	19 day 327 cps E	27 day 460 cps Bb
4 day 388 cps G	12 day 258 cps C	20 day 310 cps Eb	28 day 443 cps Bb
5 day 310 cps Eb	13 day 477 cps B	21 day 295 cps Eb	29 day 428 cps A
6 day 258 cps C	14 day 443 cps Bb	22 day 282 cps D	30 day 414 cps Ab
7 day 443 cps Bb	15 day 414 cps Ab	23 day 270 cps Db	31 day 400 cps Ab
8 day 388 cps G	16 day 388 cps G	24 day 258 cps C	32 day 388 cps G

Table 15

FREQUENCIES AND MUSICAL NOTES RELATIVE TO INCHES IN AIR. ONE INCH EQUALS 423 CPS = A^b NOTE.

DISTANCE			FREQUENCY		
In.	Ft.	Mtr.	Hertz	Note	Color
2	0	0.05	6780.00	A	Orange
3	0	0.08	4520.00	D	Blue-Grn
4	0	0.10	3390.00	A	Orange
5	0	0.13	2712.00	F	Violet
6	1	0.15	2260.00	D	Blue-Grn
7	1	0.18	1937.14	B	Yellow
8	1	0.20	1695.00	A	Orange
9	1	0.23	1506.67	G	Magenta
10	1	0.25	1356.00	F	Violet
11	1	0.28	1232.73	Eb	Blue
12	1	0.30	1130.00	D	Blue-Grn
13	1	0.33	1043.08	C	Green
14	1	0.36	968.57	B	Yellow
15	1	0.38	904.00	Bb	Orng-Yel
16	1	0.41	847.50	A	Orange
17	1	0.43	797.65	Ab	Peach
18	1	0.46	753.33	G	Magenta
19	1	0.48	713.68	Gb	Lavender
20	1	0.51	678.00	F	Violet
21	1	0.53	645.71	E	Blu-Viol
22	1	0.56	616.36	Eb	Blue
23	1	0.58	589.57	D	Blue-Grn
24	2	0.61	565.00	D	Blue-Grn
25	2	0.63	542.40	Db	Grn-Blue
26	2	0.66	521.54	C	Green
27	2	0.69	502.22	C	Green
28	2	0.71	484.29	B	Yellow
29	2	0.74	467.59	Bb	Orng-Yel
30	2	0.76	452.00	Bb	Orng-Yel
31	2	0.79	437.42	A	Orange
32	2	0.81	423.75	A	Orange
33	2	0.84	410.91	Ab	Peach
34	2	0.86	398.82	Ab	Peach
35	2	0.89	387.43	G	Magenta
36	2	0.91	376.67	G	Magenta
37	2	0.94	366.49	Gb	Lavender
38	2	0.97	356.84	Gb	Lavender
39	2	0.99	347.69	F	Violet
40	3	1.02	339.00	F	Violet
41	3	1.04	330.73	E	Blu-Viol
42	3	1.07	322.86	E	Blu-Viol
43	3	1.09	315.35	E	Blu-Viol
44	3	1.12	308.18	Eb	Blue
45	3	1.14	301.33	Eb	Blue
46	3	1.17	294.78	D	Blue-Grn
47	3	1.19	288.51	D	Blue-Grn
48	4	1.22	282.50	D	Blue-Grn
49	4	1.24	276.73	Db	Grn-Blue
50	4	1.27	271.20	Db	Grn-Blue
51	4	1.30	265.88	Db	Grn-Blue
52	4	1.32	260.77	C	Green
53	4	1.35	255.85	C	Green
54	4	1.37	251.11	C	Green
55	4	1.40	246.55	B	Yellow
56	4	1.42	242.14	B	Yellow
57	4	1.45	237.89	B	Yellow
58	4	1.47	233.79	Bb	Orng-Yel
59	4	1.50	229.83	Bb	Orng-Yel
60	5	1.52	226.00	Bb	Orng-Yel

Table 16

FREQUENCIES AND MUSICAL NOTES RELATIVE TO FEET IN AIR. ONE FOOT EQUALS 283 CPS = D NOTE.

DISTANCE			FREQUENCY		
Ft.	In.	Mtr.	Hertz	Note	Color
1	12	0.30	1130.00	D	Blue-Grn
2	24	0.61	565.00	D	Blue-Grn
3	36	0.91	376.67	G	Magenta
4	48	1.22	282.50	D	Blue-Grn
5	60	1.52	226.00	Bb	Orng-Yel
6	72	1.83	188.33	G	Magenta
7	84	2.13	161.43	E	Blu-Viol
8	96	2.44	141.25	D	Blue-Grn
9	108	2.74	125.56	C	Green
10	120	3.05	113.00	Bb	Orng-Yel
11	132	3.35	102.73	Ab	Peach
12	144	3.66	94.17	G	Magenta
13	156	3.96	86.92	F	Violet
14	168	4.27	80.71	E	Blu-Viol
15	180	4.57	75.33	Eb	Blue
16	192	4.88	70.63	D	Blue-Grn
17	204	5.18	66.47	Db	Grn-Blue
18	216	5.49	62.78	C	Green
19	228	5.79	59.47	B	Yellow
20	240	6.10	56.50	Bb	Orng-Yel
21	252	6.40	53.81	A	Orange
22	264	6.71	51.36	Ab	Peach
23	276	7.01	49.13	G	Magenta
24	288	7.32	47.08	G	Magenta
25	300	7.62	45.20	Gb	Lavender
26	312	7.92	43.46	F	Violet
27	324	8.23	41.85	F	Violet
28	336	8.53	40.36	E	Blu-Viol
29	348	8.84	38.97	Eb	Blue
30	360	9.14	37.67	Eb	Blue
31	372	9.45	36.45	D	Blue-Grn
32	384	9.75	35.31	D	Blue-Grn
33	396	10.06	34.24	Db	Grn-Blue
34	408	10.36	33.24	Db	Grn-Blue
35	420	10.67	32.29	C	Green
36	432	10.97	31.39	C	Green
37	444	11.28	30.54	B	Yellow
38	456	11.58	29.74	B	Yellow
39	468	11.89	28.97	Bb	Orng-Yel
40	480	12.19	28.25	Bb	Orng-Yel
41	492	12.50	27.56	A	Orange
42	504	12.80	26.90	A	Orange
43	516	13.11	26.28	A	Orange
44	528	13.41	25.68	Ab	Peach
45	540	13.72	25.11	Ab	Peach
46	552	14.02	24.57	G	Magenta
47	564	14.33	24.04	G	Magenta
48	576	14.63	23.54	G	Magenta
49	588	14.94	23.06	Gb	Lavender
50	600	15.24	22.60	Gb	Lavender
51	612	15.54	22.16	Gb	Lavender
52	624	15.85	21.73	F	Violet
53	636	16.15	21.32	F	Violet
54	648	16.46	20.93	F	Violet
55	660	16.76	20.55	E	Blu-Viol
56	672	17.07	20.18	E	Blu-Viol
57	684	17.37	19.82	E	Blu-Viol
58	696	17.68	19.48	Eb	Blue
59	708	17.98	19.15	Eb	Blue
60	720	18.29	18.83	Eb	Blue

Table 17

SCALE BASED ON C = 256 AND INTERVALS = THE 12th ROOT OF 2; 7 Nov.,'90

RABas2:MileNote Copyright 1990 by Robert Miller Foulkrod

1 Mi 438 cps A	2 Mi 438 cps A	3 Mi 292 cps D	4 Mi 438 cps A
5 Mi 350 cps F	6 Mi 292 cps D	7 Mi 250 cps C	8 Mi 438 cps A
9 Mi 389 cps G	10 Mi 350 cps F	11 Mi 318 cps E	12 Mi 292 cps D
13 Mi 269 cps Db	14 Mi 250 cps C	15 Mi 467 cps Bb	16 Mi 438 cps A
17 Mi 412 cps Ab	18 Mi 389 cps G	19 Mi 369 cps Gb	20 Mi 350 cps F
21 Mi 333 cps F	22 Mi 318 cps E	23 Mi 304 cps Eb	24 Mi 292 cps D
25 Mi 280 cps D	26 Mi 269 cps Db	27 Mi 259 cps C	28 Mi 250 cps C
29 Mi 483 cps B	30 Mi 467 cps Bb	31 Mi 452 cps Bb	32 Mi 438 cps A
33 Mi 425 cps A	34 Mi 412 cps Ab	35 Mi 400 cps Ab	36 Mi 389 cps G
37 Mi 379 cps G	38 Mi 369 cps Gb	39 Mi 359 cps Gb	40 Mi 350 cps F
41 Mi 342 cps F	42 Mi 333 cps F	43 Mi 326 cps E	44 Mi 318 cps E
45 Mi 311 cps Eb	46 Mi 304 cps Eb	47 Mi 298 cps Eb	48 Mi 292 cps D
49 Mi 286 cps D	50 Mi 280 cps D	51 Mi 275 cps Db	52 Mi 269 cps Db
53 Mi 264 cps Db	54 Mi 259 cps C	55 Mi 255 cps C	56 Mi 250 cps C
57 Mi 492 cps B	58 Mi 483 cps B	59 Mi 475 cps B	60 Mi 467 cps Bb
61 Mi 459 cps Bb	62 Mi 452 cps Bb	63 Mi 445 cps Bb	64 Mi 438 cps A
65 Mi 431 cps A	66 Mi 425 cps A	67 Mi 418 cps A	68 Mi 412 cps Ab
69 Mi 406 cps Ab	70 Mi 400 cps Ab	71 Mi 395 cps Ab	72 Mi 389 cps G
73 Mi 384 cps G	74 Mi 379 cps G	75 Mi 374 cps G	76 Mi 369 cps Gb
77 Mi 364 cps Gb	78 Mi 359 cps Gb	79 Mi 355 cps Gb	80 Mi 350 cps F
81 Mi 346 cps F	82 Mi 342 cps F	83 Mi 337 cps F	84 Mi 333 cps F
85 Mi 330 cps E	86 Mi 326 cps E	87 Mi 322 cps E	88 Mi 318 cps E
89 Mi 315 cps E	90 Mi 311 cps Eb	91 Mi 308 cps Eb	92 Mi 304 cps Eb
93 Mi 301 cps Eb	94 Mi 298 cps Eb	95 Mi 295 cps D	96 Mi 292 cps D
97 Mi 289 cps D	98 Mi 286 cps D	99 Mi 283 cps D	100 Mi 280 cps D
101 Mi 277 cps Db	102 Mi 275 cps Db	103 Mi 272 cps Db	104 Mi 269 cps Db

Table 18

FREQUENCIES AND MUSICAL NOTES RELATIVE TO LIGHT YEARS. ONE LIGHT YEAR EQUALS 272 CPS = Db NOTE. B

RABas2:LightYrs-Freq -- C = 256 Hertz -- 10/14/90 -- @ Copyright by Robert Miller Faulkrod

LIGHT YEARS	FREQ	NOTE	COLOR	LIGHT YEARS	FREQ	NOTE	COLOR	LIGHT YEARS	FREQ	NOTE	COLOR
3	1.056E-08	Gb	GREEN	243	1.304E-10	D	ORANGE	483	6.561E-11	D	ORANGE
6	5.281E-09	Gb	GREEN	246	1.288E-10	D	ORANGE	486	6.520E-11	D	ORANGE
9	3.521E-09	B	RED VIO	249	1.273E-10	D	ORANGE	489	6.480E-11	D	ORANGE
12	2.641E-09	Gb	GREEN	252	1.257E-10	Db	RED ORG	492	6.441E-11	D	ORANGE
15	2.113E-09	D	ORANGE	255	1.243E-10	Db	RED ORG	495	6.402E-11	D	ORANGE
18	1.760E-09	B	RED VIO	258	1.228E-10	Db	RED ORG	498	6.363E-11	D	ORANGE
21	1.509E-09	Ab	BLUE	261	1.214E-10	Db	RED ORG	501	6.325E-11	Db	RED ORG
24	1.320E-09	Gb	GREEN	264	1.200E-10	Db	RED ORG	504	6.287E-11	Db	RED ORG
27	1.174E-09	E	YELLOW	267	1.187E-10	C	RED	507	6.250E-11	Db	RED ORG
30	1.056E-09	D	ORANGE	270	1.174E-10	C	RED	510	6.214E-11	Db	RED ORG
33	9.603E-10	Db	RED ORG	273	1.161E-10	C	RED	513	6.177E-11	Db	RED ORG
36	8.802E-10	B	RED VIO	276	1.148E-10	C	RED	516	6.141E-11	Db	RED ORG
39	8.125E-10	Bb	VIOLET	279	1.136E-10	C	RED	519	6.106E-11	Db	RED ORG
42	7.545E-10	Ab	BLUE	282	1.124E-10	B	RED VIO	522	6.071E-11	Db	RED ORG
45	7.042E-10	G	BLU GRN	285	1.112E-10	B	RED VIO	525	6.036E-11	Db	RED ORG
48	6.602E-10	Gb	GREEN	288	1.100E-10	B	RED VIO	528	6.002E-11	Db	RED ORG
51	6.214E-10	F	YEL GRN	291	1.089E-10	B	RED VIO	531	5.968E-11	C	RED
54	5.868E-10	E	YELLOW	294	1.078E-10	B	RED VIO	534	5.934E-11	C	RED
57	5.559E-10	Eb	YEL ORG	297	1.067E-10	Bb	VIOLET	537	5.901E-11	C	RED
60	5.281E-10	D	ORANGE	300	1.056E-10	Bb	VIOLET	540	5.868E-11	C	RED
63	5.030E-10	Db	RED ORG	303	1.046E-10	Bb	VIOLET	543	5.836E-11	C	RED
66	4.801E-10	Db	RED ORG	306	1.036E-10	Bb	VIOLET	546	5.804E-11	C	RED
69	4.593E-10	C	RED	309	1.026E-10	Bb	VIOLET	549	5.772E-11	C	RED
72	4.401E-10	B	RED VIO	312	1.016E-10	Bb	VIOLET	552	5.741E-11	C	RED
75	4.225E-10	Bb	VIOLET	315	1.006E-10	A	BLU VIO	555	5.710E-11	C	RED
78	4.063E-10	Bb	VIOLET	318	9.965E-11	A	BLU VIO	558	5.679E-11	C	RED
81	3.912E-10	A	BLU VIO	321	9.872E-11	A	BLU VIO	561	5.649E-11	B	RED VIO
84	3.772E-10	Ab	BLUE	324	9.781E-11	A	BLU VIO	564	5.619E-11	B	RED VIO
87	3.642E-10	Ab	BLUE	327	9.691E-11	A	BLU VIO	567	5.589E-11	B	RED VIO
90	3.521E-10	G	BLU GRN	330	9.603E-11	A	BLU VIO	570	5.559E-11	B	RED VIO
93	3.407E-10	G	BLU GRN	333	9.516E-11	A	BLU VIO	573	5.530E-11	B	RED VIO
96	3.301E-10	Gb	GREEN	336	9.431E-11	Ab	BLUE	576	5.502E-11	B	RED VIO
99	3.201E-10	Gb	GREEN	339	9.348E-11	Ab	BLUE	579	5.473E-11	B	RED VIO
102	3.107E-10	F	YEL GRN	342	9.266E-11	Ab	BLUE	582	5.445E-11	B	RED VIO
105	3.018E-10	E	YELLOW	345	9.185E-11	Ab	BLUE	585	5.417E-11	B	RED VIO
108	2.934E-10	E	YELLOW	348	9.106E-11	Ab	BLUE	588	5.389E-11	B	RED VIO
111	2.855E-10	E	YELLOW	351	9.028E-11	Ab	BLUE	591	5.362E-11	B	RED VIO
114	2.780E-10	Eb	YEL ORG	354	8.952E-11	G	BLU GRN	594	5.335E-11	Bb	VIOLET
117	2.708E-10	Eb	YEL ORG	357	8.876E-11	G	BLU GRN	597	5.308E-11	Bb	VIOLET
120	2.641E-10	D	ORANGE	360	8.802E-11	G	BLU GRN	600	5.281E-11	Bb	VIOLET
123	2.576E-10	D	ORANGE	363	8.730E-11	G	BLU GRN	603	5.255E-11	Bb	VIOLET
126	2.515E-10	Db	RED ORG	366	8.658E-11	G	BLU GRN	606	5.229E-11	Bb	VIOLET
129	2.457E-10	Db	RED ORG	369	8.588E-11	G	BLU GRN	609	5.203E-11	Bb	VIOLET
132	2.401E-10	Db	RED ORG	372	8.519E-11	G	BLU GRN	612	5.178E-11	Bb	VIOLET
135	2.347E-10	C	RED	375	8.450E-11	Gb	GREEN	615	5.153E-11	Bb	VIOLET
138	2.296E-10	C	RED	378	8.383E-11	Gb	GREEN	618	5.128E-11	Bb	VIOLET
141	2.247E-10	B	RED VIO	381	8.317E-11	Gb	GREEN	621	5.103E-11	Bb	VIOLET
144	2.201E-10	B	RED VIO	384	8.252E-11	Gb	GREEN	624	5.078E-11	Bb	VIOLET
147	2.156E-10	B	RED VIO	387	8.188E-11	Gb	GREEN	627	5.054E-11	Bb	VIOLET
150	2.113E-10	Bb	VIOLET	390	8.125E-11	Gb	GREEN	630	5.030E-11	A	BLU VIO
153	2.071E-10	Bb	VIOLET	393	8.063E-11	Gb	GREEN	633	5.006E-11	A	BLU VIO
156	2.031E-10	Bb	VIOLET	396	8.002E-11	Gb	GREEN	636	4.983E-11	A	BLU VIO
159	1.993E-10	A	BLU VIO	399	7.942E-11	F	YEL GRN	639	4.959E-11	A	BLU VIO
162	1.956E-10	A	BLU VIO	402	7.883E-11	F	YEL GRN	642	4.936E-11	A	BLU VIO
165	1.921E-10	A	BLU VIO	405	7.824E-11	F	YEL GRN	645	4.913E-11	A	BLU VIO
168	1.886E-10	Ab	BLUE	408	7.767E-11	F	YEL GRN	648	4.890E-11	A	BLU VIO
171	1.853E-10	Ab	BLUE	411	7.710E-11	F	YEL GRN	651	4.868E-11	A	BLU VIO
174	1.821E-10	Ab	BLUE	414	7.654E-11	F	YEL GRN	654	4.845E-11	A	BLU VIO
177	1.790E-10	G	BLU GRN	417	7.599E-11	F	YEL GRN	657	4.823E-11	A	BLU VIO
180	1.760E-10	G	BLU GRN	420	7.545E-11	E	YELLOW	660	4.801E-11	A	BLU VIO
183	1.732E-10	G	BLU GRN	423	7.491E-11	E	YELLOW	663	4.780E-11	A	BLU VIO
186	1.704E-10	G	BLU GRN	426	7.439E-11	E	YELLOW	666	4.758E-11	A	BLU VIO
189	1.677E-10	Gb	GREEN	429	7.387E-11	E	YELLOW	669	4.737E-11	Ab	BLUE
192	1.650E-10	Gb	GREEN	432	7.335E-11	E	YELLOW	672	4.716E-11	Ab	BLUE
195	1.625E-10	Gb	GREEN	435	7.285E-11	E	YELLOW	675	4.695E-11	Ab	BLUE
198	1.600E-10	Gb	GREEN	438	7.235E-11	E	YELLOW	678	4.674E-11	Ab	BLUE

CHAKRA CYCLES BASED ON HOURS OF THE DAY

HARMONICS OF HOURS FOR CHAKRA ENERGIES IN GROUPS OF EIGHT

(One Hour Equals a Frequency of 291 as a First Harmonic)

FIRST CHAKRA CYCLE OF THE HOURS OF THE DAY

Time	Frequency	Approximate Note	Color	Chakra
07:00 AM	332 cps	F	Green	Heart
08:00. AM	291 cps	D	Orange	Polarity
09:00 AM	258 cps	C	Red	Root
10:00 AM	466 cps	B^b	Violet	3rd Eye
11:00 AM	423 cps	A	Aqua	Psychic
12:00 Noon	388 cps	G	Blue	Throat
01:00 PM	358 cps	G^b	Blue Green	Heart/Throat
02:00 PM	332 cps	F	Green	Heart

SECOND CHAKRA CYCLE OF THE HOURS OF THE DAY

Time	Frequency	Approximate Note	Color	Chakra
03:00 PM	310 cps	E^b	Yellow	Solar Plexus
04:00 PM	291 cps	D	Orange	Polarity
05:00 PM	466 cps	B^b	Violet	3rd Eye
06:00 PM	388 cps	G	Blue	Throat
07:00 PM	332 cps	F	Green	Heart
08:00 PM	291 cps	D	Orange	Polarity
09:00 PM	258 cps	C	Red Green	Root
10:00 PM	466 cps	B^b	Violet	3rd Eye

THIRD CHAKRA CYCLE OF THE HOURS OF THE DAY

Time	Frequency	Approximate Note	Color	Chakra
11:00 PM	423 cps	A	Aqua	3rd Eye
12:00 MIDNIGHT	388 cps	G	Blue	Throat
01:00 AM	358 cps	G^b	Blue Green	Heart/Throat
02:00 AM	332 cps	F	Green	Heart
03:00 AM	310 cps	E^b	Yellow	Solar Plexus
04:00 AM	291 cps	D	Orange	Polarity
05:00 AM	466 cps	B^b	Violet	3rd Eye
06:00 AM	388 cps	G	Blue	Throat
(7:00 AM	332 cps	F	Green	Heart)

THE CYCLE REPEATS

Table 20

CHAKRA CYCLES BASED ON DAYS OF THE MONTH

HARMONICS OF DAYS OF THE MONTH FOR CHAKRA ENERGIES IN GROUPS OF SEVEN

(One Day Equals a Frequency of 388 as a First Harmonic)

FIRST CHAKRA CYCLE OF THE SEVEN DAYS OF THE WEEK

Day	Frequency	Approximate Note	Color	Chakra
07th Day	443 cps	Bb	Violet	3rd Eye
08th Day	388 cps	G	Blue	Throat
09th Day	345 cps	F	Green	Heart
10th Day	310 cps	E^b	Yellow	Solar Plexus
11th Day	282 cps	D	Orange	Polarity
12th Day	258 cps	C	Red	Root
13th day	477 cps	B	Lavender	Crown

SECOND CHAKRA CYCLE OF THE SEVEN DAYS OF THE WEEK

Day	Frequency	Approximate Note	Color	Chakra
14th Day	443 cps	B^b	Violet	3rd Eye
15th Day	414 cps	A^b	Aqua	Psychic
16th Day	388 cps	G	Blue	Throat
07th Day	443 cps	B^b	Violet	3rd Eye
08th Day	388 cps	G	Blue	Throat
09th Day	345 cps	F	Green	Heart
10th day	310 cps	E^b	Yellow	Solar Plexus

THIRD CHAKRA CYCLE OF THE SEVEN DAYS OF THE WEEK

Day	Frequency	Approximate Note	Color	Chakra
11th Day	282 cps	D	Orange	Polarity
12th Day	258 cps	C	Red	Root
13th Day	477 cps	B	Lavender	Crown
14th Day	443 cps	B^b	Violet	3rd Eye
15th Day	414 cps	A^b	Aqua	Psychic
16th Day	388 cps	G	Blue	Throat
07th day	443 cps	B^b	Violet	3rd Eye

FOURTH CHAKRA CYCLE OF THE SEVEN DAYS OF THE WEEK

Day	Frequency	Approximate Note	Color	Chakra
08th Day	388 cps	G	Blue	Throat
09th Day	345 cps	F	Green	Heart
10th Day	310 cps	E^b	Yellow	Solar Plexus
11th Day	282 cps	D	Orange	Polarity
12th Day	258 cps	C	Red	Root
13th Day	477 cps	B	Lavender	Crown
14th day	443 cps	B^b	Violet	3rd Eye

THE CYCLE REPEATS

Table 21

CHAKRAS AND NUTRIENTS ON THE PERIODIC TABLE OF ELEMENTS

Atomic # 09		Element	Note	Color	Chakra
Overtone	288 cps	Flurine	D	Orange	Polarity
Undertone	455 cps		B-	Purple	3rd Eye
Atomic # 12		Element	Note	Color	Chakra
Overtone	384 cps	Magnesium	G	Blue	Throat
Undertone	341 cps		F	Green	Heart
Atomic # 15		Element	Note	Color	Chakra
Overtone	480 cps	Phosphorus	B	Violet	Crown
Undertone	273 cps		D-	Orange	Polarity
Atomic # 19		Element	Note	Color	Chakra
Overtone	304 cps	Potassium	E-	Yellow /Orange	Solar/Plexus
Undertone	432 cps		A-	Aqua	Psychic Center
Atomic # 20		Element	Note	Color	Chakra
Overtone	320 cps	Calcium	E-	Yellow/Orange	Solar/Plexus
Undertone	410 cps		A--	Aqua	Psychic
Atomic # 24		Element	Note	Color	Chakra
Overtone	384 cps	Chromium	G	Blue	Throat
Undertone	341 cps		F	Green	Heart
Atomic # 25		Element	Note	Color	Chakra
Overtone	400 cps	Manganese	A-	Blue Aqua	Heart/Psychic
Undertone	328 cps		E	Yellow	Solar Plexus
Atomic # 26		Element	Note	Color	Chakra
Overtone	416 cps	Iron	A-	Aqua	Psychic
Undertone	315 cps		E-	Yellow/Orange	Solar/Plexus
Atomic # 29		Element	Note	Color	Chakra
Overtone	464 cps	Copper	B-	Purple	3rd Eye
Undertone	283 cps		D	Orange	Polarity
Atomic # 30		Element	Note	Color	Chakra
Overtone	480 cps	Zinc	B	Violet	Crown
Undertone	273 cps		D-	Orange/Red	Polarity
Atomic # 34		Element	Note	Color	Chakra
Overtone	272 cps	Selenium	D-	Orange/Red	Polarity
Undertone	482 cps		B	Violet	Crown
Atomic # 42		Element	Note	Color	Chakra
Overtone	336 cps	Molybdenum	F	Green/Yellow	Heart/Solar Plexus
Undertone	390 cps		G+	Blue	Throat/Psychic
Atomic # 53		Element	Note	Color	Chakra
Overtone	424 cps	Iodine	A-	Aqua/Violet	Psychic
Undertone	309 cps		E-	Yellow/Orange	Solar/Plexus

Table 22

THE 11625 MYSTERY

What is the frequency of different colors if 186,000 miles per second is the average speed of light? What if the average speed of light encompasses the seven or eight major colors? What if we took 186,000 as the fundamental frequency of light in a Lambdoma Matrix? Then the last 78 steps of the subharmonic series might have this result:

01/01	=	186,000	
08/16	=	93,000 =	red
09/16	=	104,625=	orange
10/16	=	116,250=	yellow
11/16	=	127,875=	green
12/16	=	139,500=	blue
13/16	=	151,125=	indigo
14/16	=	162,750=	purple
15/16	=	174,375=	lavender

Now:

186,000 - 174,375/1 = 11,625; 186,000 - 162,750/2 = 11,625;
186,000 - 151,125/3 = 11,625; 186,000 - 139,500/4 = 11,625;
186,000 - 127,875/5 = 11,625; 186,000 - 116,250/6 = 11,625;
186,000 - 104,625/7 = 11,625; 186,000 - 93,000/8 = 11,625

LIGHT

Apply the formula:

$$v = fw$$

Where:

v = velocity of light in miles per second
f = frequency in miles per second
w = wavelength in miles

Since the wavelength of light is negligible we say that:

$$v = f$$

SOUND

Now:

v = velocity of sound in feet per second
f = frequency in feet per second
w = wavelength in feet

$$v = \text{almost } 0 \text{ in a vacuum}$$

Therefore we say that:

$$f = l/w$$

(*notice the complementary colors comparing above to below*).
186,000 cps in sound (by octave reduction) = 363 cps (F+) green
184,625 cps in sound (by octave reduction) = 409 cps (G+) blue-green
116,250 cps in sound (by octave reduction) = 454 cps (B-) indigo
127,875 cps in sound (by octave reduction) = 500 cps (C-) red
139,500 cps in sound (by octave reduction) = 273 cps (D-) orange
151,125 cps in sound (by octave reduction) = 295 cps (D+) yellow/orange
162,750 cps in sound (by octave reduction) = 318 cps (E-) yellow
174,375 cps in sound (by octave reduction) = 341 cps (F) green

Table 23

CHAKRA CORRESPONDENCE WITH BRAIN WAVES

Alpha Wave: 08.0 - 13.0 cps
Beta Waves: 14.0 - 28.0 cps
Theta Waves: 04.0 - 07.0 cps
Delta Waves: 00.5 - 03.5 cps

Alpha Waves : Edge of Sleep, Creativity, Relaxation

Number	Frequency	Note	Colors Absorbing	Colors Transmitting	Chakra
08	256 cps	C-	Red	Green	Root
09	288 cps	D	Orange	Aqua	Polarity
10	320 cps	E^b	Yellow	Blue	Solar Plexus
11	352 cps	F#	Green	Lavender	Heart
12	384 cps	G	Blue	Magenta	Throat
13	416 cps	A^b	Aqua	Peach	Psychic

Beta Waves : Waking ,Alert

Number	Frequency	Note	Colors Absorbing	Colors Transmitting	Chakra
14	448 cps	B^b	Purple	Orange	3rd Eye
15	480 cps	B	Lavender	Gold	Crown
16	256 cps	C-	Red	Green	Root
17	272 cps	C#	Red	Green	Root
18	288 cps	D	Orange	Aqua	Polarity
19	304 cps	D#	Orange	Aqua	Polarity
20	320 cps	E^b	Yellow	Blue	Solar Plexus

Theta Waves : Meditation

Number	Frequency	Note	Colors Absorbing	Colors Transmitting	Chakra
04	256 cps	C-	Red	Green	Root
05	320 cps	E^b	Yellow	Blue	Solar Plexus
06	384 cps	G	Blue	Magenta	Throat
07	448 cps	B^b	Purple	Orange	3rd Eye

Delta Waves : Sleep

Number	Frequency	Note	Colors Absorbing	Colors Transmitting	Chakra
00.5	256 cps	C-	Red	Green	Root
00.6	307 cps	D#	Orange	Aqua	Polarity
00.7	358 cps	F#	Green	Violet	Heart
00.8	410 cps	A^b	Aqua	Peach	Psychic
00.9	461 cps	B^b	Purple	Orange	3rd Eye
01.0	256 cps	C-	Red	Green	Root
02.0	256 cps	C-	Red	Green	Root
03.0	384 cps	G	Blue	Green	Throat

RATIOS OF FREQUENCIES TO DECELERATE ENERGY IN ORDER TO HELP OTHERS DEAL WITH THE ACCELERATION OF ENERGY ON THE PLANET

Begin with the lowest sound of each voice as the carrier frequency.
Then use the 15/16, 16/15 ratios, and also the 8/15, 15/18 ratios to determine the retardation field.
Have the carrier frequency sound at an interval of 68 seconds. Then have the two other frequencies sound simultaneously at pulses of 3 seconds, lasting 4 seconds.
Try this and measure the effects by bio-kinesiology channeling.

ISOTOPE FREQUENCIES AND ABSORBING COLORS
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Name	Frequency	Note	Color	Half Life	
Hydrogen	355.2 cps	G-	Green	12.26	Years
Carbon	389.2 cps	G	Blue Green	5730	Years
Potassium	456.7 cps	B-	Purple	1.28E+09	Years
Rubidium	311.8 cps	E-	Yellow Orange	4.8E+11	Years
Lutetium	252.8 cps	C	Red	3.7E+10	Years
Rhenium	374.1 cps	G	Blue Green	5E+10	Years
Lead	390.6 cps	G	Blue Green	22.3	Years
Polonium	359.2 cps	G-	Green	138.38	Days
Radon	406.2 cps	A-	Blue	3.824	Days
Francium	400.0 cps	A-	Blue	21.8	Minutes
Radium	348.4 cps	F	Yellow Green	1600	Years
Actinium	400.1 cps	A-	Blue	21.77	Years
Thorium (228)	284.6 cps	D	Orange	1.913	Years
Thorium (230)	485.9 cps	B	Red Purple	7.7E+10	Years
Thorium (232)	334.0 cps	F	Yellow Green	1.4E+10	Years
Protactinium	278.7 cps	D-	Red Orange	32000	Years
Uranium (234)	292.4 cps	D	Orange	244000	Years
Uranium (235)	415.2 cps	A-	Blue	7.04E+08	Years
Uranium (238)	261.5 cps	C	Red	4.47E+09	Years
Plutonium	370.1 cps	G-	Green	24100	Years

Table 25

PLANET FREQUENCIES & ABSORBING COLORS
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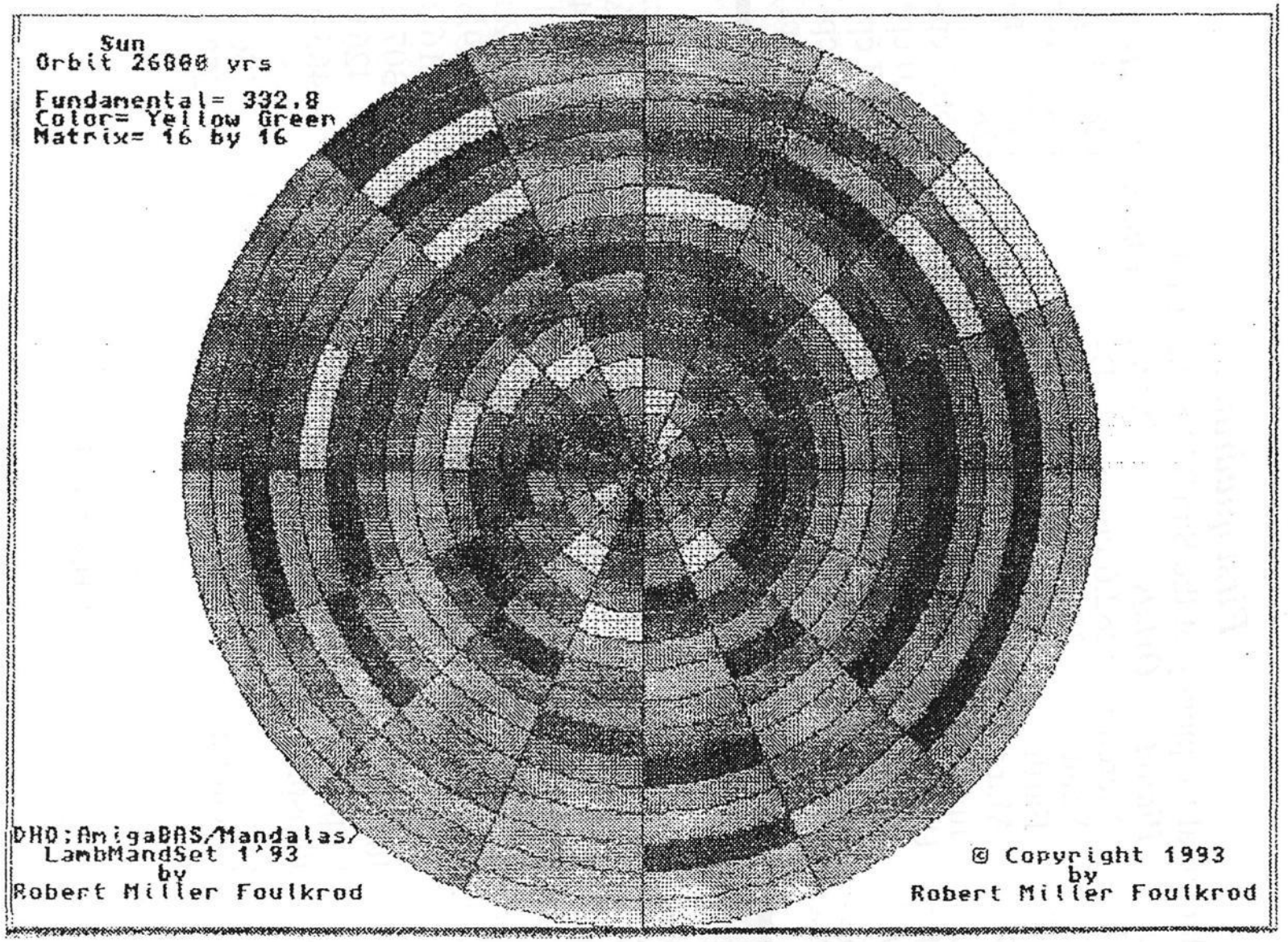
Planet	Frequency	Note	Color	Revolutions	
Mercury	282.4 cps	D	Orange	88	Days
Venus	442.5 cps	A	Blue Purple	224.7	Days
Earth	272.2 cps	D-	Red Orange	365.3	Days
Mars	289.4 cps	D	Orange	687	Days
Jupiter	367.2 cps	G-	Green	11.86	Years
Saturn	295.7 cps	D	Orange	29.46	Years
Uranus	414.7 cps	A-	Blue	84.01	Years
Neptune	422.8 cps	A	Blue Purple	164.8	Years
Pluto	288.5 cps	D	Orange	248.4	Years

Table 26



Orbital Period of the Sun (26,000 Years)
Represented in a 16 by 16 Lambdoma Mandala (332.8 cps)

Figure 13

ORBITAL PERIODS OF THE PLANETS BASED UPON THE FUNDAMENTAL FREQUENCY OF THE SUN'S ORBIT AROUND THE GALAXY.

First quadrant:

Fundamental frequency of the Sun 332.8 cps at 1:1

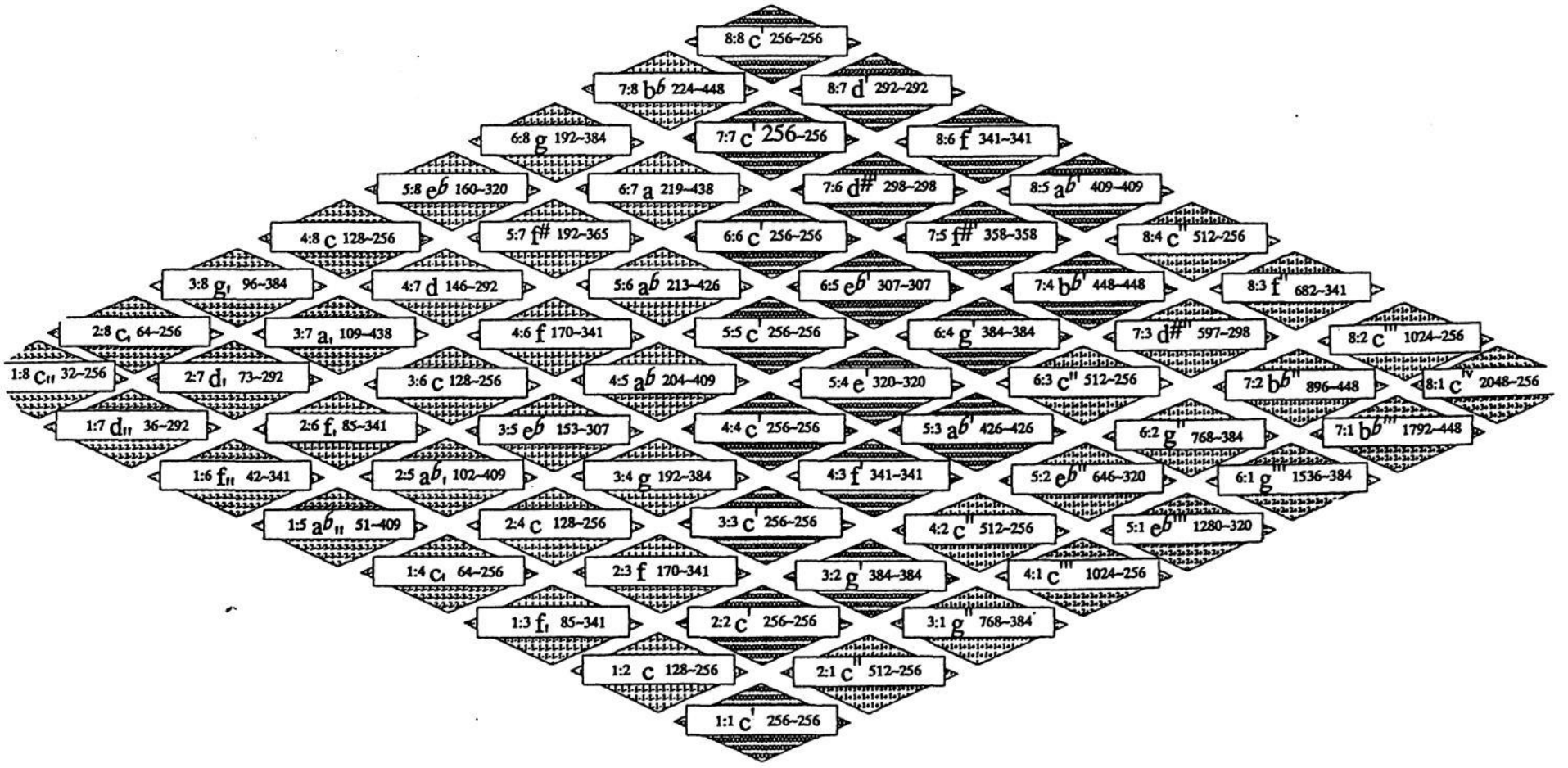
Ratios	*Planet*	*Orbits*	*Notes*	*Approx. Frequency*
06/07	Mercury	282.6 cps	D-	(285.3 cps)
04/03	Venus	221.2 cps	A	(443.7 cps)
05/06	Earth	272.2 cps	C#	(277.3 cps)
06/07	Mars	289.4 cps	D+	(285.3 cps)
11/10*	Jupiter	367.2 cps	F#	(366.1 cps)
05/04	Uranus	414.7 cps	A♭	(416.0 cps)
08/09	Saturn	295.7 cps	D#	(295.8 cps)
04/05	Neptune	422.8 cps	A♭	(266.3 cps)
06/07	Pluto	288.5 cps	D	(285.3 cps)

Fundamental frequency of hydrogen is 256 cps at 1:1

Ratios	*Element*	*Atomic number*	*Notes*	*Approx. frequencies*
03/02	Chromium	384.0	G	384
04/03	Molybdenum	366.0	F#	341
05/04	Calcium	320.0	E♭	320
04/05	Manganese	400.0	G#	409.6
13/08*	Iron	416.0	A♭	416.0
06/05	Potassium	304.0	D#	307.2
05/06	Iodine	424.0	A-	426.6
10/11*	Copper	464.0	B♭	465.5
15/16*	Phosphorus	480.0	B	480.0
15/16*	Zinc	480.0	B	480.0
16/15*	Selenium	272.0	C#	273.1

*In a different quadrant.

Tables 27 and 28



First Quadrant based on a fundamental of 256 cps.
n ~ m (n = Actual Frequencies m = Reference Octave Frequencies)
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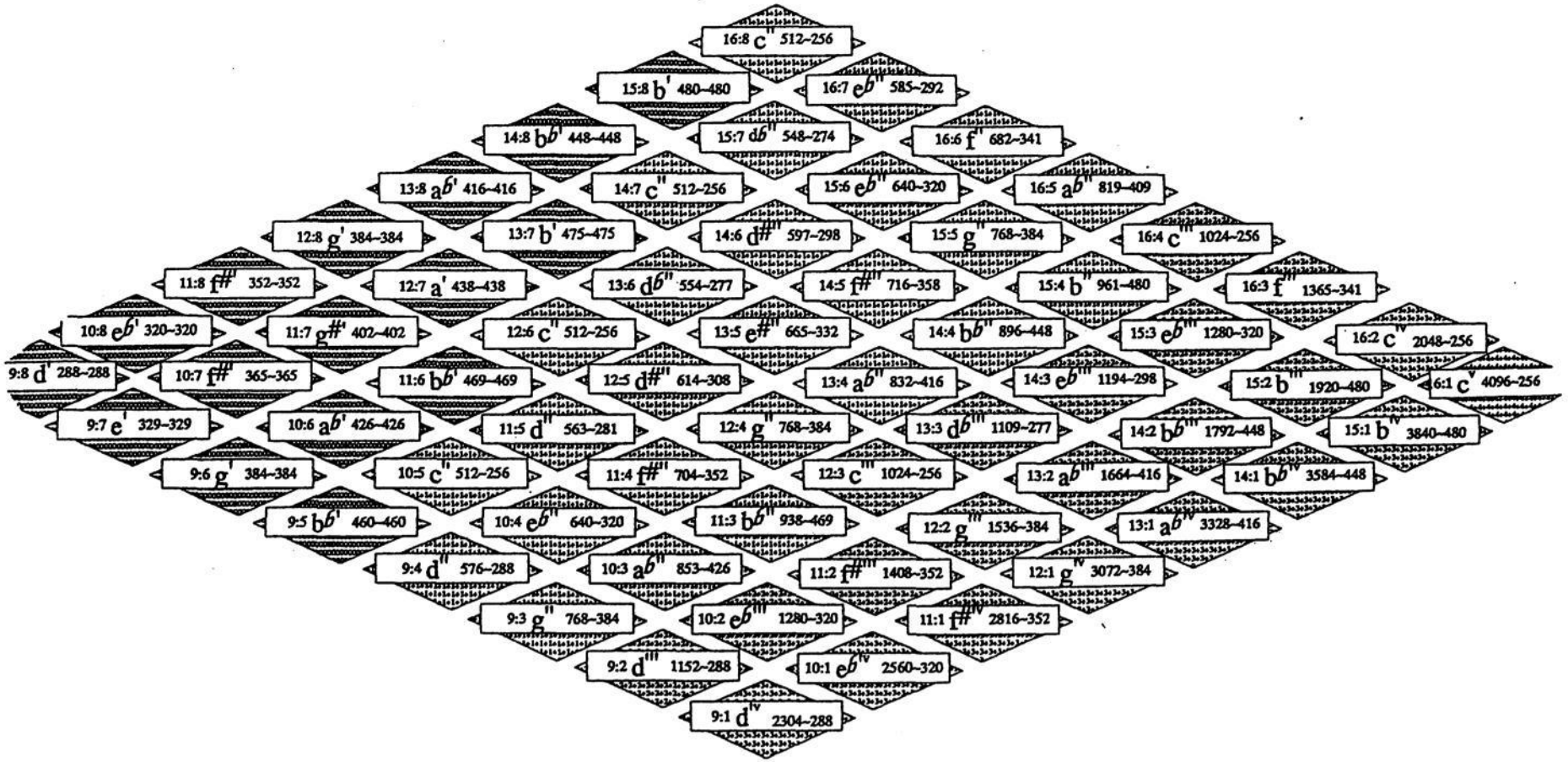
Figure 14



Second Quadrant based on a fundamental of 256 cps.
n ~ m (n = Actual Frequencies m = Reference Octave Frequencies)
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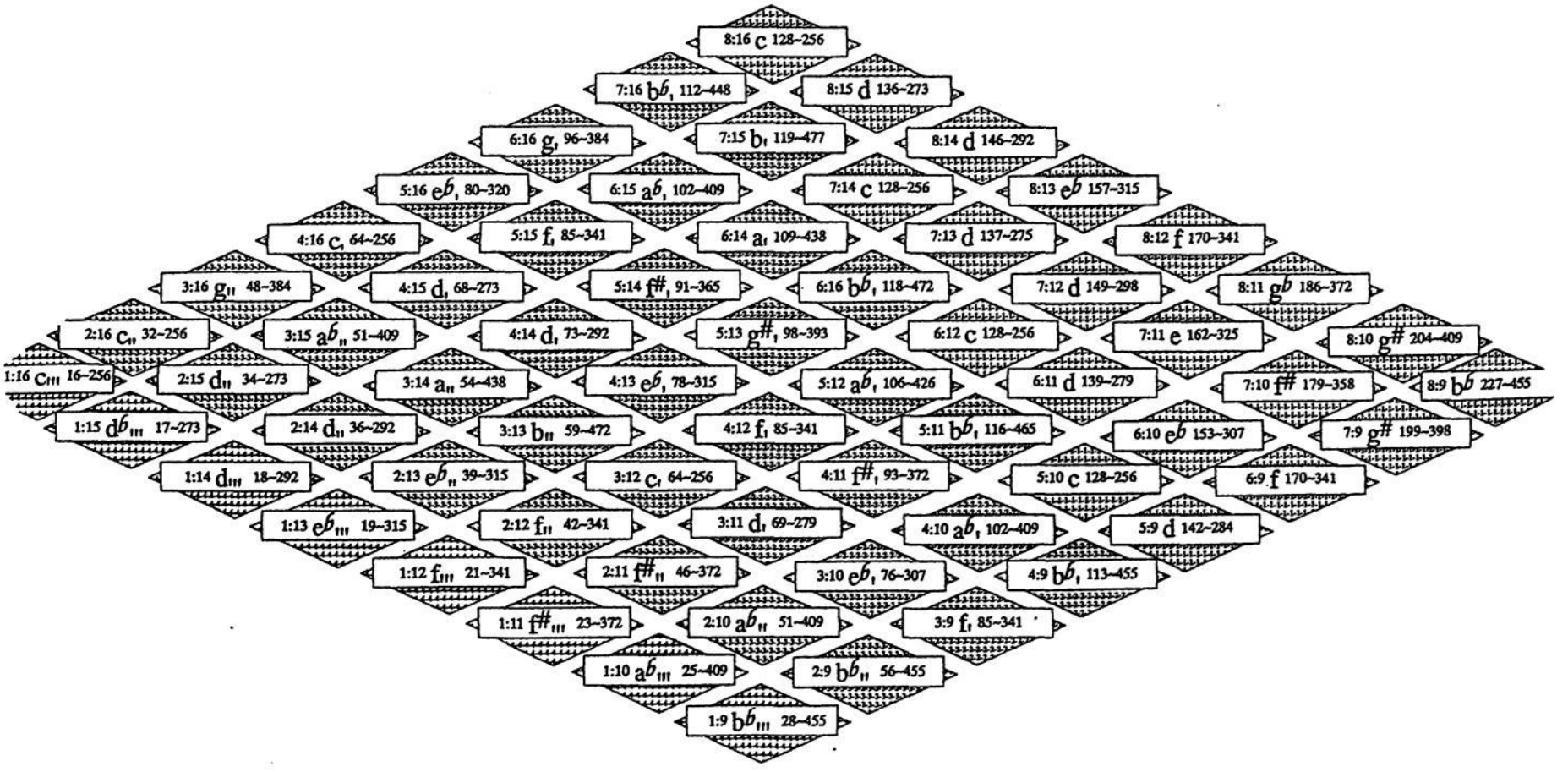
Figure 15



Third Quadrant based on a fundamental of 256 cps.
n ~ m (n = Actual Frequencies m = Reference Octave Frequencies)
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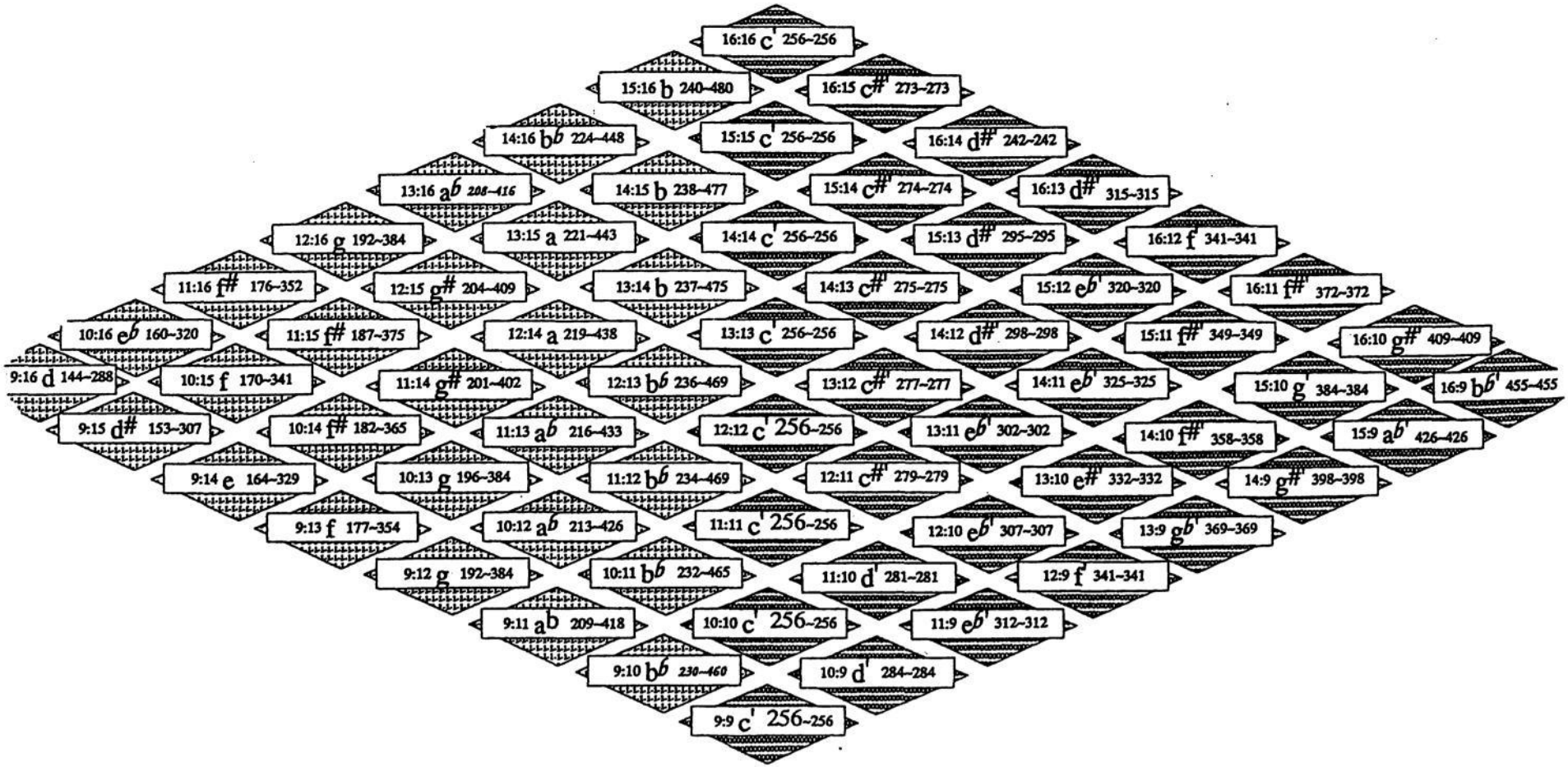
Figure 16



Fourth Quadrant based on a fundamental of 256 cps.
n ~ m (n = Actual Frequencies m = Reference Octave Frequencies)
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Figure 17

COMPARISON OF THE FREQUENCY OF 341 HZ TO OTHER PHENOMENA

The frequency of 341 Hz is a common denominator in most scales in different cultures. It is an F natural and is considered in many systems the Heart Chakra Energy Center. Let us compare other phenomena to this frequency:

1) **341 Hz (F) is the third sub-harmonic of a fundamental frequency of 256 Hz (C-), therefore 3 seconds translates to 341 Hz (F).**

2) **1 minute = 273 Hz (D-) therefore 25 minutes translates to 349 Hz (F+).**

3) **1 hour = 291 Hz (D+) therefore 7 hours translates to 333 Hz (F-).**

4) **1 day = 388 Hz (G+) therefore the 9th day translates to 345 Hz (F+).**

5) **1 year = 272 Hz (D-) therefore 13 years translates to 335 Hz (F-).**

6) **1 light year = 272 Hz (D-_ therefore the star system Antares at a distance of 400 light years translates to 348.4 Hz (F+). The center bulge of the milky way at a dimension of 13,000 light years translates to 343 Hz (F). (102 light years translates to F. From 402 to 417 light years translates to different Hertz values of F.)**

7) **In isotope frequencies the half life of radium, 1600 years translates to 348 Hz (F+).**

8) **1 inch = 424 Hz (A-) therefore 40 inches translates to 339 Hz (F-) and 39 inches translates to 348 Hz (F+).**

9) **1 foot = 283 Hz (D-) therefore 13 feet translates to 86.92 Hz, which by doublings translates to 348 Hz (F+).**

10) **1 mile = 438 Hz (A) therefore 41 miles translates to 342 Hz (F).**

11) **On the Periodic Table of Elements the atomic number of Magnesium is #12 and the atomic number of Chromium is #24. These both translate to sub harmonic frequencies of 341 Hz (F) because of the dividing factor. Both of these elements are essential nutrients for our bodies.**

12) **Taking the velocity of light at 186,000 miles per second, we find that the 15/16 harmonic of light to be 341 Hz (F) on the Lambdoma Matrix.**

THE COMMON MINERAL NEEDS OF OUR BODY SHOWING THEIR RELATIONSHIP AND POSITION ON THE PERIODIC TABLE OF ELEMENTS.

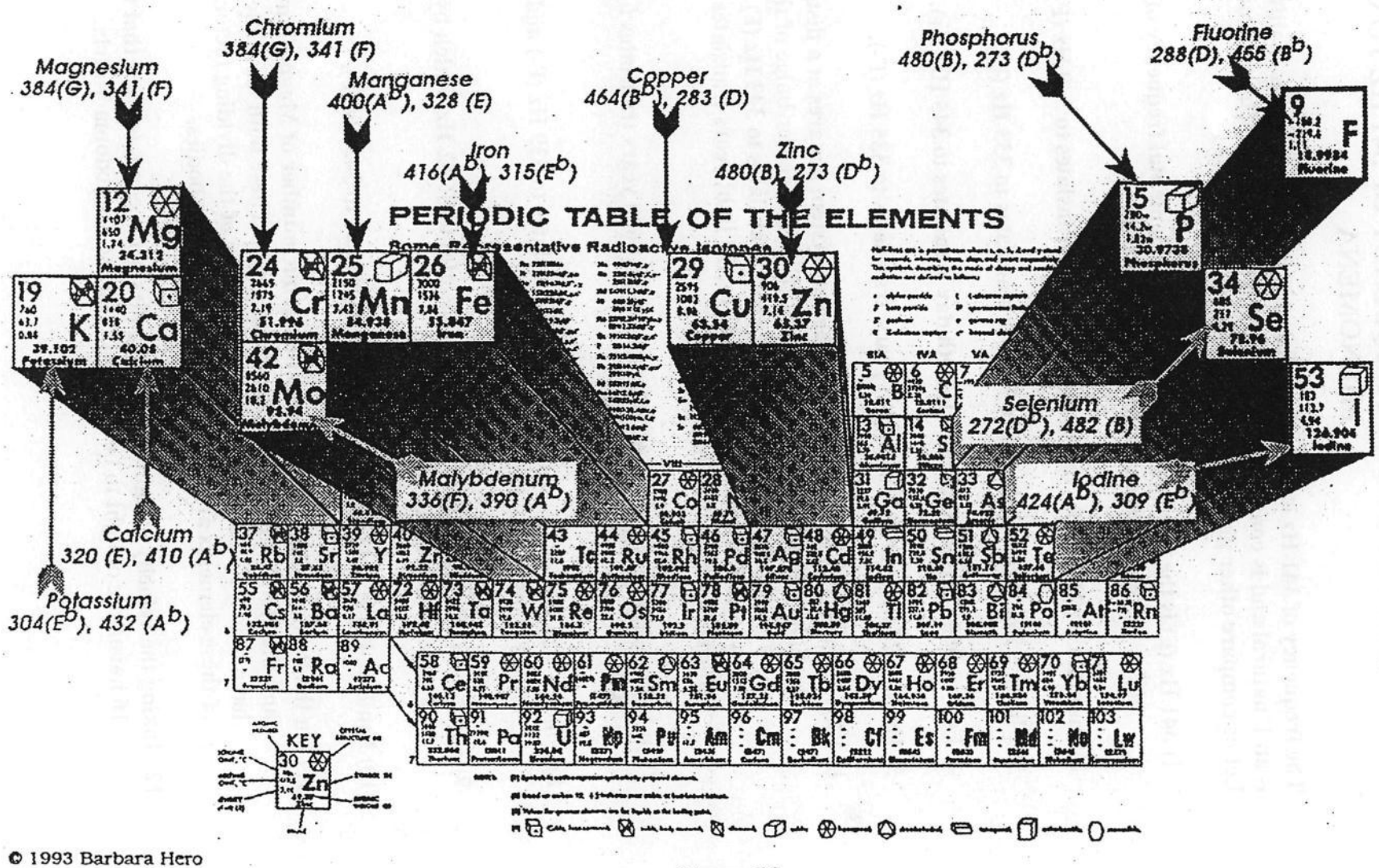

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Figure 18

UNIFIED FIELD THEORY OF COLOR AND SOUND AS RELATED TO THE PHYSICAL BODY, THE CHAKRAS AND HUMAN DIMENSIONS

Compiled by Barbara Hero

Slide	Musical Note	Frequencies	*Wave-Length	Colors		Physical Body	Chakra
				Absorbing	Transmitting		
#821	C'	264.3	4.27'	Red (Pink)	Green		Root
#813	D"	586.7	5.2'	Orange	Blue Green	Circulation Sex	Polarity
#841	B"	492.8	2.3'	Violet	Gold	Adrenals, Thyroid Parathyroid	Crown
#878	F'	352	3.1'	Green	Violet	Bladder	Heart
#807	E'	330	3.4'	Yellow	Blue	Kidney	Solar Plexus
#817	D'	281.6	4'	Orange	Blue-Green	Small Intestine	Polarity
#844	A	220	5.1'	Indigo	Orange	Lungs	Third Eye
#866	G	198.3	5.7'	Blue	Magenta	Liver	Throat
#877	F	176	6.4'	Green	Purple	Colon	Heart
#809	E	164.3	6.9'	Yellow	Blue	Gall Bladder	Solar Plexus
#846	B	117.3	9.6'	Purple	Deep Gold	Spleen, Pancreas	Crown
#843	A	110	10.3'	Indigo	Deep Orange	Stomach	Third Eye

Table 29

*Wavelengths can be doubled and used as healing spaces based on length or width; Complementary Colors can be used as dimensions.

Note: Slide Numbers (for Absorbing Colors) are assigned to Colored Gels:
By - ROSCOLENE
36 Bush Avenue
Port Chester, NY, 10573

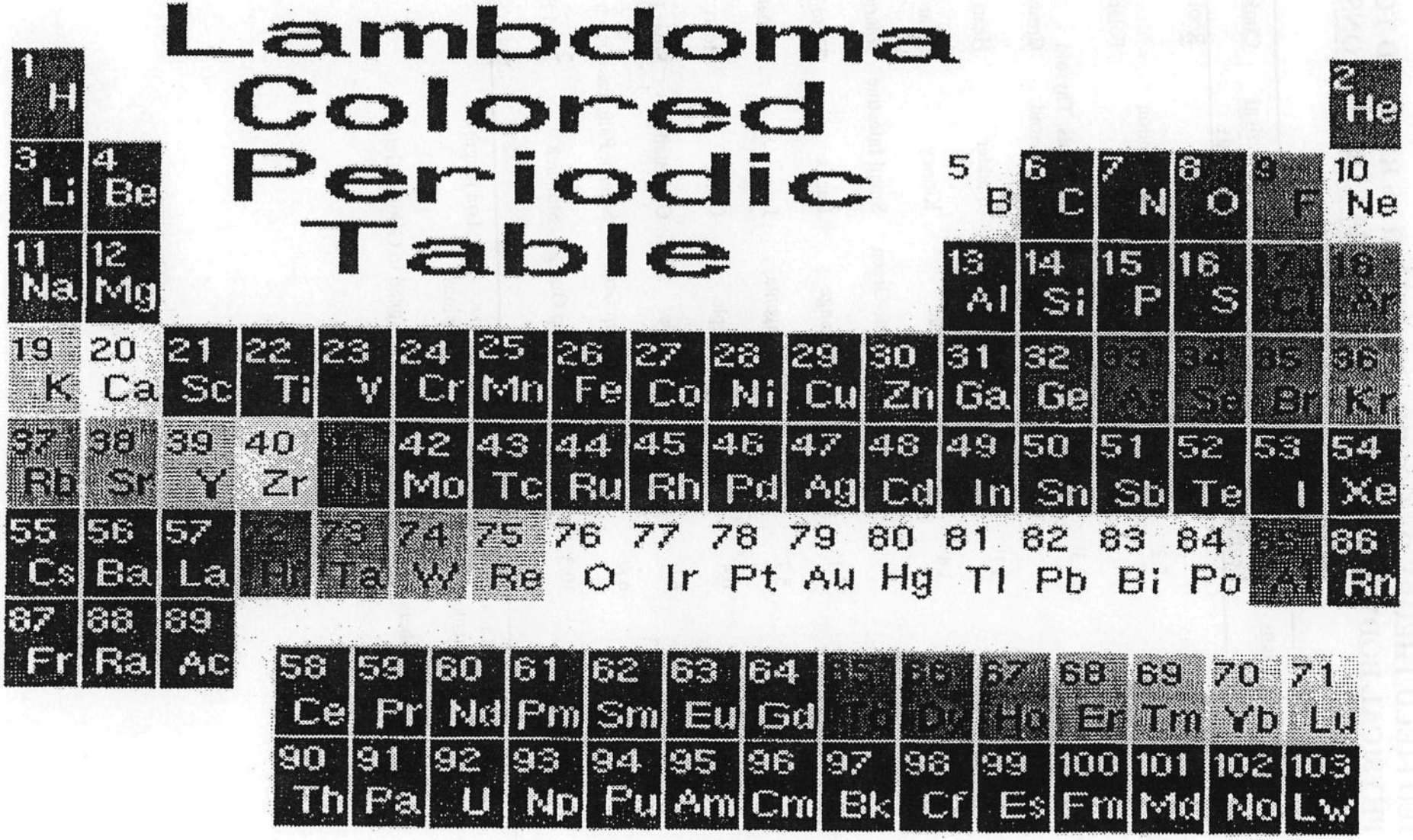

Lambdoma
Colored
Periodic
Table
1 H
2 He
3 Li
4 Be
5 B
6 C
7 N
8 O
9 F
10 Ne
11 Na
12 Mg
13 Al
14 Si
15 P
16 S
17 Cl
18 Ar
19 K
20 Ca
21 Sc
22 Ti
23 V
24 Cr
25 Mn
26 Fe
27 Co
28 Ni
29 Cu
30 Zn
31 Ga
32 Ge
33 As
34 Se
35 Br
36 Kr
37 Rb
38 Sr
39 Y
40 Zr
41 Nb
42 Mo
43 Tc
44 Ru
45 Rh
46 Pd
47 Ag
48 Cd
49 In
50 Sn
51 Sb
52 Te
53 I
54 Xe
55 Cs
56 Ba
57 La
72 Hf
73 Ta
74 W
75 Re
76 Os
77 Ir
78 Pt
79 Au
80 Hg
81 Tl
82 Pb
83 Bi
84 Po
85 At
86 Rn
87 Fr
88 Ra
89 Ac
58 Ce
59 Pr
60 Nd
61 Pm
62 Sm
63 Eu
64 Gd
65 Tb
66 Dy
67 Ho
68 Er
69 Tm
70 Yb
71 Lu
90 Th
91 Pa
92 U
93 Np
94 Pu
95 Am
96 Cm
97 Bk
98 Cf
99 Es
100 Fm
101 Md
102 No
103 Lw

Figure 19

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Wgt.:	Atomic Density:	P/9:	Notes: Distonal C=256 cps	Lambdoma C=256 cps	Plano A=440cps	9/P:	Notes: Distonal C=256 cps	Lambdoma C=256 cps	Plano A=440cps
Hydrogen	1.00797	0.071	288.516523	D	9	D	454.296338	A#	V	A#
Helium	4.0026	0.126	257.880378	C	P	C	508.266667	B#	P	B
Lithium	6.939	0.53	312.851996	D#	R	D#	418.958491	A	U	G#
Beryllium	9.0122	1.85	420.407892	A	U	G#	311.773405	D#	9#	D#
Boron	10.811	2.34	443.281843	A#	V	A	295.68547	D	9	D
Carbon	12.0111	2.26	385.350218	G	T	G	340.137345	F	R#	F
Nitrogen	14.0067	0.81	473.738996	B	W	A#	276.675556	C#	P#	C#
Oxygen	15.9994	1.14	291.850944	D	9	D	449.105965	A#	V	A
Fluorine	18.9984	1.11	478.625568	B	W	A#	273.850811	C#	P#	C#
Neon	20.183	1.20	487.06337	B	W	B	269.106667	C#	P#	C
Sodium	22.9898	0.97	345.64198	F	S	F	379.213196	G	T	F#
Magnesium	24.312	1.74	293.149062	D	9	D	447.117241	A#	V	A
Aluminum	26.9815	2.70	409.880844	G#	U	G#	319.780741	E	R	D#
Silicon	28.086	2.33	339.802037	F	R#	F	385.730472	G	T	G
Phosphorus	30.9738	1.82	481.356501	B	W	B	272.297143	C#	P#	C#
Sulfur	32.064	2.07	264.431138	C#	P#	C	495.675362	B	W#	B
Chlorine	35.453	1.56	360.463713	F#	S#	F#	363.620513	F#	S#	F#
Argon	39.948	1.40	287.093221	D	9	D	456.548571	A#	V#	A#
Potassium	39.102	0.86	360.345762	F#	S#	F#	363.739535	F#	S#	F#
Calcium	40.08	1.55	316.806387	E	R	D#	413.729032	G#	U	G#
Scandium	44.956	3.0	273.333927	C#	P#	C#	479.530667	B	W	A#
Titanium	47.90	4.51	385.656785	G	T	G	339.866962	F	R#	F
Vanadium	50.942	6.1	490.471517	B	W#	B	267.236721	C#	P#	C
Chromium	51.996	7.19	283.197169	D	9	C#	462.829485	A#	V#	A#
Manganese	54.938	7.43	276.978412	C#	P#	C#	473.220996	B	W	A#
Iron	55.847	7.86	288.238939	D	9	D	454.733842	A#	V	A#
Cobalt	58.933	8.9	309.286817	D#	9#	D#	423.787865	A	U	G#
Nickel	58.71	8.9	310.461591	D#	9#	D#	422.18427	A	U	G#
Copper	63.54	8.96	288.795719	D	9	D	453.857143	A#	V	A#
Zinc	65.37	7.14	447.383203	A#	V	A	292.97479	D	9	D
Gallium	69.72	5.91	347.208262	F	S	F	377.502538	G	T	F#

Table 30

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Wgt.:	Atomic Density:	P/9:	Notes Diatoni Cc256 cps	Lambdoma Cc256 cps	Plano A=440cps	9/P:	Notes: Diatoni Cc256 cps	Lambdoma Cc256 cps	Plano A=440cps
Germanium	72.59	5.32	300.189007	D#	9#	D	436.631579	A	U#	A
Arsenic	74.922	5.72	312.713489	D#	R	D#	419.144056	A	U	G#
Selenium	78.96	4.79	496.956434	B	W#	B	263.749478	C#	P	C
Bromine	79.909	3.12	319.861831	E	R	D#	409.789744	G#	U	G#
Krypton	83.80	2.6	508.334129	B#	P	B	257.846154	C	P	C
Rubidium	85.47	1.53	293.290277	D	9	D	446.901961	A#	V	A
Strontium	87.62	2.6	486.172107	B	W	B	269.6	C#	P#	C#
Yitrium	88.905	4.47	411.880547	G#	U	G#	318.228188	E	R	D#
Zirconium	91.22	6.49	291.416795	D	9	D	449.775039	A#	V	A
Niobium	92.906	8.4	370.335608	F#	S#	F#	353.927619	F#	S	F
Molybdenum	95.94	102	272.170106	C#	P#	C#	481.581176	B	W	B
Technetium	99	11.5	475.79798	B	W	A#	275.478261	C#	P#	C#
Ruthenium	101.07	12.2	494.421688	B	W#	B	265.101639	C#	P#	C
Rhodium	102.905	12.4	493.56591	B	W#	B	265.56129	C#	P#	C
Palladium	106.4	12.0	461.954887	A#	V#	A#	283.733333	D	9	C#
Silver	107.870	10.5	398.702141	G#	T#	G	328.746667	E	R#	E
Cadmium	112.40	8.65	315.217082	E	R	D#	415.815029	G#	U	G#
Indium	114.82	7.31	260.771294	C	P	C	502.632011	B#	W#	B
Tin	118.69	7.30	503.846996	B#	W#	B	260.142466	C	P	C
Antimony	121.75	6.62	445.429487	A#	V	A	294.259819	D	9	D
Tellurium	127.60	6.24	400.611912	G#	T#	G	327.179487	E	R	E
Iodine	126.904	4.94	318.8905	E	R	D#	411.025101	G#	U	G#
Xenon	131.30	3.06	381.835796	G	T	G	343.267974	F	R#	F
Cesium	132.905	1.90	468.448892	A#	V#	A#	279.8	D	P#	C#
Barium	137.34	3.5	417.533129	G#	U	G#	313.92	E	R	D#
Lanthanum	138.91	6.17	363.8661	F#	S#	F#	360.220421	F#	S#	F#
Cerium	140.12	6.67	389.956038	G	T	G	336.11994	F	R#	E
Proseedymiu	140.907	6.77	393.591802	G	T#	G	333.015066	F	R#	E
Neodymium	144.24	7.00	397.559623	G#	T#	G	329.691429	E	R#	E
Promethium	147									
Samarium	150.35	7.54	410.825939	G#	U	G#	319.045093	E	R	D#

Table 31

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Wgt.:	Atomic Density:	P/9:	Notes Diatonic C=256 cps	Lambdoma C=256 cps	Piano A=440cps	9/P:	Notes: Diatonic C=256 cps	Lambdoma C=256 cps	Piano A=440cps
Europium	151.96	5.26	283.560937	D	9	C#	462.235741	A#	V#	A#
Gadolinium	157.25	7.89	411.032623	G#	U	G#	318.884664	E	R	D#
Terbium	158.924	8.27	426.290606	A	U#	G#	307.470859	D#	9#	D#
Dysprosium	162.5	8.54	430.521106	A	U#	A	304.449649	D#	9#	D#
Holmium	164.930	8.80	437.0921	A	U#	A	299.872727	D#	9#	D
Erbium	167.26	9.05	443.247638	A#	V	A	295.708287	D	9	D
Thulium	168.934	9.33	452.433258	A#	V	A	289.704609	D	9	D
Ytterbium	173.04	6.98	330.444753	E	R#	E	396.653295	G#	T#	G
Lutetium	174.97	9.84	460.703435	A#	V#	A#	284.504065	D	9	C#
Hafnium	178.49	13.1	300.619643	D#	9#	D	436.006107	A	U#	A
Tantalum	180.948	16.6	375.763203	G	S#	F#	348.815422	F	S	F
Tungsten	183.85	19.3	429.985314	A	U#	A	304.829016	D#	9#	D#
Rhenium	186.2	21	461.954887	A#	V#	A#	283.733333	D	9	C#
Osmium	190.2	22.6	486.696109	B	W	B	269.309735	C#	P#	C#
Iridium	192.2	22.5	479.50052	B	W	A#	273.351111	C#	P#	C#
Platinum	195.09	21.4	449.302373	A#	V	A	291.723364	D	9	D
Gold	196.967	19.3	401.35048	G#	T#	G	326.577409	E	R	E
Mercury	200.59	13.6	277.706759	C#	P#	C#	471.976471	B	V#	A#
Thallium	204.37	11.85	474.997309	B	W	A#	275.942616	C#	P#	C#
Lead	207.19	11.4	450.739901	A#	V	A	290.792982	D	9	D
Bismuth	208.980	9.8	384.15925	G	T	G	341.191837	F	R#	F
Polonium	210	9.2	358.887619	F#	S	F	365.217391	F#	S#	F#
Astatine	210									
Radon	222									
Francium	223									
Radium	226	5.0	362.477876	F#	S#	F#	361.6	F#	S#	F#
Actinium	227									
Thorium	232.038	11.7	413.063378	G#	U	G#	317.316923	E	R	D#
Protactinum	231	15.4	273.066667	C#	P#	C#	480	B	W	B
Uranium	238.04	19.07	328.141153	E	R#	E	399.437861	G#	T#	G
Neptunium	237	19.05	329.235443	E	R#	E	398.110236	G#	T#	G

Figure 32

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Wgt.:	Atomic Density:	P/Q:	Notes Distoal C=256 cps	Lambdoma C=256 cps	Plano A=440cps	Q/P:	Notes: Distoal C=256 cps	Lambdoma C=256 cps	Plano A=440cps
Plutonium	242									
Americium	243	11.7	394.42963	G	T#	G	332.307692	F	R#	E
Curium	247									
Berkelium	247									
Californium	251									
Einsteinium	254									
Fermium	253									
Mondelevium	256									
Nobelium	254									
Lawrencium	257									

Table 33

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Number:	Atomic Density:	Atomic Number/ Density	Notes: Diatonic C=256 cps	Lambdoma C=256 cps	Piano A=440cps	Density/ Atomic Number	Notes: Diatonic C=256 cps	Lambdoma C=256 cps	Piano A=440cps
Hydrogen	001	0.071	450.704225	A#	V	A	290.816	D	9	D
Helium	002	0.126	507.936508	B#	P	B	258.048	C	P	C
Lithium	003	0.53	362.264151	F#	S#	F#	361.813333	F#	S#	F#
Beryllium	004	1.85	276.756757	C#	P#	C#	473.6	B	W	A#
Boron	005	2.34	273.504274	C#	P#	C#	479.232	B	W	A#
Carbon	006	2.26	339.823009	F	R#	F	385.706667	G	T	G
Nitrogen	007	0.81	276.54321	C#	P#	C#	473.965714	B	W	A#
Oxygen	008	1.14	449.122807	A#	V	A	291.84	D	9	D
Fluorine	009	1.11	259.459459	C	P	C	505.173333	B#	P	B
Neon	010	1.20	266.666667	C#	P#	C	491.52	B	W#	B
Sodium	011	0.97	362.886598	F#	S#	F#	361.192727	F#	S#	F#
Magnesium	012	1.74	441.37931	A	V	A	296.96	D#	9#	D
Aluminum	013	2.70	308.148148	D#	9#	D#	425.353846	A	U#	G#
Silicon	014	2.33	384.549356	G	T	G	340.845714	F	R#	F
Phosphorus	015	1.82	263.736264	C#	P	C	496.981333	B	W#	B
Sulfur	016	2.07	494.68599	B	W#	B	264.96	C#	P#	C
Chlorine	017	1.56	348.717949	F	S	F	375.868235	G	S#	F#
Argon	018	1.40	411.428571	G#	U	G#	318.577778	E	R	D#
Potassium	019	0.86	353.488372	F#	S	F	370.795789	F#	S#	F#
Calcium	020	1.55	412.903226	G#	U	G#	317.44	E	R	D#
Scandium	021	3.0	448	A#	V	A	292.571429	D	9	D
Titanium	022	4.51	312.195122	D#	R	D#	419.84	A	U	G#
Vanadium	023	6.1	482.622951	B	W	B	271.582609	C#	P#	C#
Chromium	024	7.19	427.260083	A	U#	G#	306.773333	D#	9#	D#
Manganese	025	7.43	430.686406	A	U#	A	304.3328	D#	9#	D#
Iron	026	7.86	423.409669	A	U	G#	309.563077	D#	9#	D#
Cobalt	027	8.9	388.314607	G	T	G	337.540741	F	R#	E
Nickel	028	8.9	402.696629	G#	T#	G	325.485714	E	R	E
Copper	029	8.96	414.285714	G#	U	G#	316.38069	E	R	D#
Zinc	030	7.14	268.907563	C#	P#	C	487.424	B	W	B
Gallium	031	5.91	335.7022	F	R#	E	390.44129	G	T	G

Table 34

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Number:	Atomic Density:	Atomic Number/ Density	Notes Diatonal C=256 cps	Lambdoma C=256 cps	Piano A=440cps	Density/ Atomic Number	Notes: Diatonal C=256 cps	Lambdoma C=256 cps	Piano A=440cps
Germanium	032	5.32	384.962406	G	T	G	340.48	F	R#	F
Arsenic	033	5.72	369.230769	F#	S#	F#	354.986667	F#	S	F
Selenium	034	4.79	454.279749	A#	V	A#	288.527059	D	9	D
Bromine	035	3.12	358.974359	F#	S	F	365.129143	F#	S#	F#
Krypton	036	2.6	443.076923	A	V	A	295.822222	D#	9	D
Rubidium	037	1.53	386.928105	G	T	G	338.75027	F	R#	E
Strontium	038	2.6	467.692308	A#	V#	A#	280.252632	D	9	C#
Yitrium	039	4.47	279.194631	D	P#	C#	469.464615	A#	V#	A#
Zirconium	040	6.49	394.453005	G	T#	G	332.288	F	R#	E
Niobium	041	8.4	312.380952	D#	R	D#	419.590244	A	U	G#
Molybdenum	042	102	421.647059	A	U	G#	310.857143	D#	9#	D#
Technetium	043	11.5	478.608696	B	W	A#	273.860465	C#	P#	C#
Ruthenium	044	12.2	461.639344	A#	V#	A#	283.927273	D	9	C#
Rhodium	045	12.4	464.516129	A#	V#	A#	282.168889	D	9	C#
Palladium	046	12.0	490.666667	B	W#	B	267.130435	C#	P#	C
Silver	047	10.5	286.47619	D	9	D	457.531915	A#	V#	A#
Cadmium	048	8.65	355.144509	F#	S	F	369.066667	F#	S#	F#
Indium	049	7.31	429.001368	A	U#	A	305.528163	D#	9#	D#
Tin	050	7.30	438.356164	A	U#	A	299.008	D#	9#	D
Antimony	051	6.62	493.05136	B	W#	B	265.838431	C#	P#	C
Tellurium	052	6.24	266.666667	C#	P#	C	491.52	B	W#	B
Iodine	053	4.94	343.319838	F	R#	F	381.778113	G	T	G
Xenon	054	3.06	282.352941	D	9	C#	464.213333	A#	V#	A#
Cesium	055	1.90	463.157895	A#	V#	A#	282.996364	D	9	C#
Barium	056	3.5	256	C	P	C	256	C	P	C
Lanthanum	057	6.17	295.623987	D	9	D	443.374035	A#	V	A
Cerium	058	6.67	278.26087	C#	P#	C#	471.04	B	V#	A#
Proseedymiu	059	6.77	278.8774	C#	P#	C#	469.998644	B	V#	A#
Neodymium	060	7.00	274.285714	C#	P#	C#	477.866667	B	W	A#
Promethium	061									
Samarium	062	7.54	263.129973	C	P	C	498.126452	B#	W#	B

Table 35

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Number:	Atomic Density:	Atomic Number/ Density	Notes Diatonic C=256 cps	Notes Lambdoma C=256 cps	Notes Piano A=440cps	Density/ Atomic Number	Notes: Diatonic C=256 cps	Notes: Lambdoma C=256 cps	Notes: Piano A=440cps
Europium	063	5.26	383.269962	G	T	G	341.983492	F	R#	F
Gadolinium	064	7.89	259.569075	C	P	C	504.96	B#	P	B
Terbium	065	8.27	503.022975	B#	W#	B	260.568615	C	P	C
Dysprosium	066	8.54	494.613583	B	W#	B	264.996788	C#	P#	C
Holmium	067	8.80	487.272727	B	W	B	268.991045	C#	P#	C
Erbium	068	9.05	480.883978	B	W	B	272.564706	C#	P#	C#
Thulium	069	9.33	473.311897	B	W	A#	276.925217	C#	P#	C#
Ytterbium	070	6.98	320.916905	E	R	E	408.429714	G#	U	G#
Lutetium	071	9.84	461.788618	A#	V#	A#	283.835493	D	9	C#
Hafnium	072	13.1	351.755725	F#	S	F	372.622222	F#	S#	F#
Tantalum	073	16.6	281.445783	D	9	C#	465.709589	A#	V#	A#
Tungsten	074	19.3	490.777202	B	W#	B	267.07027	C#	P#	C
Rhenium	075	21	457.142857	A#	V#	A#	286.72	D	9	D
Osmium	076	22.6	430.442478	A	U#	A	304.505263	D#	9#	D#
Iridium	077	22.5	438.044444	A	U#	A	299.220779	D#	9#	D
Platinum	078	21.4	466.542056	A#	V#	A#	280.94359	D	9	C#
Gold	079	19.3	261.968912	C	P	C	500.334177	B#	W#	B
Mercury	080	13.6	376.470588	G	T	F#	348.16	F	S	F
Thallium	081	11.85	437.468354	A	U#	A	299.614815	D#	9#	D
Lead	082	11.4	460.350877	A#	V#	A#	284.721951	D	9	C#
Bismuth	083	9.8	271.020408	C#	P#	C#	483.624096	B	W	B
Polonium	084	9.2	292.173913	D	9	D	448.609524	A#	V	A
Astatine	085									
Radon	086									
Francium	087									
Radium	088	5.0	281.6	D	9	C#	465.454545	A#	V#	A#
Actinium	089									
Thorium	090	11.7	492.307692	B	W#	B	266.24	C#	P#	C
Protactinum	091	15.4	378.181818	G	T	F#	346.584615	F	S	F
Uranium	092	19.07	306.75721	D#	9#	D#	424.514783	A	U#	G#
Neptunium	093	19.05	312.440945	D#	R	D#	419.509677	A	U	G#

Table 36

Periodic Table Computations (ALL 3 SCALES)

Element:	Atomic Number:	Atomic Density:	Atomic Number/ Density	Notes Diatonl C=256 cps	Lambdoma C=256 cps	Piano A=440cps	Density/ Atomic Number	Notes: Diatonl C=256 cps	Lambdoma C=256 cps	Piano A=440cps
Plutonium	094									
Americium	095	11.7	259.82906	C	P	C	504.454737	B#	P	B
Curium	096									
Berkelium	097									
Californium	098									
Einsteinium	099									
Fermium	100									
Mondelevium	101									
Nobelium	102									
Lawrencium	103									

Table 37

THREE DIMENSIONAL LAMBDOMA MATRIX

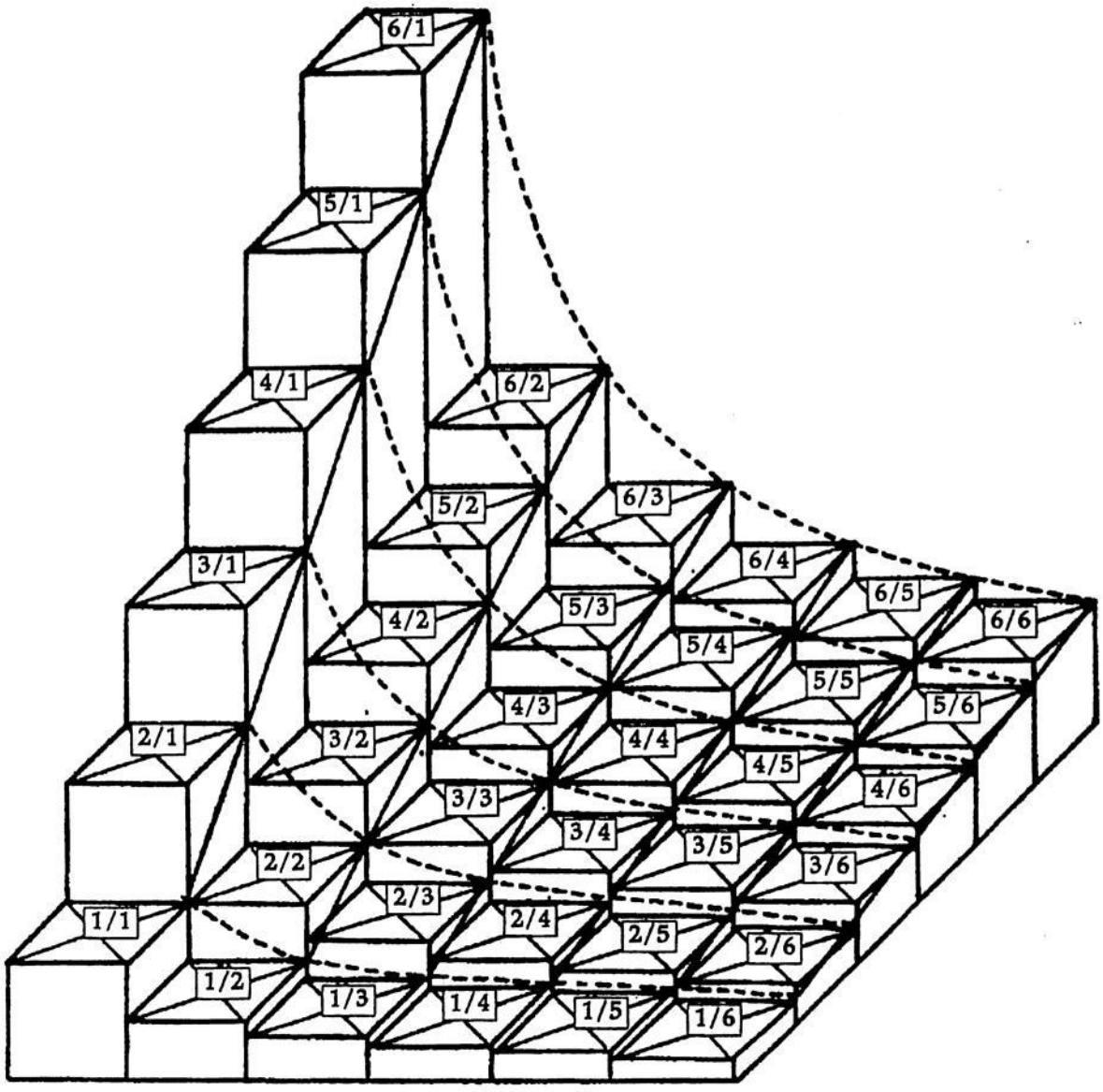


Illustration of one quadrant of the lambdoma matrix

(Adapted from Beltrage Zur Harmonkikalen Grundlagenforschung 14, Rudolf Haase, Page 22.)

Figure 20

THREE DIMENSIONAL LAMBDOMA MATRIX

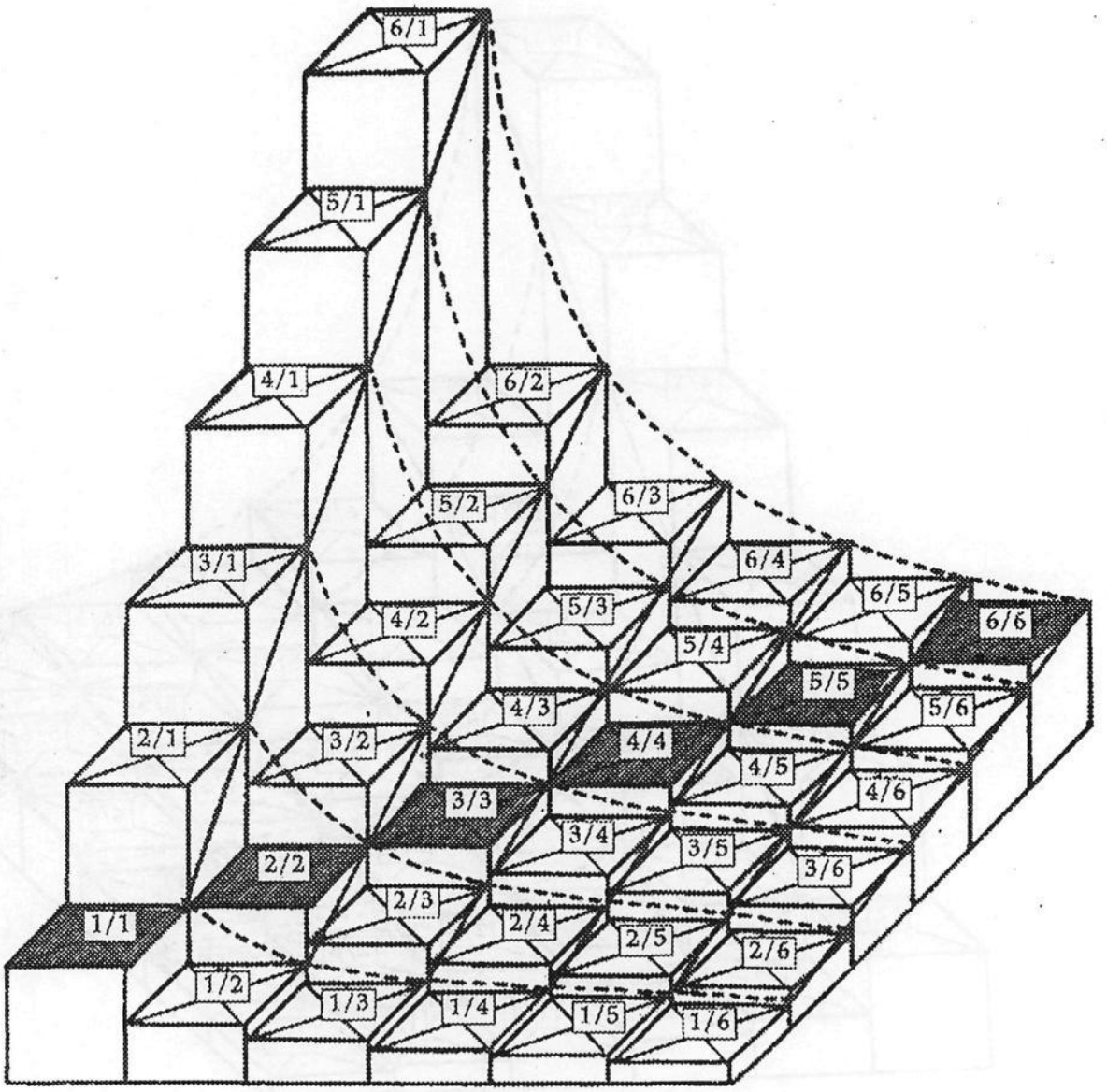


Illustration of area of constant ratios across the lambdoma matrix.

Figure 21

THREE DIMENSIONAL LAMBDOMA MATRIX

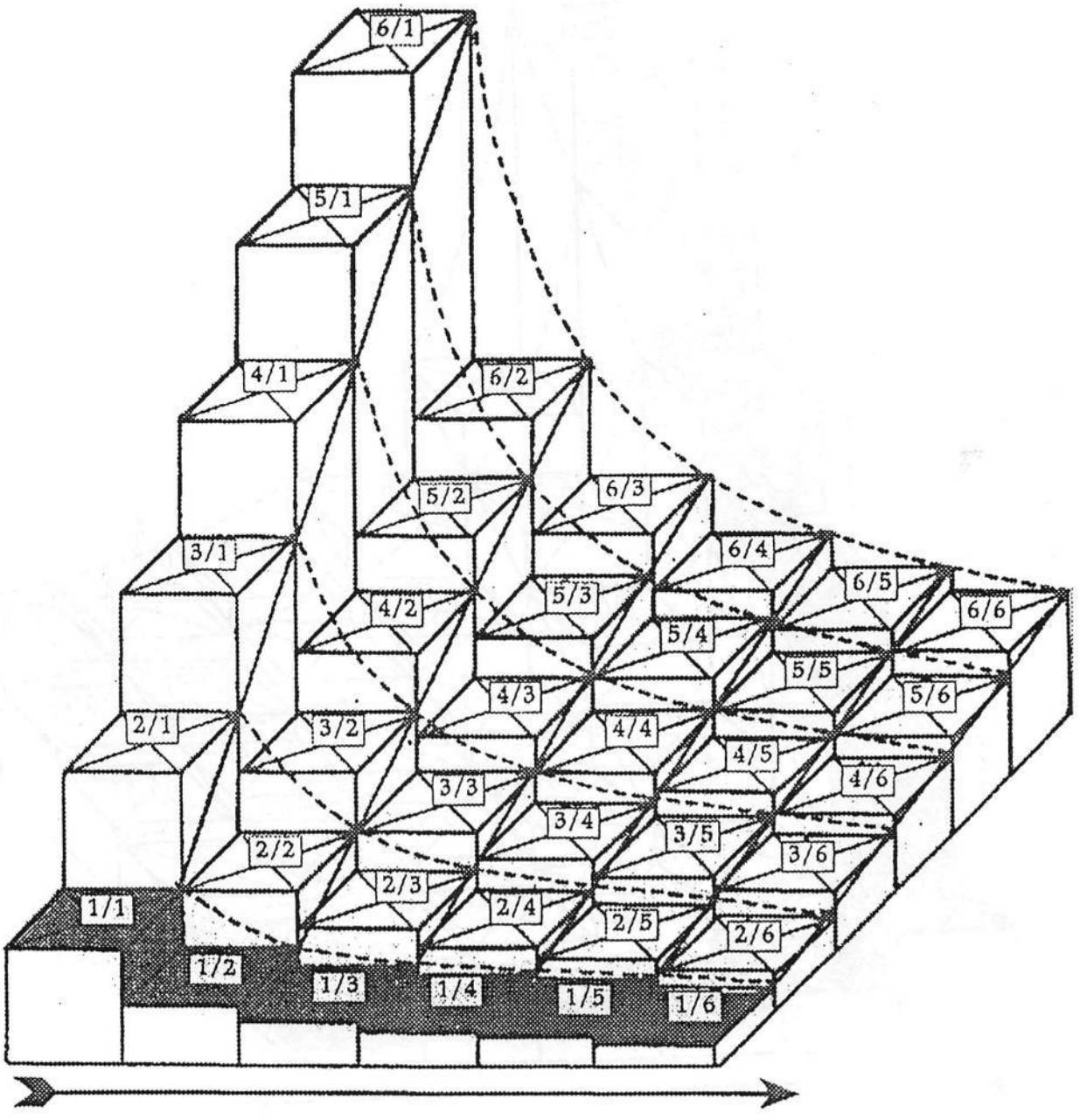


Illustration of path of single undertone.
(Flow is from left to right, light to dark.)

Figure 22

THREE DIMENSIONAL LAMBDOMA MATRIX

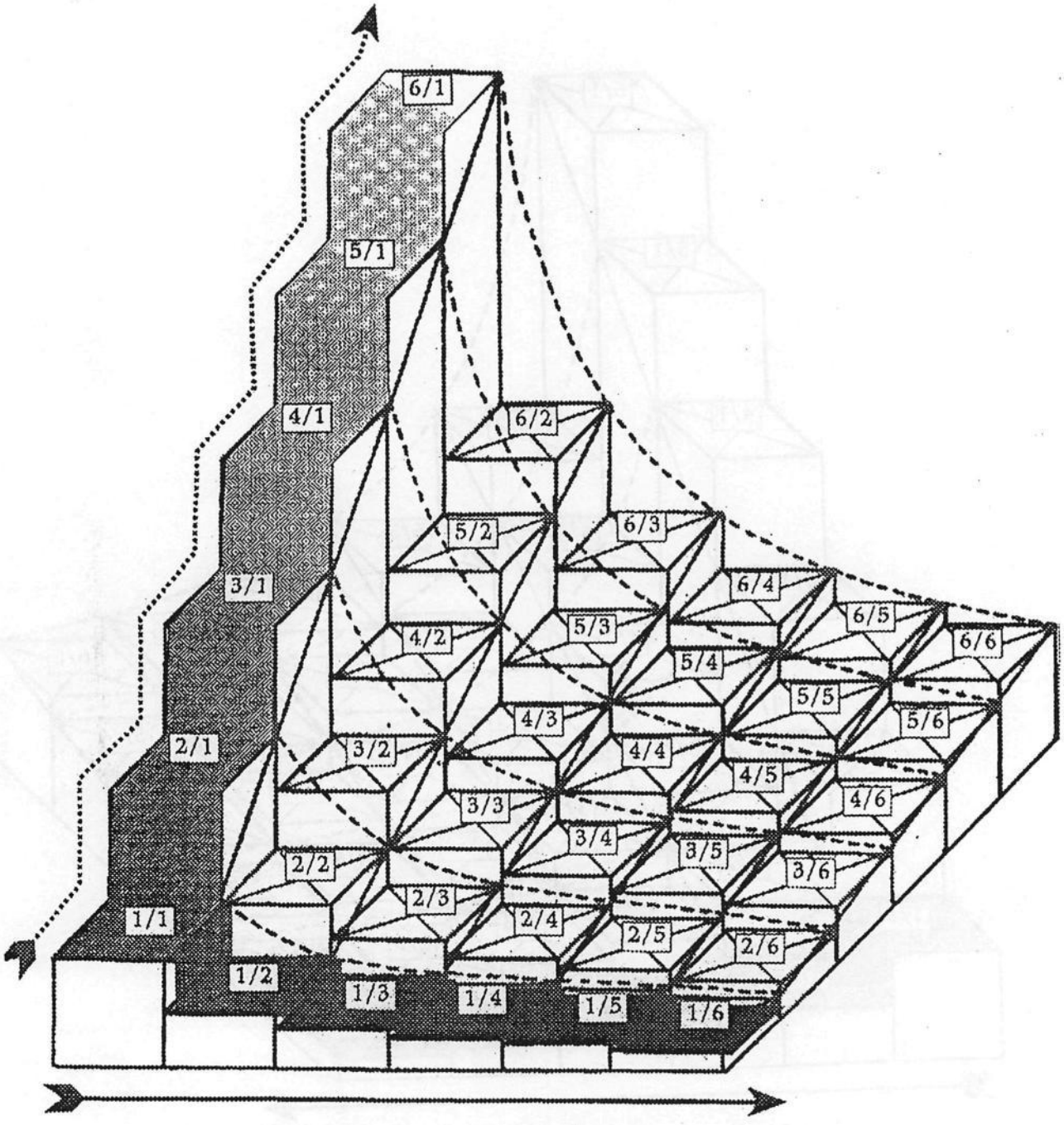


Illustration of the path of a single tone showing both overtones & undertones.

Figure 23

THREE DIMENSIONAL LAMBDOMA MATRIX

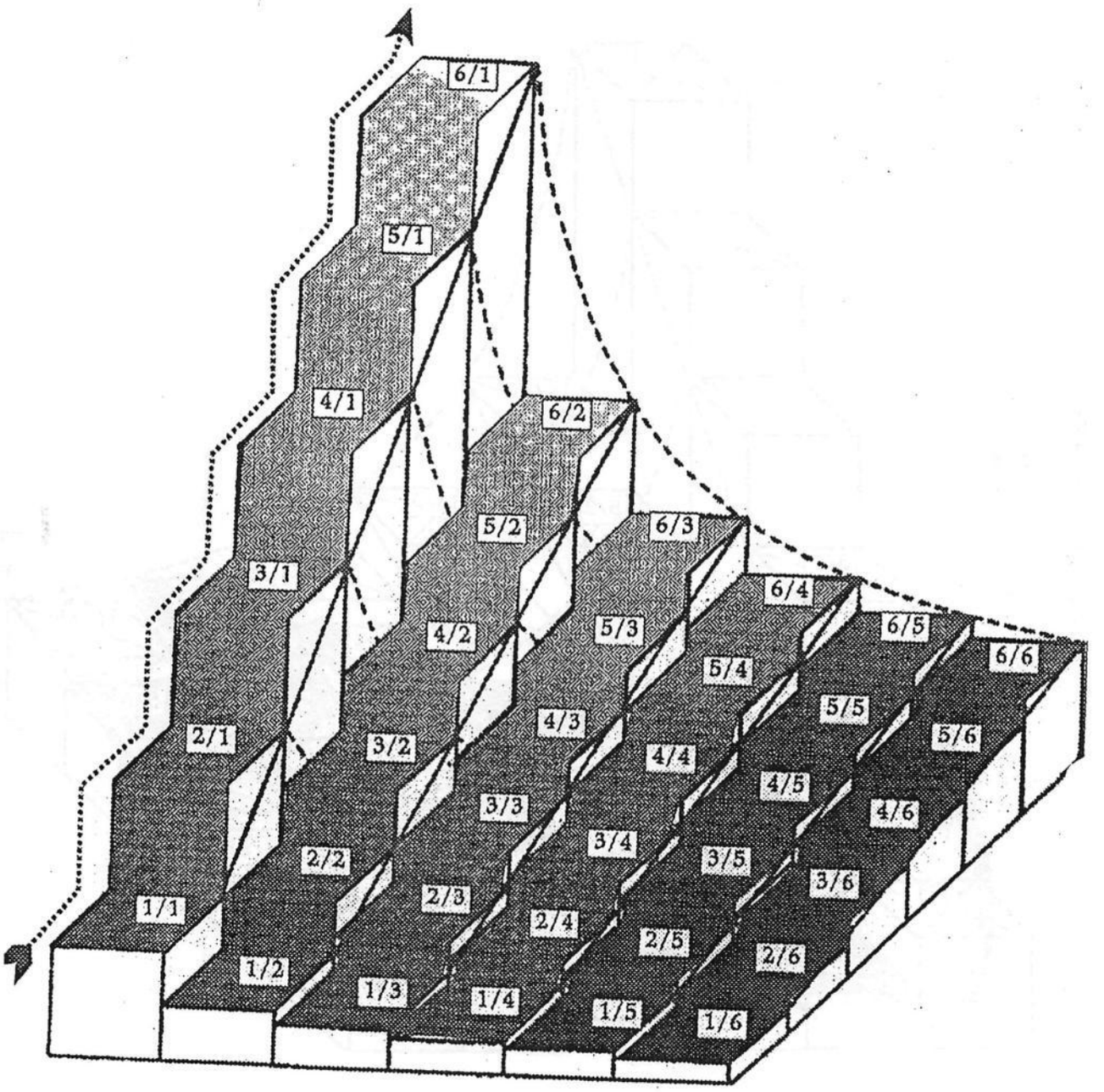


Illustration of the paths of multiple overtones.
(Flow is from bottom to top, dark to light.)

Figure 24

THREE DIMENSIONAL LAMBDOMA MATRIX

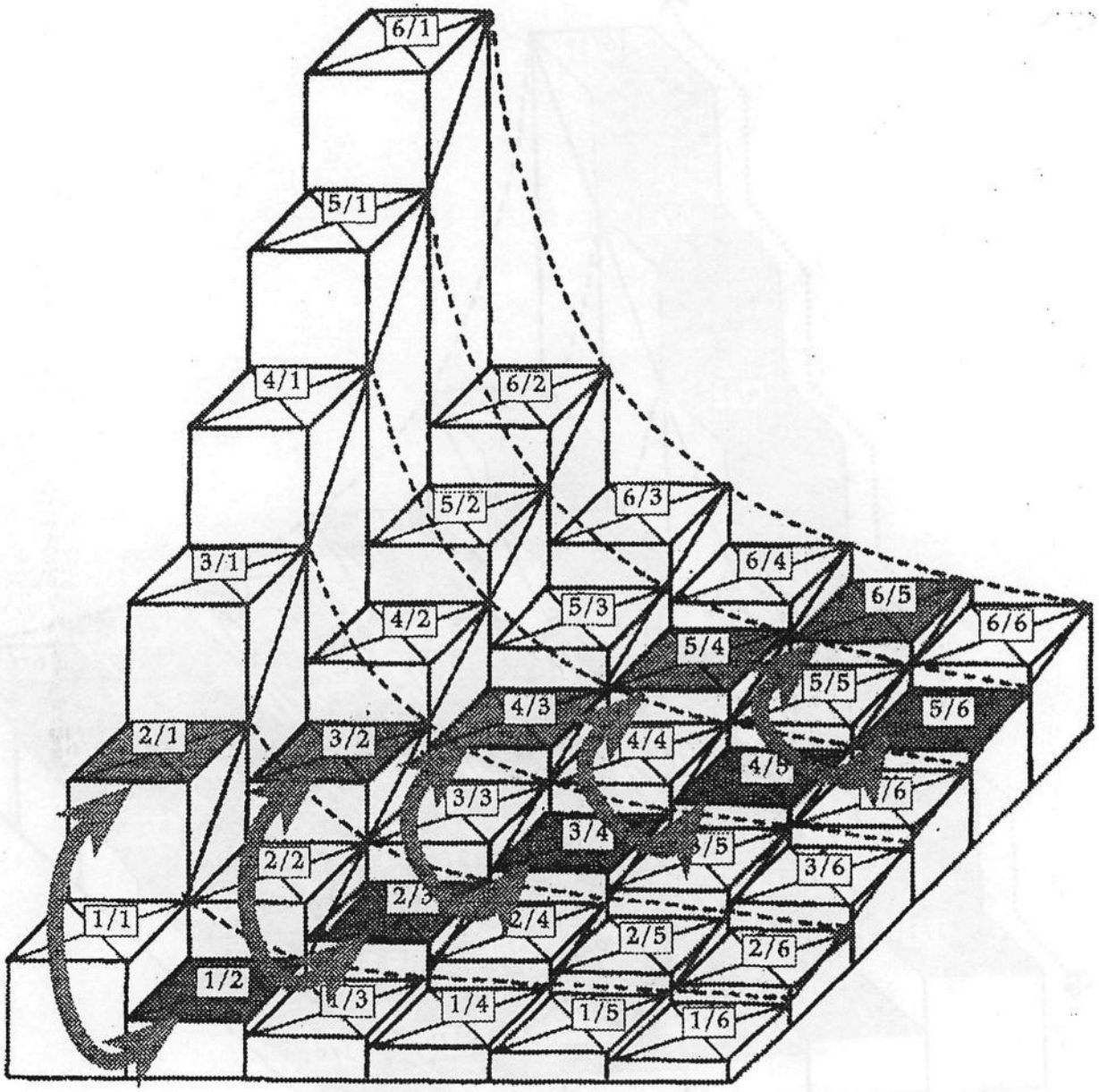


Illustration of reciprocal relationships across the Lambdoma matrix.

Figure 25

THREE DIMENSIONAL LAMBDOMA MATRIX

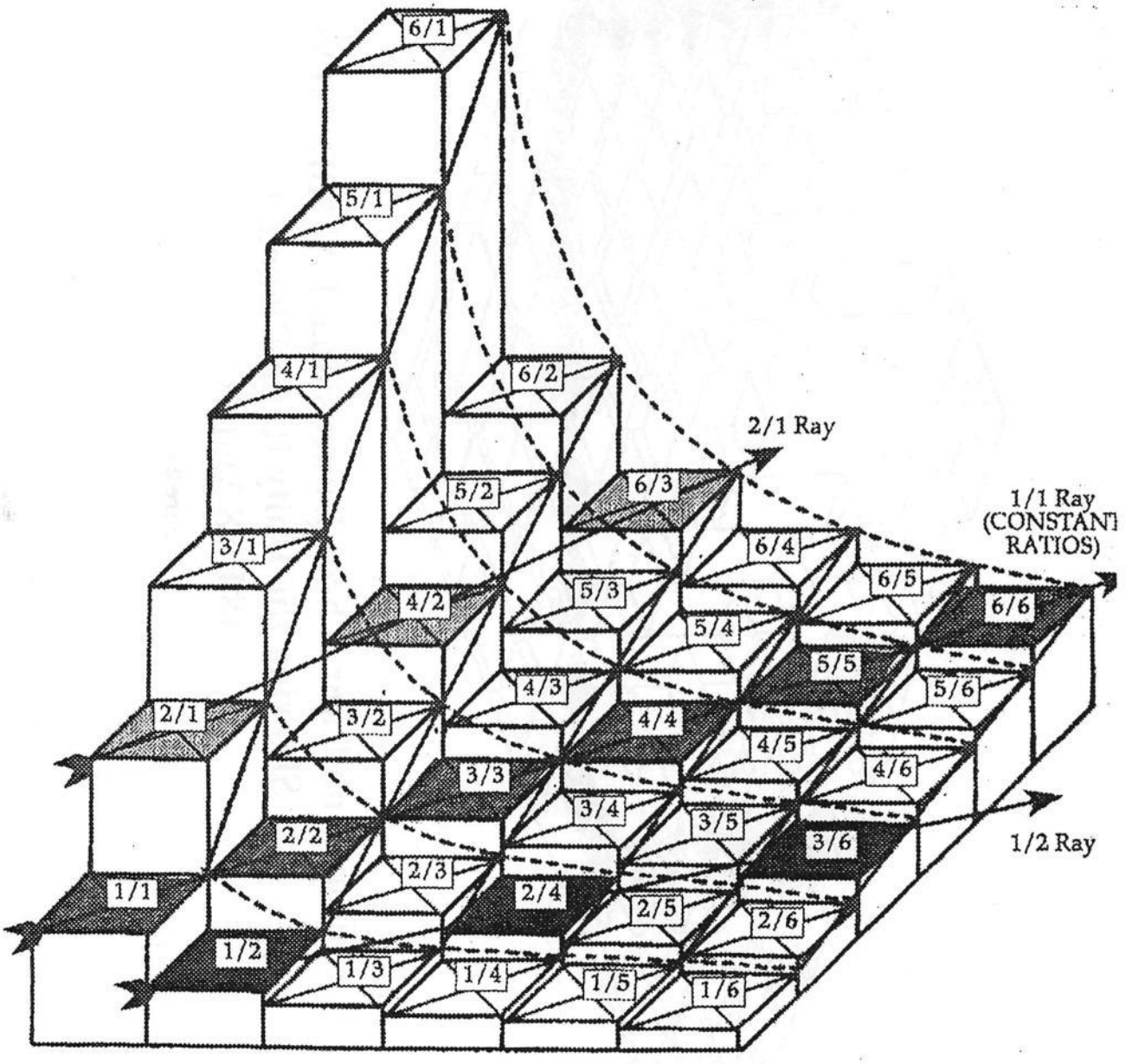
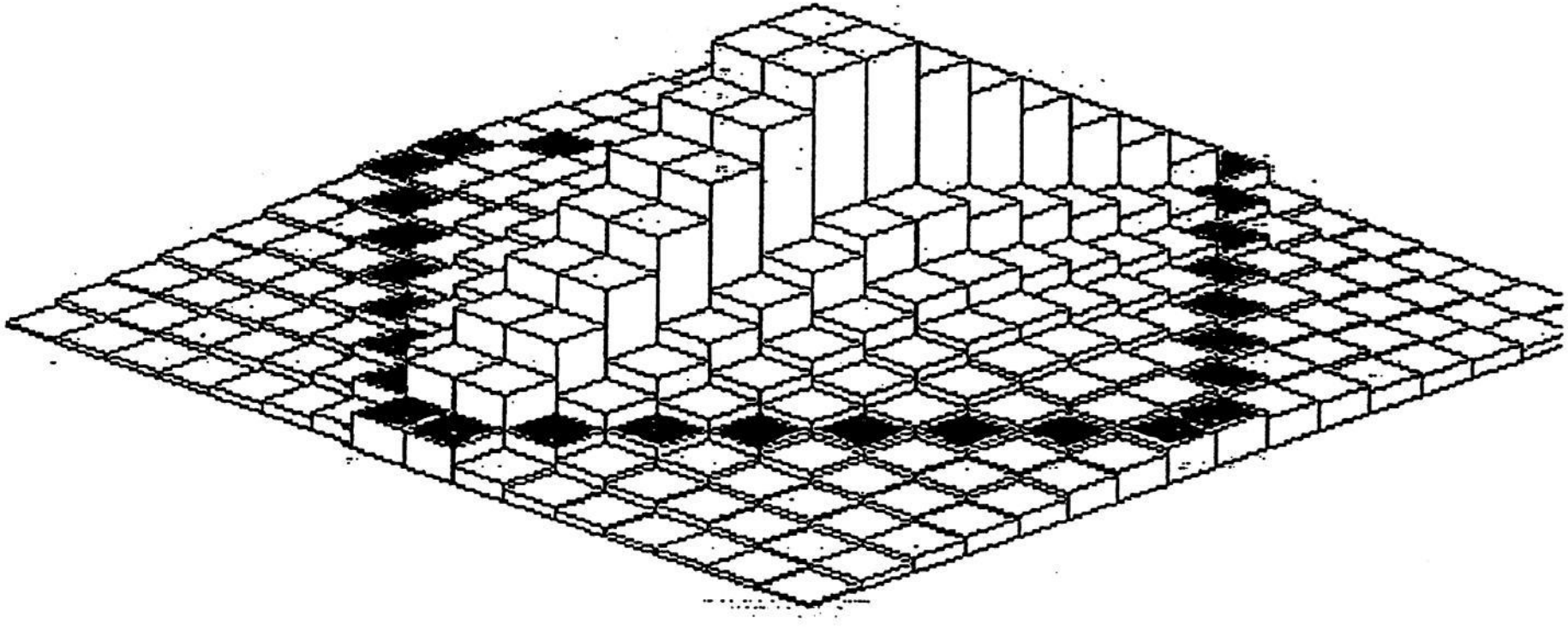


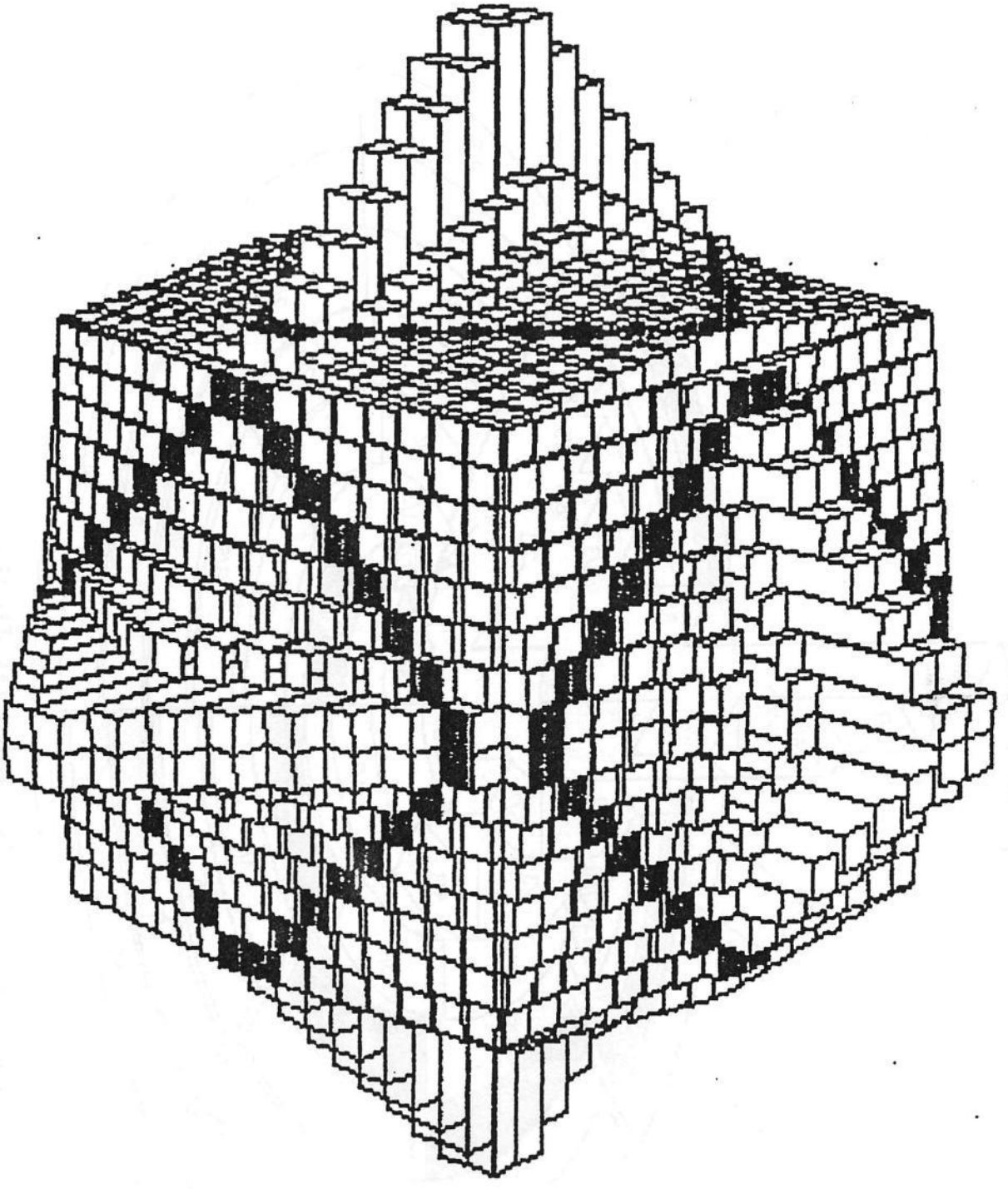
Illustration of rays across the Lambdoma matrix

Figure 26



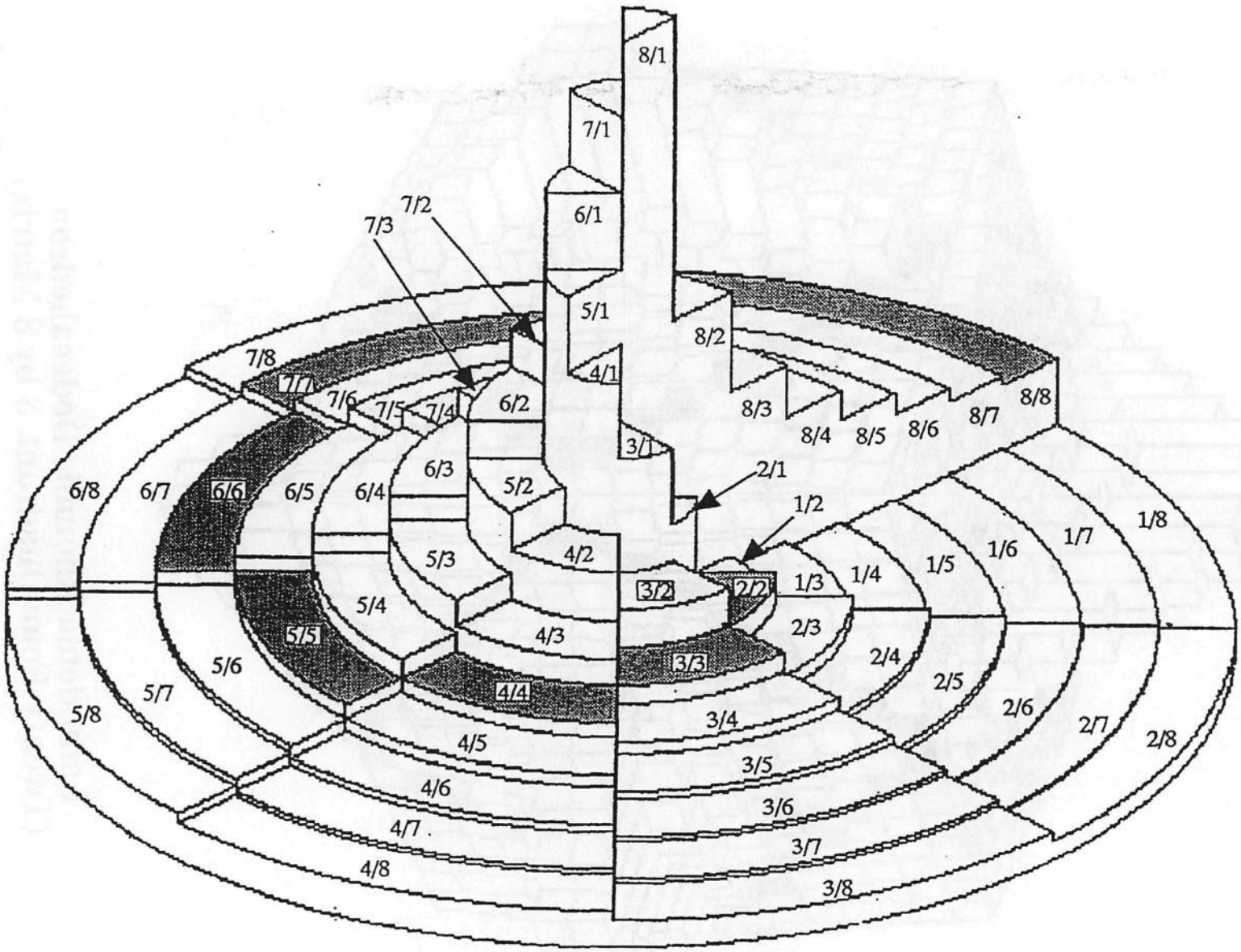
Four-Quadrant, Three-Dimensional LAMBDOMA
Showing the Unity Ratio Diagonal
(8 by 8 Matrix)

Figure 27



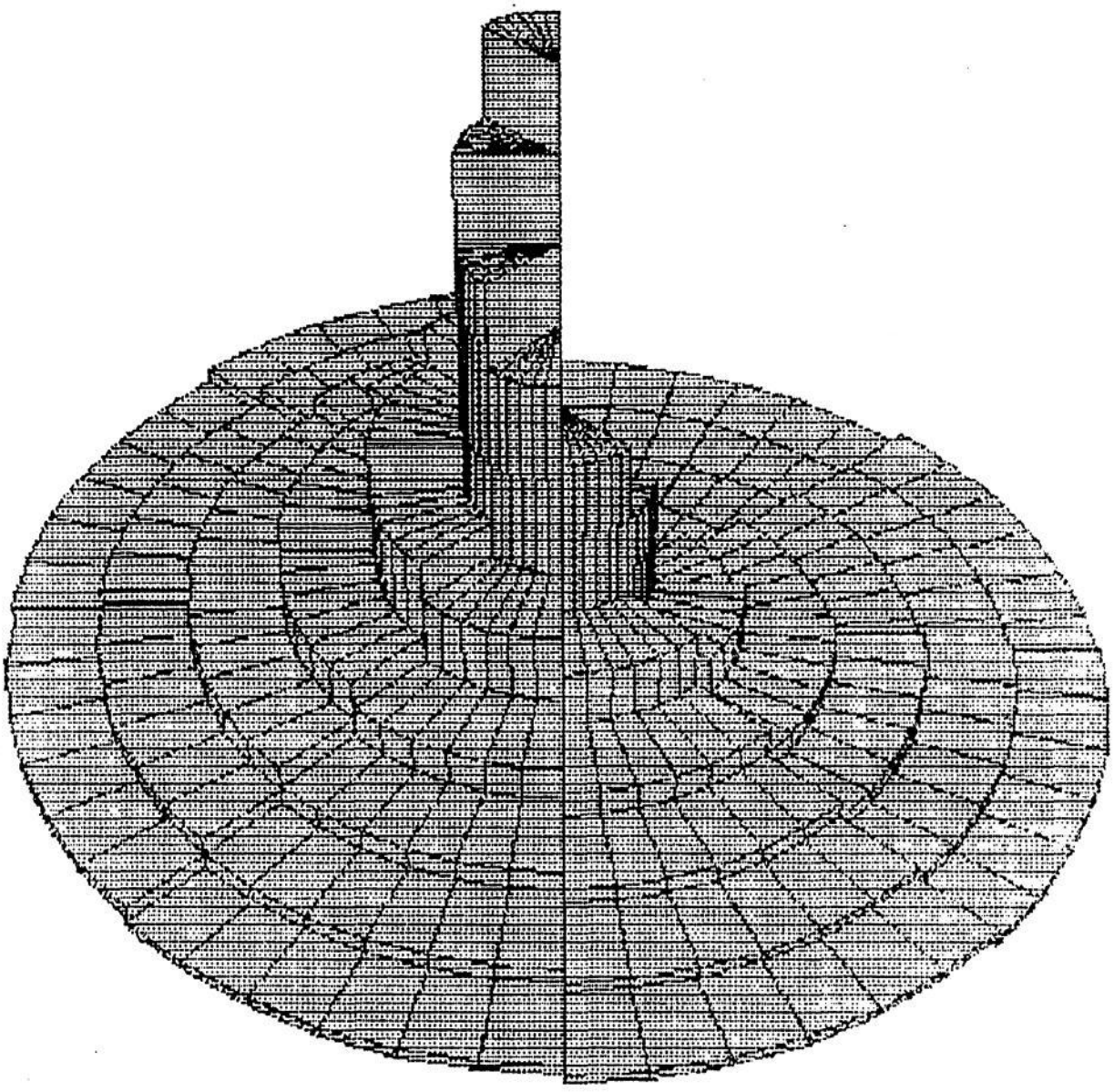
Lambdoma Rhombic Dodecahedron
(Twenty-Four Quadrant, 8 by 8 Matrix)

Figure 28



Round 3-D Lambdoma with Ratios

Figure 29



Round 3-D Lambdoma Model

Figure 30

Calculations of livable room size based on specific frequencies from 1 Hz. to 20 Hz.

Based on speed of sound in air at 1130 Ft. per Sec.

Based on 256 cps

Chakras	Frequency cps:	Livable room sizes (feet):			Wavelength (feet)	Lambdoma frequency:	Harmonic note:
Polarity	01	70.625	35.3125	17.65625	1130	282.5	Db
Polarity	02	70.625	35.3125	17.65625	565	282.5	Db
Throat	03	47.083333	23.541667	11.770834	376.666667	376.666667	Gb
Polarity	04	70.625	35.3125	17.65625	282.5	282.5	Db
Third Eye	05	56.5	28.25	14.125	226	452	B1+
Throat	06	47.083333	23.541667	11.770834	188.333333	376.666666	Gb
Solar Plexus	07	40.357143	20.178571	10.089285	161.428571	322.857142	E#
Polarity	08	70.625	35.3125	17.65625	141.25	282.5	Db
Crown	09	62.777778	31.388889	15.694445	125.555556	502.222224	C2-
Third Eye	10	56.5	28.25	14.125	113	452	B1+
Psychic Center	11	51.363636	25.681818	12.840909	102.727273	410.909092	Ab
Throat	12	47.083334	23.541667	11.770834	94.166667	376.666668	Gb
Heart	13	43.461539	21.73077	10.865385	86.923077	347.692308	Fb
Solar Plexus	14	40.357143	20.178571	10.089285	80.714286	322.857144	E#
Polarity	15	75.333333	37.666666	18.833333	75.333333	301.333332	D#
Polarity	16	70.625	35.3125	17.65625	70.625	282.5	Db
Root	17	66.470588	33.235294	16.617647	66.470588	265.882352	C#
Crown	18	62.777778	31.388889	15.694445	62.777778	502.222224	C2-
Crown	19	59.473684	29.736842	14.868421	59.473684	475.789472	B2--
Third Eye	20	56.5	28.25	14.125	56.5	452	B1+

Table 38

THE GRAND GALLERY
GREAT PYRAMID OF GIZA

DIMENSIONS ON 26.3027° slant

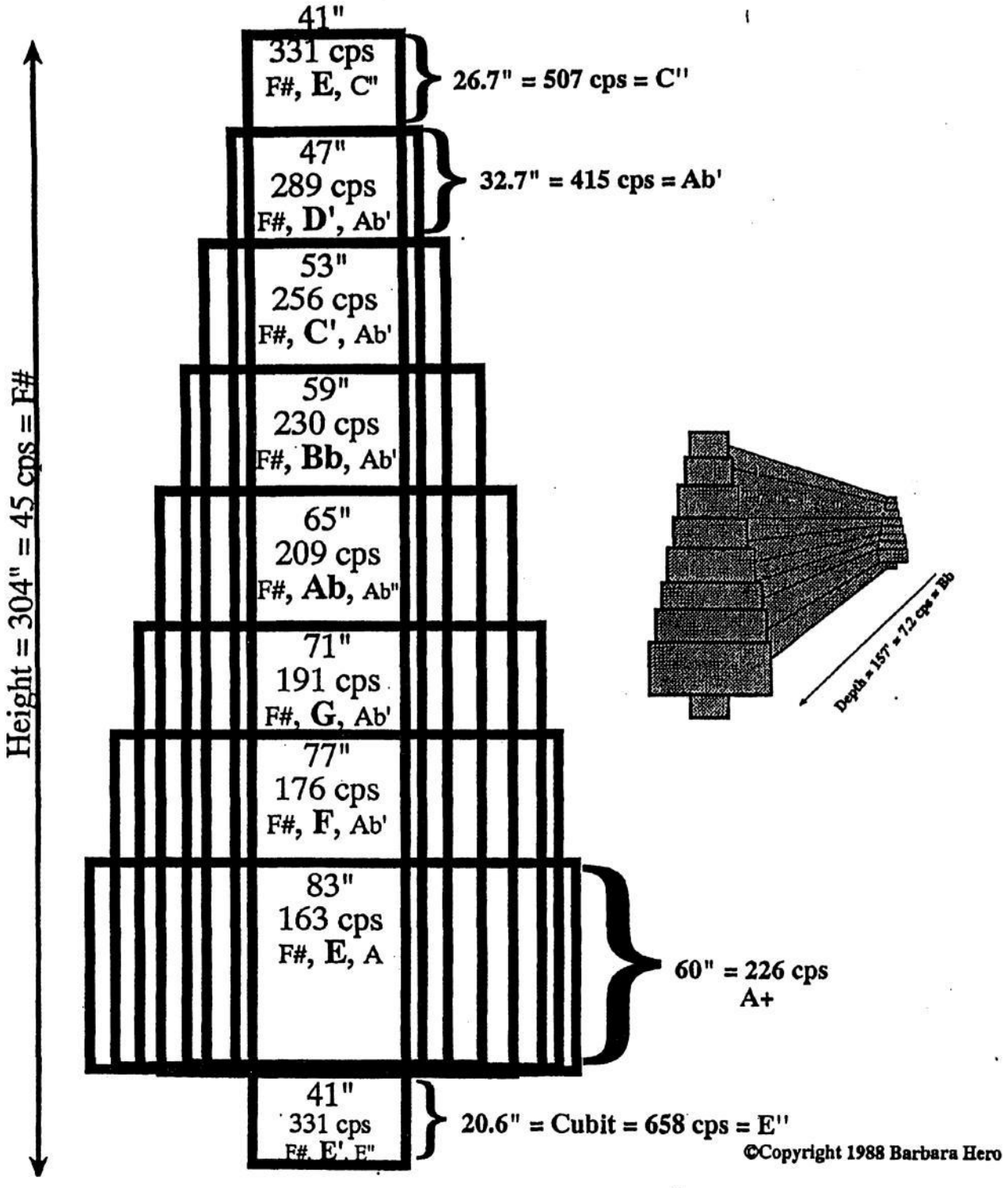


Figure 31

TETRA-HARP

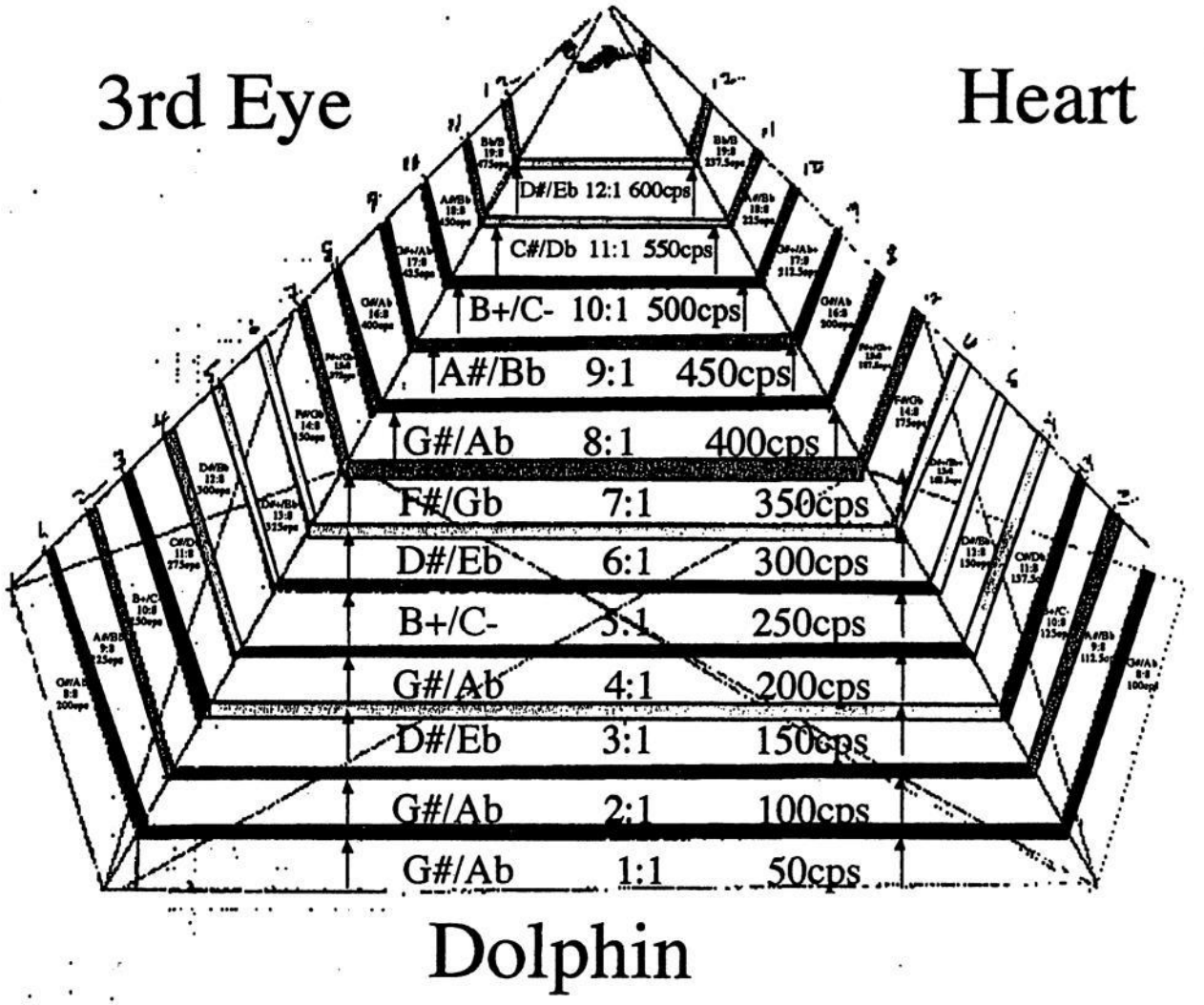
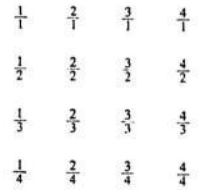
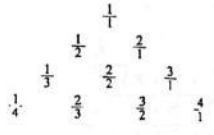


Figure 32

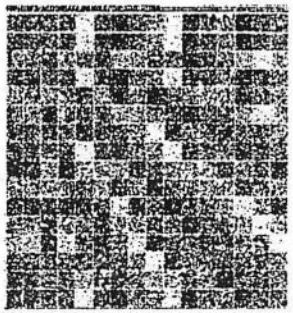
THE PYTHAGOREAN LAMBDOMA MATRIX
(A NEW LOOK AT THE CANTOR ARRAY)



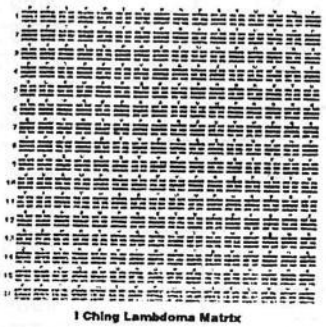
The basic LAMBDOMA Matrix, rotated 45 degrees



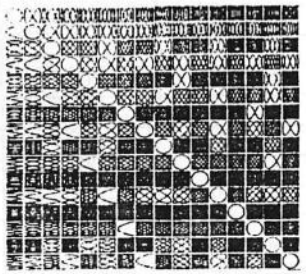
The basic LAMBDOMA Matrix, named after the Greek letter lambda: "Λ"



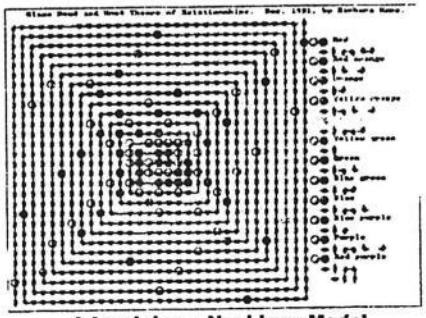
Lissajous 16 by 16 Color Coded Lambdoma Matrix (Based on frequency of 256 cps)



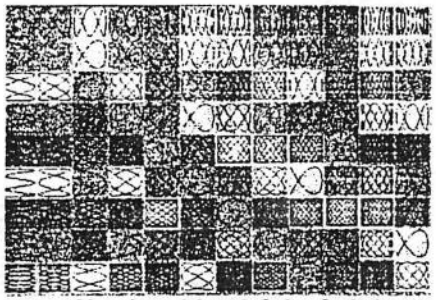
I Ching Lambdoma Matrix



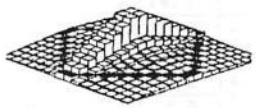
Lissajous Figures (16 by 16 Lambdoma Matrix)



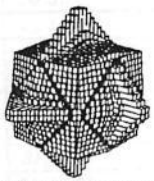
A Lambdoma Necklace Model



Lissajous 9 by 12 Color Coded Lambdoma Matrix (Based on frequency of 480 cps)

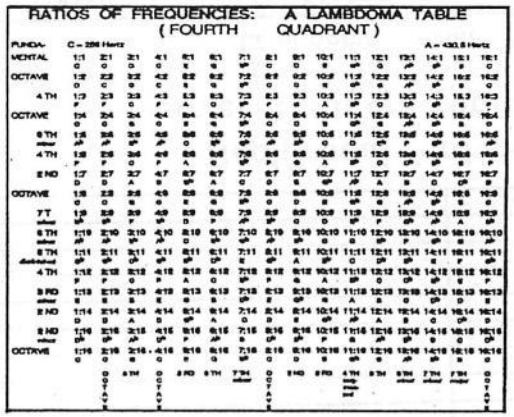


Four Quadrant, Three-Dimensional LAMBDOMA Showing the Unity Ratio Diagonal (8 by 8 Matrix)

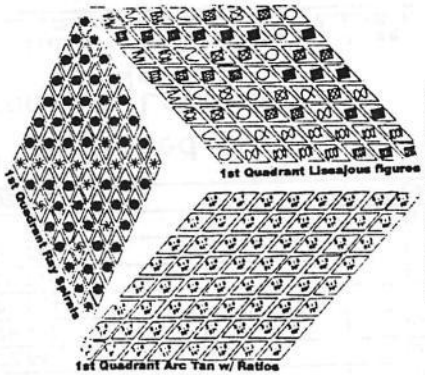


LAMBDOMA RHOMBIC DODECAHEDRON (Twenty-Four Quadrant, 6 by 6 Matrix)

RATIOS OF FREQUENCIES: A LAMBDOMA TABLE (FOURTH QUADRANT)



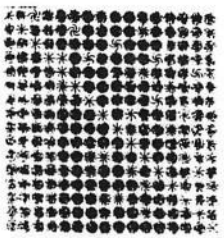
THE LAMBDOMA MATRIX



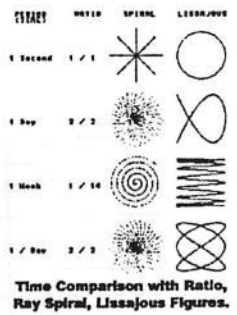
1st Quadrant Ray Spirals

1st Quadrant Lissajous figures

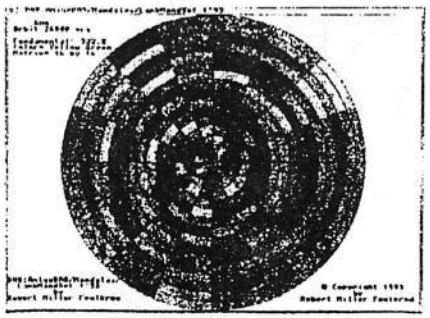
1st Quadrant Arc Tan w/ Ratios



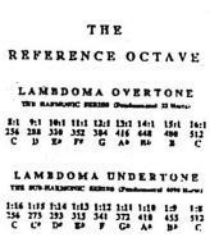
QUADRANT OF LAMBDOMA RAY SPIRALS (16 by 16 Matrix)



Time Comparison with Ratio, Ray Spiral, Lissajous Figures.



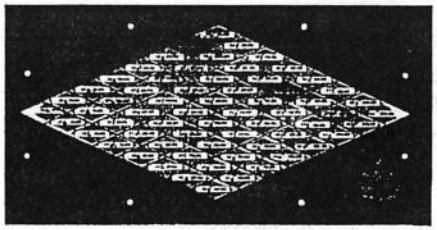
Orbital Period of the Sun (26,000 years) Represented in a 16 by 16 Lambdoma Mandala (332.8 cps)



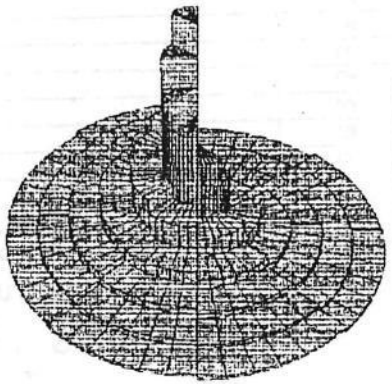
THE REFERENCE OCTAVE

LAMBDOMA OVERTONE

LAMBDOMA UNDERTONE



"Lambdoma Harmonic Keyboard"™



Round 3-D Lambdoma Model

Orbital Period of the Earth (365.25 days) Represented in a 16 by 16 Lambdoma Mandala (272.2 cps)

Figure 33

Pi Multiplied to Level Sixteen reduced to Lambdoma levels.

Pi:	Times:	Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
3.1415	01	3.1415	402.112	G#	T#	G
3.1415	02	6.283	402.112	G#	T#	G
3.1415	03	9.4245	301.584	D#	O#	D
3.1415	04	12.566	402.112	G#	T#	G
3.1415	05	15.7075	502.64	B#	W#	B
3.1415	06	18.849	301.584	D#	O#	D
3.1415	07	21.9905	351.848	F#	S	F
3.1415	08	25.132	402.112	G#	T#	G
3.1415	09	28.2735	452.376	A#	V	A
3.1415	10	31.415	502.64	B#	W#	B
3.1415	11	34.5565	276.452	C#	P#	C#
3.1415	12	37.698	301.584	D#	O#	D
3.1415	13	40.8395	326.716	E	R	E
3.1415	14	43.981	351.848	F#	S	F
3.1415	15	47.1225	376.98	G	T	F#
3.1415	16	50.264	402.112	G#	T#	G

Reciprocal of Pi Multiplied to Level Sixteen reduced to Lambdoma

Pi:	Times:	Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
3.1415	01	0.318319	325.958656	E	R	E
3.1415	02	0.15916	325.95968	E	R	E
3.1415	03	0.106106	434.610176	A	U#	A
3.1415	04	0.07958	325.95968	E	R	E
3.1415	05	0.063664	260.767744	C	P	C
3.1415	06	0.053053	434.610176	A	U#	A
3.1415	07	0.045474	372.523008	F#	S#	F#
3.1415	08	0.03979	325.95968	E	R	E
3.1415	09	0.035369	289.742848	D	Q	D
3.1415	10	0.031832	260.767744	C	P	C
3.1415	11	0.028938	474.120192	B	W	A#
3.1415	12	0.026527	434.618368	A	U#	A
3.1415	13	0.024486	401.178624	G#	T#	G
3.1415	14	0.022737	372.523008	F#	S#	F#
3.1415	15	0.021221	347.684864	F	S	F
3.1415	16	0.019895	325.95968	E	R	E

Table 39

e Multiplied to Level Sixteen reduced to Lambdoma levels.

e:	Times:	Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
2.718281828	01	2.718282	347.940096	F	S	F
2.718281828	02	5.436564	347.940096	F	S	F
2.718281828	03	8.154845	260.95504	C	P	C
2.718281828	04	10.873127	347.940064	F	S	F
2.718281828	05	13.591409	434.925088	A	U#	A
2.718281828	06	16.309691	260.955056	C	P	C
2.718281828	07	19.027973	304.447568	D#	Q#	D#
2.718281828	08	21.746255	347.94008	F	S	F
2.718281828	09	24.464536	391.432576	G	T	G
2.718281828	10	27.182818	434.925088	A	U#	A
2.718281828	11	29.9011	478.4176	B	W	A#
2.718281828	12	32.619382	260.955056	C	P	C
2.718281828	13	35.337664	282.701312	D	Q	C#
2.718281828	14	38.055946	304.447568	D#	Q#	D#
2.718281828	15	40.774227	326.193816	E	R	E
2.718281828	16	43.492509	347.940072	F	S	F

Reciprocal of e Multiplied to Level Sixteen reduced to Lambdoma

e:	Times:	Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
2.71828	01	0.367879	376.708096	G	T	F#
2.71828	02	0.18394	376.70912	G	T	F#
2.71828	03	0.122626	502.276096	B#	W#	B
2.71828	04	0.09197	376.70912	G	T	F#
2.71828	05	0.073576	301.367296	D#	Q#	D
2.71828	06	0.061313	502.276096	B#	W#	B
2.71828	07	0.052554	430.522368	A	U#	A
2.71828	08	0.045985	376.70912	G	T	F#
2.71828	09	0.040875	334.848	F	R#	E
2.71828	10	0.036788	301.367296	D#	Q#	D
2.71828	11	0.033444	273.973248	C#	P#	C#
2.71828	12	0.030657	502.284288	B#	W#	B
2.71828	13	0.028298	463.634432	A#	V#	A#
2.71828	14	0.026277	430.522368	A	U#	A
2.71828	15	0.024525	401.8176	G#	T#	G
2.71828	16	1.064494	272.510464	C#	P#	C#

Table 40

2Ln Multiplied to Level Sixteen reduced to Lambdoma levels.

2Ln : Times:		Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
69314718	01	0.693147	354.891264	F#	S	F
69314718	02	1.386294	354.891264	F#	S	F
69314718	03	2.079442	266.168576	C#	P#	C
69314718	04	2.772589	354.891392	F#	S	F
69314718	05	3.465736	443.614208	A#	V	A
69314718	06	4.158883	266.168512	C#	P#	C
69314718	07	4.85203	310.52992	D#	Q#	D#
69314718	08	5.545177	354.891328	F#	S	F
69314718	09	6.238325	399.2528	G#	T#	G
69314718	10	6.931472	443.614208	A#	V	A
69314718	11	7.624619	487.975616	B	W	B
69314718	12	8.317766	266.168512	C#	P#	C
69314718	13	9.010913	288.349216	D	Q	D
69314718	14	9.704061	310.529952	D#	Q#	D#
69314718	15	10.397208	332.710656	F	R#	E
69314718	16	11.090355	354.89136	F#	S	F

Reciprocal of 2Ln Multiplied to Level Sixteen reduced to Lambdoma

2Ln: Times:		Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
.693147	01	1.442695	369.32992	F#	S#	F#
.693147	02	0.721348	369.330176	F#	S#	F#
.693147	03	0.480898	492.439552	B	W#	B
.693147	04	0.360674	369.330176	F#	S#	F#
.693147	05	0.288539	295.463936	D	Q	D
.693147	06	0.240449	492.439552	B	W#	B
.693147	07	0.206099	422.090752	A	U	G#
.693147	08	0.180337	369.330176	F#	S#	F#
.693147	09	0.160299	328.292352	E	R#	E
.693147	10	0.14427	295.46496	D	Q	D
.693147	11	0.131154	268.603392	C#	P#	C
.693147	12	0.120225	492.4416	B	W#	B
.693147	13	0.110977	454.561792	A#	V	A#
.693147	14	0.10305	422.0928	A	U	G#
.693147	15	0.09618	393.95328	G	T#	G
.693147	16	0.090168	369.328128	F#	S#	F#

Figure 41

Log2 Multiplied to Level Sixteen reduced to Lambdoma

Log2 : Times:		Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
.301029995	01	0.30103	308.25472	D#	Q#	D#
.301029995	02	0.60206	308.25472	D#	Q#	D#
.301029995	03	0.90309	462.38208	A#	V#	A#
.301029995	04	1.20412	308.25472	D#	Q#	D#
.301029995	05	1.50515	385.3184	G	T	G
.301029995	06	1.80618	462.38208	A#	V#	A#
.301029995	07	2.10721	269.72288	C#	P#	C#
.301029995	08	2.40824	308.25472	D#	Q#	D#
.301029995	09	2.70927	346.78656	F	S	F
.301029995	10	3.0103	385.3184	G	T	G
.301029995	11	3.31133	423.85024	A	U	G#
.301029995	12	3.61236	462.38208	A#	V#	A#
.301029995	13	3.91339	500.91392	B#	W#	B
.301029995	14	4.21442	269.72288	C#	P#	C#
.301029995	15	4.51545	288.9888	D	Q	D
.301029995	16	4.81648	308.25472	D#	Q#	D#

Reciprocal of Log2 Multiplied to Level Sixteen reduced to Lambdoma

Log2: Times:		Result:	Lambdoma Level:	Notes: Diatonic C = 256 cps:	Lambdoma C = 256 cps	Piano A = 440 cps
.301029	01	3.321928	425.206784	A	U#	G#
.301029	02	1.660964	425.206784	A	U#	G#
.301029	03	1.107309	283.471104	D	Q	C#
.301029	04	0.830482	425.206784	A	U#	G#
.301029	05	0.664386	340.165632	F	R#	F
.301029	06	0.553655	283.47136	D	Q	C#
.301029	07	0.474561	485.950464	B	W	B
.301029	08	0.415241	425.206784	A	U#	G#
.301029	09	0.369103	377.961472	G	T	F#
.301029	10	0.332193	340.165632	F	R#	F
.301029	11	0.301993	309.240832	D#	Q#	D#
.301029	12	0.276827	283.470848	D	Q	C#
.301029	13	0.255533	261.665792	C	P	C
.301029	14	0.237281	485.951488	B	W	B
.301029	15	0.221462	453.554176	A#	V	A#
.301029	16	0.207621	425.207808	A	U#	G#

Figure 42

ORDER FORM

STRAWBERRY HILL FARM STUDIOS

496 Loop Road, Wells, ME 04090-7622 USA
PHONE: (207) 646-7950 FAX: (207) 646-7950

Name _____

Address _____

City _____

State _____ Country _____ Zip _____

Telephone #: ( ) _____

QUANTITY	ITEM NO.	TITLE OR DESCRIPTION	UNIT PRICE	TOTAL

ORDERS UNDER $100 USE THIS CHART FOR SHIPPING AND HANDLING

COUNTRY	PRIORITY/AIR MAIL	SURFACE	COUNTRY	PRIORITY/AIR MAIL	SURFACE
U.S.A.	5.00	3.00	EUROPE	10.00	3.00
CANADA/MEXICO	6.00	3.00	ELSEWHERE	12.00	3.00
WEST HEMISPHERE	8.00	3.00			

SUB TOTAL

SALES TAX (ME ONLY)

SHIPPING

TOTAL PAID

VISA MasterCard

ORDERS OVER $100 SHIP FREE OF CHARGE

MINIMUM CREDIT CARD ORDER $15.00

FOR CREDIT CARD ORDERS:

VISA ☐ MASTERCARD ☐

Card #: _____ Exp. Date: _____

Signature: _____

ORDER FORM

STRAWBERRY HILL FARM STUDIOS

496 Loop Road, Wells, ME 04090-7622 USA
PHONE: (207) 646-7950 FAX: (207) 646-7950

Name _____

Address _____

City _____

State _____ Country _____ Zip _____

Telephone #: ( ) _____

QUANTITY	ITEM NO.	TITLE OR DESCRIPTION	UNIT PRICE	TOTAL

ORDERS UNDER $100 USE THIS CHART FOR SHIPPING AND HANDLING

COUNTRY	PRIORITY/AIR MAIL	SURFACE	COUNTRY	PRIORITY/AIR MAIL	SURFACE
U.S.A.	5.00	3.00	EUROPE	10.00	3.00
CANADA/MEXICO	6.00	3.00	ELSEWHERE	12.00	3.00
WEST HEMISPHERE	8.00	3.00			

SUB TOTAL

SALES TAX (ME ONLY)

SHIPPING

TOTAL PAID

VISA MasterCard

ORDERS OVER $100 SHIP FREE OF CHARGE

MINIMUM CREDIT CARD ORDER $15.00

FOR CREDIT CARD ORDERS:

VISA ☐ MASTERCARD ☐

Card #: _____ Exp. Date: _____

Signature: _____