

RA music™



natural frequency
spectrum

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RA MUSIC™

**Prepared for Ra Systems L.L.C.
By Wesley H. Bateman C.S.O.**

The physical factors upon which Ra Music is based were realized during a study of a *natural system of mathematics* which nature apparently uses to describe itself.

The natural system of mathematics of which I speak was actually rediscovered during a 32 year study (begun in 1975) of the Great Pyramid of Giza, Egypt. Because of the role that the dimensions of the Great Pyramid (GP) played in the rediscovery of the system it was named the Ra System, and the various units of measure that were derived from it were collectively named the Rods of Amon Ra, after the ancient Egyptian god of the sun.

During the study of the G.P. it was learned that its builders used measuring wheels to precisely lay out the structure's dimensions.



Over the past century many scholars have tried to determine the size of the units of measure that were used in the construction of the Great Pyramid. Because it is well known that “cubit” sized units were used by many ancient cultures it was assumed the G.P. was also laid out with cubit sized units. The question has been :What size was this G.P. cubit?

Many different sized cubits have been suggested over the years. These “pet cubits” of different sizes have generated considerable confusion, and controversy among Egyptologists. The disagreement over the true size of the G.P. cubit is referred to as the “Babble of the Cubits.”

When any particular Egyptologist’s pet cubit did not quite fit into the dimension of a pyramid feature they attributed the difference to “primitive workmanship.”

Sir Flinders Petrie known as the “Father of Egyptology” contradicted the primitive workmanship excuses, with his statement: “ The accuracy, and precision used by the builders of the Great Pyramid can be compared to the work of an optician on the scale of acres.”

Our research has brought to light the fact the builders of the G.P. used a number of cubit sized units, all very close in size to each other. Thus the reason for the confusion. These units are called “Racs” which stands for Ra Cubit. Not because they are cubits, but to remind us that they are close in size to many of the cubits suggested by Egyptologists over the years.

Before looking at the illustrations of these measuring wheels the reader must be informed of several facts about the Ra System of Mathematics.

So far, it is known that the Ra System contains at least 480 “Rod formats.”

Three of the known 480 Rod formats are shown below. These three formats were chosen because when they are used to determine frequencies of musical notes, those particular musical notes are the most sympathetic (over all others) to the “alpha brain wave” generating centers in the human brain.

	RED FORMAT	GREEN FORMAT	BLUE FORMAT
Rod	127.2345	127.279220613	127.323956997
$\frac{R}{120}$	1.0602875 *	1.060660172 *	1.061032975 *
$\frac{R}{90}$	1.413716666--- **	1.414213562 **	1.414710633 **
$\frac{R}{40.5}$	3.141592592--- ***	3.142696805 ***	3.143801407 ***
$\frac{R}{25}$	5.08938 ****	5.091168825 ****	5.092958280 ****

Red units x 1.000351482 = Green units

Red units x 1.000703088 = Blue units

Green units x 1.000351482 = Blue units

RODS

Red rod x Blue rod = 16,200. (10,000 x Ra phi) and the value of the Green rod squared.

Red numbers x Blue numbers (counterparts) always equal their Green counterpart squared.

Recip. of the Red rod = .007859504 (1/4 Blue pi x 10⁻²)

Recip. of the Blue rod = .007853981 (1/4 Red pi x 10⁻²)

Recip. of the Green rod = .00785674201 (1/4 Green pi x 10⁻²)

Dividing the values of the 3 rods in the chart above by 120 produces 3 respective values: **1.0602875**, **1.060660172** and **1.061032975**. These are Ra values for a number used in atomic physics which is known as “H-bar.” See Planck’s Constant.

There are actually 480 of these values, which are the result of dividing each of the 480 known rods by 120.

As lineal units of measure **1.0602875**, **1.060660172** and **1.061032975** are called Red, Green and Blue “Hunabs.” This name originates from ancient Aztec god of measure: Hunab Ku. The Hunab unit was used to lay out the pyramids, buildings and spatial distances between these constructions, in the ancient Pre-Colombian city of Teotihuacan, Mexico. It is obvious that measuring wheels were also used at Teotihuacan.

As e.m. frequencies **1.0602875**, **1.060660172** and **1.061032975** stated in cycles per natural second of time (nst), represent the most frequently generated “alpha brain wave” that is produced by a mentally relaxed human (in a meditative state of mind).

As e.m. frequencies **1.0602875**, **1.060660172** and **1.061032975** stated in cycles per natural second of time (nst), represent the most frequently generated “ELF” wave generated by lightning.

=====

Dividing the values of the 3 rods in the chart above by 90 produces 3 respective values: **1.41371666---**, **1.414213582** and **1.414710634**. and-----

$$\begin{aligned} & \text{1.41371666--- “A” part} \times \text{1.414710634 “B” part} = 2 \\ & \text{1.414213582}^2 = \text{-----} 2 \end{aligned}$$

=====

Dividing the values of the 3 rods in the chart above by 40.5 produces 3 respective values for Pi: **3.141592592---**, **3.142696805** and **3.143801409**. and-----

3.141592592---“A” part x **3.143801409** “B” part =
9.-8-7-6-5-4-3-2-1-0 (Ra minus sequence and Green Pi squared). For more information about Ra Sequences, Repitans, and Ra Table of Nines see: The Rods of Amon Ra.

=====

Dividing the values of the 3 rods in the chart above by 25 produces 3 respective values for “Ankh.” All 480 known values for Ankh are the product of 1.62 (Ra phi) x the the Pi value of any particular format.

=====

The builders of the Great Pyramid and Teotihuacan definitely used at least two types of measuring wheels and probably several more yet to be realized. The two wheels that will be described in this writing are called the “Pi Wheel” and the “Ankh Wheel”

The Red Pi Measuring Wheel

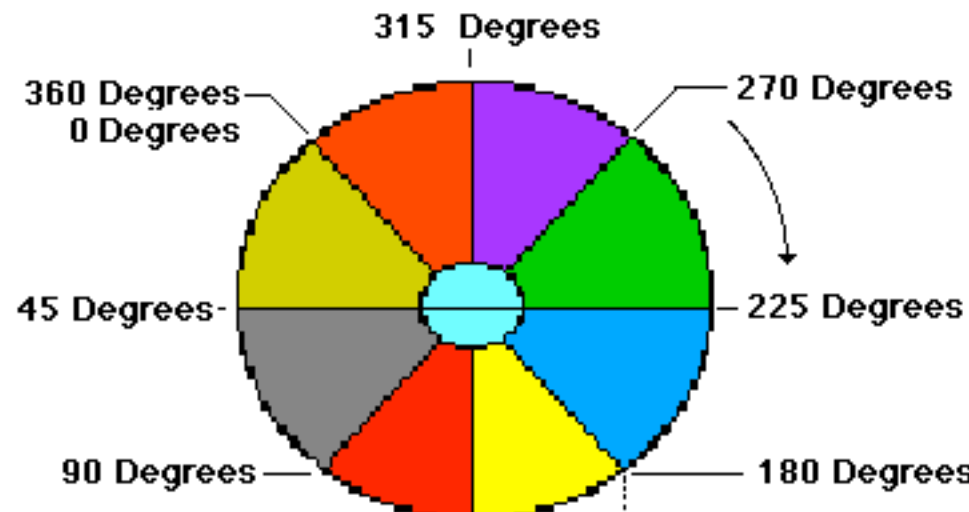
The illustration below is of the Red Pi Measuring Wheel. Notice that each complete rotation of this wheel lays out the value of Red Pi.

By turning this wheel a predetermined number of degrees a particular “Rac” is measured out.

Also notice that a un subdivided Ram is used as the diameter of this measuring wheel. Any un subdivide Ra unit of measure is called a “master” type unit. The height of the Great Pyramid must be viewed as 486 master feet for its mathematical message to be comprehend.

RED FORMAT

PI MEASURING WHEEL



<u>DIAMETER</u>
1
MASTER RAM
<u>Circumference</u>
3.141592
RED RAMS
<u>1 Degree</u>
.0087266461
RED RAMS

"RAC TRACKS"

1	2	3	4	5	6	7	8	
.392699074	.78539814	1.178097222	1.570796296	1.963495370	2.35619444	2.74883518	3.141592 π	
0°	45°	90°	135°	180°	225°	270°	315°	360°

RACs LISTED IN ORDER OF DISCOVERY

RAC		METERS	RAC		METERS
1	72.9°	.639557827	Block 1	77.76°	.68223111
	.6361725			.678584	
2	72.°	.631662051	Block 2	64.°	.561507087 HU
	.6283185185			.5585053500	
3	65.61°	.5756325	MIR	80.°	.701883858
	.57255525			.698131687	
4	60.°	.526412894			
	.523598765				
5	52.488°	.460506			
	.4580442				

The Red Ankh Measuring Wheel

This measuring wheel has a diameter of 1.62 (Ra Phi) master Rams.

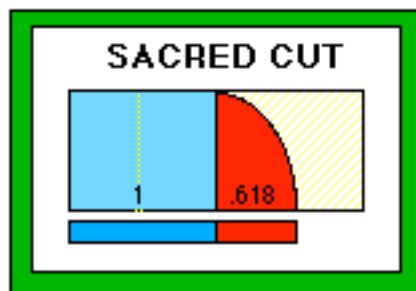
One full rotation of this wheel lays out the value of Red Ankh.

Like the Pi wheel turning this wheel to a predetermined number of degrees a particular Rac unit will be laid out.

The 1.62 master ram diameter can be established physically in the following way.

THE PHI PROPORTION / SACRED CUT

Phi can be physically determined with a straight edge and a draftsman's compass. if you split two squares in half and place one point of the compass directly on the center of the base line of the first square (blue in the illustration) and then place the other point of the compass where the upper right corner of the blue square meets the upper left corner of the red section of the second square, the sacred cut can be produced by swinging this compass point down in an arc. The point where the arc crosses the base line of the second square will be exactly .618 units from the common border of the blue and red squares. See following illustration:



Each square in the illustration above is 1 x 1 master Rams.

The Phi Proportion is also known by the following names: The Golden Section, Golden Mean, Sacred Cut and Divine Proportion.

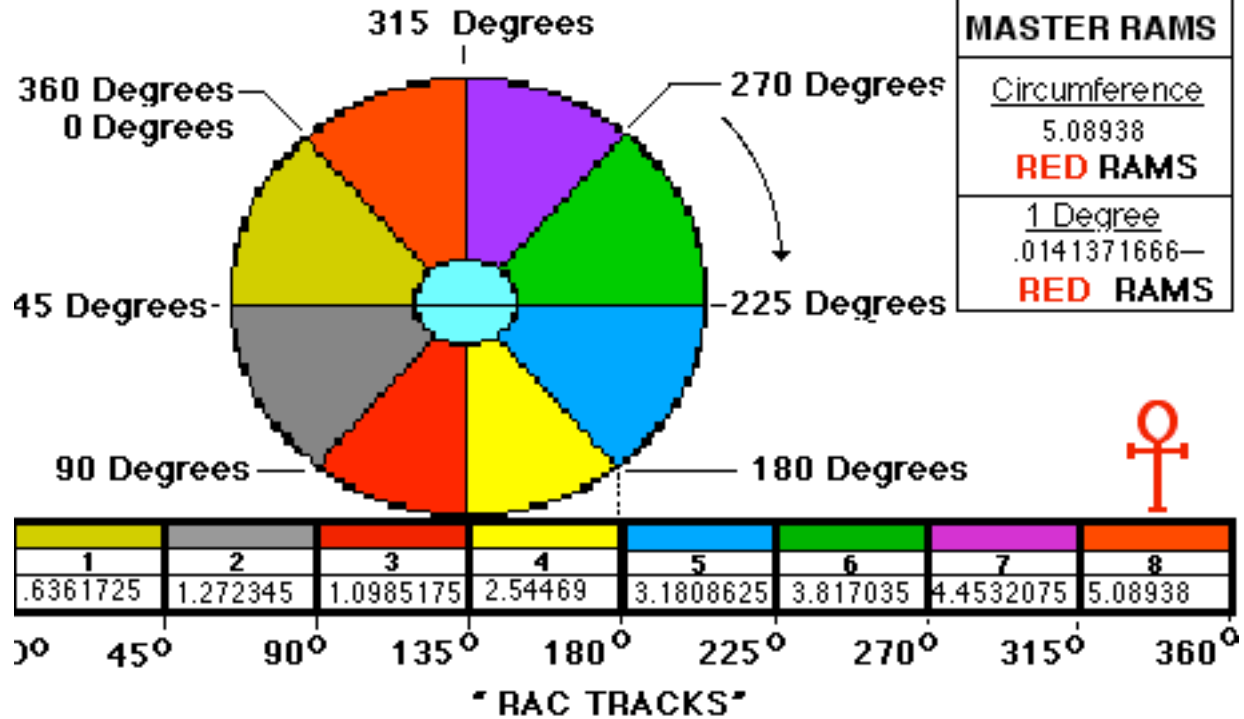
The Ra Value for Phi is 1.62 (Ramathized). The term “Ramathized” means that the stated Ra value was the result of being converted from another system of measure, such as the meter-grams-and second system (mgs) to Rams-Ra grams and Natural Seconds.

The value for Phi is well known as the end result of a Fibonacci Series. In turn the fractions that composed a Fibonacci series are known to relate to the way that plants position their leaves on their stems so that the higher leaves do not prevent the lower leaves from receiving sunlight.

For more information that pertains to The Ra System and nature, see the three volume series that is titled: The Rods of Amon Ra.

RED FORMAT

ANKH MEASURING WHEEL



RAC		METERS	RAC		METERS
1	45.° .6361725	.639557827	Block 1	48.° .678584	.68223111
2	44.444—° .6283185185	.631662051	Block 2	39.50617284° .5585053500	.561507087
3	40.5° .57255525	.5756325	MIR	49.382716049° .698131687	.701883858
4	97.2° .523598765	.526412894			
5	32.4° .4580442	.460506			

Spectral Lines of Hydrogen

In the following series of charts will be found the wave lengths of the spectral lines of the element hydrogen. The reader will be asked to refer to these lines during the description of the Ra musical wheel.

The following charts give the spectral lines of hydrogen that have been calculated with the Ra value for the “Rydberg Constant for infinite mass” (109739369). From the infra- red to the ultra - violet.

BRACKETT SERIES		
DEEP INFRA RED		
$1/\Delta = R (1/42 - 1/M^2)$		
RESULTS STATED IN GREEN ANGSTROMS		
M		WAYE LENGTH
VALUES		(Δ)
M = 5	_____	40500.
M = 6	_____	26244.
M = 7	_____	21649. 090
M = 8	_____	19440.

BRACKETT SERIES		
DEEP INFRA RED		
$1/\Delta = R (1/42 - 1/M^2)$		
RESULTS STATED IN GREEN ANGSTROMS		
M		WAYE LENGTH
VALUES		(Δ)
M = 5	_____	40500.
M = 6	_____	26244.
M = 7	_____	21649. 090
M = 8	_____	19440.

PASCHEN SERIES

INFRA RED

$$1 / \Delta = R (1 / 3^2 - 1 / M^2)$$

RESULTS STATED IN GREEN ANGSTROMS

M		WAVE LENGTH
VALUES		(Δ)
M = 4	_____	18745.71429
M = 5	_____	12814.45313
M = 6	_____	10935.
M = 7	_____	10046.53130
M = 8	_____	9543.27229

BALMER SERIES

VISIBLE

$$1 / \Delta = R (1 / 2^2 - 1 / M^2)$$

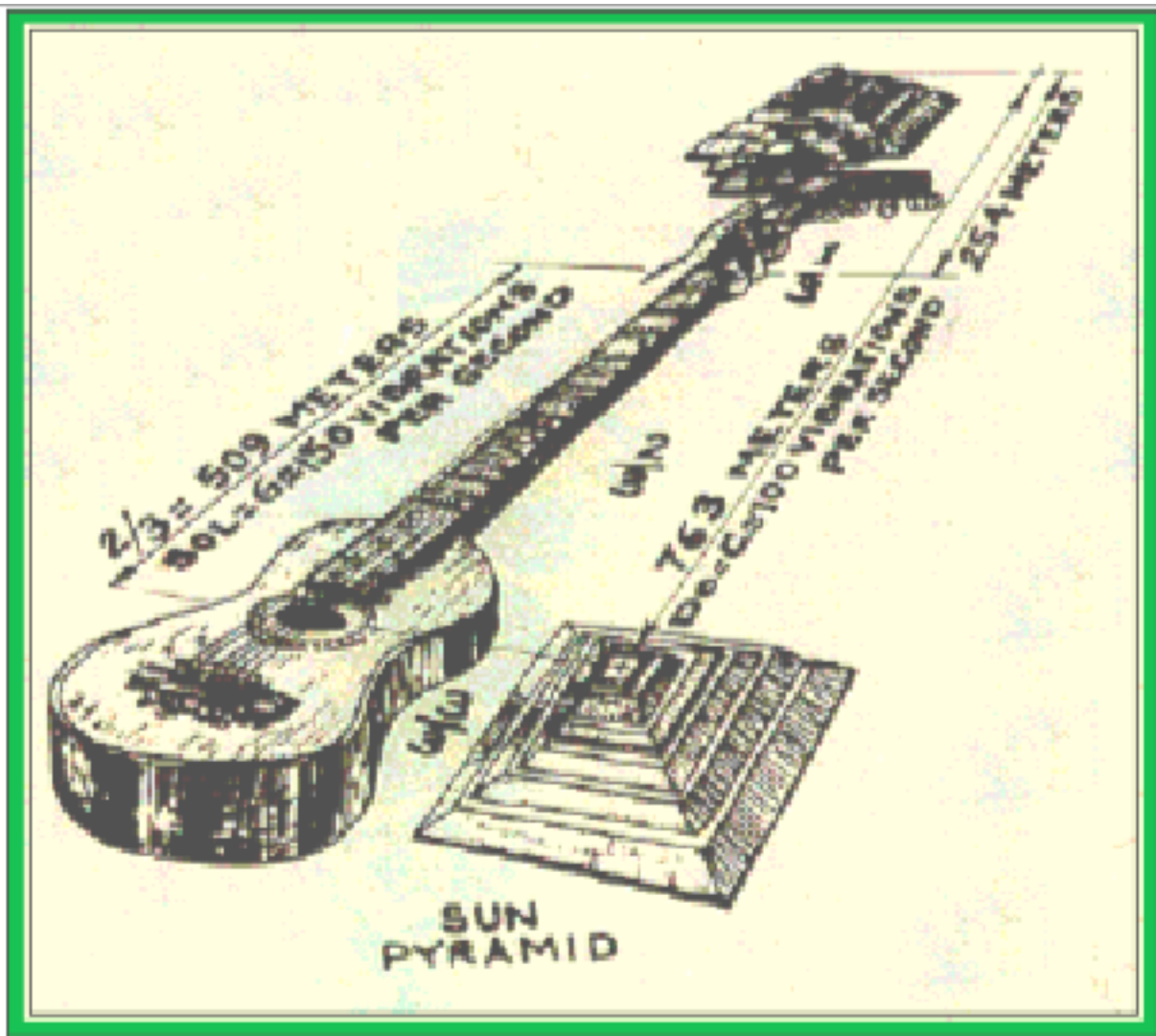
RESULTS STATED IN GREEN ANGSTROMS

M		WAVE LENGTH
VALUES		(Δ)
M = 3	_____	6561.
M = 4	_____	4860.
M = 5	_____	4339.28571429
M = 6	_____	4100.625
M = 7	_____	3969.
M = 8	_____	3888.
M = 9	_____	3834.350649
M = 10	_____	3796.875

LYMAN SERIES ULTRA VIOLET $1/\Delta = R (1/1^2 - 1/M^2)$ RESULTS STATED IN GREEN ANGSTROMS	
M VALUES	WAVE LENGTH (Δ)
M = 2 _____	1215. <u>Most intense line</u>
M = 3 _____	1025.15625
M = 4 _____	972.
M = 5 _____	949.2187503
M = 6 _____	932.7857142
M = 7 _____	930.2343375
M = 8 _____	925.7142854

It was during our study of the Pre- Colombian city of Teotihuacan, Mexico that we became aware that the two key pyramids (of the sun and moon) were uniquely spaced by a boulevard known as the “Way of the Dead.” From the air the “Sun Pyramid “ appeared to look like the body of a guitar, and the Way of the Dead appeared to represent the guitar’s neck. The person who first noticed this similarity calculated that the guitar strings of such a guitar would be 763. meters in length and when plucked would vibrate at 100 cycles per second.

The discovery of Ra Music was aided by an illustration of the Teotihuacan guitar that was found in Peter Tomkins’ fine book “The Secret of the Mexican Pyramids.”



Prior to learning of the Teotihuacan guitar we were aware that the base of Great Pyramid of Giza contained **763.407** Red Ra feet.

We were able to determine that the reported 763. meters (string length) actually translated into **763.407** Red rams, and that the string would vibrate at **106.02875** cycles per natural second.

Later it was discovered that there were also **763.407** Red Ra feet in the base of the pyramid of the sun at Teotihuacan, and in

the length of the “platform” located in the the Mayan City of Palenque in the Yucatan.

Notice that $\frac{2}{3}$ of the guitar string is reported to be 509. meters in length. This length actually translates into 508.938 red rams(Red ankh). See Red rod divided by 25. on page 3.

Please remember that **106.02875** is the result of the Red Rod being divided by 120. See chart on page 3.

106.02875 cycles per natural second (n.s.t.) is the average alpha wave that is generated by a meditating human being and also the most frequently occurring “elf wave” produced by lightning In Ra music, 10 times the average alpha wave or **106.02875** cycles per n.s.t. represents the frequency of the second octave of “A” in the Red musical scale.

Using **106.02875** as a point of reference and the ratios that Johanne Sebastian Bach used between the various notes when laying out the well tempered clavichord (fortunately he intuitively used Ra values as his ratios) we are able to establish a number of Ra musical scales.

It has been found that Ra musical tones of the Red, Green and Blue formats are the most sympathetic to the alpha brain wave frequencies produced by the human brain. please recall that Red x Blue numbers equal Green numbers squared. This applies as well to Red and Blue frequencies of sound. These frequencies harmoniously blend. The music has actually been raised to a higher level of mathematical harmony, and thus relates to the human brain via the ‘Law of Sympathetic Resonance.”

LAW OF SYMPATHETIC RESONANCE

The "Acker Encyclopedia of Physical Science" gives the following definition for the Law of Sympathetic Resonance.

"The reinforcement of the natural vibration of a system, or object by a force acting with the same frequency as the system.

Every object, or system has a natural frequency or a frequency at which it will vibrate if displaced, or distorted, and then released.

A child on a swing (subject to earth's gravity) is such a system. Once the swing is pushed it tends to vibrate at its natural frequency. If it is pushed lightly at intervals equal to that frequency the displacement of the swing (how high it goes) increases rapidly. Theoretically the displacement of any resonant system rapidly approaches infinity (unless friction or another dampening force acts).

The natural frequency of an electrical oscillator circuit can be changed by adjusting the capacitance, or inductance in the circuit. A radio station can be "tuned in" by adjusting the capacitor of the receiver to resonate at the frequency of the electromagnetic waves from the broadcasting station.

If the frequency of a light wave matches some natural frequency of an atom's electrical charges, the wave is absorbed by the atom. Thus atoms of gas in the sun's atmosphere absorb light of just those frequencies that correspond to the frequencies of the atoms and this absorption produces the dark Fraunhofer lines which are seen in the solar spectrum."

The principle of resonance applies to all vibrating bodies that send out energy in waves, such as the human brain.

A reader that has access to a piano can witness the "Law of Sympathetic Resonance" in action, by striking a "C" note on the key board and then observing how the other "C" strings of the instrument resonate sympathetically.

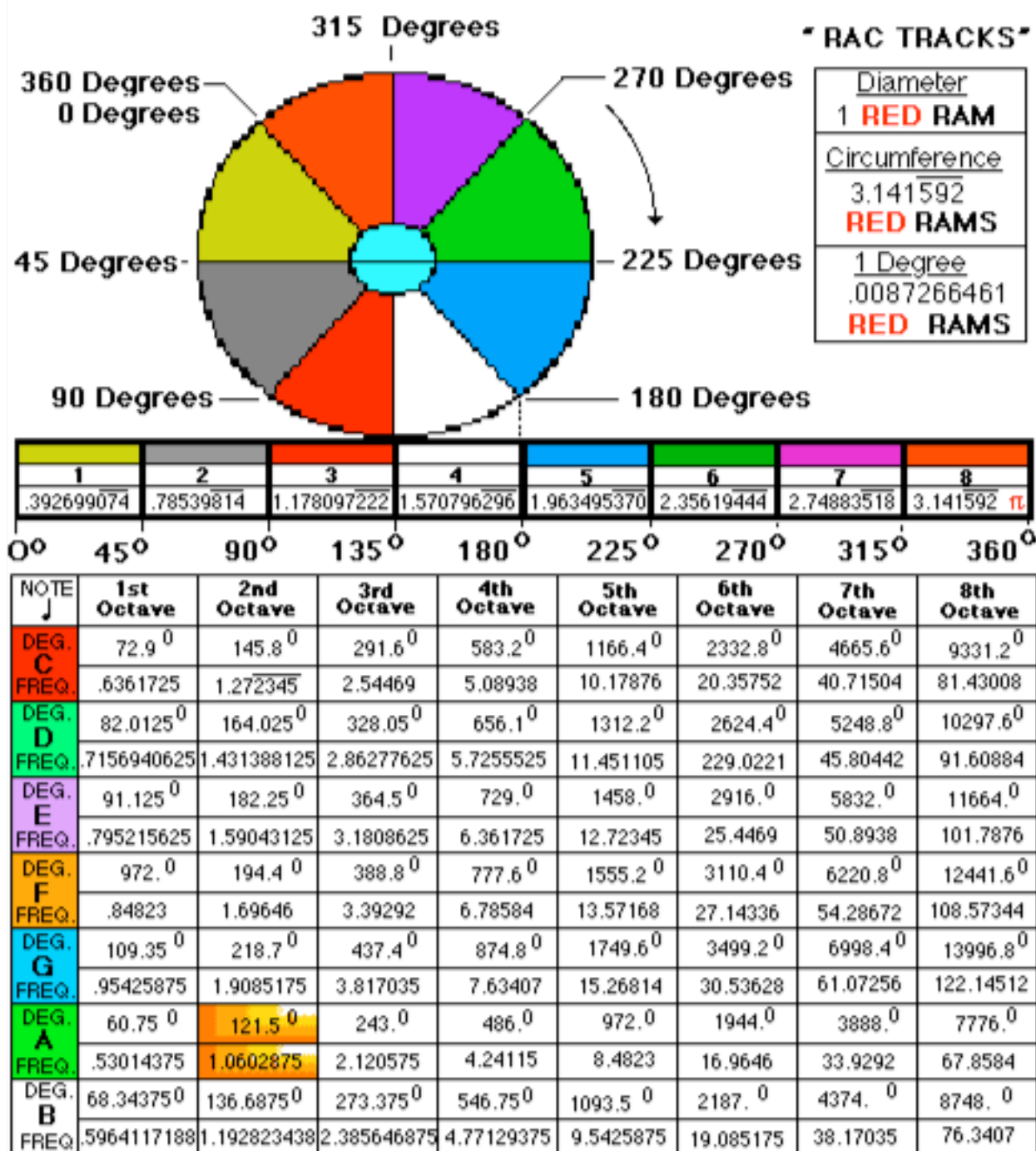
In the illustration that follows are shown a unique relationship that degrees of a Red Pi circle have with Ra musical notes.

The chart tells us that 121.5 degrees rolls out 106.0275 Red cycles (average alpha brain wave). In the chart found on page 12 of this writing under the title "The Lyman Series" (ultraviolet) it is stated that the wave length 121.5 (Lyman M2) is the most intense spectral line of hydrogen. The fact that this wave length expressed as degrees of a circle relates to the frequency of the average alpha brain wave is truly astonishing.

Note: 106.02875 Red cycles per n.s.t. is not the corresponding frequency of the 121.5 wave length. What we are observing here is that this wave length and this frequency have a common relationship to each other via the value of Pi degrees. Note: One full rotation of the wheel (360 degrees) equals Pi.

The mathematical link that exist between this wave length, frequency and Pi has been identified as the inverted value of the "fine structure constant." This data is considered to be proprietary, as is the true duration of the natural second of time.

PI MEASURING WHEEL / RA MUSICAL NOTES



Raise frequencies stated in the chart by the power of 10×2 .

Note that the number of degrees it takes roll out the frequency of the 6th octave “D” is 2624.4 . There are 2524.4 milli-microns in the Brackett M6 spectral line of hydrogen. The wave length of several spectral lines of hydrogen viewed as degrees of a circle produce Ra musical notes. Such as:

The 4th octave of “D” is 656.1 degrees or 656.1 milli-microns (wave length of the Balmer M3 spectral line of hydrogen... visible).

The 1st octave of “F” is 972 degrees or 972 milli-microns (wave length of the Lyman M4 spectral line of hydrogen... ultraviolet).

2nd octave of “F” is 194.4 degrees or 194.4 milli-microns (wave length of the Brackett M8 spectral line of hydrogen... infrared).

3rd octave of “F” is 388.8 degrees or 388.8 milli-microns (wave length of the Balmer M8 spectral line of hydrogen... visible).

1st octave of “G” is 109.35 degrees or 109.35 milli-microns (wave length of the Paschen M6 spectral line of hydrogen...near infrared).

Ra Pi music is known to hasten the germination of seeds and to stimulate the rapid growth of plants.

The trees in the picture shown below were branchless, about 3 foot tall and barely growing in the harsh Mohave Desert of Northern, Arizona. Daily exposure to Ra music caused these trees to grow to the size depicted, and bare fruit in less than 2 years.



FIBONACCI and ANKH MUSIC

A stronger understanding of the Ra System of Mathematics was acquired in the fall of 1975, when it was realized that 12×13.5 Hz. (last elf and alpha brain wave frequency) equaled 162.

Written as 1.62 this number is very close in value to 1.618033989 which is well known in the realm of mathematics by the Greek letter phi. The person who is credited with our present day knowledge of this number, was known as Leonardo Biggolo Fibonacci.



STATUE OF FIBONACCI LOCATED IN PISA, ITALY

Fibonacci was born in Pisa, Italy in 1179. As a young man he traveled to North Africa (including Egypt) with his father who was a merchant. During his travels Fibonacci learned of the Hindu system of numerals 1 to 9 and 0. After introducing these numbers to Europe they quickly replaced cumbersome Greek letters and Roman numerals as symbols in mathematical calculations.

While in Egypt Fibonacci learned of an additive series of numbers. This series and others based on it, are now referred to individually as a “Fibonacci series.”

Each new number in a Fibonacci series is the sum of the previous two. i.e. 1-2-3-5-8-13-21 ect..

Here is a curious property of Fibonacci numbers. Pick any three numbers that follow each other in line. Square the middle

number and multiply the first number by the third. For example if we take the numbers 3 - 5 and 8 we get: $5 \times 5 = 25$ and $3 \times 8 = 24$ (there will be a difference of 1 in every case).

The ratio that exists between any two successive Fibonacci numbers grows as the numbers become greater in value. Eventually the ratio reaches 1.618033989 (phi) and then the series ends. The ratio between the next two Fibonacci numbers and each pair thereafter remains constantly at 1.618033989 (phi).

The number 1.618033989 has been assigned the capital symbol of the Greek letter phi which is: Φ . The decimal portion of the number (.618033989) is generally symbolized by the lower case version of the letter.

Phi is an interesting number believed to be without rival. It is said to be the only known number that has a reciprocal which is equal to its own fractional part.

$$(1-1) \quad 1 / 1.618033989 = .618033989$$

Another mathematical fact concerning phi that is also quite unique is stated below:

$$(3-5) \quad 1 + \phi = \phi^2 \text{ (1 plus phi equals phi squared) .}$$

Fibonacci Series Beginning With 1 + 1

			RATIO
1.	$1 + 1 = 2$	$2/1 =$	2.
2.	$1 + 2 = 3$	$3/2 =$	1.5
3.	$3 + 2 = 5$	$5/3 =$	1.666
4.	$5 + 3 = 8$	$8/5 =$	1.6
5.	$8 + 5 = 13$	$13/8 =$	1.625
6.	$13 + 8 = 21$	$21/13 =$	1.615384615
7.	$21 + 13 = 34$	$34/21 =$	1.619047619
8.	$34 + 21 = 55$	$55/34 =$	1.617647059
9.	$55 + 34 = 89$	$89/55 =$	1.618181818
10.	$89 + 55 = 144$	$144/89 =$	1.617977528
11.	$144 + 89 = 233$	$233/144 =$	1.618055555
12.	$233 + 144 = 377$	$377/233 =$	1.618025751
13.	$377 + 233 = 610$	$610/377 =$	1.618037135
14.	$610 + 377 = 987$	$987/610 =$	1.618032787
15.	$987 + 610 = 1597$	$1597/987 =$	1.618034448
16.	$1597 + 987 = 2584$	$2584/1597 =$	1.618033813
17.	$2584 + 1597 = 4181$	$4181/2584 =$	1.618034056
18.	$4181 + 2584 = 6765$	$6765/4181 =$	1.618033963
19.	$6765 + 4181 = 10946$	$10946/66765 =$	1.618033999
20.	$10946 + 6765 = 17711$	$17711/10946 =$	1.618033985
21.	$17711 + 10946 = 28657$	$28657/17711 =$	1.618033990
22.*	$28657 + 17711 = 466368$	$46368/28657 =$	1.618033989

*The resulting ratio of procedure 22 in the series table is 1.618033989, or Phi.

Procedures 23 and 24 are presented below in order to show how the Phi ratio remains constant thereafter.

$$\begin{array}{ll}
 23. & 46368 + 28657 = 75025 \quad 75025 / 46368 = 1.618033989 \\
 24. & 75025 + 46368 = 121393 \quad 121393 / 75025 = \\
 & 1.618033989
 \end{array}$$

FIBONACCI SERIES BEGINNING WITH 2 + 5

			RATIO
1.	$2 + 5 = 7$	$7/5 =$	1.4
2.	$7 + 5 = 12$	$12/7 =$	1.714285714
3.	$12 + 7 = 19$	$19/12 =$	1.583333333
4.	$19 + 12 = 31$	$31/19 =$	1.631578947
5.	$31 + 19 = 50$	$50/31 =$	1.612903226
6.*	$50 + 31 = 81$	$81/50 =$	1.62
7.	$81 + 50 = 131$	$131/81 =$	1.617283951
8.	$131 + 81 = 212$	$212/131 =$	1.618320611
9.	$212 + 131 = 343$	$343/212 =$	1.617924528
10.	$343 + 212 = 555$	$555/343 =$	1.618075802
11.	$555 + 343 = 898$	$898/555 =$	1.61801801
12.	$898 + 555 = 1453$	$1453/898 =$	1.618040089
13.	$1453 + 898 = 2351$	$2351/1453 =$	1.618031659
14.	$2351 + 1453 = 3804$	$3804/2351 =$	1.618034879
15.	$3804 + 2351 = 6155$	$6155/3804 =$	1.618033649
16.	$6155 + 3804 = 9959$	$9959/6155 =$	1.618034119
17.	$9959 + 6155 = 16114$	$16114/9959 =$	1.618033939
18.	$16114 + 9959 = 26073$	$26073/16114 =$	1.618034008
19.	$26073 + 16114 = 42187$	$42187/26073 =$	1.618033982
20.	$42187 + 26073 = 68260$	$68260/42187 =$	1.618033992
21.	$68260 + 42187 = 110447$	$110447/68260 =$	1.618033988
22.	$11047 + 68260 = 178707$	$178707/110447 =$	1.618033989

The resulting ratio of procedure 22 is 1.618033989 or Phi.

Procedures 23 and 24 are presented below in order to show the consistency of the phi ratio.

$$23. \quad 178707 + 110447 = 289154 \quad 289154/178707 = 1.618033989$$

$$24. \quad 289154 + 178707 = 467861 \quad 467861/289154 = 1.618033989$$

*Note: The number 1.62 is the resulting ratio of procedure six.

There is a formula for calculating phi. The directions are: Subtract 1 from the square root of 5, divide the result by 2 and then add 1.

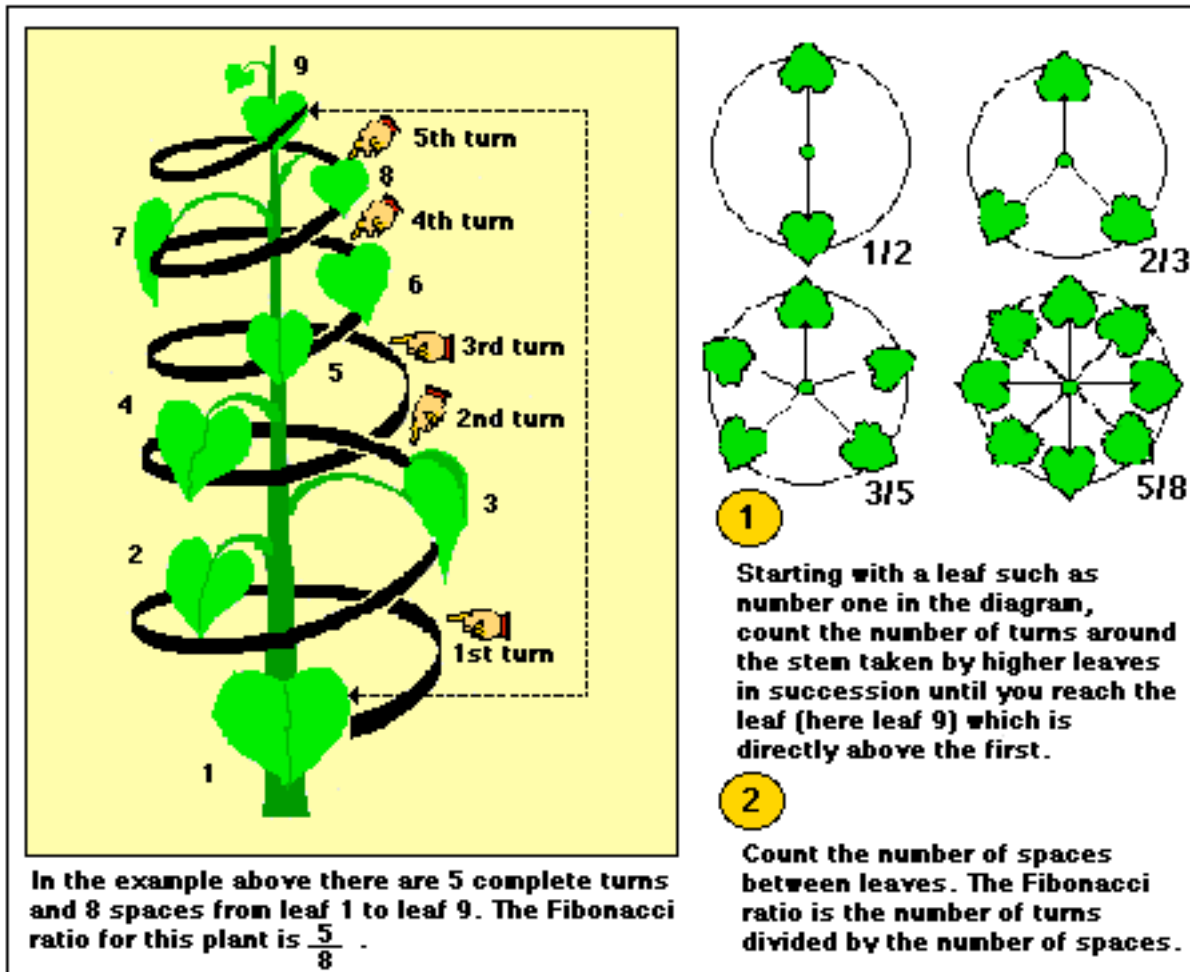
When Fibonacci was asked why he studied these numbers and their ratios he replied: “Someday these numbers will unlock the secrets of nature and will explain why a drone bee does not have a father.” It is evident by this statement that Fibonacci was aware that phi and its associated Fibonacci numbers are found expressed in the shapes and proportions of life forms such as: humans, animals and plants.

To show how the Fibonacci ratios reflect in nature let us look at the way leaves grow and become positioned on the stems of various plants.

When new leaves grow from a plant, they grow in a spiral around the plant's stem. Nature spaces the leaves in this way so that higher leaves do not shade the lower leaves too much from sunlight.

The number of turns in the spiral (from leaf to leaf) and the number of leaves that exist in the pattern in all cases express a Fibonacci fraction and therefore a Fibonacci ratio. The same pattern repeats again and again as the plant grows.

The illustration that follows explains how to find the Fibonacci fractions and ratios of various plants:



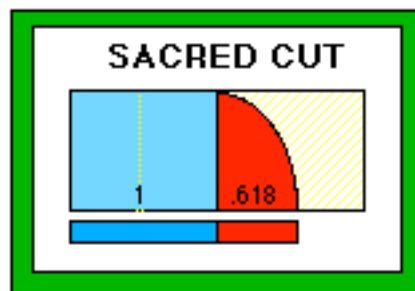
Pine cones have the ratios of $\frac{5}{8}$ and $\frac{8}{13}$, whereas daisies have the Fibonacci ratio of $\frac{21}{34}$.



To date I have not located any work that catalogs all known plants by their Fibonacci ratios. I believe this type of plant classification (which most likely exists) may someday assist in formulating various derivatives of plants into new, useful medicines and chemical compounds.

THE PHI PROPORTION / SACRED CUT

Phi can be physically determined with a straight edge and a draftsman's compass. if you split two squares in half and place one point of the compass directly on the center of the base line of the first square (blue in the illustration) and then place the other point of the compass where the upper right corner of the blue square meets the upper left corner of the red section of the second square, the sacred cut can be produced by swinging this compass point down in an arc. The point where the arc crosses the base line of the second square will be exactly .618 units from the common border of the blue and red squares. See following illustration:

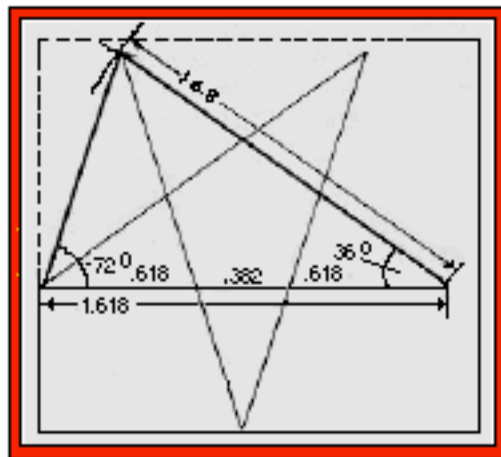


The Phi Proportion is also known by the following names: The Golden Section, Golden Mean, Sacred Cut and Divine Proportion.

The Phi Proportion often comes up in art. For example, not all rectangles are equally pleasing to the eye. Some look too stubby and fat.

There is a shape between extremes that looks the best. In this best looking of rectangles the ratio of the width to the length is equal to the sum of the width and the length. This shape is generally called the "Golden Rectangle."

GOLDEN TRIANGLE AND 5 POINTED STAR



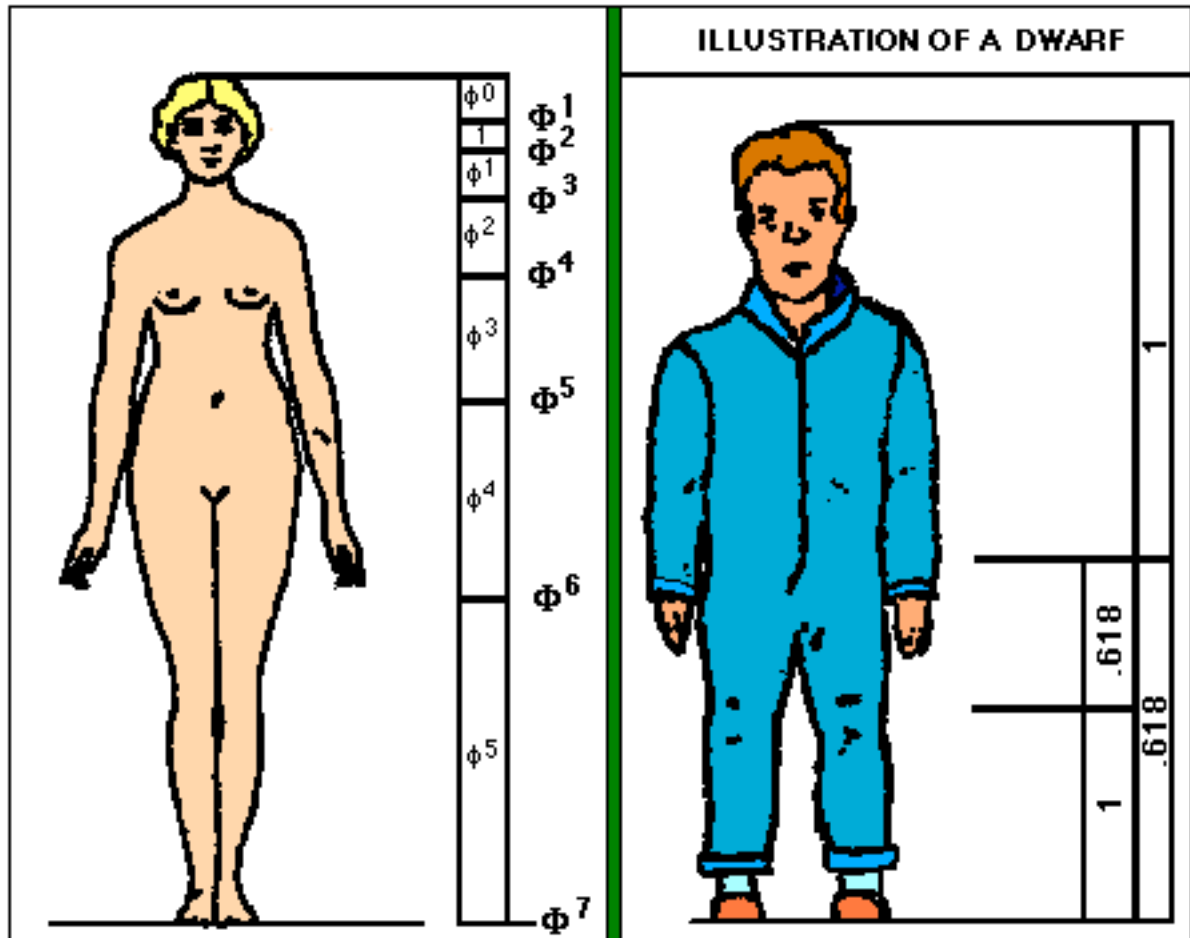
The 5 pointed star or pentagram is formed on the order of the phi proportion (sacred cut). The pentagram was the logo of the Pythagorean school of mathematics.

STAR FISH

The starfish is also phi proportioned as is the pentagram (shown above). The phi proportioning of the form of a starfish might relate to the fact that the animal can regenerate a limb after one has been severed from its body.



The illustration below depicts how the human body is phi proportioned. Fibonacci ratios are present in the spacing of the knuckles and wrist joint of the average hand, as well as the numerous bones in the foot.



The human brain produces more alpha brain waves of 10.602875 red cycles per natural second of time than alpha brain waves of any other frequency and that 13.5 red cycles per natural second of time is the last frequency of the alpha range.

It was shown earlier on in this writing that 1.0602875 units is the red format value for H-Bar and the Ra linear unit of measure called the "Hunab." $10.602875 / 13.5 = .78539814$ - - - (1/4 red pi). This result suggests that our bodies are proportioned on the order of phi and our brain wave activity is regulated by at least 1/4 the value of pi. This pi relationship is the reason that we are able to intelligently think and reason, where as animal bodies are also proportion on the order of phi, their brain functions are most likely regulated by a Fibonacci ratio that is

indicative to an animal's particular species.

PHI IN ELECTRICAL ENGINEERING

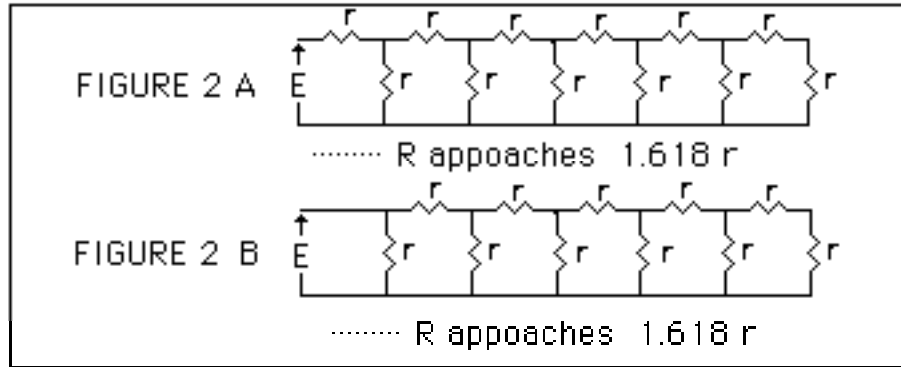


FIGURE 3-A

In electrical engineering the Fibonacci numbers occur. For example, if a series unit resistances are connected alternately in series and in parallel, as shown in Figure 3 A the resistances of the entire circuit is expressed by the continued fraction:

$$R = r + \frac{1}{\frac{1}{r} + \frac{1}{r} + \frac{1}{\frac{1}{r} + \frac{1}{r} + \frac{1}{\frac{1}{r} + \dots}}}$$

For successively larger number of resistances, the value of R is:

$$\frac{R}{r} = 1, 2, \frac{3}{2}, \frac{5}{3}, \frac{8}{5}, \frac{13}{8}, \frac{21}{13}, \frac{34}{21}, \dots, 1.618$$

FIGURE 3-B

In accordance with the Fibonacci series., if the first resistance in the circuit is in parallel instead of series, as in figure 3 B, the initial term in the equation for R is omitted and successive values for R/r become:

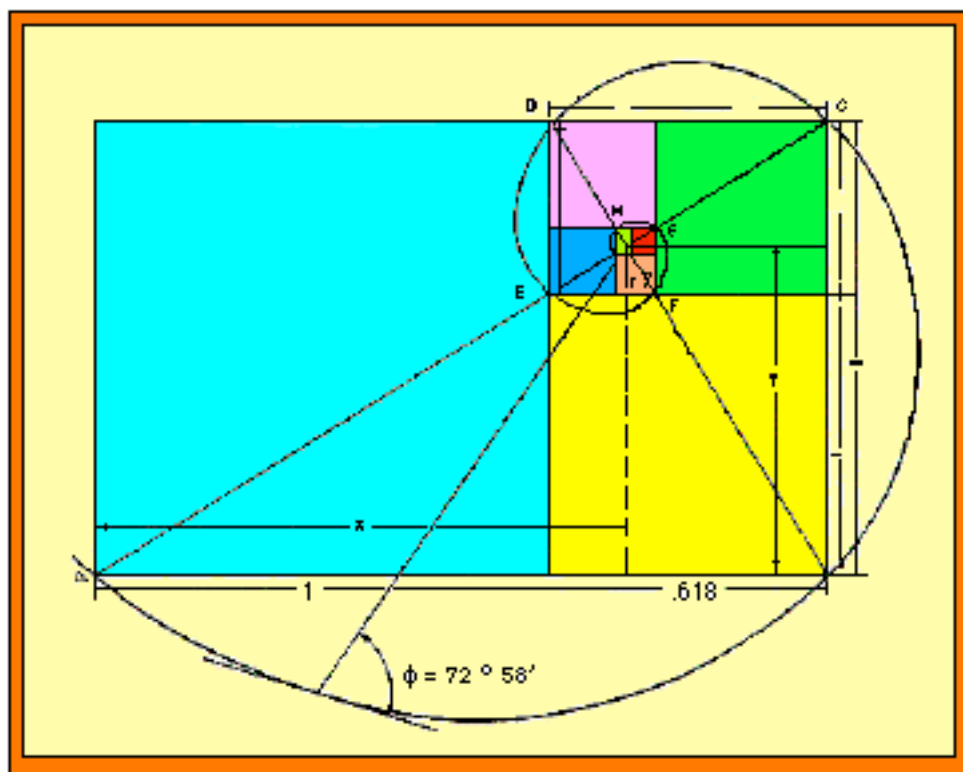
$$\frac{R}{r} = 1, \frac{1}{2}, \frac{2}{3}, \frac{3}{5}, \frac{5}{8}, \frac{8}{13}, \frac{13}{21}, \frac{21}{34}, \dots 0.618$$

FIGURE 3-C

Electrical activity that produce brain waves in the human brain which have a relationship to the value of pi might be regulated by biological resistance factors that are related to the value of phi. Pi x Phi = Ankh (life).

Some of the information that follows was presented earlier. It is presented again because it also applies to things not previously discussed.

THE FIBONACCI LOGARITHMIC SPIRAL

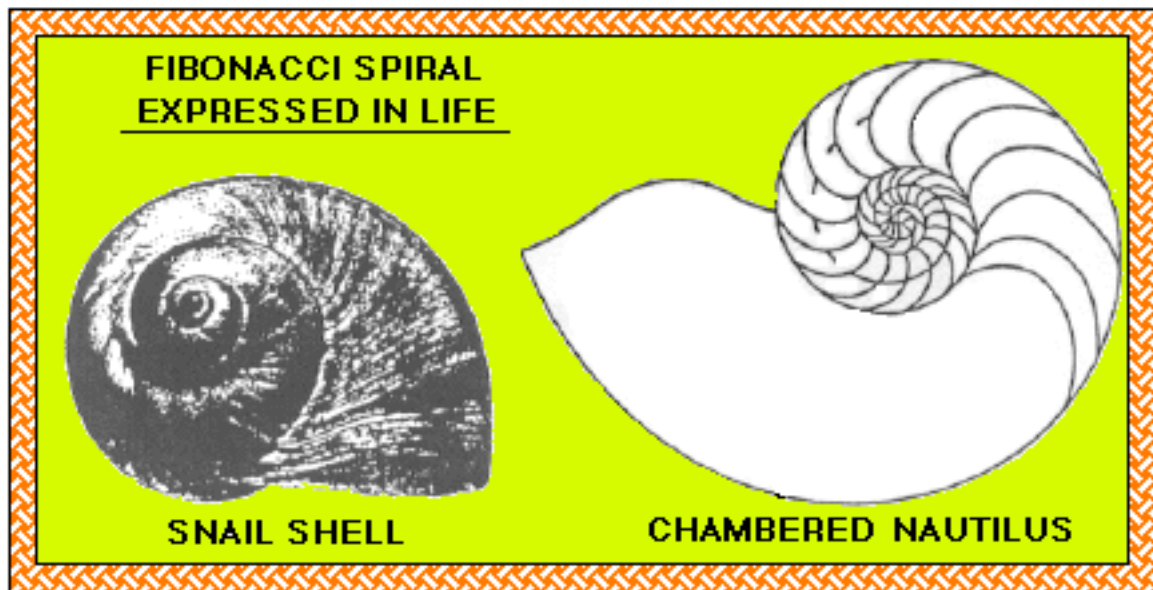


The natural form of a Fibonacci logarithmic spiral is created

accurately in the illustration above when the spiral form is dictated by the corners of successive larger or smaller (viewed either way) phi proportions.

Many forms of life express the Fibonacci spiral in their shells and protective horns. Many fossils of life now extinct, had shells that were shaped in the form of Fibonacci spirals.

The snail is one of the oldest known forms of life. Fossils of the snail exist from the time of the beginning of the Ordovician Period, that existed between 440 and 500 million years ago.



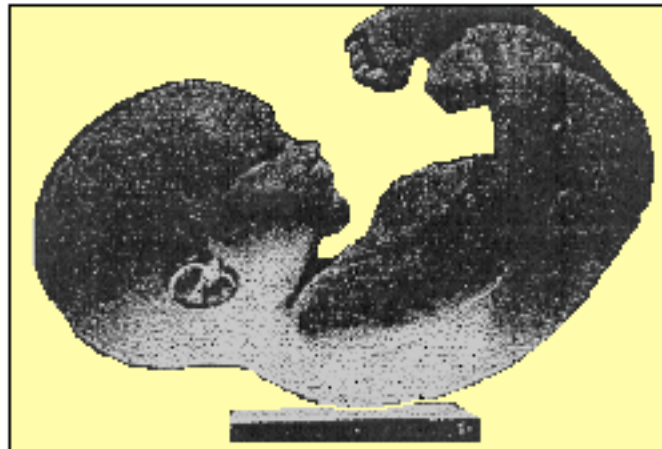
The exterior surface of the shell of a chambered nautilus is in the form of the Fibonacci spiral. A cross section of a mature nautilus reveals 27 chambers.

A male sheep (ram) exquisitely displays the Fibonacci spiral in the form of its horns. The sheep is known to have 27 pairs of chromosomes in its biological make up. There are also 27 Ra repitans. See Rods of Amon Ra.



The human fetus develops along the lines of a Fibonacci spiral.

The cochlea is a Fibonacci spiral shaped organ located in the inner ear.

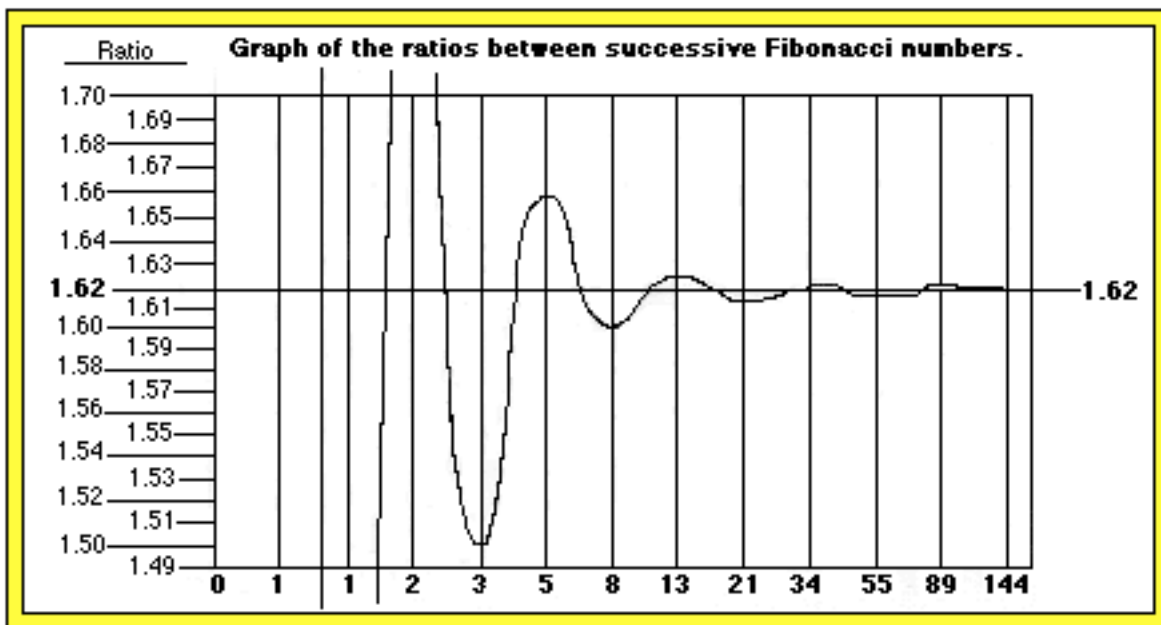




The seeds of the sunflower are arranged with precise uniformity in curved lines radiating in spokes from its center. Some of the curves turn left and these are crossed by those that turn right.

The curves are Fibonacci spirals and the ratio of those going clockwise to those going counter clockwise is always 1.618033989, or phi. Therefore the sunflower's ratio is exactly the value of phi (1.62) which is the base line of the following graph. Plants with other Fibonacci ratios would be located at other points on the graph.

The sunflower is so named because it physically turns its face toward the sun from dawn to sunset. This action, in my opinion is due to the fact that the plant's flower structure has a unique relationship to phi.



PHI and the FIBONACCI RATIOS OF PLANTS

1.	$1 + 1 = 2$	$2/1 =$	phi + .381966011
2.	$1 + 2 = 3$	$3/2 =$	phi - .112803389
3.	$3 + 2 = 5$	$5/3 =$	phi + .048632678
4.	$5 + 3 = 8$	$8/5 =$	phi - .018033989
5.	$8 + 5 = 13$	$13/8 =$	phi + .006966011
6.	$13 + 8 = 21$	$21/13 =$	phi - .002649374
7.	$21 + 13 = 34$	$34/21 =$	phi + .001013630
8.	$34 + 21 = 55$	$55/34 =$	phi - .000386930
9.	$55 + 34 = 89$	$89/55 =$	phi + .000147829
10.	$89 + 55 = 144$	$144/89 =$	phi - .000056461
11.	$144 + 89 = 233$	$233/144 =$	phi + .000021567
12.	$233 + 144 = 377$	$377/233 =$	phi - .000008238
13.	$377 + 233 = 610$	$610/377 =$	phi + .0000031461
14.	$610 + 377 = 987$	$987/610 =$	phi - .0000012021
15.	$987 + 610 = 1597$	$1597/987 =$	phi + .0000004591
16.	$1597 + 987 = 2584$	$2584/1597 =$	phi - .0000001761
17.	$2584 + 1597 = 4181$	$4181/2584 =$	phi + .000000067
18.	$4181 + 2584 = 6765$	$6765/4181 =$	phi - .000000026
19.	$6765 + 4181 = 10946$	$10946/6765 =$	phi + .000000010
20.	$10946 + 6765 = 17711$	$17711/10946 =$	phi - .000000004
21.	$17711 + 10946 = 28657$	$28657/17711 =$	phi + .0000000011
22.*	$28657 + 17711 = 466368$	$466368/28657 =$	phi + o r - 0

Theoretically; if there was a derivative of some medicinal, or chemical value that could be extracted from any plant; that derivative could be justly classified by its + or - phi factor (as per the table above), thus additional derivatives (possibly extracted from other types of plants) could be added to the original extract to cancel out the + or - factor, therefore establishing the mathematical value of the mixture (compound) at the phi base line. Continuing on in a theoretical sense, such a precise Phi formulation might have a more beneficial therapeutic effect. Those who are interested in the subject of "Homeopathic Medicine" might want to give this subject further thought.

Ankh Music.

The Ankh value of any of the 480 Ra Rod formats can be found by multiplying any format's Pi value by 1.62 e.g.

$$\text{3.141592592----- (Red Pi) } \times 1.62 = \text{5.08938 (Red Ankh).}$$

Every plant in existence can be identified with a particular Fibonacci ratio.

These ratios are uniquely combined mathematically with Pi frequencies to produce Ankh frequencies related to particular plants. For further information see: Agra-Tones under a separate cover.

Pyramid Processor

A electronic instrument know as the “Pyramid Processor” is presently employed to convert standard 1 scale musical pieces that were previously recorded into two or more blended Ra Scales.

The Pyramid Processor is the property of Ra System L.L.C. and holds the U.S. patent number 7,179,979.

SUMMARY OF THE INVENTION

This present invention comprises an electronic device - called the “Pyramid Processor” - and a corresponding method that converts musical notes from standard frequencies to Ra format frequencies. The conversion of standard musical notes measured in cycles per standard seconds to Ra musical notes measured in cycles per standard seconds is based on two very important factors:

1. The ratios that exist between the various Ra formats that raise the converted music to a higher level of mathematical harmony and listening pleasure (evident either as a single Ra format or when the same note of 2, 3 or more different Ra formats are layered and heard simultaneously). This is a unique change from standard tone music which has only 1 frequency for each note on the standard “A - 440” scale.

2. The unique electronic functions built into the Pyramid Processor that assure that the converted standard musical tones are a true representation of the Ra tones measured in cycles per standard seconds and thus identical to Ra tones that could otherwise be measured exactly in natural seconds.

The apparatus for converting the frequency of standard musical notes to a corresponding frequency of Ra format musical notes comprises a processor having a signal input port and a signal output port, means for converting the frequency of standard musical notes to a corresponding frequency of Ra musical notes, means for selecting a Ra format natural harmonic resonance, and a frequency analyzer. The means for converting may comprise a software program or a hardware configuration containing all Ra format natural harmonic resonances. The means for selecting a Ra format natural harmonic resonance may comprise means for selecting two or more Ra format natural harmonic resonances and may comprise a switch, a dial, or multiple buttons having positions corresponding to each of the nine Ra formats. The apparatus may be connected to an audio device, i.e., a tuner or a computer, for transmission of a signal of standard musical notes and receipt of a signal of converted Ra format musical notes. The apparatus may also comprise means for recording an output signal, i.e., tape recorder, CD burner, computer hard drive.

The process for converting standard musical notes to Ra format musical notes comprises inputting a signal of standard musical notes, each note having a frequency, analyzing the frequency of each note in the signal of standard musical notes, selecting a Ra format natural harmonic resonance, converting the frequency of each note in the signal standard musical notes to a frequency of Ra format musical notes corresponding to the selected Ra format natural harmonic resonance, and outputting a signal of Ra format musical notes consisting of each of the converted notes. The process may further comprise a step of analyzing the frequency of each of the converted notes prior to the outputting step. The input signal may be either analog or digital, but an analog signal should be converted to a digital signal before converting the notes to a Ra format. The process may involve the conversion of signals of standard musical notes consisting of two or more audio channels which are each converted to a Ra format. The two or more audio channels of an output signal of Ra format musical notes may be layered as different audio channels are commonly layered, i.e., stereo, surround, etc.

Where as the two factors are essential for the hardware of the Pyramid Processor to electronically convert standard note music frequencies to Ra standard note music frequencies - no other variation of these factors will permit the Pyramid Processor or another device to do so. These factors form the basis for either a hard wired program or a software program that provides the same data to any variation of the Pyramid Processor.