Analysis of Unexpected Free Energy High Voltage Event -And- Energy Extraction From Hydrogen

-by-

Jerry E. Bayles

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-and-
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This document is an analysis of an event that I personally witnessed and took part in that occurred back in the mid 1980's. While erecting a three section hollow steel mast for a ham radio antenna, I was nearly electrocuted. The mast was an ordinary three section t.v. antenna mast consisting of three telescoping sections, 10 feet per section thin walled steel galvanized pipe. On the side of one of the pipes was plainly etched into the metal, "T.V. Mast Use Only." The actual dimensions of the mast diameters are presented in the next page.

It was only recently that I decided to analyze the dimensions in an attempt to explain why such an event might occur. The actual location was free of any power lines and the sky was clear and blue on a summer's day. There have been similar events where people have been shocked or even electrocuted, but these usually involved adjacent power lines coming in contact with the mast while the mast was also in contact with grounded personnel. However, there have also been reports of others who were in similar conditions as myself who experienced electric shock that did not involve any nearby electric power lines or lightening. The electricity seemed to come from an unexplainable source not in evidence.

When I plugged the mast diameters into the below analysis, I was amazed to find that whole number wavelengths were the result and further that these three wavelengths that corresponded to the relative mast diameter differences gave wavelengths that coincided at special and important distances that I am sure the reader will find interesting. The wavelengths correspond to special dimensions as exist in the Grand Gallery of the Great Pyramid as well as the wavelength of the hyperfine radiation of atomic hydrogen at 1420 MHz.

The analysis results are completely unexpected. What started as a casual inspection of the dimensions of the mast pipe turned out to yield stunning results. I encourage the attempt by others to replicate the event as is further described below. The test should be done with personnel not in contact with the metal pipe, a grounded probe with a long insulated handle could be used to check for electric potential along the length of the mast. The mast could be hoisted by means of a pulley system into the air in a North-South orientation with dry nylon rope. Stimulation for testing or tuning purposes at the correct acoustic and electric frequencies should have the source electrically isolated from the mast.

I wish the persons who attempt to replicate this test successful results and to achieve this success in a safe manner at all times.

Questions may be directed to me at the below e-mail address:

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The tapering (in steps) of the mast as well as overall length may be the requirement for free oscillation. The steps of the actual antenna mast diameter are shown below.

Bottom pipe diameter: $BP_{dia} := 2.25 \cdot in$ 1)

Middle pipe diameter: $MP_{dia} := 1.75 \cdot in$ 2)

Top pipe diameter: $TP_{dia} := 1.50 \cdot in$ 3)

All sections of the resonant energy mast are thin walled steel galvanized pipe and are ten feet in length. For a circular waveguide, the dominate mode is stated as equal to the circumference of the circular pipe. The outside diameter is used in this analysis.

$\lambda_{BP} := \pi \cdot BP_{dia}$ or $\lambda_{BP} = 0.1795420202 \cdot m$ 4)

$\lambda_{MP} := \pi \cdot MP_{dia}$ or $\lambda_{MP} = 0.1396437935 \cdot m$ 5)

$\lambda_{TP} := \pi \cdot TP_{dia}$ or $\lambda_{TP} = 0.1196946801 \cdot m$ 6)

The dominate mode wavelength is the lowest frequency at cutoff around the circumference of the pipe. Lower frequencies must rotate 90 degrees to build to a powerful resonance along the length of the pipe.

The electromagnetic frequencies related to the above wavelengths are calculated based on the speed of light in a vacuum, where:

$c := 2.997924580 \cdot 10^{08} \cdot m \cdot sec^{-1}$

$f_{BP} := \frac{c}{\lambda_{BP}}$ or $f_{BP} = 1.6697620855 \cdot 10^{9} \cdot Hz$ 7)

$f_{MP} := \frac{c}{\lambda_{MP}}$ or $f_{MP} = 2.146836967 \cdot 10^{9} \cdot Hz$ 8)

$f_{TP} := \frac{c}{\lambda_{TP}}$ or $f_{TP} = 2.5046431282 \cdot 10^{9} \cdot Hz$ 9)

These frequencies are related to one wavelength around the circumference of the associated pipe diameter. Whole number multiples of higher frequencies will result in corresponding even multiples of wavelengths around the pipe circumference.

The relationship between the frequencies shown above provide for three possible difference frequencies that relate directly to electromagnetic wavelengths based on step changes in the diameter of the pipes stated above. These are shown below.

$\Delta\lambda 1 := \frac{c}{f_{TP} - f_{MP}}$ $\Delta\lambda 1 = 32.9867228627 \cdot in$ $\frac{\Delta\lambda 1}{4} = 8.2466807157 \cdot in$ 10)

$\Delta\lambda 2 := \frac{c}{f_{MP} - f_{BP}}$ $\Delta\lambda 2 = 24.740042147 \cdot in$ $\frac{\Delta\lambda 2}{3} = 8.2466807157 \cdot in$ 11)

$\Delta\lambda 3 := \frac{c}{f_{TP} - f_{BP}}$ $\Delta\lambda 3 = 14.1371669412 \cdot in$ $\left(\frac{\Delta\lambda 3 + .75 \cdot \Delta\lambda 3}{3}\right) = 8.2466807157 \cdot in$ 12)

Note that the below frequencies are lower than the cutoff frequencies above.

$\Delta f1 := f_{TP} - f_{MP}$ $\Delta f1 = 3.5780616117 \cdot 10^{8} \cdot Hz$ 13)

$\Delta f2 := f_{MP} - f_{BP}$ $\Delta f2 = 4.7707488156 \cdot 10^{8} \cdot Hz$ 14)

$\Delta f3 := f_{TP} - f_{BP}$ $\Delta f3 = 8.3488104274 \cdot 10^{8} \cdot Hz$ 15)

These frequencies must build along the length of the stepped pipe structure since they are too low to form at least one wavelength around the circumference of the pipe.

$a := 1 \qquad n := 0, 1 .. 360 \qquad M := 3$

This multiplier (M) allows for 3 wavelengths of $\Delta\lambda 1$, the lowest frequency and is the length that all three frequencies will coincide for a peak amplitude. (= 98.96 inches.)

$$\Delta t1 := \frac{1}{\Delta f1} \qquad \Delta t1(n) := \frac{\Delta t1 \cdot n}{360} \qquad a_{t1}(n) := a \cdot \cos(2 \cdot \pi \cdot \Delta f1 \cdot \Delta t1(n) \cdot M) \tag{16}$$

$$\Delta\lambda_{t1}(n) := c \cdot \Delta t1(n) \cdot 39.37 \cdot M \quad \text{(Converting meters to inches by multiplying by 39.37.)} \tag{17}$$

The corresponding $\Delta f2$ and $\Delta f3$ ranges may also be stated for the purpose of plotting to find the points that coincide along the length of the pipe.

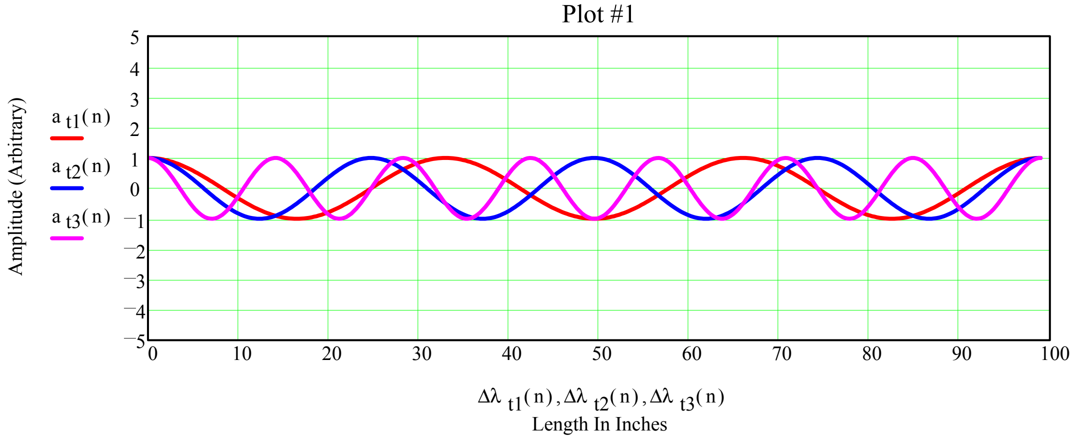
$$\Delta t2 := \frac{1}{\Delta f2} \qquad \Delta t2(n) := \frac{\Delta t2 \cdot n}{360} \qquad a_{t2}(n) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f2 \cdot \Delta t2(n) \cdot M \cdot \frac{4}{3}\right) \tag{18}$$

$$\Delta\lambda_{t2}(n) := c \cdot \Delta t2(n) \cdot 39.37 \cdot \frac{4}{3} \cdot M \tag{19}$$

$$\Delta t3 := \frac{1}{\Delta f3} \qquad \Delta t3(n) := \frac{\Delta t3 \cdot n}{360} \qquad a_{t3}(n) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f3 \cdot \Delta t3(n) \cdot M \cdot \frac{7}{3}\right) \tag{20}$$

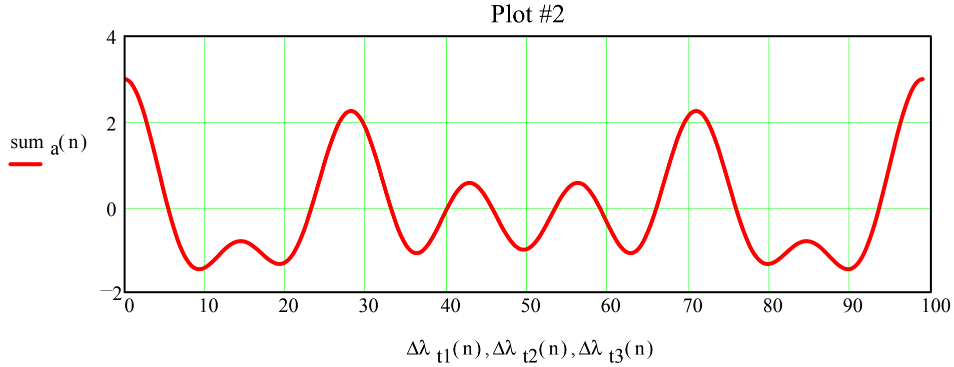
$$\Delta\lambda_{t3}(n) := c \cdot \Delta t3(n) \cdot 39.37 \cdot \frac{7}{3} \cdot M \tag{21}$$

Plot #1



The net sum of the above wavelengths are: $\quad sum_a(n) := a_{t1}(n) + a_{t2}(n) + a_{t3}(n)$ 22)

Plot #2



Next, we allow for a multiplier of 9 which will show 9 full peaks of the lowest frequency. This will sum the 9 full peaks of the lowest frequency as well as 12 full peaks of the mid frequency and 21 full peaks of the highest frequency according to wavelength and amplitude correspondence.

Let: $M := 9$

$$\Delta t1 := \frac{1}{\Delta f1} \qquad \Delta t1(n) := \frac{\Delta t1 \cdot n}{360} \qquad a_{t1}(n) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f1 \cdot \Delta t1(n) \cdot M \cdot \frac{3}{3}\right) \tag{23}$$

$$\Delta\lambda_{t1}(n) := c \cdot \Delta t1(n) \cdot 39.37 \cdot M \tag{24}$$

$$\Delta t2 := \frac{1}{\Delta f2} \qquad \Delta t2(n) := \frac{\Delta t2 \cdot n}{360} \qquad a_{t2}(n) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f2 \cdot \Delta t2(n) \cdot M \cdot \frac{4}{3}\right) \tag{25}$$

$$\Delta\lambda_{t2}(n) := c \cdot \Delta t2(n) \cdot 39.37 \cdot \frac{4}{3} \cdot M \tag{26}$$

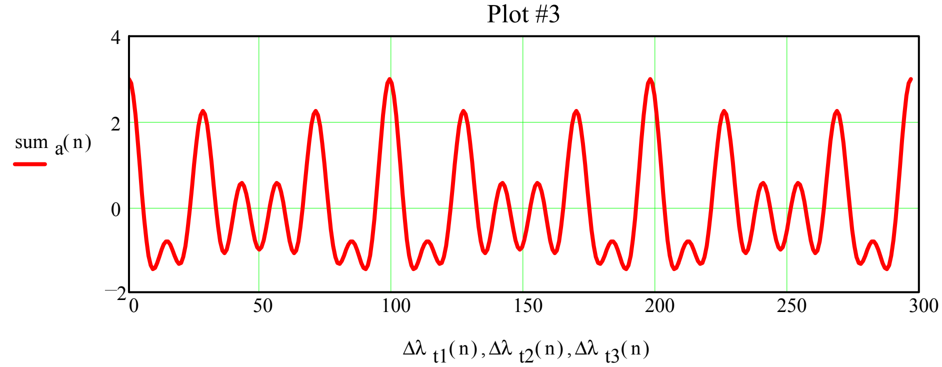
$$\Delta t3 := \frac{1}{\Delta f3} \qquad \Delta t3(n) := \frac{\Delta t3 \cdot n}{360} \qquad a_{t3}(n) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f3 \cdot \Delta t3(n) \cdot M \cdot \frac{7}{3}\right) \tag{27}$$

$$\Delta\lambda_{t3}(n) := c \cdot \Delta t3(n) \cdot 39.37 \cdot \frac{7}{3} \cdot M \tag{28}$$

$$sum_a(n) := a_{t1}(n) + a_{t2}(n) + a_{t3}(n) \tag{29}$$

The below plot suggests that capacitive probes placed near the mast at positive to negative voltage points in an alternate and series fashion should allow for energy extraction from the energy build along the pipes.

Plot #3



It is of interest that if we take the sum of all amplitudes over all of the range n, we arrive at a nonzero magnitude for the amplitude. That is, there is a net output level above zero.

$$sum_n := \sum_n sum_a(n) \qquad sum_n = 3 \tag{30}$$

If we were to place an identical energy pipe stepped structure at a proper distance in parallel to the above pipe, say whole numbers of the basic wavelength, the side or orthogonal gain equal to sum_n above would also be multiplied by the sum_n and yet another pipe would be another multiple of sum_n again, and so on.

If we let m be set to a range of 1 to 10, the result would be as shown in the plot below.

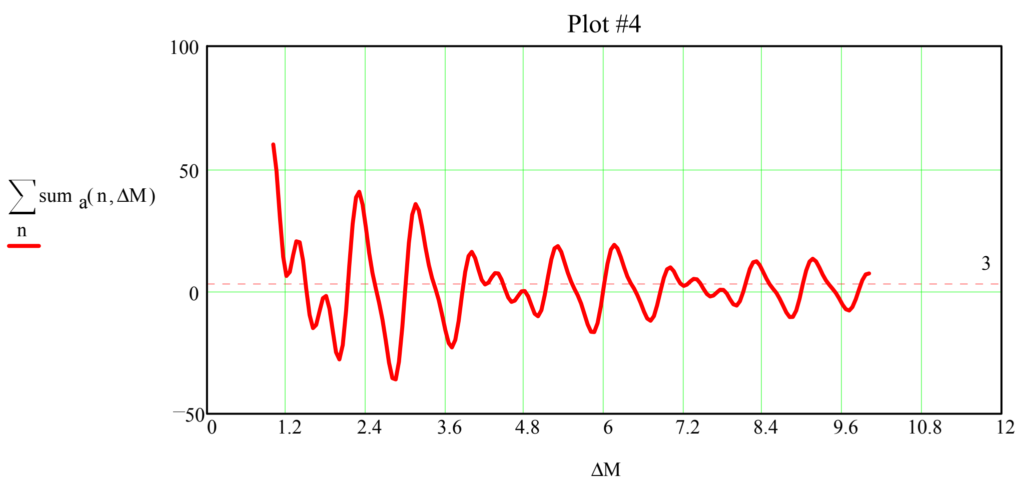
Let: $\Delta M := 1, 1.05 .. 10$

$$\Delta t1 := \frac{1}{\Delta f1} \qquad \Delta t1(n) := \frac{\Delta t1 \cdot n}{360} \qquad a_{t1}(n, \Delta M) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f1 \cdot \Delta t1(n) \cdot \Delta M \cdot \frac{3}{3}\right) \tag{31}$$

$$\Delta t2 := \frac{1}{\Delta f2} \qquad \Delta t2(n) := \frac{\Delta t2 \cdot n}{360} \qquad a_{t2}(n, \Delta M) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f2 \cdot \Delta t2(n) \cdot \Delta M \cdot \frac{4}{3}\right) \tag{32}$$

$$\Delta t3 := \frac{1}{\Delta f3} \qquad \Delta t3(n) := \frac{\Delta t3 \cdot n}{360} \qquad a_{t3}(n, \Delta M) := a \cdot \cos\left(2 \cdot \pi \cdot \Delta f3 \cdot \Delta t3(n) \cdot \Delta M \cdot \frac{7}{3}\right) \tag{33}$$

$$\text{sum}_a(n, \Delta M) := a_{t1}(n, \Delta M) + a_{t2}(n, \Delta M) + a_{t3}(n, \Delta M) \tag{34}$$



The above plot indicates that a transient waveform is generated according to the increased multiple wavelengths as dictated by the increasing (ΔM) multiplier. The most gain is seen at one wavelength (ΔM=1), where an amplitude of 60 is realized from a beginning amplitude where a = 1. It is also of interest that there exist negative as well as positive energy peaks in the above plot. Therefore, an adjustable length set of pipes could theoretically induce energy to an external probe. It therefore is of considerable interest that both the Roswell (kit 555) and the S4 Area (kit #576) model kits from the Testors Model Corporation features an energy pipe that rises from a reactor half sphere to the ceiling and further that the ancient Vamina aircraft also sported a vertical energy pipe located in the center of the craft along with its associated half sphere in the floor.

It may also be of importance that an acoustic wavelength through the central axis of the pipe may interact with the electromagnetic standing wave along the length of the pipe via the interconnecting A-vector that would be common to both. The first length along the pipe from the top of smallest diameter is equal to 3 times $\Delta\lambda 1$. This is also the point from the top of the pipe towards the bottom where $\Delta\lambda 1$, $\Delta\lambda 2$ and $\Delta\lambda 3$ all reach a peak at the same point along the pipe. More on that concept later.

Let: $\Delta\lambda_{peak1} := 3 \cdot \Delta\lambda 1$ $\qquad \Delta\lambda_{peak1} = 8.2466807157 \cdot ft$ 35)

This is the distance the smallest pipe (1+ 1/2 inches outside diameter) is adjusted to in length before it enters the next larger (1+3/4 inches outside diameter) pipe. The 1+3/4 inch outside diameter pipe is also adjusted for the same length before it enters the 2+1/4 inch outside diameter pipe.

The acoustic frequency is calculated based on the speed of sound at sea level and 72 degrees Fahrenheit as the ambient air temperature.

$$v_{air} := 1130 \cdot \frac{ft}{sec}$$

$$f_{peak1} := \frac{v_{air}}{\Delta\lambda_{peak1}} \qquad f_{peak1} = 137.0248271953 \cdot Hz$$ **This is a serendipitous result and unexpected before this analysis!!** 36)

The above frequency result is effectively equal in absolute magnitude to the inverse of the fine structure constant, neglecting the units Hz.

$\alpha := 7.297353080 \cdot 10^{-03}$ (Fine Structure Constant.) Where: $\alpha \cdot f_{peak1} = 0.9999185448 \cdot Hz$

Next, the above frequency of f_{peak1} times the square of $(4/\pi)$ will yield a frequency that is connected directly to the distance between the Helmholtz resonators in the Grand Gallery of the Great Pyramid of Giza as proposed by Christopher Dunn in his now famous book, "**The Giza Powerplant**, *Technologies of Ancient Egypt*." The square of $(4/\pi)$ is very close to the Golden Ratio number of 1.618033989.

$$\left(\frac{4}{\pi}\right)^2 = 1.6211389383 \qquad \text{Or,} \qquad f_{GR} := f_{peak1} \cdot \left(\frac{4}{\pi}\right)^2 \qquad f_{GR} = 222.136282877 \cdot Hz$$ 37)

The internal temperature of the Grand Gallery is found to be near 131 degrees Fahrenheit by analysis of the dimensions and frequencies in Christopher Dunn's book above. This equates to an air velocity near 1192.4 ft/sec. (See: http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf, pages 16-22 for my related analysis involving Helmholtz resonator approach as theorized by Christopher Dunn in his book above.)

$$v_{GR} := 1192.4 \cdot \frac{ft}{sec} \qquad \lambda_{GR} := \frac{v_{GR}}{f_{GR}} \qquad \frac{\lambda_{GR}}{2} = 2.6839379514 \cdot ft \qquad e = 2.7182818285$$ 38)

The result above is not exactly equal to the natural number e but is quite close. A slightly higher operating temperature of **146.7 degrees Fahrenheit,** (**See the result for F_{Run} below**), would put the result exactly equal to e. Further, the acoustic frequency would almost exactly 220 Hz, the piano music note of A_3 below middle C_4.

The distance between resonators is very close to twice the natural number e in feet. This agrees very closely to the diagram on page 168 of the above book and the diagram is reproduced below.

In the below diagram, the penciled in distances are my own notes to allow for ratio and proportion to determine the actual distance between the resonators based on the Grand Gallery being taken as 153 feet long as shown in Christopher Dunn's book above. The drawing below is from page 168 of that same book.

It is of interest that noted 2.736 feet in the below picture is equal to 32.832 inches which is very close to $\Delta\lambda 1$ in the energy pipe analysis above. This is a very interesting correspondence.

$$\Delta\lambda 1 = 32.9867228627 \cdot in$$ 39)

Figure #1

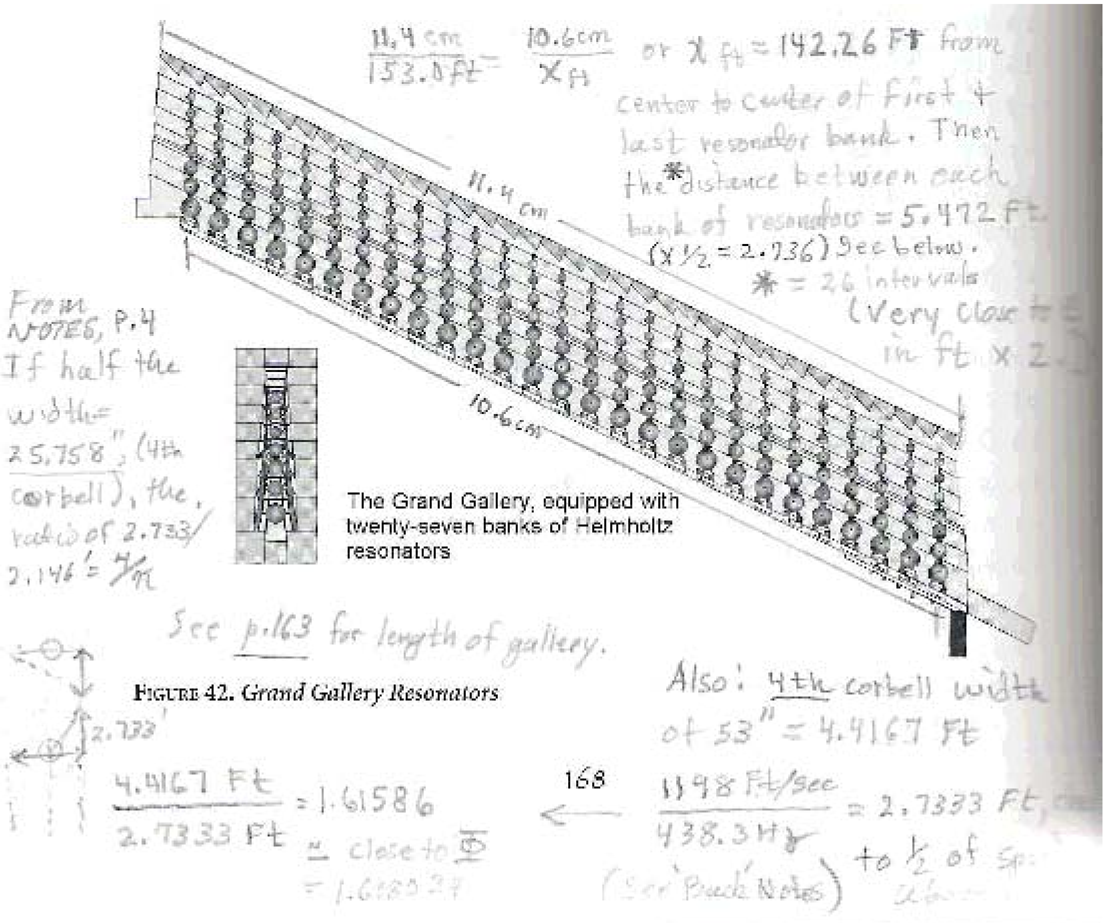


Figure 42. *Grand Gallery Resonators*

The distance of the wavelength $\Delta\lambda 1$ appears as critical to the mechanics of the acoustic resonators of the Grand Gallery of the Great Pyramid as well as the Energy Pipe analysis that is based on actual dimensions of a pipe that generated **electric white fire** from its bottom end to the roof flashing of the flat roof that I was standing on. The above dimensions of the Energy Pipe are based on its actual dimensions that created the electrical phenomena that almost electrocuted me. The aforementioned dimensions are intimately related to the dimensions of the Great Pyramid Grand Gallery resonator spacing. Further, the length of the pipe used (10 feet) has a corresponding relationship to the cubit used in the Great Pyramid which is 20.63 British inches as presented on page 31 of "Secrets of the Great Pyramid," by Peter Tompkins.

$$(10\cdot 12\cdot \mathrm{in}) - 3\cdot\Delta\lambda 1 = 21.0398314119\cdot\mathrm{in}$$

The distance above is that amount of the smaller pipe that is inside of the next larger pipe. This may or may not be of relevance to the operation of the energy pipe at resonance, but is noteworthy.

There may well exist other pipe diameters that will yield energy pipe resonance as described above. I suggest that seven transverse energy pipes in the Grand Gallery could be adjusted with a corresponding shortening or lengthening. (Seven transverse pipes, one pipe for each corbelle to fit the corresponding corbelle width.) This would induce energy that would be built up as the energy moved up the Gallery towards the King's Chamber. There would be 27 sets of 7 energy pipes as a result since there are 27 vertical grooves along the Grand Gallery as shown in the figure above. This is a different approach than the Helmholtz Resonator approach as mentioned above but possibly makes more sense. I say this because of the much greater difficulty of manufacturing stone resonators as described in Christopher Dunn's book as referenced above.

The below quote is from my previous paper at:
http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf, page 19

During my amateur radio days I remember that something happened while erecting an inverted-"v" type of antenna that at the time was quite startling and perhaps even dangerous to my life. I was standing on a flat asphalt covered roof on a one story dwelling and was lifting a three section mast above my head in preparation to putting the bottom over the side of the roof to the ground. Each section of the mast was of thin galvanized steel pipe about 2 inches in diameter and close to 8 feet in length. The mast was aligned North-South with the base towards the North. The 12 gauge hard drawn copper antenna wires were attached at the top which was behind me to the South by 1 inch PVC pipe insulators about 8 inches in length for each element. Each wire was about 5 meters long so as to represent a quarter wavelength in each wire in the 20 meter Ham band. The bottom of each wire was also connected to 8 inch PVC 1/2 inch plastic pipe insulators to eyebolts at the corners of the roof. The angle between the antenna wires was close to 90 degrees apart and I was aiming for a rise of each wire slope to be about 45 degrees.

When the mast was within a few inches of the edge of the roof in front of me, I suddenly heard a crackling sound and simultaneously observed a bright white flame of electrical energy between the mast bottom and the aluminum flashing around the roof. The mast was about 8 feet above the roof at the top end behind me. I was centered at the middle of the mast and wearing rubber gloves which may have helped to keep me from becoming electrocuted. There were no power lines anywhere near me but the amount of electrical energy I witnessed passing between the bottom of the mast and the roof flashing was very substantial. Anyway, realizing I should do something to stop the arcing, I set the mast bottom directly on the flashing and slid the mast over the side as quickly as possible. The arcing stopped as soon as the mast bottom physically contacted the flashing. I later determined that the flashing was grounded to Earth ground.

When I first started my career in electronics I remember reading bulletins about persons being killed by electrocution while erecting antenna masts. Most of the cases involved contact with powerlines. However there were a few reports of people being electrocuted and yet there were no adjacent power lines nor were there any thunder storms nearby. In light of what I have presented above concerning tapping into energy associated with the energy reduction by the complex fine structure constant and its association to the golden ratio, I am forced to conclude that I may have inadvertently tuned into just the right geometry to induce power into the hollow cavity of the mast by creating a form of Helmholtz resonator/electrical generator as described above. The inverted "v" antenna may have acted as a top-loading effect to help build the field between the top of the mast and ground at the aluminum flashing. The North-South orientation alignment of the mast as described above matches the fact that the Grand Gallery of the Great Pyramid at Giza also is aligned North-South. The inverted "v" resembles a pyramid but having only one face. --End of quote.

The attached inverted 'v' wires may or may not have contributed to the electrical action as described in the above quote. I propose that it is the stepped diameter change of just the right amount that creates the necessary change in the circular waveguide frequencies as described above.

I propose that there is energy along the outside of the waveguide as well as inside. Further, the A-vector associated with the electrical energy is also capable of influencing the air inside and outside of the pipe due to the formation of an energy field that moves parallel to the axis of the pipe which is also to be considered as a circular waveguide. Therefore, this dual action A-vector also generates an acoustic wave in the air medium. It turns out that the dimensions of the pipe as stated above generate a key wavelength (eq. 10) which is equal to 1/2 the distance between the resonators of the Grand Gallery in the Great Pyramid. Also, equation 36 above is very close to C_3# at 138.59 Hz of the piano scale immediately below middle C_4. Then above C_3#, there is F_3 and A_3 in the same octave where A_3 is at 220 Hz, the frequency necessary to create a wavelength equal to 1/2 the distance between the resonators in the Grand Gallery of the Great Pyramid. When combined with the F_3 frequency of 174.61 Hz, an F Chord is generated as described by Christopher Dunn on pages 140-141 of his book, "The Giza Powerplant." There he also recorded a measured frequency of resonance in the King's chamber between 439 and 440 Hz which is an octave above the 220 Hz of A_3. Thus, the frequency f_{peak1} in equation 36 above may be basic to both the operation of the energy gain in the Great Pyramid as well as the energy gain in the energy pipe mechanics as described above.

Where: $$f_{peak1} = 137.0248271953 \cdot Hz$$

Figure #2: Circular Waveguide Example:

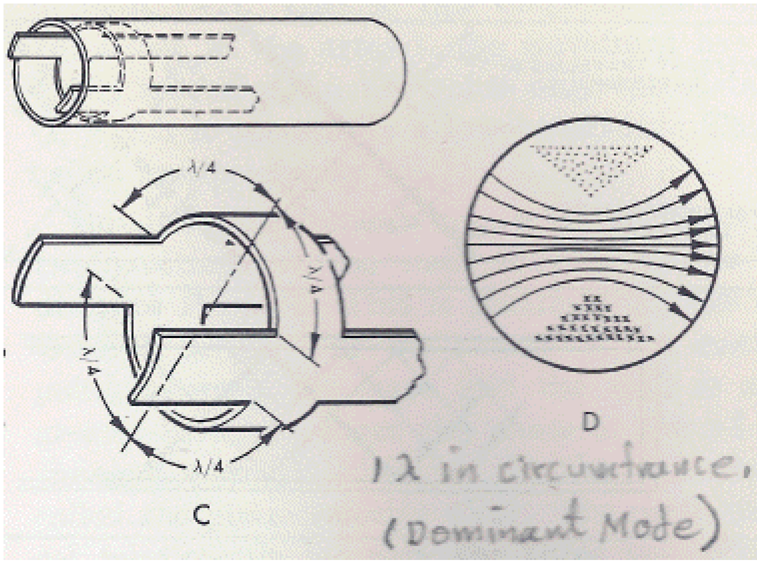


Image from p. 11-13 of Air Force Manual 52-8, vol. 2, "Electronic Circuit Analysis", 15 of January, 1963. (Unclassified for public use.)

The wavelength shown encircling the waveguide at the left is current which is charge per unit time. This is directly related to the A-vector. Charge times the A-vector is momentum. The radius from the center of the guide to the outside now forms the product mvr which is angular momentum. Angular momentum is associated with inertia as well as h, or Plank's constant. Finally, angular momentum is along the axis of the waveguide and when the step of radius occurs, this is a change in time due to $\Delta\lambda/c = \Delta t$. This generates force times distance along the axis of the pipe which is energy.

Equation 11 above is repeated below for the purpose of establishing a link to the hyperfine radiation of the Hydrogen atom.

$$\Delta\lambda 2 := \frac{c}{f_{MP} - f_{BP}} \qquad \Delta\lambda 2 = 24.740042147 \cdot in \qquad \frac{\Delta\lambda 2}{3} = 8.2466807157 \cdot in \tag{40}$$

The exact hyperfine frequency of the Hydrogen atom as stated on p. 186 of the above referenced book by Christopher Dunn is:

$$f_{H1} := 1.420405751786 \cdot 10^{09} \cdot Hz \qquad \text{Then:} \qquad \lambda_{H1} := \frac{c}{f_{H1}} \tag{41}$$

or: $\lambda_{H1} = 8.309493722 \cdot in$

We see that the result of eq. 40 and 41 above are in very close agreement. I have stated in previous works that this wavelength may be associated directly with energy extraction from energy space by mechanics of the Hydrogen atom that have a deeper structure than just the spin flipping of the electron and its associated energy levels. In fact, the above wavelength may be connected directly to energy space by suitable electric field coupling as demonstrated by the energy pipe mechanics as discussed above. There exists an interesting correlation of the so-called Sacred Cubit length of in the Great Pyramid and the wavelengths of equations 40 and 41 immediately above.

The 'sacred' cubit is mentioned in Peter Tompkins book, "Secrets of the Great Pyramid," p. 31, as being between 24.80 and 25.02 English inches. This was put forth by Sir Isaac Newton who suggested the Great Pyramid was built on the basis of two different cubits, one he called "profane" and the other "sacred". Newton computed a cubit of 20.63 British inches as necessary to produce a King's Chamber dimension in even cubits of 20 x 10 units. This cubit he called "profane". The "sacred" cubit is based on the Jewish historian Josephus's description of the circumference of the pillars of the Temple at Jerusalem. I cannot help but wonder if the 18 inches as suggested by the Christian bible as a cubit might better be accepted as equal to the "sacred" cubit.

This suggests that the Ark of the Covenant might be scaled based on the sacred cubit. Further, the wavelength λ_{H1} of hydrogen hyperfine emission when multiplied by 3 is equal to:

$$3 \cdot \lambda_{H1} = 24.928481166 \cdot in \quad \text{and} \qquad \Delta\lambda 2 = 24.740042147 \cdot in \quad \text{(Eq. 11 above.)}$$

Thus, the Ark of the Covenant and even the staff of Arron which assumed the "nature of a snake" before Pharaoh can be associated with the high voltage of the above energy pipe analysis. I consider that since electric high voltage is known to have a hissing sound, this was associated with the nature of a snake. This would also apply to the caduceus coil which shows opposing snakes wrapped around a staff having wings attached where also the serpents wind around the staff with increasing radius from bottom to top.

This completes the analysis of the free energy event that I personally witnessed as described in the above quote. I encourage others to replicate the event in a safe manner. I assume no responsibility for death or other injury by others who engage in replicating the above test/event.

End of Report: "**Analysis of Unexpected Free Energy High Voltage Even** t," by Jerry E. Bayles.

EnergyPipe_Add1.MCD **Addendum 1** July 08, 2007

Free Energy From Atomic Hydrogen

- By -

Jerry E. Bayles

In a previous paper it was developed that a De Broglie wavelength was available beyond the first energy shell of the H1 atom that was exactly equal to the wavelength of the n1 shell multiplied by the natural number e. I am terming this a spin-field wavelength. Further, this spin field is a direct consequence of examining the energy and time inherent in the Poynting power associated with the hyperfine radiation from the Hydrogen atom at 1420 MHz. This is reprinted in the beginning body of this paper inclusive of pp 30 to 32 of Addendum Paper titled, "*Hydrogen As A Free Energy Source*," starting on p. 26 of **http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf**. It will be further developed that the velocity of light can also be divided by e just as the n1 velocity was in the above mentioned paper. This velocity is used as a **relativistic parameter** in deriving a frequency only slightly lower that 1420 MHz, in conjunction with the use of the well known quantum formula involving the conservation of momentum, $mvr = inh/2\pi$. Further relativistic adjustment by a velocity v_x related to the energy of what I have previously termed the electrogravitational force constant F_{QK} will arrive at the correct hyperfine frequency of radiation.

The hydrogen atom is described by this analysis as having an intimate connection to the natural spiral and as a result has a structure based on the natural number e. It is this connection that also allows for a spin field having an energy that can be tapped into without destroying or altering the basic structure of the atom.

S.I. Constants:

$c_{vel} := c$ $\quad c = 2.99792458 \cdot 10^{8} \cdot m \cdot sec^{-1}$ — Velocity of light in free space.

$\alpha := 7.297353080 \cdot 10^{-03}$ — Photon coupling (fine structure) constant.

$h := 6.626075500 \cdot 10^{-34} \cdot joule \cdot sec$ — Plank's constant.

$m_e := 9.109389700 \cdot 10^{-31} \cdot kg$ — Electron rest mass.

$m_p := 1.672623100 \cdot 10^{-27} \cdot kg$ — Proton rest mass.

$m_n := 1.674928600 \cdot 10^{-27} \cdot kg$ — Neutron rest mass.

$\varepsilon_o := 8.854187817 \cdot 10^{-12} \cdot \frac{farad}{m}$ — Electric permittivity of free space.

$\mu_o := 1.256637061 \cdot 10^{-06} \cdot \frac{henry}{m}$ — Magnetic permeability of free space.

$l_q := 2.817940920 \cdot 10^{-15} \cdot m$ — Classic electron radius.

$q_o := 1.602177330 \cdot 10^{-19} \cdot coul$ — Electric charge of the electron.

$G := 6.672590000 \cdot 10^{-11} \cdot newton \cdot m^{2} \cdot kg^{-2}$ — Universal gravitational constant.

$V_{n1} := c \cdot \alpha$ where, — Velocity of electron in the n1 energy shell.

$V_{n1} = 2.1876914167 \cdot 10^{6} \cdot m \cdot sec^{-1}$

The following is quoted from pp 30 to 32 of Addendum Paper titled, "*Hydrogen As A Free Energy Source,*" starting on p. 26 of **http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf:**

Quote: ==>

Electromagnetic radiation can create pressure. " An electromagnetic wave whose Poynting vector has the magnitude S loses the momentum S/c per unit area per unit time when it is absorbed by a surface, and so the force it exerts upon the wall is S/c per unit area. Since pressure is force per unit area, the pressure p of the wave is p = S/c." -- Beiser, Arthur; *Modern Technical Physics,* published by the Cummings Publishing Company, copyright 1966, page 491.

Note: The vector **S** has the units of energy per unit time per meter squared. This is therefore equal to power per meter squared since power is energy per unit time.

$$Savg = \frac{Energy}{time} \cdot \frac{1}{area} \cdot \frac{1}{2}$$ and the momentum per unit time and unit area is given as: (112)/42

$$Pavg = \frac{Energy}{time \cdot velocity} \cdot \frac{1}{area} \cdot \frac{1}{2}$$ yields $$Pavg = \left(\frac{m \cdot v}{t}\right) \cdot \left(\frac{v}{v}\right) \cdot \left(\frac{1}{2 \cdot r^{2}}\right)$$ which can be expressed as pressure since pressure is force per unit area. (113)/43

Then the average pressure is given as: $\text{Press} = \dfrac{\text{force}}{2\cdot\text{area}}$ (114)/44

Let us examine the lowest energy level of the H-1 Hydrogen atom for the amount of force on the electron in that level exerted by the energy radiated by the proton's radiation at 1420 MHz. The equation in 115 below is the result of equations 112, 113 and 114 above. First the radius of the n1 energy level must be stated.

$R_{n1} := 5.291772490\cdot 10^{-11}\cdot m$ = Bohr radius. and $f_{H1} = 1.4204057518\cdot 10^{9}\cdot Hz$

Then the pressure at the n1 energy level is calculated by the following equation where we do not assume the surface area of a sphere, ($A = 4\pi r^2$), but only the area of a plane surface defined by the square of the Bohr n1 radius.

$$\text{Press}_{n1} := \frac{h\cdot f_{H1}^{2}}{\left(R_{n1}^{2}\right)\cdot c_{vel}} \qquad \text{Press}_{n1} = 1.5924220892\cdot 10^{-3}\cdot Pa \qquad (115)/45$$

where, $1\cdot\dfrac{\text{newton}}{m^2} = 1\cdot Pa$ The Pa unit is the Pascal in newton/meter^2 units.

The pressure above is throughout the n1 surface defined by R_{n1} squared. Therefore, the actual *force* on the much smaller electron Compton radius area can be found by multiplying the above pressure by the square of the product of the fine structure and the unit meter since the radius of the electron is equal to α times the radius of the R_{n1} energy level.

Then: $F_{en1} := \text{Press}_{n1}\cdot(\alpha\cdot m)^2$ or, $F_{en1} = 8.4798645085\cdot 10^{-8}\cdot \text{newton}$ (116)/46

Next, we calculate the electric field force due to the interaction of the field of the electron with the field of the proton at the n1 Bohr radius.

$$F_{En1} := \frac{q_o^{2}}{4\cdot\pi\cdot\varepsilon_o\cdot R_{n1}^{2}} \qquad F_{En1} = 8.238729466\cdot 10^{-8}\cdot \text{newton} \qquad (117)47$$

The pressure on the electron due to the energy of the radiating hyperfine electromagnetic frequency is a little more than necessary to counterbalance the attraction of the coulomb electric field force. This is an alternative explanation as to why the electron cannot be pulled into the proton by the force of the electrostatic field and further, it establishes why it is that the first shell is located at the n1 radius. It is located where the outward electromagnetic wave from the proton balances the inward electric field force.

Therefore, the "orbital" picture of the electron totally gives way to the probability wave of where the electron is in the energy shell which agrees with the expected quantum result. The electron can be effectively sitting still and yet not be able to go any further towards the proton than allowed by the force balance point which holds the electron in the bottom of the energy valley very close to zero joules. It is thus desirable to consider the pressure wave from the proton to be energy that cancels the positive electric field energy of the electron with the proton pressure wave's negative energy. Or, put another way, the proton's negative field energy cancels the electrons positive field energy and the proton pressure wave cancels the electrostatic force field between the proton and the electron with some energy left over which is the Hyperfine and CBR radiation.

I am going to ask the reader to fasten their mental seatbelts. The next result is astounding. At least it is to me.

The difference in the (-) energy pressure-wave force and the (+) energy electric field force at the R_{n1} Bohr radius on the electron divided into the average energy of the n1 shell derives a distance ΔR_{n1} as:

Note: To be more concise, ΔR_{n1} (original quote) is herein replaced by $\Delta\lambda_{n1}$ and are equivalent.

$$\Delta\lambda_{n1} := \frac{m_e \cdot (c_{vel} \cdot \alpha)^2}{2 \cdot (F_{en1} - F_{En1})} \qquad \Delta\lambda_{n1} = 9.0400552274 \cdot 10^{-10} \cdot m \qquad (118)/48$$

Then if we find the ratio of the ΔR_{n1} to the quantum De Broglie wavelength of the n1 shell, we arrive at a very interesting number.

$$\frac{\Delta\lambda_{n1}}{2 \cdot \pi \cdot R_{n1}} = 2.718880069 \qquad \text{where,} \qquad \frac{\Delta\lambda_{n1}}{2 \cdot \pi \cdot R_{n1} \cdot (e)} = 1.0002200804 \qquad (119)/49$$

And where also: $e = 2.7182818285$ **which is the natural number e.**

This is a eureka moment! The natural number e is ubiquitous throughout physics as related to the growth and decay of many types of natural processes. In this case, a distance ΔR_{n1} divided by the natural number e yields the wavelength of the n1 (lowest energy level) of the Bohr 'orbital' of Hydrogen-1. Therefore, the proton pressure wave works to 'fix' the n1 foundation wavelength through the decay of ΔR_{n1} to R_{n1} which is controlled by e. The *energy* of the pressure wave can be stated as being negative by reversing the order of the forces in the denominator above. This is shown below in the solution for energy based on equations 118 and 119 above.

$$\Delta E_{diff} := (e) \cdot (2 \cdot \pi \cdot R_{n1}) \cdot (F_{En1} - F_{en1}) \qquad \Delta E_{diff} = -2.1793944597 \cdot 10^{-18} \cdot \text{joule} \qquad (120)/50$$

The result is negative energy which is what I propose is coming from the proton as a positive force pressure wave. It is this negative energy that may be used by UFO's to interact with the gravitational field of the Earth. It has been reported by numerous persons that electrical devices fail to work close to the presence of UFO energy fields. Negative field energy would cause just this sort of effect on positive energy devices that are electrically and/or magnetically operated. If we could isolate a lot of protons, we could build a source of negative energy. The trick is to keep positive energy electrons from getting close enough to cancel the negative energy field of the proton. Negative energy implies negative time and clocks have been known to lose time in ambient energy fields of the UFO's.

An ordinary photon is herein postulated to oscillate between positive energy having positive time and negative energy having negative time. This will always yield positive power in watts per square meter which of course will yield positive pressure. Further, it is proposed that continuous linear motion of the photon is an illusion. Each time the photon finishes a cycle, it simply advances instantly to the next complete wavelength interval in space. It will only appear to travel at the velocity of light in this manner regardless of frequency. Zeno may have been exactly right in his argument that continuous motion is impossible.

Seat belt still fastened? The below equation (121) is based on the sum of the kinetic energy of the n1 shell of the Bohr H-1 atom and the negative energy of equation (120) above and delivers a frequency very near the Cosmic Background Radiation frequency when divided by twice Plank's constant. This correlates very strongly the 1420 MHz fine structure 'pressure wave' and the CBR to the energy output of the proton in the Hydrogen atom.

$$CBR_{freq} := \frac{\frac{m_e \cdot V_{n1}^2}{2} + \Delta E_{diff}}{2 \cdot h} \qquad CBR_{freq} = 3.6193519267 \cdot 10^{11} \cdot Hz \qquad (121)/51$$

Note that: $\frac{m_e \cdot V_{n1}^2}{2 \cdot q_o} = 13.6056980762 \cdot volt$ which is the electron volt energy of the n1 level of Hydrogen. (122)/52

And $\frac{\Delta E_{diff}}{q_o} = -13.6027043877 \cdot volt$ Results in the required negative binding energy of the n1 shell. (123)/53

Other interesting relationships related to f_{H1} are: $\{ f_{H1} = 1.4204057518 \cdot 10^9 \cdot Hz \}$

$$\frac{f_{H1}}{\alpha} \cdot \left(\frac{4}{\pi}\right)^2 = 3.1554935702 \cdot 10^{11} \cdot Hz$$ **Very close to CBR frequency.** (124)/54

End Of Quote. >==|

The radius related to $\Delta\lambda_{n1}$ of Addendum Paper titled, "*Hydrogen As A Free Energy Source*" starting on p. 26 of http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf, eq. 118 as shown above is modified from considering the numerator as the energy in the R_{n1} energy level to that which is associated with the hyperfine radiation (f_{H1}) of hydrogen as follows:

$$\Delta r_{H1} := \frac{h \cdot f_{H1}}{2 \cdot (F_{en1} - F_{En1})} \qquad \Delta r_{H1} = 1.9515445896 \cdot 10^{-16} \cdot m$$ **Slightly smaller than the Compton proton radius.** 55)

$$r_p := \frac{h}{2 \cdot \pi \cdot m_p \cdot c_{vel}} \qquad r_p = 2.1030893224 \cdot 10^{-16} \cdot m$$ Compton proton radius. 56)

(m_p is the proton mass.)

$$Ratio_r := \frac{r_p}{\Delta r_{H1}} \qquad Ratio_r = 1.0776537383$$ 57)

The distance along the grand gallery divided by the total distance between the first and last resonators is:

$$R_{GG} := \frac{153.0 \cdot ft}{142.36 \cdot ft} \qquad R_{GG} = 1.0747400955$$ Very close to the above $Ratio_r$. 58)

(Note that $\Delta\lambda1$ is one-half of the fundamental length between resonators in the Grand Gallery as well as equal to 1/3 of the fundamental length of the Energy Pipe analysis as shown above.)

It can be shown that: $\frac{4}{\pi} = \frac{h}{2 \cdot \pi \cdot (R_{n1} \cdot e) \cdot v_{air}} \cdot \left(\frac{1}{m_p}\right)$ where $\frac{\Delta\lambda_{n1}}{2 \cdot \pi \cdot R_{n1} \cdot e} = 1.0002200804$ 59)

Then the starting frequency related to $\Delta\lambda1$of the Great Pyramid power generator is:

$$f_{air} := \frac{\pi \cdot h}{4 \cdot \Delta\lambda_{n1} \cdot \Delta\lambda1} \cdot \left(\frac{1}{m_p}\right) \qquad f_{air} = 410.7751841597 \cdot Hz$$ where, $v_{air} := \Delta\lambda1 \cdot (f_{air})$ 60)

The above quantum equation is of extreme importance! or, $v_{air} = 1.1291772632 \cdot 10^3 \cdot \frac{ft}{sec}$ 61)

Next, the measured Grand Gallery fundamental frequency is stated as: $f_{GG} := 440 \cdot Hz$

Then the ratio of f_{GG} to f_{air} is: $R_{freq} := \frac{f_{GG}}{f_{air}}$ or, $R_{freq} = 1.0711455243$ 62)

Where the air velocity can also be stated in terms of quantum terms as:

$v_{air} := \frac{\pi \cdot h}{4 \cdot \Delta\lambda_{n1}} \cdot \left(\frac{1}{m_p}\right)$ $v_{air} = 1.1291772632 \cdot 10^3 \cdot \frac{ft}{sec}$ **which is equal to the acoustic velocity of air at sea level at 71 degrees Fahrenheit.** 63)

The proton is the most massive quantum part of the Hydrogen atom and thus determines the acoustic as well as quantum parameters.

There may be a relativistic connection based on the excess energy available from the proton. Further, like for $\Delta\lambda_{n1}$, the natural number e seems to play a direct role in establishing this connection as is shown below.

Relativistic Energy In The Spin Field Supports Hyperfine Radiation And Electrogravitation:

If we divide the velocity of light in free space by the natural number e, a velocity is obtained that will yield a relativistic gamma that is close to the length of the Grand Gallery of the Great Pyramid divided by the distance from the first to the last resonator in that same Grand Gallery.

$V_{rel} := \frac{c}{e}$ $V_{rel} = 1.1028748192 \cdot 10^8 \cdot m \cdot sec^{-1}$ 64)

$\Gamma1_{rel} := \frac{1}{\sqrt{1 - \left(\frac{V_{rel}^2}{c^2}\right)}}$ $r_p = 2.1030893224 \cdot 10^{-16} \cdot m$ 65)

$r_{rel} := \frac{r_p}{\Gamma1_{rel}}$ $r_{rel} = 1.9556070186 \cdot 10^{-16} \cdot m$ 66)

$\Gamma1_{rel} = 1.0754151025$ where, $\Delta r_{H1} = 1.9515445896 \cdot 10^{-16} \cdot m$ 67)

Thus, we can expect a relativistic velocity (spin equivalent) to be associated with the proton that is field energy in addition to the proton rest mass energy. Further, this velocity arises from excess energy coming from the refresh energy of what I call energy space. This also establishes a wavelength equal to $\Delta\lambda_{n1}$ as a result which is based on the wavelength of the n1 energy shell *multiplied* by the natural number e.

Also of interest: $\frac{1}{\left(\Gamma1_{rel} - 1\right)} = 13.2599435186$ and $\frac{1}{\alpha \cdot \left(\Gamma1_{rel} - 1\right)} = 1.8170894807 \cdot 10^3$ 68)

= Ratio of (neutron mass + ($\Gamma1_{rel}$ x m_e)) / m_e. **The heavy water cold fusion deuterium experiment of Pons & Fleishman is of immediate relevance.** $\left(\frac{m_n + \Gamma1_{rel} \cdot m_e}{m_e}\right) = 1.8397590758 \cdot 10^3$ 69)

Note that the ratio of neutron mass to electron mass is: $\frac{m_n}{m_e} = 1.8386836607 \cdot 10^3$ 70)

From a previous paper located at **http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf**, p. 7, eqs. 36 and 37 reveals the hidden structure of a velocity that is also almost exactly equal to 13.339 times the n1 velocity of the H1 atom.

$$v1 = \sqrt{\frac{E_e(1)}{m_e}}$$

Velocity below related to construct of proton mass??

$$v1 := \left(2.930593414607 \cdot 10^7 - 1.424725900052 \cdot 10^7 \cdot i\right) \cdot m \cdot sec^{-1} \qquad 71)$$

Note: (mp/me) / ((Re(v1) / Vn1) /α) = 1.000241023

Let:
$$v2 = \sqrt{\frac{E_e(2)}{m_e}}$$

$$v2 := \left(2.18769141666 \cdot 10^6 - 2.785455223369 \cdot 10^6 \cdot i\right) \cdot m \cdot sec^{-1} \qquad 72)$$

Imaginary divided by real = 4/π in the above n1 level velocity.

Check:

Taking only the real and imaginary portions of the above velocities of v1 and v2, the ratio of v2 to v1 is:

73)

$$\frac{2.930593414607 \cdot 10^7}{2.18769141666 \cdot 10^6} = 13.3958262682 \quad \ln\left(\frac{1.424725900052 \cdot 10^7 \cdot i}{2.785455223369 \cdot 10^6 \cdot i}\right) = 1.6321532219 \quad \left(\frac{4}{\pi}\right)^2 = 1.6211389383$$

Finally, the corresponding angles in degrees related to the real and imaginary values of v1 and v2 are:

$\arg(v1) = -25.9269870064 \cdot deg$ This is the slope of the Grand Gallery! 74)

$\arg(v2) = -51.8539740128 \cdot deg$ This is the slope of the Great Pyramid's apothem (outer face)! 75)

Thus, the hidden velocity v1 of the n1 energy level and the $\Delta\lambda 1$ may both have a direct connection to the Grand Gallery slope and structure. Further, the same ratios equal to Γ_{rel} are shared by the smaller proton radius as well as the larger n1 H1 energy shell radius and are connected to e and the Γ_{vel} ratios.

The energy pipe analysis reveals that a serendipitous result occurs at the distance of 32.98 inches appearing as $\Delta\lambda 1$ in eq. 10 and further, a quarter wavelength of this distance yields the wavelength of the 1.420 GHz hyperfine hydrogen radiation which is where the analysis was started from termed f_{H1} above.

Where, utilizing λ_{H1} from eq. 41 above, $\frac{c}{\lambda_{H1}} = 1.4204057518 \cdot 10^9 \cdot Hz$ $\lambda_{H1} = 8.309493722 \cdot in$ 76)

The relativistic connection parameter Γ_{rel} may apply to the electron mass which would shorten the radius of the $\Delta\lambda_{n1}$ shell by $1/\Gamma_{rel}$.

$$\Delta\lambda n1_{rel} := \frac{\Delta\lambda_{n1}}{\Gamma 1_{rel}} \qquad \Delta\lambda n1_{rel} = 8.4061077496 \cdot 10^{-10} \cdot m \qquad \text{Therefore:} \qquad 77)$$

$$\Delta V_{\Delta\lambda n1} := \frac{h}{m_e \cdot \left(\Delta\lambda_{n1} - \Delta\lambda n1_{rel}\right)} \cdot \alpha^2 \qquad \Delta V_{\Delta\lambda n1} = 611.0046846855 \cdot m \cdot sec^{-1} \qquad 78)$$

(Note the α^2 parameter where is the fine structure constant.)

$$\frac{m_e \cdot \Delta V_{\Delta\lambda n1}^{\ 2}}{h \cdot f_{H1}} = 0.3613346079 \qquad \frac{1}{e} = 0.3678794412 \qquad 79)$$

Likewise, the same applies to the wavelength of the λ_{n1} shell via a spin velocity equal to V_{rel}.

$$\lambda n1_{rel} := \frac{2\cdot\pi\cdot R_{n1}}{\Gamma 1_{rel}} \qquad \lambda n1_{rel} = 3.091753787\cdot 10^{-10}\cdot m \ = \text{Slight relativistic reduction in } \lambda_{n1}. \tag{80}$$

$$\Delta V_{n1} := \frac{h\cdot\alpha^2}{m_e\cdot\left(2\cdot\pi\cdot R_{n1} - \lambda n1_{rel}\right)} \qquad \Delta V_{n1} = 1.6612484592\cdot 10^{3}\cdot m\cdot sec^{-1} \tag{81}$$

Note the product of the square of the fine structure constant.

$$\frac{m_e\cdot\Delta V_{n1}^{\,2}}{h\cdot f_{H1}} = 2.6710970123 \qquad \text{or,} \quad f_{H1rel} := \frac{m_e\cdot\Delta V_{n1}^{\,2}}{h\cdot e} \qquad f_{H1rel} = 1.3957498888\cdot 10^{9}\cdot Hz \tag{82}$$

Note that in eq. 82 above, the 2.6710970123 result is allowed to settle to e to solve for f_{H1rel}

The conclusion is offered that those quantum particles, such as the proton, neutron and the electron, which share the same relativistic parameter such as Γ_{rel} , are non-locally coupled to each other through energy space. Note also the connection to the fine structure radiation energy based on f_{H1}.

The equation for ΔV_{n1} above can be rewritten to yield an expression that yields f_{H1} to a extreme accuracy where the base constant parameters are e, c, h, m_e R_{n1}, and α.

$$f_{H1rel} = \left(\frac{m_e}{h\cdot e}\right)\cdot\left[\frac{h}{m_e\cdot\left[2\cdot\pi\cdot R_{n1} - \dfrac{2\cdot\pi\cdot R_{n1}}{\dfrac{1}{\sqrt{1-\left[\dfrac{\left(\frac{c}{e}\right)^2}{c^2}\right]}}}\right]}\cdot\alpha^2\right]^2 \tag{83}$$

When the equation at the left is factored into the equation immediately below it, it amounts to plank's constant divided by wave-length, which is velocity. Further dividing by wavelength yields frequency since velocity divided by wavelength is frequency. Since velocity is lower than c, the parameters are acoustic, that is, akin to sound waves, also DeBroglie matter or 'pilot' waves.

by factoring, yields

$$f_{H1rel} := \frac{1}{4}\cdot h\cdot e\cdot\frac{\alpha^4}{\left[m_e\cdot\left[\pi^2\cdot\left[\left(R_{n1}\right)^2\cdot\left(e-\sqrt{e-1}\cdot\sqrt{e+1}\right)^2\right]\right]\right]} \tag{84}$$

Therefore, the frequency is: $f_{H1rel} = 1.3957498888\cdot 10^{9}\cdot Hz$ $\qquad f_{H1} = 1.4204057518\cdot 10^{9}\cdot Hz$ 85)

Reducing the c/e velocity towards zero will cause the output frequency f_{H1rel} to rise towards infinity. This is theoretically possible since energy space is unlimited in its ability to supply whatever refresh energy is needed to support the structure of the spin field. This could be the reason the King's chamber shows evidence of extreme heat and a tremendous explosion.

The above equation is of fundamental importance since it relies on well established fundamental constants, none of which are directly related to f_{H1}. The above equation is new as far as I know.

It is obvious that the natural number e plays an important part in the hydrogen hyperfine energy emission. That, and the fourth power of the fine structure constant. Notice that the mass and radius terms imply not only a torus area with two wavelengths nearly orthogonal to each other, but inertia as well, with a mass times radius squared term.

The natural number e also implies an input of energy for the purpose of building a large external energy and pressure field, especially if the atom of hydrogen is not paired with another atom of hydrogen. When the binding to another hydrogen atom occurs, the energy stored in the previously established much larger volume of space is released. Further, as the pressure wave builds up between the two atoms, the result is that it requires much less energy to seperate them than was released during the binding action.

In the book, "*Occult Ether Physics*," by William R. Lyne, the atomic hydrogen energy extraction process is explained in detail beginning in chapter VI, which is titled, "Free Energy Massacre", copyright 1996, inclusive of pages 81 through 103. The action can be restated in terms of my own theory as follows: When an external stimulus such as a magnetic or electric field perturbation occurs, the proton extracts energy from non-local energy space. This occurs after the release of the energy stored in the external field surrounding the atom. The velocity of the spin field is restored and as a result, so is the relativistic gamma factor. Thus, the process of energy extraction acts somewhat like the control grid in an old fashioned vacuum tube where a small input perturbation of energy can control a very large amount of energy throughput. In this case, the energy is flowing from non-local energy space to normal local space. The perturbation can also be acoustic such as was supplied in the above analysis for the energy pipe and for the Grand Gallery of the Great Pyramid.

A correction to f_{H1rel} is accomplished by subtracting v_x from c/e as shown below. The v_x velocity is equal to the velocity obtained relative to the force constant frequency F_{OK} derived in previous papers, please see the link: **http://www.electrogravity.com/DualFreqEG/A_frequency4.pdf**; Specifically, eqs. 1 through 6.

Let: $f_{LM} := 1.003224805 \cdot 10^{01} \cdot Hz$ Quantum electrogravitational frequency

$\lambda_{LM} := 8.514995416 \cdot 10^{-03} \cdot m$ Quantum electrogravitational wavelength

$i_{LM} := q_o \cdot f_{LM}$ Quantum electrogravitational current based on f_{LM} above.

Then:

$$F_{QK} := \frac{i_{LM} \cdot \lambda_{LM}}{1_q} \cdot \mu_o \cdot \frac{i_{LM} \cdot \lambda_{LM}}{1_q} \qquad F_{QK} = 2.9643714493 \cdot 10^{-17} \cdot newton$$ EG force constant. 86)

$$f_{FQK} := \frac{F_{QK} \cdot (\lambda_{LM})}{h} \qquad f_{FQK} = 3.8094358119 \cdot 10^{14} \cdot Hz$$ Force constant EG based frequency. 87)

Dividing the force constant frequency above by $4/\pi$ yields a frequency that has a kinetic energy related to the electron mass that can be solved for the unique quantum velocity v_x as shown below.

$$A'_f := \frac{f_{FQK}}{\left(\frac{4}{\pi}\right)} \qquad A'_f = 2.9919238902 \cdot 10^{14} \cdot Hz$$ 88)

The 4/π parameter is universal in the above analysis of the Great Pyramid and Energy Pipe. In the above link, eq. 11 and 14 showed that the derivative with respect to time of the A vector force to the force constant was equal to 4/π.

The quantum velocity related to Af is:

$$V_{Af} := \sqrt{\frac{A'_f(h)}{m_e}} \qquad V_{Af} = 4.6650770385 \cdot 10^5 \cdot m \cdot sec^{-1}$$ 89)

Global Definition:

Let: $v_x := V_{Af} \qquad v_x = 4.6650770385 \cdot 10^5 \cdot m \cdot sec^{-1} \qquad v_x \equiv 4.6650770385 \cdot 10^5 \cdot \frac{m}{sec}$ 90)

Stating the required equation to find the relativistic frequency related to (c/e) - v_x:

$$f_{H2rel} = \left(\frac{m_e}{i \cdot h \cdot e}\right) \cdot \left[\frac{i \cdot h}{m_e \cdot \left[2 \cdot \pi \cdot R_{n1} - \frac{2 \cdot \pi \cdot R_{n1}}{\frac{1}{\sqrt{1 - \left[\frac{\left(\frac{c}{e} - v_x\right)^2}{c^2}\right]}}}\right]} \cdot \alpha^2\right]^2 \qquad 91)$$

When v_x is increased a small amount, the result is an increase of the output frequency and a corresponding decrease of the total relativistic energy related to the proton field. **Reducing the relativistic field energy to zero by causing v_x = c/e will cause an infinite output energy or frequency. (Or singularity.)**

The imaginary operator i is introduced above where h is shown to account for the well known quantum expression involving atomic shell angular momentum **mvr = inh/2π**. (Herein, n = 1.)

by factoring, yields

$$f_{H2UpRel} := \frac{1}{4} \cdot i \cdot h \cdot e \cdot c^2 \cdot \frac{\alpha^4}{\left[m_e \cdot \left[\pi^2 \cdot \left[R_{n1}{}^2 \cdot \left[e \cdot c - \sqrt{-(v_x \cdot e - c + e \cdot c) \cdot (v_x \cdot e - c - e \cdot c)}\right]^2\right]\right]\right]} \qquad 92)$$

Finally: $f_{H2UpRel} = 1.4205210604 \cdot 10^9 i \cdot Hz$ where, $f_{H1} = 1.4204057518 \cdot 10^9 \cdot Hz$ 93)

The frequency difference between $|f_{H2UpRel}|$ and f_{H1} is:

And the ratio involving agreement of frequencies is: $|f_{H2UpRel}| - f_{H1} = 1.1530861634 \cdot 10^5 \cdot Hz$ 94)

$\frac{f_{H2UpRel}}{f_{H1}} = 1.0000811801i$ **which is strong evidence of correlation by nearly exact agreement.**

Subtracting v_x from c/e natural spiral reduction velocity shows that the electrogravitational force constant F_{OK} draws energy from the proton field in the electrogravitational process. The remaining field can also be tapped for free energy. It was determined above that without taking the energy used to establish the electrogravitational connection, the error caused the original f_{H1rel} frequency to be low at:

$f_{H1rel} = 1.3957498888 \cdot 10^9 \cdot Hz$ where actual desired is: $f_{H1} = 1.4204057518 \cdot 10^9 \cdot Hz$ 95)

The least quantum electrogravitational velocity related to the relativistic equation with the v_x force constant correction is shown below where only one wavelength of $\lambda_{n1} = 2\pi R_{n1}$ is in the denominator instead of two.

$$V_{H2UpRel} := \frac{1}{2} \cdot i \cdot h \cdot e \cdot c^2 \cdot \frac{\alpha^4}{\left[m_e \cdot \left[\pi^1 \cdot \left[R_{n1}{}^1 \cdot \left[e \cdot c - \sqrt{-(v_x \cdot e - c + e \cdot c) \cdot (v_x \cdot e - c - e \cdot c)}\right]^2\right]\right]\right]} \qquad 96)$$

$V_{H2UpRel} = 0.472311706i \cdot m \cdot sec^{-1}$ where, $\frac{V_{H2UpRel}}{2 \cdot e} = 0.0868768832i \cdot m \cdot sec^{-1}$ 97)

Where V_{LM} electrogravitational is equivalent to: $$V_{LM} := \frac{h}{m_e \cdot \lambda_{LM}}$$ 98)

or, $$V_{LM} = 0.0854245461 \cdot m \cdot sec^{-1}$$ 99)

$$f_{LMup} := \frac{m_e \cdot \left(\frac{V_{H2UpRel}}{2 \cdot e}\right)^2}{h} \qquad f_{LMup} = -10.3762724216 \cdot Hz \quad = \text{Negative energy}$$ 100)

The above electrogravitational frequency is one part of a two step interaction wherein the above frequency is the local relativistic action that is instantly transferred through non-local space to a conjugate local space reaction. Therefore, there may be considered a process where v_x is added to the spiral (c/e) velocity instead of subtracted. This would balance out the energy so that in the closed system interaction, no net energy is lost or gained. Thus, v_x is added to the c/e velocity for the case of the reaction system as shown below:

$$f_{H3DnRel} = \left(\frac{m_e}{i \cdot h \cdot e}\right) \cdot \left[\frac{i \cdot h}{m_e \cdot \left[2 \cdot \pi \cdot R_{n1} - \frac{2 \cdot \pi \cdot R_{n1}}{\frac{1}{\sqrt{1 - \left[\frac{\left(\frac{c}{e} + v_x\right)^2}{c^2}\right]}}}\right]} \cdot \alpha^2\right]^2$$ 101)

by factoring, yields

$$f_{H3DnRel} := \frac{1}{4} \cdot i \cdot h \cdot e \cdot c^2 \cdot \frac{\alpha^4}{\left[m_e \cdot \left[\pi^2 \cdot \left[R_{n1}^{\ 2} \cdot \left[e \cdot c - \sqrt{-(v_x \cdot e + c + e \cdot c) \cdot (v_x \cdot e + c - e \cdot c)}\right]^2\right]\right]\right]}$$ 102)

$f_{H3DnRel} = 1.3715042743 \cdot 10^9 i \cdot Hz$ This is an absorption equivalent frequency which is not radiated.

The velocity related to the above frequency is:

$$V_{H3rel} := \frac{1}{2} \cdot i \cdot h \cdot e \cdot c^2 \cdot \frac{\alpha^4}{\left[m_e \cdot \left[\pi^1 \cdot \left[R_{n1}^{\ 1} \cdot \left[e \cdot c - \sqrt{-(v_x \cdot e + c + e \cdot c) \cdot (v_x \cdot e + c - e \cdot c)}\right]^2\right]\right]\right]}$$ 103)

$$V_{H3rel} = 0.456014023i \cdot m \cdot sec^{-1} \qquad \frac{V_{H3rel}}{2 \cdot e} = 0.083879092i \cdot m \cdot sec^{-1}$$ 104)

$$V_{LM} = 0.0854245461 \cdot m \cdot sec^{-1}$$ 105)

$$f_{LMdn} := \frac{m_e \cdot \left(\frac{V_{H3rel}}{2 \cdot e}\right)^2}{h} \qquad f_{LMdn} = -9.6725357242 \cdot Hz \quad = \text{negative energy.}$$ 106)

Then the total interaction involving both the up and down electrogravitational frequencies is:

$$F_{EG} := \left(\frac{i \cdot h \cdot f_{LMup}}{R_{n1}}\right) \cdot \mu_o \cdot \left(\frac{i \cdot h \cdot f_{LMdn}}{R_{n1}}\right) \qquad F_{EG} = -1.9774340281 \cdot 10^{-50} \cdot newton \cdot \frac{henry}{m} \cdot newton \qquad 107)$$

$$F_{HG} := \frac{G \cdot m_e \cdot m_e}{R_{n1}^{\ 2}} \qquad F_{HG} = 1.977291389 \cdot 10^{-50} \cdot newton \qquad 108)$$

$$\frac{F_{EG}}{F_{HG}} = -1.0000721387 \cdot \frac{henry}{m} \cdot newton$$

This newton and the henry/m terms are constants. Only one of the newton terms in F_{EG} is a variable which is dependent on the inverse of the radius squared. 109)

It is of interest that: $\left(\frac{4}{\pi}\right) \cdot (e) = 3.4610239177$ and $\frac{h}{2 \cdot \pi \cdot R_{n1} \cdot v_{air}} \cdot \left(\frac{1}{m_p}\right) = 3.4617856212$ 110)

<u>Thus, the natural number e and the 4/π angle of the Great Pyramid are related to the Bohr n1 radius of the Hydrogen atom as well as the mass of the proton and the acoustic velocity of air at 71 degrees (F) and sea level pressure..</u>

It is also of interest that three times Δλ1 will yield a full length section of pipe distance of:

$3 \cdot \Delta\lambda 1 = 8.2466807157 \cdot ft$ and this corresponds to a pyramid starting frequency of: 111)

$$\frac{v_{air}}{3 \cdot \Delta\lambda 1} = 136.9250613866 \cdot Hz \qquad \frac{1}{\alpha} = 137.0359894933 \qquad 112)$$

The starting frequency and the running frequency are both dependent on the air temperature. The below temperature/velocity equation is from: Clifford, Martin, "Master Handbook of Electronic Tables and Formulas," fifth edition, copyright 1992 by TAB Books, p. 212:

$V = 49 \cdot \sqrt{459.4 + F}$ where the velocity V is in ft/sec and F is in degrees Fahrenheit. 113)

$F := 72.0$ degrees Farenheit.

$V := 49 \cdot \sqrt{459 + F}$ $V = 1.1291284249 \cdot 10^3$ in ft/sec. Temperature will rise as the square of the velocity. 114)

Since the distance between the resonators in the Grand Gallery must remain a fixed parameter, then as the temperature rises, the velocity of the sound must also rise. This means that the frequency will rise since the working wavelength between the resonators is fixed.

The resonant frequency of the King's Chamber has been measured at 438.3 Hz which also resonates out and back from the Grand Gallery. Therefore, the required sound velocity at the upper running temperature is calculated by the below formula and solving for air temperature at the required velocity that will yield the resonant King's Chamber frequency with the fixed wavelength of Δλ1. Note that Δλ1 is equal to 2.748893573 feet. Frequency x wavelength = velocity.

$$V_{high} := 438.3\cdot(2.748893573) \qquad V_{high} = 1.204840053\cdot 10^{3} \qquad \text{ft/sec} \qquad 115)$$

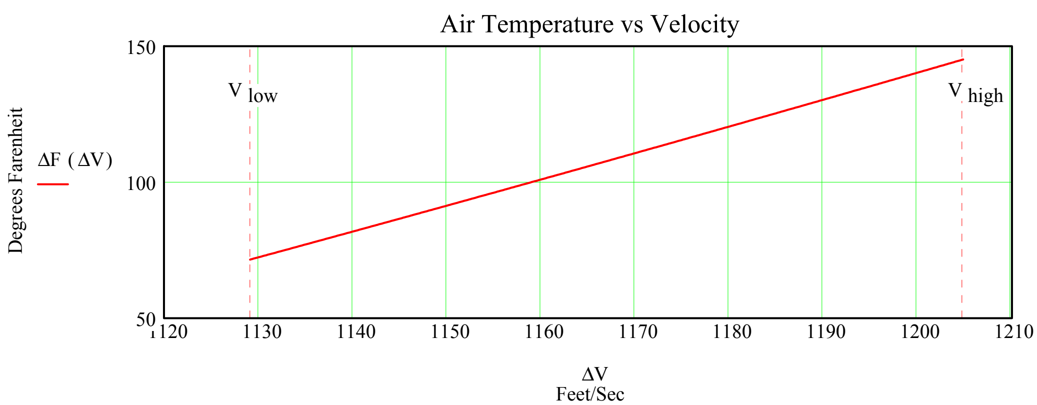
For the purpose of further calculation, V is equal to a new parameter called V_{low}.

$$V_{low} := V \qquad V_{low} = 1.1291284249\cdot 10^{3} \qquad \text{ft/sec} \qquad 116)$$

If we allow for a range of temperature rise, the resulting air temperature can be plotted as shown below

$\Delta V := V_{low}, V_{low} + .10 .. V_{high}$ = range of sound velocity increase. (0.1 deg. F increments.)

Then the required range is: $$\Delta F(\Delta V) := \left(\frac{\Delta V}{49}\right)^{2} - 459.4 \qquad 117)$$



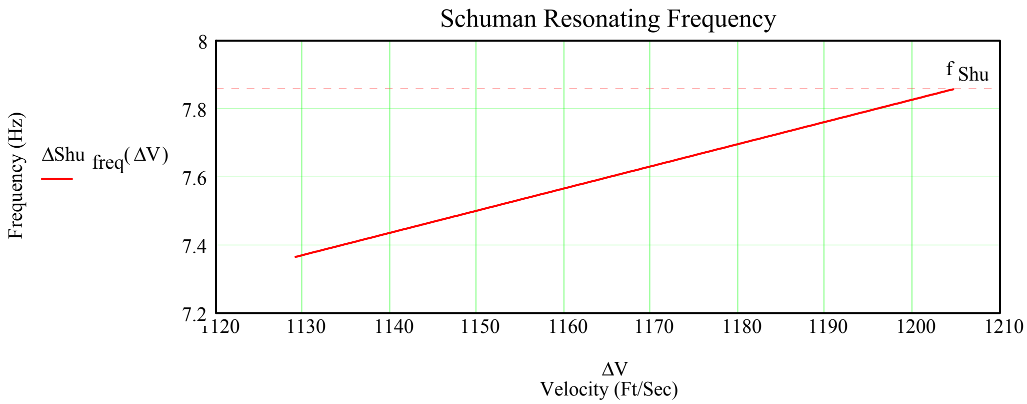
Two very important frequencies occur when the resonator Gallery and the King's Chamber reach the normal running temperature and upper sound velocity. First, the total Grand Gallery length of 153.3 feet yields a frequency equal to the Schuman frequency very near 7.83 Hz. Secondly, the frequency between the resonators is now equal to the resonant frequency of the Grand Gallery related to the resonant frequency of the King's Chamber of 438.3 Hz instead of the starting frequency of f_{air} at 410.86 Hz.

$$f_{Shu} := \frac{V_{high}}{153.3} \qquad f_{Shu} = 7.8593610766 \qquad \text{Hz} \qquad 118)$$

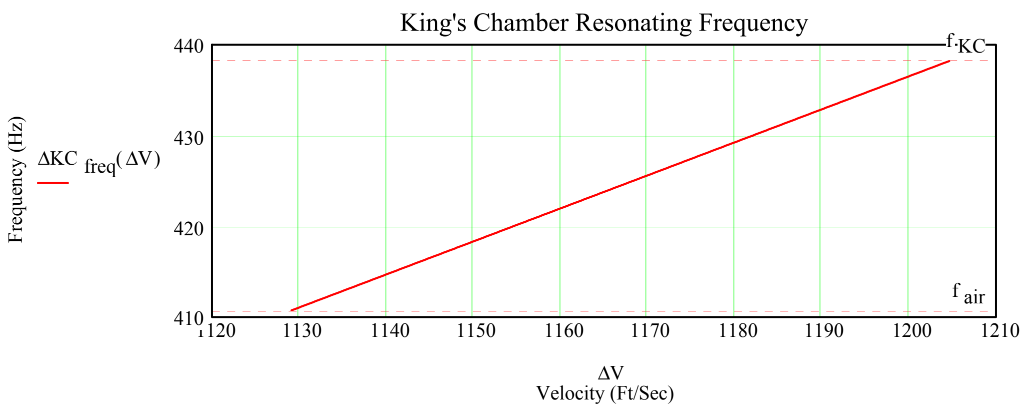
$$f_{KC} := \frac{V_{high}}{(2.748893573)} \qquad f_{KC} = 438.3 \qquad \text{Hz} \qquad \text{where,} \quad 2.748893573 = \text{feet.} \qquad 119)$$

The rise from starting to running Schuman temperature yields the below frequency plots shown below.

$$\Delta Shu_{freq}(\Delta V) := \frac{\Delta V}{153.3}$$ Frequency change (rise) towards the Schuman frequency vs velocity. 120)



$$\Delta KC_{freq}(\Delta V) := \frac{\Delta V}{2.748893573}$$ King's Chamber frequency rise towards the natural resonance. 121)



The normal running temperature is:

$$F_{Run} := \left(\frac{V_{high}}{49}\right)^2 - 459.4 \qquad F_{Run} = 145.1978981356$$ degrees Fahrenheit 122)

$$f_{air} := f_{air} \cdot sec \qquad \frac{f_{KC}}{f_{air}} = 1.0670070075$$ 123)

The close agreement to

$Ratio_r = 1.0776537383$ and $R_{GG} = 1.0747400955$ above is notable. 124)

It is therefore established by the above analysis that the operation of the Great Pyramid as an energy generating machine must be taken as a very strong possibility. The proton calculations as well as the relationship of the natural number e and the $4/\pi$ all fit nearly exactly into the geometry of the Grand Gallery, King's Chamber and the angle of rise of the outside face of the Great Pyramid.

Further, the Hydrogen atom energy is tapped into where it has been previously shown that there exists energy related to the natural number e, also at the first energy shell level, that is in excess required to establish a stable shell at the required Bohr radius. This excess energy can be released by exciting the Hydrogen atom to a higher than normal acoustic velocity which buffets the molecule and thus causes it to release the desired microwave energy related directly to the Hyperfine energy frequency of 1.420 GHz.

According to Cristopher Dunn, author of the Book, "The Giza Powerplant," the master oscillator is located in the Queens Chamber. Therein was generated hydrogen gas by chemical means such as mixing dilute hydrochloric acid and Hydrated zinc chloride. This was allowed to pool in the floor area of the Queen's Chamber to a depth of two feet wherein the overflow was allowed to flow down the horizontal passage to the five inch step rise at the end of the passage. From there it was emptied into the vertical well shaft and into the grotto area located far below the Queens chamber. It is of extreme interest that if the wave velocity in the electrolyte (mostly water) is examined in light of the below standard equation involving wave velocity of the ocean, the depth equals two feet with the liquid velocity equal to the velocity of air at 72 degrees Fahrenheit

The Queen's Chamber temperature can be expected to be near 72 degrees Fahrenheit but will rise as we move towards the Grand Gallery and especially will be much hotter as we move towards the King's Chamber.

OceanWaveVelocity.MCD Jerry E. Bayles-May 24, 2007

$$v^2 = \frac{g\cdot\lambda}{2\cdot\pi}\cdot\tanh\left(2\cdot\pi\cdot\frac{d}{\lambda}\right)$$ See: **http://hyperphysics.phy-astr.gsu.edu/hbase/waves/watwav2.html** 125)

has solution(s) for d of: 126)

$$\begin{bmatrix} \frac{1}{2}\cdot\ln\left[\frac{1}{(2\cdot v^2\cdot\pi - g\cdot\lambda)}\cdot\left[-(2\cdot v^2\cdot\pi - g\cdot\lambda)\cdot(2\cdot v^2\cdot\pi + g\cdot\lambda)\right]^{\frac{1}{2}}\right]\cdot\frac{\lambda}{\pi} \\ \frac{1}{2}\cdot\ln\left[\frac{-1}{(2\cdot v^2\cdot\pi - g\cdot\lambda)}\cdot\left[-(2\cdot v^2\cdot\pi - g\cdot\lambda)\cdot(2\cdot v^2\cdot\pi + g\cdot\lambda)\right]^{\frac{1}{2}}\right]\cdot\frac{\lambda}{\pi} \end{bmatrix}$$

$g := 9.80665\cdot 10^{0}\cdot m\cdot sec^{-2}$ $v := 3.44424\cdot 10^{02}\cdot m\cdot sec^{-1}$ $\lambda := 3\cdot\Delta\lambda 1$ or, 127)

$g = 32.1740485564\cdot\frac{ft}{sec^2}$ $v = 1.13\cdot 10^{3}\cdot\frac{ft}{sec}$ $\lambda = 8.2466807157\cdot ft$ 128)

$$d_{pos} := \frac{1}{2}\cdot\ln\left[\frac{1}{(2\cdot v^2\cdot\pi - g\cdot\lambda)}\cdot\left[-(2\cdot v^2\cdot\pi - g\cdot\lambda)\cdot(2\cdot v^2\cdot\pi + g\cdot\lambda)\right]^{\frac{1}{2}}\right]\cdot\frac{\lambda}{\pi} \qquad 129)$$

$d_{pos} = 4.3405768545\cdot 10^{-5} + 2.0616701789i \cdot ft$ 130)

$\arg(d_{pos}) = 89.9987937123\cdot deg$ 131)

A quarter wavelength of the above wavelength would be equal to: $\frac{\lambda}{4} = 24.740042147\cdot in = \Delta\lambda 2.$

$$d_{neg} := \frac{1}{2}\cdot\ln\left[\frac{-1}{\left(2\cdot v^2\cdot\pi - g\cdot\lambda\right)}\cdot\left[-\left(2\cdot v^2\cdot\pi - g\cdot\lambda\right)\cdot\left(2\cdot v^2\cdot\pi + g\cdot\lambda\right)\right]^{\frac{1}{2}}\right]\cdot\frac{\lambda}{\pi} \qquad 132)$$

$$d_{neg} = 4.3405768545\cdot 10^{-5} - 2.0616701789i \cdot ft \qquad 133)$$

$$\arg\left(d_{neg}\right) = -89.9987937123 \cdot deg \qquad 134)$$

$$\left|d_{pos}\right| = 2.0616701794 \cdot ft \qquad 135)$$

This is the exact drop in height of the horizontal passage into the Queens Chamber of the Great Pyramid!

$$\left|d_{neg}\right| = 2.0616701794 \cdot ft \qquad 136)$$

The depth of the electrolyte times the frequency of resonance of the King's chamber yields a velocity that when divided into the starting velocity yields a ratio close to $4/\pi$.

$$\frac{v_{air}}{\left|d_{pos}\right|\cdot 438.3\cdot Hz}\cdot\left(\frac{\pi}{4}\right) = 0.9814345582 \qquad 137)$$

Check for correct d based on v result.:

$$v = 1.13\cdot 10^3 \cdot\frac{ft}{sec}$$

$$v1 := \sqrt{\frac{g\cdot\lambda}{2\cdot\pi}\cdot\tanh\left(2\cdot\pi\cdot\frac{d_{pos}}{\lambda}\right)} \qquad v1 = 1.13\cdot 10^3 + 1.0460846323\cdot 10^{-9}i \cdot\frac{ft}{sec} \qquad 138)$$

The interface between air and water must have an important function regarding extracting energy from the Hydrogen atom both in the water and in the air. In fact, we have arrived at the required mechanics that may explain cold fusion energy release being overunity. A tank of electrolyte being formed by hydrochloric acid and hydrated zinc chloride and having the depth and length as shown above may be used to generate energy in excess of expected content from the hydrogen molecules in the water. Especially if the air above the water is saturated with hydrogen molecules.

I seem to remember that the original experiment that Pons and Fleishmann originally reported to the press concerned a tank of heavy water not unlike a large aquarium. I distinctly remember seeing a photograph of that tank in the original press report. Soon after their press release, a conference of scientists was called together in New York to "discuss" the results. As one body, they soon agreed that Pons and Fleishmann were in error in stating that they had achieved cold fusion, undoubtedly saving their own tenure as a result. Soon after that, the mention of the tank of heavy water was reduced to only serving as a reservoir for the much smaller flask where the experiment was supposedly taking place. After that, the official word was that the energy release would or could not occur in the "bulk" mode. That is, in a larger container.

I envision a scenario wherein, in the tank itself and through the heavy water, a steady direct current was supplied by batteries between distant platinum and palladium electrodes. A length between either or both the electrodes or the end surfaces of the tank, based on multiples of λ_{H1} or $\Delta\lambda 1$, may have yielded the required resonance distance so as to obtain the energy release they reportedly measured. This scenario is of course opposite to the official word concerning the arrangement and function of the apparatus used in the original experiment. I state the above scenario as my opinion concerning possibilities other than the official press releases and current status of what is portrayed as the truth.

In my previous work online titled, "Matter Reduction Beam and Free Field Energy Extraction," pages 8 through 10 inclusive, a detailed analysis is presented concerning William R. Lyne's book "Occult Ether Physics" as mentioned on the beginning of p. 17 above.

See my online paper at: **http://www.electrogravity.com/EBEAM/ForceConstantMath1.pdf**

A partial copy of the salient data is reprinted below. **QUOTE:**

For the values claimed in "Occult Ether Physics" by William Lyne:

Let: $\text{kjoule} := 1000 \cdot \text{joule}$ 139/51)

William R. Lyne's research states an exothermic energy release of:

$$\text{E1gross} := 109000 \cdot \frac{\text{cal}}{\text{gm}}$$ 140/52)

My resource book states an energy release of:

$$\text{E2gross} := 453.6 \cdot \frac{\text{kjoule}}{\text{gm}} \qquad \text{or, converting to cal/gm:} \qquad \text{E2gross} = 1.0834049871 \cdot 10^{5} \cdot \frac{\text{cal}}{\text{gm}}$$ 141/53)

We see that the two results for the energy released are very close in agreement.

William R. Lyne's research indicates a dissociation energy of:

$$\text{E1diss} := 103 \cdot \frac{\text{cal}}{\text{gm}}$$ 142/54)

My resource book indicates a ΔH_{vap} (dissociation) energy of:

$$\text{E2diss} := 0.46 \cdot \frac{\text{kjoule}}{\text{gm}} \qquad \text{or, converting to calories per gram:} \qquad \text{E2diss} = 109.8691124486 \cdot \frac{\text{cal}}{\text{gm}}$$ 143/55)

We see again that the results compare very closely. Here we are using Mathcad's ability to convert units effortlessly and accurately. In the source book I am using, the units are in kjoule/mole and for atomic hydrogen this works out to be the same as kjoule/gram since Avagodro's number times 1 AMU for hydrogen equals one gram.

The results above suggest that there is a tremendous energy gained from the open field of the dissociated hydrogen atom which is released upon forming the molecular form of hydrogen. Further, the dissociation energy is very small in comparison which amounts to overunity as shown below.

$$\text{E1gross} - \text{E1diss} = 1.08897 \cdot 10^{5} \cdot \frac{\text{cal}}{\text{gm}} \qquad \text{Net heat output per recombination.}$$ 144/56)

My theory as to why the dissociation energy is so much lower than the energy released on recombination is that the proton pressure wave is almost as strong as the recombination bond. Further, the energy associated with the open atom proton pressure wave field is free to build to a very large amount compared to when it is in the molecular or bound condition. This entire process is supported by what I call energy from energy space such as exhibited by the presence of the 1420 MHz hyperfine frequency continuously radiated from the unperturbed Hydrogen atom.

William R. Lyne also compares the BTU per pound of Gasoline combusted with oxygen, ordinary hydrogen combusted with oxygen and finally Atomic Hydrogen stored field energy released. This is shown below.

(P. 92 of his book.)	Gasoline combustion (n-Heptane)	19,314 BTU/lb	145/	57)
	Hydrogen combustion (H2 + O)	52,200 BTU/lb	146/	58)
	Atomic hydrogen (H2 <-- --> 2H)	196,200 BTU/lb	147/	59)

Note that the atomic hydrogen process does not involve a consumption of the hydrogen. It could take place in a closed system and be recycled indefinitely as it is capable of being used to continuously extract energy from energy space. **UNQUOTE.**

Note: My sourcebook is: Emsley, John, "The Elements", Copyright 1989, Oxford University Press, NY, pp 86-87.

Conclusion:

The latent energy of the hydrogen atom, for the most part, is hidden by the fact that atomic hydrogen does not naturally occur in large amounts. Rather, it occurs paired with another hydrogen atom or in combination with many other elements since the hydrogen bond can take many forms. However, it is suggested by the above analysis that the hydrogen atom, or even bare proton associated with the hydrogen atom, is capable of releasing energy in large amounts over extended amounts of time without suffering collapse of the basic structure or particle.

Although progress towards the realization of the above free energy extraction mechanics will likely be resisted, it is inevitable that civilization must eventually tap into the clean free energy that the above analysis has presented.

Ω

-by-
Jerry E. Bayles