HARMONIC RESONANCE

A THEORUM

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This is a story of an exploration with numbers.

The origin of the MORs (Mortal Oscillatory Rates of bacteria and viruses), originally discovered by Royal Rife during the first half of the twentieth century, has perplexed many people since that time. While it is generally acknowledged that some type of resonance phenomenon destroyed or debilitated the organisms, it has been difficult at best to pinpoint any association of specific frequency with what is physically affecting these life forms during the time of their debilitation or demise.

What exactly might be the destructive mechanism that is affecting each organism? Is it a resonance related to its full size, or perhaps that of the nucleus, mitochondria, or capsid? Is it a correlation with some type of biochemical resonance? Why does each organism seem to need a specific frequency? Could the phenomenon be related to its DNA, and if so, what is the resonance relationship? These questions and more have kept folks that use or explore Rife-related technologies awake into the wee hours of the morning on many occasions, and have been the focus of endless animated discussions.

This paper will explore some possibilities that might assist in shedding light on the resonance relationships. There are several areas that will be looked at in detail:

1. **The complete genome of the DNA of an organism.**
2. **Smaller areas, or fragments, of an organism's DNA coding.**
3. **Possible resonance occurring at the molecular or atomic level.**

These mechanisms of action require that some type of physical parameter be available that can be converted into frequency. Two major physics relationships, that of converting a length into frequency (or wavelength, to be more accurate); and that of converting mass into frequency, will be looked at in some detail.

While it is acknowledged that some of the concepts presented in this paper will be open to dispute, it was felt that the sheer number of

correlations found with the audio frequencies currently being used begged a closer look. For that reason these ideas are being offered to the community of serious researchers as a springboard for further discussion. The concepts and frequencies discussed in this paper, and any materials eventually offered in conjunction with this paper, are in no manner intended to suggest treatment or cure for any disease or condition. Furthermore, this writer cannot assume any responsibility for enhancement of or degradation to physical health arising from use of the information presented in this paper.

Section 1. The Complete Genome.

The developments in the past thirty to forty years in the field of genetics and molecular biology has resulted in an explosion of information available to anyone that cares to take a look. Information is widely available in medical and scientific journals, and extensive databases can also be accessed on the internet.

The *length* of any object can be thought of as having a resonant frequency by virtue of correlation with a *wave-length*. For instance, a person's height has its own resonant wavelength and resultant frequency. Is it possible that an organism's entire DNA genome could also possess a resonant wavelength and frequency related to its total length? Is there a way to calculate the entire length of an organism's DNA genome? Thanks to explicit analysis of DNA structure, it is now accurately known how far apart the base pair molecules are spaced in that helix. If one knows exactly how many base pairs are contained in the complete genome, finding the entire length is a simple matter of multiplying the number of base pairs times the spacing. [For an explanation regarding structure and base pairs of DNA, see L. Stryer, *Biochemistry,* 4th ed., (W.H. Freeman, 1995), p. 75 ff., ISBN 0-7167-2009-4]

As a point of discussion, it must be pointed out that advanced x-ray analysis of crystallized DNA has shown that base pair spacing is not *always* consistent. There are some very localized areas that contain "squeezing" or "spreading" of the base pairs. However, for the purpose of this analysis, the classic Watson-Crick model of base pair spacing will be used, which is actually an *average spacing* over the entire length of the DNA genome. To use any other model for this discussion would make it hopelessly complex for these purposes. [For further discussion on this subject, see Stryer, p. 788.]

The dimensions of the B-helix, which is by far the most common DNA form for bacterial and eukaryotic life forms, tells us that:

a. **One complete turn of the helix spans a distance of 35.4 angstroms on its axis.**
b. **There are 10.4 base pairs in each helical turn. [These measurements are given in Stryer, p. 791].**

Therefore, the spacing of the individual base pairs on the axis would be 35.4 angstroms divided by 10.4, which equals 3.403846 angstroms. In scientific notation, this can be written as 3.403846 e-10 meters. The use of meters will now make it possible to convert this total length (or wavelength) to frequency.

Looking at an example from a real organism, the Rubella measles virus contains 9755 base pairs in its entire DNA genome. (For access to base pair information on viruses, go to www.ncbi.nlm.nih.gov/PMGifs/Genomes/vis.html).

9755 base pairs x the base pair spacing of 3.403846 e-10 meters = 3.32045 e-06 meters total length. *This is a figure that can be used as a possible wavelength for the Rubella viral DNA*.

To convert this wavelength to frequency, we turn to the physics formula:

velocity / wavelength = frequency

[See J. Cutnell & K. Johnson, *Physics,* 2nd ed., (John Wiley & Sons, 1992), pg. 698, ISBN 0-471-52919-2, or any good physics text].

In this instance we will use the speed of light: 299,792,458 meters per second as a velocity. (Further comments regarding the use of this velocity follow shortly).

Substituting the numbers into the formula, we get

299,792,458 meters/second divided by 3.32045 e-06 meters = 9.02866 e+13 hertz.

***This would be a possible theoretical resonant frequency for the Rubella DNA genome*. It is interesting to note that this frequency falls at the high end of the infrared section of the electromagnetic spectrum (near visible light), and in the general area of the spectrum that Royal Rife had under consideration in his microscopic work.**

To access this frequency in the audio range, an accurate and resonant way to accomplish this it is to repeatedly divide the frequency by 2. In music, this would be called going to a lower octave. Because there is no comparable term to "octave" in electromagnetic frequency

terminology, the word "octave" will be used from this point onward to designate this /2 relationship (or x2 for an upper octave). It is a calculation that will be used often. Furthermore, dividing a frequency by 2 (i.e., translating it into the immediate lower octave) can also be visualized as *doubling its wavelength in an exact and exceedingly precise manner*.

Therefore, dividing the original Rubella resonant frequency of 9.02866 e+13 hz down by *many* octaves (i.e., doubling the wavelength *many* times) eventually brings us to a frequency at a representative octave low in the audio range: 164.23045 hz. This could be a possible resonant frequency of the Rubella genome in this low audio range.

To "debilitate" this frequency, the following mathematical relationship was considered: multiplying this resonant frequency by the square root of 2 (1.4142136).

A note is perhaps in order to the investigator: while these ideas are being presented in a manner to reach as wide an audience as possible, a brief explanation follows (involving the square root of 2 relationship) which will get slightly technical.

The general physics formula for the velocity of electromagnetic (EM) radiation through any medium equals the inverse of the square root of the product of the electrical permittivity and the magnetic permeability. The formula reads (in the case of EM velocity through a vacuum, and also a good approximation for air):

$$\text{velocity} = 1/\sqrt{(\varepsilon_0 \mu_0)}$$

where ε_0 is the electrical permittivity, and μ_0 is the magnetic permeability.

The permittivity and permeability are commonly known physics constants:

permittivity ε_0 = 8.85418782 e-12 farads/meter

permeability μ_0 = 1.2566370614 e-6 henrys/meter

[D. Lide, ed., *Handbook of Chemistry and Physics,* 76th ed., (CRC Press, 1995), p. 1-1].

Applying these constants in the above formula indeed results in the velocity of light through a vacuum: 299,792,458 meters per second. Having this velocity figure makes it possible to compute

electromagnetic frequencies (if the wavelength is also a known factor).

However, the next question arises: do electromagnetic waves travel through biological tissue at this velocity? Perhaps a new velocity can be computed from the formula above, using values for permittivity and permeability through biological media.

A representative figure for permittivity (ε) through body tissue is: 71 e-12 farads/meter. [See E. Hecht, *Physics,* Vol. 2, (Brooks/Cole Publishing Co., 1996), p. 664].

And the permeability (μ) through body tissue is for all practical purposes, the same as that of a vacuum: 1.25663706144 e-06 henrys/meter. [See R. T. Hitchcock & R. Patterson, *Radio-Frequency and ELF Electromagnetic Energies, A Handbook for Professionals,* (Van Nostrand Reinhold, 1995), chart on page 27].

Applying these numbers to the above physics formula, the result is: velocity =

1 / √ [(71 e-12 F/m) x (1.2566370614 e-06 H/m)] = <u>105,868,288.9 meters per second</u> as a representative velocity of electromagnetic energy through body tissue.

How does this figure compare with that of the speed of light through a vacuum?

Putting these two figures into a ratio gives:

299,792,458 meters per sec. / 105,868,288.9 meters per sec. = 2.831749347

If that ratio is divided in half, the result is 1.4158747, *extremely* close to 1.4142136, the value for the square root of 2. The next logical step would then be to explore the use of this ratio in computing possible frequencies for use in conjunction with body tissue (i.e., multiplying a frequency obtained with speed-of-light velocity by the square root of two).

The possible low-octave DNA resonant frequency for the Rubella virus (using the speed of light velocity) was 164.23045 hz, and multiplying that number by √ 2 = <u>232.256 hz</u>. (The frequencies that are arrived at using the √ 2 multiplier will henceforth be referred to as a "debilitating frequency" or the specification 'df').

Now if one uses the representative EM velocity through body tissue (105,868,288.9 meters per second), and recalculates the frequency associated with the Rubella viral genome wavelength (using the formula: velocity / wavelength = frequency), and then divides down by octaves as usual, one will come up with nearly the exact same frequency as would be arrived at by using the speed of light velocity, dividing the high frequency down by octaves, and multiplying the low octave by the square root of 2. (105,868,288.9 meters per sec / 3.32045 E-06 meters = 3.188371724 E+13 hz, which divided down by many octaves comes to 231.9845 hz, and is extremely close to the 232.256 hz debilitating frequency using the speed of light and √ 2 method).

Now, if we multiply the frequency 232.256 up by just one octave (x2), we get 464.5 hz. Interestingly, one of the frequencies used for Rubella with the plasma beam devices is 459 hz, only 4.5 hz away!

(Frequencies commonly used with the plasma beam devices are easily accessed via the internet. A particularly complete list is located at: www.mindspring.com/~turf/alt/elec/cfl.txt Other lists are also available).

Because the plasma beam devices present the frequencies using a square wave (which contains a very strong showing of odd-numbered harmonics), it was thought that perhaps some of the early odd harmonics (such as 3, 5, 7, 9, 11, etc.) of a currently used frequency might also show a mathematical correlation with the DNA debilitating frequency suggested above. Such correlations could easily be determined using a computer spreadsheet. Here is one such example.

One of the frequencies used for "general" measles is 745 hz. Its 5th harmonic falls at 3725 hz (745 x 5 = 3725), which when divided down by 4 octaves (divide by 16) gives 232.8 hz. This is extremely close to the above debilitating frequency of 232.256 hz.

One could also look at it in this manner: multiplying the original DNA debilitating frequency up by four octaves, 232.256 hz x 16 = 3716.1 hz. This is close to the fifth harmonic of 745 hz (3725 hz). So at this juncture we might ask, *is the fifth harmonic of 745 hz hitting an octave of the DNA "debilitating frequency" as described above, or at least very close to it?*

The Rubella viral organism was used to present the basic concepts and procedures being used in this methodology. Another organism that gives even more information is Borrelia burgdorferi, which is associated with Lyme's disease.

For convenience however, the formula for finding the genome-related debilitating frequency is recapitulated:

[299,792,458 m. per sec / (# of base pairs) x (3.403846154 E-10 m.)] = frequency

which, when divided down by many octaves to the low audio range, and then multiplied by √ 2, yields a baseline "debilitating frequency".

The entire genome of Borrelia burgdorferi strain B31 contains 910,724 base pairs. Using the spacing length of 3.403846 e-10 meters, this gives us a total genome length of 3.09996 e-04 meters, which converts to a frequency (using speed of light as velocity) of 9.670835558 e+11 hz. Dividing this down by octaves into the low audio range gives us 112.58 hz, and then multiplying by √ 2 yields a debilitating frequency of 159.217 hz.

Multiplying this number up by 2 octaves (x4) gives 636.87 hz. One of the frequencies currently being used for Lyme's is 640 hz (under "hatchlings/eggs" in the frequency list website given above).

Another frequency currently used for this condition is 254 hz, and its 5th harmonic is 1270 hz, which divided down by 3 octaves (divide by 8) = 158.75 hz, almost exactly falling at the Borrelia representative debilitating frequency (abbr. "df") of 159.217 hz. Remember, it is possible that a debilitating frequency *may* occur for an organism at any octave location up and down the entire spectrum!

Yet another frequency being used for Lyme's is 432 hz and its upper octave 864 hz. The third harmonic of 432 hz = 1296 hz, which divided down by 3 octaves (divide by 8) gives 162 hz, also fairly close to the df of 159.217 hz.

Once again these are two more examples of the odd harmonics of currently used frequencies correlating with an upper octave of the debilitating frequency. It could also help to initially explain why more than one audio frequency is effective at targeting an organism.

At this point it also must be stated, there will always be variation in nature, now and forever. Organisms constantly adapt to their surroundings, and this is reflected in (or initiated by) changes in their DNA structure. Therefore, one can never assume that frequencies computed on the basis of genome wavelength will always and forever give accurate, hard and fast results. The numbers should be used only to guide us into the ballpark, so to speak.

Another aspect of Borrelia burgdorferi that turns out to hold considerable interest is that of the plasmids that the organism harbors. Plasmids are small, freely-circulating independent pieces of usually circular DNA that often (but not always) program information relating to the pathogenicity or virulence of the organism, and are present in nearly all (if not all) types of bacteria. After looking at the base pair information of 11 Borrelia plasmids thus far, the following frequency correlations have shown up (to save time and space, the entire mathematical procedure will be shortened):

1. **Plasmid cp26 containing 26,498 base pairs. Debilitating frequency (df) is at 171 hz, one octave up is at 342 hz, near currently used Lyme frequencies of 338 and 344 hz.**
2. **Plasmid cp9 containing 9386 base pairs, df is at 241.4 hz, one octave up is 482.8 hz, near currently used frequencies of 484 and 485 hz.**
3. **Plasmid lp28-1 containing 26,921 base pairs, df is at 168.3 hz, one octave up is 336.6 hz, very near currently used frequency at 338 hz.**
4. **Plasmid lp28-2 containing 29,766 base pairs, df is at 152.2 hz, next 2 octaves up are at 304.5 and 608.9 hz, near the currently used frequencies of 306 & 610 hz.**
5. **Plasmid lp28-3 containing 28,601 base pairs, df is at 158.4 hz, two octaves up falls at 633.6 hz, near the currently used frequency of 630 hz.**
6. **Plasmid lp28-4 containing 27,323 base pairs, df is at 165.8 hz, two octaves up falls at 663.4 hz, near the currently used frequency of 667 hz.**
7. **Plasmid lp36 containing 36,849 base pairs, df is at 245.9 hz, one octave up falls at 491.9 hz, near the currently used frequency of 495 hz.**
8. **Plasmid lp54 containing 53,561 base pairs, df is at 338.4 hz, one octave up falls at 338.4 hz, almost exactly the same as the currently used frequency of 338 hz.**

Other organisms showing interesting correlations follow. This is only a brief overview of these organisms, and other correlations may well show up in the future.

<u>Hepatitis C virus</u>

Containing 9448 base pairs, the df is at 239.8 hz, one octave up falls at 479.6 hz, near the currently used 477 hz listed under "Hepatitis, general" on aforementioned website.

<u>Hepatitis delta factor</u>

Listed twice at 1672 and 1679 base pairs, at an average of 1676 base pairs the df falls at 169 hz, one octave up is at 338 hz, near the hepatitis B currently used frequency of 334 hz. Hepatitis delta factor is known to be associated with hepatitis B.

<u>Cancer-related viruses</u>

Many researchers using rife-related plasma beam technology have been focusing upon a frequency area between 2000-2200 hertz in conjunction with cancer volunteers. Here are some viruses with numbers that relate to this range:

Murine Friend leukemia virus contains 8323 base pairs, and has a df of 272.2 hz. Multiplied up by three octaves (x 8), this gives us a higher df at 2177.7 hz.

A different murine leukemia virus contains 8332 base pairs, has a df at 271.9 hz, which taken up three octaves falls at 2175.4 hz.

Bovine leukemia virus has 8714 base pairs. Its df is at 260 hz, taken up three octaves gives 2080 hz.

Simian sarcoma virus has 8785 base pairs, has a df of 257.9 hz, multiplied up three octaves gives us 2063.2 hz.

The Rauscher murine leukemia virus contains 8282 base pairs, which yields a df at 273.6 hz. Three octaves up falls at 2188.5 hz.

There are various strains of T-cell lymphotropic virus, known to be associated with T-cell leukemia and lymphomas. For four of these strains, the upper-octave df numbers are at 1998.8 hz, 2022.9 hz, 2024.7 hz, and 2157.8 hz.

Fujinami sarcoma virus: If we were to use a frequency of 2163.2 hz in the beam device, its 7th harmonic (15,142.4 hz) is an exact higher octave of the low-octave df for this virus at 236.6 hz.

Abelson murine leukemia virus: If a frequency of 2050.1 hz is used in the beam device, its 3rd harmonic (at 6150.3 hz) is a higher octave of its low df at 192.2 hz.

Moloney murine sarcoma virus: If a frequency of 2071.6 hz is used in the beam device, its 3rd harmonic (at 6214.8 hz) is a higher octave of its low df at 194.2 hz.

Rous sarcoma virus: If a frequency of 2152.2 hz is used in the beam device, its 7th harmonic (at 15,065.4 hz) is a higher octave of its low df at 235.3939 hz.

Simian virus 40, strain K661: If a frequency of 2012.3 hz is used in the beam device, its 7th harmonic (at 14,086.1 hz) is a higher octave of its low df at 220.1 hz. Note also that two octaves up from 220.1 hz (x 4) gives us 880.4 hz, near the commonly used frequency of 880 hz.

It should be mentioned that not all cancer-related viruses have numbers falling into the 2000-2200 hertz range (using this methodology of calculating frequencies). A number of other cancer-related items are discussed in the next section which addresses oncogenes and proteins, etc.

<u>Chlamydia trachomatis</u>

Containing 1,042,519 base pairs, the df is at 278.1 hz, three octaves up is 2224.9 hz, near the currently used frequency of 2213 hz.

<u>Chlamydia pneumoniae</u>

Containing 1,230,230 base pairs, the df would be at 235.7 hz, one octave up falls at 471.5 hz, near a currently used frequency 470 hz for multiple sclerosis, a condition now being associated with Chlamydia pneumoniae bacteria.

A frequency also being used for multiple sclerosis is 624 hz. The 3rd harmonic of this number is at 1872 hz which, when divided down by 2 octaves falls at 468 hz, also near the df octave at 471.5 hz.

Furthermore, a frequency used for arteriosclerosis is 1500 hz. The 5th harmonic of this frequency is at 7500 hz which, if divided down by 4 octaves (divide by 16), = 468.75 hz, also near the df octave at 471.5 hz. Chlamydia pneumoniae is now considered to be associated with this condition.

<u>Bacillus subtilis</u>

With 4,214,814 base pairs, the df for this organism is at 275.225 hz. A frequency currently being used for many infectious conditions is 880 hz. The 5th harmonic of 880 is 4400 hz, which if divided down by 4 octaves = 275 hz, nearly equal to the df of 275.225 hz.

<u>Coxsackie virus, strain B6</u>

At 7398 base pairs, the df falls at 306.3 hz. A currently used frequency used for this virus (associated with mumps) is 814 hz. Its 3rd harmonic of 814 is 2442 hz which, when divided down by 3 octaves, = 305.25 hz, near the df of 306.3 hz.

Another frequency listed for this strain is 488 hz. Its 5th harmonic is 2440 hz which, when divided down by 3 octaves, = 305 hz, almost exactly matching the df.

<u>E. coli strain K-12 MG1655</u>

With 4,639,221 base pairs, the df is at 250.04 hz. A currently listed frequency for E. coli is 333 hz. The 3rd harmonic of this number is 999 hz which, when divided down by 2 octaves, gives 249.75 hz, almost exactly the same as the df of 250 hz for this strain of E. coli.

Another listed frequency for E. coli is 802 hz. Its 5th harmonic is 4010 hz which, if divided down by 4 octaves, equals 250.6 hz, also near the df of 250.04 hz for this strain.

And two additional listed frequencies for this organism are 282 and 289 hz. Taking the average of these 2 numbers for simplicity (285.5 hz), the 7th harmonic falls at 1998.5 hz which, if divided down by 3 octaves, equals 249.8 hz, ALSO near the df of 250 hz for this strain.

It may be apparent to the reader by now that this comparative approach to analyzing the frequencies in current use with plasma beam devices shows enough promise to warrant further research. To that end, a spreadsheet database has been assembled containing as much of the currently available complete genome information as possible, with all pertinent mathematical wavelength and frequency calculations. It is hoped that a way will be found to make this database available to all researchers as soon as possible.

At this juncture, the bad news is -- that considering the huge number of species of bacteria and viruses, complete genome information is available for relatively few organisms (nearly 400 are in the aforementioned database at this time). There is good news however, and that concerns the thousands upon thousands of items available containing base pair coding information for such items as bacterial outer membrane proteins, viral capsid proteins, oncogenes, allergenic and antigenic genes, etc. All of which brings us to the next section.

Section 2. Genes and Gene Fragments.

Because of the intense interest in cancer-related issues, much of the discussion in this section will focus upon the molecular biology behind the various types of cancer. The following texts offer a respectable start on the various oncogenes, growth factors, proteins, and enzymes involved in cancerous activity:

V. DeVita M.D., S. Hellman M.D., & S. Rosenberg M.D., *Cancer: Principles & Practice of Oncology,* 4th ed., (Lippincott, 1993), ISBN 0-397-51214-7.

D. Glover & B. Hames, *Oncogenes,* (Oxford Univ. Press, 1989), ISBN 0-19-963034-8.

Another very approachable text that is not as advanced:

D. Prescott & A. Flexer, *Cancer The Misguided Cell,* (Sinauer Associates Inc., 1986), ISBN 0-87893-708-0. (Especially recommended is chapter 4, titled "The Genetic Basis of Cancer").

The base pair information for various metabolic cancer-related items can be found at:

http://www.ncgr.org/gsdb/maestro/index.html or

http://www.ncbi.nlm.gov/Entrez/protein.html

The frequencies for the following items were calculated in the same manner as presented in section 1 of this paper. The descriptions of selected items are stated below exactly as listed at the first website above (Gene Sequence Data Bank or "maestro" site). Once again the correlations in the 2000-2200 hertz area will be focused on, although a number of other items do show "debilitating frequencies" (df) outside of that range. Due to time and space constrains, this forum will not be used to give explanations of the physiological activity of these items.

If any researchers would like to access these individual items at the maestro site, the Gene Sequence Data Bank (GDSB) accession numbers are given in brackets after each item below. This will enable one to tap into the appropriate journal articles for further exploration. More information on how to use the database is at the end of this section.

Some examples are:

Human mRNA (messenger RNA) encoding the c-myc (cellular-myc) oncogene: 2121 base pairs, df upper octave is at 2136.4 hz. [1033905]

Human int-1 mammary oncogene: 4522 base pairs, df upper octave is at 2004.1 hz. [1032735]

Yeast DNA homologous to human c-myc: 266 base pairs, df octave at 2129.4 hz. [1025954]

Human germ line n-myc (nuclear myc) gene: 8762 base pairs, df octave at 2068.6 hz. [994578]

Human bcl-1 (oncogene) mRNA: 4221 base pairs, df octave at 2147 hz. [129858]

Homo sapiens tyrosine kinase (ELK1) oncogene mRNA: 2266 base pairs, df octave at 1999.7 hz. [87570]

Homo sapiens acute myeloid leukemia associated protein (AML1) mRNA: 1025 base pairs, df octave at 2210.4 hz. [18519]

Murine L-myc (lung-associated myc) gene: 8316 base pairs, df octave at 2179.6 hz. [663149]

Human ret proto-oncogene mRNA for tyrosine kinase: 4508 base pairs, df octave at 2010.4 hz. [995521]

H. sapiens mRNA for growth factor receptor tyrosine kinase: 4230 base pairs, df octave at 2142.5 hz. [1030202]

H. sapiens flt-4 mRNA for transmembrane tyrosine kinase: 4450 base pairs, df octave at 2036.6 hz. [1030019]

Human mRNA for tyrosine kinase: 3151 base pairs, df octave at 2876.1 hz. [737680]

Pausing for a moment here...this last item is not in the 2000-2200 range! The number 2876 could however be of interest to researchers, because the frequency that Royal Rife used in his cancer trials (11,780,000 hertz), if divided down by octaves to the audio range, falls at 2876 hz. If the above item is truly the messenger RNA coding for the enzyme tyrosine kinase in the human body (as opposed to the entire trans-membrane protein that *contains* tyrosine kinase), perhaps Rife was affecting this enzyme, which is known to be involved in the metabolism of almost all cancers at the cellular membrane level.

To continue:

Human tyrosine kinase-type receptor (HER2) mRNA: 4530 base pairs, df octave at 2000.6 hz. [134894]

Homo sapiens receptor protein tyrosine kinase (TEK) mRNA: 4138 base pairs, df octave at 2190.1 hz. [3961]

Human mRNA for mutated p53 transformation suppressor gene: 1179 base pairs, df octave at 960.842 hz. [994727]

Another occasion for pause: the 3rd harmonic of this df (960.842 hz) falls at 2882.5 hz, very close to the Rife-related 2876 hz mentioned above. P53 protein is normally present in the human body and suppresses uncontrolled growth patterns. If it becomes mutated, however, it no longer is able to perform its task properly.

Human p53 gene, promoter region: 532 base pairs, df octave at 2129.4 hz. [116460]

Human erbB2 (oncogene) coding for gp30 (glycoprotein 30), from breast cancer cells, mRNA: 2164 base pairs, df octave at 2094 hz. [5521898]

Interestingly, if one goes to a lower octave df of this item at 261.75 hz (2094/8), the 11th upper harmonic of this falls at 2879.3 hz, also near the Rife-related 2876 frequency.

Human c-erbB2 (cellular erbB2) proto-oncogene, promoter region: 539 base pairs, df octave at 2101.7 hz. [78862]

Avian erythroblastosis virus v-erbB (viral erbB) oncogene: 2091 base pairs, df octave at 2167.1 hz. [119885]

Human telomere-associated repeat sequence: 2111 base pairs, df octave at 2146.5 hz. [90172]

Human phospholipase C mRNA: 4242 base pairs, df octave at 2136.4 hz. [89470]

Human PKC (protein kinase C)-alpha mRNA: 2245 base pairs, df octave at 2018.4 hz. [994989]

Human mRNA for heparin-binding growth factor-1 (acidic fibroblast growth factor): 2259 base pairs, df octave at 2005.9 hz. [1031095]

Human heparin-binding growth factor-1, exon 1: 1082 base pairs, df octave at 2094 hz. (Yes another df at 2094 hz!) [113217]

H. sapiens fibroblast growth factor-6 gene: 1032 base pairs, df octave at 2195.4 hz. [1029958]

Human mRNA for fibroblast growth factor-9: 1420 base pairs, df octave at 2127.4 hz. [737723]

Human colorectal mutant cancer protein mRNA: 4181 base pairs, df octave at 2167.6 hz. [127860]

Murine sarcoma virus (Harvey strain) H-ras transforming p21 gene: 1042 base pairs, df octave at 2174.3 hz. [1010119]

As mentioned in section 1, it is possible that some of the odd harmonics of currently used "cancer" frequencies may be matching the debilitating frequency of certain items at some octave. An examination of the mathematical correlations in the database indeed shows this to be the case with many items. While space considerations make it impossible to show them all, here are a few representative listings:

Human K-ras oncogene: 5775 base pairs, df at higher octave is at 6277.2 hz. The 3rd harmonic of 2092.4 hz equals that same frequency (2092.4 x 3 = 6277.2 hz.) [88631]

Human gastrin-releasing peptide mRNA: 797 base pairs, df at high octave is at 22,742.5 hz. The 11th harmonic of 2067.5 hz equals that same frequency. [134891]

Homo sapiens mRNA for insulin-like growth factor 1A precursor: 725 base pairs, df at higher octave is at 6250.2 hz, and the 3rd harmonic of 2083.4 hz equals that same frequency. [1031572]

Human mRNA for precursor of epidermal growth factor: 5532 base pairs, the df at a higher octave is at 6552.9 hz, and the 3rd harmonic of 2184.3 hz equals that same frequency. [632731]

Human mRNA for kidney epidermal growth factor precursor: 4871 base pairs, df at a high octave is at 14,884.1 hz, and the 7th harmonic of 2126.3 hz equals that same frequency. [632741]

Human epidermal growth factor receptor (erbB3) mRNA: 4879 base pairs, the df at a high octave 14,859.6 hz, and the 7th harmonic of 2122.8 hz equals that same frequency. [78825]

Human mRNA for insulin-like growth factor I receptor: 4989 base pairs, df at high octave is 14532 hz, and the 7th harmonic of 2076 hz equals that same frequency. [1031587]

Available examples from other organisms or conditions include the following:

Avian sarcoma virus, proviral c-src (cellular-sarcoma) & envelope genes: 5188 base pairs, df at a medium range audio octave is 1746.9 hz. [18722]

The frequency list often used by researchers gives a frequency at 1744 hz for "cancer, fibrosarcoma".

Atherosclerosis, human apolipoprotein C-3 gene, promoter region: 1435 base pairs, df octave is at 789.4 hz. [127250]

The frequency list gives 787 hz for arteriosclerosis.

Atherosclerosis, mRNA for apolipoprotein B-100 : four different listings for this item list the number of base pairs at 14121, 14112, 14070, and 13993. These result in debilitating frequencies respectively at 641.8, 642.2, 644.1, and 647.7 hz. [1033314, 630292, 112078, and 132959 respectively].

The frequency list also gives 20 hz for arteriosclerosis, an upper octave of which is 640 hz, which is close to all of the above df frequencies.

Malassezia furfur fungus, mRNA for potential allergen: 628 base pairs, df is at 225.5 hz. [3372810]

The frequency list gives 225 and 222 hz for this organism.

Malassezia furfur fungus, mRNA for potential allergen similar to cyclophilins: 573 base pairs, df octave is at 494.3 hz. [3372807]

The frequency list also gives 491 hz for this organism.

Another M. furfur mRNA for allergen similar to Mal f2 & Mal f3: 572 base pairs gives a df octave at 495.1 hz, also close to the 491 hz just mentioned. [3372806]

Borrelia burgdorferi outer surface protein A (ospA) precursor gene: 822 base pairs, df falls at 344.5 hz. [2187964 & 2187961]

The frequency list gives 344 and 690 hz (nearly exact upper octave) for Lymes disease.

Borrelia burgdorferi immunodominant antigen p39 gene: 1128 base pairs, a df octave is at 1004.3 hz. [3599896]

The same list gives 1000 hz for lyme (hatchlings/eggs).

Borrelia burgdorferi lipoprotein (M30) gene associated with its plasmid lp28-1:

1183 base pairs, a df octave is at 478.8 hz. [3362642]

The frequency list gives a nearby number at 484 hz.

Hepatitis C virus, a microtubular aggregates protein gene: 447 base pairs, a df octave is at 633.6 hz. [737817]

The list gives 633 and its lower octave 317 hz as frequencies for hepatitis C.

And finally we come to our friend Paramecium caudatum. A hemoglobin major component gene is listed at 981 base pairs, which gives a df octave at 1154.8 hz. [446]

Many readers are familiar with the 1150 hz frequency which some researchers have used to debilitate this organism.

For those that would like to do similar research, here are some hints for using the Gene Sequence Data Base "Maestro" website:

Go to: http://www.ncgr.org/gsdb/maestro/index.html

The page that appears will prompt you to select a search field. Click on the arrow to see the available fields, choose the field you want to use, and then type in the necessary information in the box that says "enter term". The search fields most often used by this writer were:

Organism (except for viruses, scientific Latin names are necessary, such as Helicobacter pylori).

Keyword (for example, "apolipoprotein B"; or "myc oncogene"; or "adenocarcinoma"; or the name of an enzyme...etc).

Gene Name

GSDB Accession: this is the field one uses to enter the number that accesses a particular record, as with the numbers given in brackets in the examples above. Be sure to type the letters and colon marks in the following line:

GSDB:S:

and then the number immediately after the last colon.

Be forewarned that if you enter an organism name, the data base might pull many document records. For instance, entering "Helicobacter pylori" accessed over 800 records!

Once the record(s) appears, the first line gives the GSDB accession number, and then the next line gives a brief description of the item. In the line just below that, there will be some codes, and after the second forward slash will be given the number of base pairs for that item (for example, 2259bp...with no space in between the number and the letters bp, which stand for base pairs).

If one wants more detailed information about the item listed, go to the next line and click on "View GSDB Flatfile", or "View IC Flatfile". The page that comes up will give you possibly more information than you ever wanted to see, but it most often includes where to access the journal article(s) on said item, as well as a Medline accession number if available.

Section 3. Resonance of Atoms & Molecules.

The possibility that atoms and molecules give off frequency signals that can be co-resonated is being given more and more attention by certain scientists working in this field. A very readable introduction to this subject was written by the French physicist Jacques Benveniste, and is accessible on the internet at:

http://www.digibio.com/cgi-bin/node.pl?nd=n3
http://www.digibio.com/cgi-bin/node.pl?nd=n5

Benveniste states at the second website that "it is well documented that molecules emit specific frequencies." He is also performing documented research that links into the frequencies of certain molecules using audio sound (see other links at above sites for more information and journal references). However, Benveniste does not state exactly which mechanism(s) he is tapping into (i.e., bond frequencies, frequencies associated with mass, nuclear resonance, electron resonance, or other possibilities).

Another French physicist named Joel Sternheimer is also using audio sound to resonate molecules. An article in New Scientist magazine (May 28, 1994, p.10), titled "Good vibrations give plants excitations", briefly describes his work, as do a number of websites. For purposes

of this discussion, investigators are encouraged to look at the following sites:

http://www.bekkoame.or.jp/~dr.fuk/Chikuma2E.html
http://www.bekkoame.or.jp/~dr.fuk/Series7E.html

While Sternheimer likewise does not state which molecular resonance mechanism he is tapping into, there is a clue in the New Scientist article and internet links that is worth examining.

In each of these sources, there is a musical staff with notes on it. Underneath each note is a capital letter. These letters are symbols for an amino acid. Sternheimer is using a certain note for each individual amino acid, as given in these examples. But on what basis does he make this association?

There is a relationship between mass and frequency that can be looked at. If one goes to the physics formula that converts atomic or molecular weight to frequency, we are given:

frequency = (atomic or molecular mass) x (a constant)

Please see the table of "Energy Conversion Factors" in D. Lide, ed., *Handbook of Chemistry and Physics,* 76th ed., (CRC Press, 1995), on page section 1-5. In the far left hand column is given various energy units that can be converted to other types of energy units, including frequency. For these purposes we are interested in the symbol "u", which means atomic or molecular mass. When that line is followed across to the far right column which is labeled "Hz", there is given a conversion number:

2.25234242 e+23

Therefore, to convert an atomic or molecular mass ("u") to frequency, we would multiply the mass by the above conversion number.

Is this the mechanism that Joel Sternheimer is using in his work with sound? Looking at the first musical note "A" in the New Scientist article, it has the letter "M" underneath it, which is the symbol for the amino acid methionine. Its molecular weight is 149.2139, which, when multiplied by the above constant to convert to frequency, yields a result of:

3.360807966 e+25 hz

When this extremely high frequency (at the very highest end of the electromagnetic spectrum) is divided down by octaves to the very

bottom of the spectrum in the audio range, (i.e., doubling the wavelength many many times), we come to a frequency at 444.8 hertz, which is indeed a musical note "A", as seen on the musical staff in this article. Analysis of all the succeeding notes and correlating amino acids shown in this musical example reveal the same pattern: Sternheimer indeed seems to be using a mass-to-frequency conversion correlation, and then dividing down by octaves all the way from one end of the spectrum to the other, to achieve his aim of stimulating the action of certain molecules, proteins, and enzymes.

Now if anyone tries this mathematical computation, you will soon find out that it will take what seems like half a day to divide down by octaves from the top end of the spectrum to the audio range of the spectrum, especially if you are dividing by 2's. One can use a larger divisor, such as 4096 (2 to the power of 14), to achieve these results more quickly.

However, there is an even faster shortcut! One can simply take the atomic or molecular weight, and multiply it by the constant 1.4904752, to get a representative frequency in the audio range. This researcher, after having used the long process many times, now uses this constant to get the same results a LOT faster.

Incredible as it may seem that frequencies at the very *top* end of the electromagnetic spectrum can be "signaled" from the very *bottom* end of the spectrum, this indeed seems to be what Sternheimer is doing, and he does get results. At this juncture we must ask, however, what type of wave is he using? Would this technique work with the square wave that plasma beam researchers are using? Keep in mind that this technology has been specifically developed to debilitate rather than stimulate certain things. Or would a sine wave tend to stimulate and a square wave debilitate? Only further research will shed more light on these questions.

Furthermore, would applying the square root of 2 relationship (as described in section 1 of this paper) be a possible mechanism to debilitate certain molecules?

While much more research needs to be done on this aspect of using frequencies to affect molecules in some way, here are a few examples that may shed some light on the possibilities.

Many bacteria need a constant source of the element iron to survive in living tissues. In fact, they have developed mechanisms to rob the body of this element from its more complex molecules. Could sending a "debilitating" frequency associated with iron possibly serve to "scramble" a frequency signaling mechanism for bacteria?

The atomic mass of the most common isotope of iron is 55.9349. (Iron-56 has a prevalence in nature of 91.72%). To arrive at its frequency association, multiply it by the constant 1.4904752, which gives a result at 83.3696 hz. To theoretically debilitate, multiply by √ 2, which gives us 117.9024 hz. If we multiply this number up by two octaves (x4), the result is 471.6 hz.

Interestingly, high levels of iron have been recently associated with atherosclerosis and alzheimers disease. The bacteria chlamydia pneumoniae has also been associated with both of these disease conditions. The debilitating frequency found separately for chlamydia pneumoniae (see section 1), was at a certain octave found to be 471.5 hz, only a tenth of a hertz away from the theoretical iron df of 471.6 hz! Is this just a coincidence? Or is there indeed some signaling mechanism occurring?

Other interesting atomic and molecular items include:

Uranium-238:

The atomic mass of 238.0508, when multiplied by 1.4904752, equals 354.776, which gives the mass-to-frequency association. To "debilitate", multiply by the square root of 2, which yields 501.775 hz. If one multiplies this number up by 2 octaves (x4), the result is 2007.1 hz, which definitely falls in an area of interest to cancer researchers.

Plutonium-239:

Applying the same method to its atomic mass of 239.05216, one arrives at a high octave df of 2015.5 hz.

For accurate atomic masses of all isotopes, and their relative abundances in nature, see Lide, *CRC Handbook of Chemistry and Physics,* page section 1-10. Furthermore, if we are intending to compute accurate molecular weights of molecules for ultimate conversion to frequency, it will probably be necessary to calculate them using the most abundant isotopes for all the elements in that particular molecule, rather than the commonly used atomic weights. (The atomic weight for any one element is actually an average of all its isotopes). This writer's suspicion that this will be a necessary step in computing mass-to-frequency relationships was confirmed by an unsolicited comment from a colleague in the field of physical chemistry who is interested in plasma beam technology.

Taking a look at a simple example, the molecular formula for chloroform (a by-product of chlorinated water) is $CHCl_3$. [Molecular formulas can be obtained from S. Budavari, ed., *The Merck Index,* 12th

ed., (Merck & Co., 1996), ISBN 0911910-12-3, as well as from other sources]. For chloroform, see the 1996 edition Merck Index entry #2193.

For the atomic mass of the first element (carbon) in this formula, the most abundant isotope of carbon-12 should be used, as it has a presence in nature of 98.9%, with an atomic mass of 12.000.

The next element (hydrogen) has its most common isotope as hydrogen-1, with a presence in nature of 99.985%, and an atomic mass of 1.007825.

The last element (chlorine) presents a problem. The isotope chlorine-35 has an abundance in nature of 75.77% with an atomic mass of 34.969; and its other form chlorine-37 has an abundance in nature of 24.23% with an atomic mass of 36.966. So which figure do we use when calculating the correct atomic mass of this molecule? Well...it may just be wise to figure it both ways!

Using the chlorine-35 isotope, the total atomic mass for the molecule comes to 117.914, which converts to a debilitating frequency at 248.546 hz, and has an upper octave at 1988.4 hz.

Using the chlorine-37 isotope, the total atomic mass for this version of the molecule comes to 123.9055, which converts to a debilitating frequency at 261.1743 hz, an upper octave of which is at 2089.4 hz.

By way of comparison, if we had used the *average* atomic weight of chlorine (35.4527) to calculate our numbers, the molecular weight would have been 119.3770, the df would have been 251.63 hz, the upper octave of which would have been at 2013 hz. For frequency purposes, this is nowhere near the numbers arrived at using the isotopic-calculation method.

This procedure sounds much more complicated in prose text form than it needs to be in practice. Once again, a simple spreadsheet can be set up with the accurate isotopic atomic masses for each element. All that would need to be entered would be the number of atoms in the molecular formula for each isotopic element, and let the computer do the multiplying and addition to arrive at a highly accurate atomic mass figure, which can then be used to calculate the frequency conversion.

To continue with a few more pertinent examples:

Propyl alcohol, the alcohol mentioned so often by Hulda Clark as being related to cancer-causing factors [1996 Merck Index entry #8027]:

Accurate atomic mass for this molecule (C_3H_8O) is 60.0575, which yields a df at 126.5922 hz. Multiplying up by several octaves gives us 2025.5 hz.

Antimony:

The isotope of antimony-121 has an abundance in nature of 57.36%, and an atomic mass of 120.9038. Some will recall antimony used to be added to the fabric of children's sleepwear as a fire retardant. The atomic mass will yield a df at 254.847 hz, with an upper octave of 2038.8 hz.

Benzo[*a*]pyrene [1996 Merck Index entry #1134]:

This chemical is considered the major carcinogenic molecule in cigarette, coal, and other sources of smoke. The chemical formula is $C_{20}H_{12}$, and an accurate atomic mass figure for this molecule is 252.0939. This yields a df of 531.376 hz, and an upper octave of this number falls at....2125.5 hz....cancer researchers will find that correlation of particular interest, no doubt!

2,4,5-T, the toxic chemical contained in "Agent Orange" [1996 Merck Index entry #9194]:

This chemical also contains the element chlorine (as do many pesticides and herbicides), and has a chemical formula of $C_8H_5Cl_3O_3$. To calculate the df frequency taking into consideration both major isotopes of chlorine:

Using Cl-35, the atomic mass is 253.930384, the df is at 535.247 hz, and an upper octave is at 2141 hz.

Using Cl-37, the atomic mass is 259.9215, the df is at 547.876 hz, and an upper octave falls at 2191.5 hz.

Another area of possible interest may consist of focusing on the smaller molecular components of the bacterial cell wall or protective cellular capsule. For information on some of these components, see Neidhardt, F., et al, *Physiology of the Bacterial Cell, A Molecular Approach,* (Sinauer Associates, 1990), ISBN 0-87893-608-4.

As an example, muramic acid is described in the Merck Index (1996 entry #6384) as an "amino sugar found in peptidoglycan, the main

skeletal component of the bacterial cell wall." With an accurate atomic mass of 251.2365, the df is at 529.28 hz, with a higher octave at 2117.13 hz.

Can this method also be used on large molecules with molecular weights in the thousands, such as cancerous growth factors, etc.? Taking a quick look at acidic fibroblast growth factor-1 [1996 Merck Index entry #4117] with an approximate molecular weight/atomic mass of 15,900 daltons, the df logs in at 33,514.8 hz, which taken down to an octave in the audio range gives 2094.7 hz. This interesting correlation perhaps gives us reason to look more closely at this approach as well!

In conclusion, since human cellular homeostasis is dependent upon the correct balance of minerals and water, it would follow that programming ultra-pure water molecules with harmonic mother-earth (i.e. mineral) frequencies would result in a tremendously superior water that may well exhibit incredible healing properties. Using the shortcut theorem for calculating frequencies, the following mineral hertz frequencies, with highly beneficial resonance to the human cell genome can be established: (Molecular weights taken from Merck Index, Volume 13)

1. **Boron – 16.112037 hz**
2. **Calcium – 59.738246 hz**
3. **Cesium – 198.0922 hz**
4. **Chromium – 77.4987485 hz**
5. **Cobalt – 87.838473 hz**
6. **Copper – 94.713737 hz**
7. **Germanium – 108.193595 hz**
8. **Gold – 293.57368 hz**
9. **Iodine – 189.14801 hz**
10. **Iridium – 286.499143 hz**
11. **Indium – 171.133381513 hz**
12. **Iron – 83.23856849 hz**
13. **Lithium – 10.3453883 hz**
14. **Magnesium – 36.225999 hz**
15. **Manganese – 81.88372653 hz**
16. **Molybdenum – 142.9961907 hz**
17. **Platinum – 290.761902 hz**
18. **Potassium – 58.2750465121 hz**
19. **Selenium – 117.687922 hz**
20. **Silver – 160.7749 hz**
21. **Sulfur – 47.784634912 hz**
22. **Tin – 176.9045015 hz**
23. **Vanadium – 75.9270424008 hz**
24. **Zinc – 97.44726857 hz**

Ultra-pure water is defined in this theorem as hydrogen oxide, pyrogen free water as utilized in intravenous (IV) injections. This is medicinal grade distilled water which has been rendered free of all fever-producing proteins (i.e. bacteria and virus as well as their metabolic products.) [This is the definition of water given in the Merck Index, volume 13, page 1791.] Utilizing the above formula, the base hertz frequency of ultra pure water is 26.85835 Hz. (Water molecular weight of 18.02 X 1.4904752.)

According to the groundbreaking work of Jonathan Keeley, the master water frequency for proton precession and ultimate permeability appears to be 2025 hz (interestingly enough, this is also the df of Propyl Alcohol molecule linked to so many human disease states), with dissociation to an etheric vapor state at 42800 hz (4 octaves lower equals 2675 hz). It is my theory that subjecting an ultra-pure water molecule to the master frequency of the human body of 728 hz, followed by the 2025 harmonic in a sine wave pattern would result in human stem cell stimulation. In turn, this stimulation of stem cells will greatly empower and enhance their inherent ability to heal and repair damaged DNA/genome of diseased cells, allowing the body to eliminate specific disease states in short order. Of course, this 'healing water' theorem is also dependent on the emotions of frequency generated by an individual's brain waves. These emotions must be based in love; remembering always that emotions are also in and of themselves powerful harmonic frequencies of energy, and is a responsive factor to life-force known as spirit. These positive emotions also may well be a mitigating factor to empower the healing energy programmed into the water structure.

There appear to be 9 prime frequencies to fully empower the water molecule, (separate from Keely's 42,800 hz etheric vapor):

1. **7.83 hz**
2. **26.86 hz (the frequency of ultra-pure Hydrogen Oxide)**
3. **528 hz**
4. **620 hz**
5. **630 hz**
6. **728 hz**
7. **1410 hz**
8. **2025 hz**
9. **12000 hz**

Utilizing a commercial distiller manufactured by a company called Pure-Water Inc., ultra-pure Hydrogen Oxide is generated, then stored in a sterile stainless steel tank, which is kept at a constant 98.6 degrees F. The product is then irradiated with high intensity UV light, followed by injection of O3 (quartz generated ozone) to increase the

oxygen molecular count. Then, utilizing a square/sine wave frequency tone generator, the Hydrogen Oxide (ultra-pure water) is then subjected to harmonic frequencies of 728 hz, and 2025 hz for a period of 24 hours. The Hydrogen Oxide molecule appears to expand its mass following this process, while the surface tension of the Hydrogen Oxide appears to be reduced. The end result is a new product that I seek to trademark under the name of either AquaVivos, or H-True-O. Once this ultra-pure water is structured, mineral elements may be added to build and create a debilitating frequency for any compound or genome structure, once the molecular weight is calculated.

In summation, in addition to the work on molecular Harmonic Frequencies by Dr. Jacques Benveniste, research in the water oscillation patterns have been conducted by Drs. Wolfgang Ludwig, Enzo Ciccolo, Horst Felsch, et. al have conclusively proven that:

1. **Every atom, molecule, or substance has its own unique 'signature' oscillation pattern, or vibration, which can be measured in electromagnetic wavelengths – or hertz.**
2. **Water is a storage medium and CARRIER of this information; as a solvent it is the best known conductor of vibratory energy, with information transfer possible WITHOUT direct contact.**
3. **Water possesses the ability to store information that has been impressed upon it from a given vibration. This can be measured by the specific electromagnetic wavelengths found in water; thus even after harmful physical substances are removed (through filtration and/or reverse osmosis) their negative energy vibrational patterns or "signatures" still remain, which of course can be traced back precisely to the original substances. Therefore, the only totally 'pure' water is distilled water – which is like a blank tape – it has not been contaminated with potentially harmful frequencies.**
4. **Water can absolutely transfer such harmful (or beneficial as the case may be) information of 'memory', to other systems, including living organisms and the human body cells.**
5. **Water also retains the vibrational memory of a substance even after it is diluted beyond Avogardro's number, i.e. where absolutely no physical traces of the substance remain.**
6. **The minimum specific warmth and maximum structural potential of water is measured at 37.5 degrees C, or the 'normal' human body temperature (98 degrees F). This highly significant finding indicates that water at this temperature is at a maximum structure point to acquire a large amount of information.**