TENSEGRITY #12: THE QUANTUM CELL MEMBRANE

READERS SUMMARY

1. WHAT IS LIFE?

2. HOW DOES THE SPARK OF LIFE BEGIN?

3. HOW DO WAVES BECOME OSCILLATIONS AND VIBRATIONS?

4. IS A CELL A SPECIAL SOLID STATE TRANSISTOR THAT USES ELECTROMECHANICAL AND VISCOELASTIC FORCES?

5. HOW DID THIS SYSTEM BUILD THE CIRCADIAN BACKBONE OF LIFE?

What is life?

Life begins where the environment first meets you. This happens on the surface of a cell's membrane.

Life begins by creating wireless power transmitters in our surface membranes that work by collecting magnetic resonance and induction from our environment. This is how life becomes super charged. The technologic problem using this method for evolution is that these transmitters have poor range to share their information. The reason is because of the inverse square law says that the intensity of electromagnetic oscillations varies inversely to the distance of the emitting source. The further away our skin is worse we can transmit this energy. So how did evolution fix this? She built cell membranes that could absorb mechanical vibrations. They don't suffer from this limitation. In fact, when you harness vibrations and couple it to a piezoelectric transducers you can amplify weak signals. Piezoelectric and flexoelectric transducers convert mechanical energy into DC electric current. This ability is

amplified, if DHA is present in your membranes. Sunlight, like sound, creates vibration in atoms in the air and in cell membranes and is fully able to transfer energy and information of these oscillations. *This makes your skin and cell membranes a universal wireless charging system.* That system is fed by the magnetic field and photons of the sun. Photons are released from electrons after they are energized by the sun then fall back to the ground state by giving off a photon to our tissues. DHA is the lipid that does this most effectively.

It is this light that drives biochemical flux, and not ATP. There are about 100,000 chemical reactions happening in every cell each second. The chemical reaction can only happen if the molecule which is reacting, is excited by a photon. Once the photon has excited a reaction, it returns to the field of play in a cell and is available for more reactions at the speed of light. We evolved in an ocean of light oscillations. Since we can only see and hear a very small bandwidth of wavelengths we are blind and deaf to most of the magic that happens all around us. They occupying other wavelengths at small scales and your cell membranes do sense them. For example, if you don’t believe oscillations are capable of transferring energy, you should know that ultrasound oscillations are silent and highly energetic. They can be used to heal bones by itself. I know because I use it to do this in my clinic.

Life begins at the cell membrane level. The environment meets our cells at the cell membrane. In a cell, collagen is a biological nanowire that forms a tensegrity structural skeleton that links the cell membrane to the nucleus. It is flexoelectric and piezoelectric, and so are our cell membranes. Water makes up 99% of the molecules in a cell because it is a small sized molecule. Water is the battery of life. It is a repository for electromagnetic solar radiations. Water interacts most with the infrared (IR) part of the electromagnetic spectrum of our sun. Once infrared (IR) light

hits the water it shrinks while it increases its exclusion zone (EZ). As the EZ gets grows throughout the cell it squeezes mitochondria down in size while creating large voltages inside cells naturally. Water breaks down to a positive and negative charge when it just touches a hydrophilic substance. All proteins cary carry a negative charge and are hydrophilic. All these things in a cell touch the cell membrane at some point to make communication and transfer energy. The cell uses these large electric charges to control the hydrogen bonds in water inside and outside the cell to amplify signals in their cell membranes. This makes cell membranes very sensitive to electromagnetic fields from the environment. In fact, if the cell membrane is un-myelinated like your skin is, the cell becomes more sensitive to electromagnetic vibrations, and can act as an antenna for the cell. The stronger the electric voltage on the membrane, the stronger the antenna is to sense a magnetic field of the Earth. Theses are the givens in life's thermodynamic quantum puzzle. ***It all begins with the cell membrane.***

All living organisms are made up predominantly of dipolar molecules and dielectric molecules that are packed densely together and are extremely dynamic in their relationships to one another. They represent special solid-state systems where electromechanical and viscoelastic forces constantly interact to alter sizes and shape to control energy flows in a system that is metastable of far from equilibrium. Under these conditions, energy from the oxidation of foods, the sun's light, and the vibrations of the Earth's motion's could 'pump' up the system, resulting in collective modes of vibration to become trapped in cell membranes like a giant capacitor of energy. They key for life, is ramping up this stored energy to create subatomic particles that become coherent so that at night time when the matter in us is its most condensed we can align all those oscillations and waves to act in phase and create massive energy flows that create the spark of life in the condensed matter in us. This is precisely what a laser does. I believe the brain is 100% tied to the quantum magic of

coherent light acting upon the condensed matter in neurons to do things only life is capable of. The cell membranes of the neocortex of the human and the ones in the mitochondria are critical. Where else? In the nuclear membrane that houses nucleic acids. The energies arising from cellular oxidation and phosphorylation can be retained or stored in the system by the excitation of the giant dipolar molecules in cells such as proteins and nucleic acids. It explains why DNA only codes for proteins. Today's blog is about cell membranes. Our cellular membranes typically have an enormous electrical field of some 10^7 V/m across them.

So how do I see it happening?

The Brain Gut 2 blog post introduced you to how eukaryotes have used viral elements to innovate solutions out of the thin air using the vibrations and oscillation that dance all around us. Virus's are all made by sun's light, while swimming in the high dielectric constant of liquid water, fed by billions of years of infrared light by hydrothermal jets at the bottom of the oceans. All this went on the top layers of the ocean, while full visible light from the sun baked the top layers with a myriad of light frequencies. *These interactions slowly but steadily innovated novel chemicals, proteins, and lipids, that began to use these different frequencies using quantum mechanisms.* Virus's are not considered 'alive', but they formed the shells of what would later innovate life and allows it to tell time. That time is called circadian time. It gave biology its arrow of time.
The thermodynamic world has to touch the quantum world in order to animate itself. The backbone of this operation is how electrons and protons interact fundamentally is how that spark of life happens. Autocatalysis lead to RNA like molecules which were the first Quibit molecules capable of proton tunneling using tautomers. RNA ribosome proteins became encapsulated with a viral vesicle and particle created out of the thin air of the day in the earth's past much like the wood

of a tree is created from carbon dioxide losing an oxygen to make the biomass of a tree. This created a proto-cell. The remnant of inanimate life remains today in viral particles. The other remnant is present in our DNA as retrotransposons. We still use part of our viral history to innovate life from the primordial elements within us using light even to this very day.

It seems counterintuitive to think life could spring from a non living virus, but most cells in adults also don't replicate, yet are considered alive. RBC and neurons being classic examples. That queer ability translates to the macroscopic world too, in people like Buddhist and Catholic priests, and homosexuals, doesn't it? Self replication is necessary for survival, but it is not a mandatory property of life. *This makes viral marketing quite interesting from the quantum perspective.* Viral particles are the only bio-mimetic structure nature has produced so far, that is capable of self emulating life. For life to live, and become complex it must be able to sustain a living state. All viral particles so far to date, have met this requirement. Viruses also have proven to be successful in navigating the observable world and dominating in the thermodynamic storms of the oceans. The spark of life science is looking for seems to unite the thermodynamic and quantum world by allowing proto-cells to organize into zero entropy systems using the three key elements of light, magnetism, and water chemistry.

The spark life needed likely came from an electric spark or a **magnetic flux force**. Why do I believe this? Both are used in all three kingdoms of life to a differing degree. Their energy efficiency is tied to how they generate energy across cell membranes using solar power. Cell membranes can be thought of as the wires that life uses to initially capture and store solar electromagnetic waves. They are like antenna's, in this sense. The construction of these membranes is what really separates the kingdoms of life when you look at them carefully. The laws of electromagnetic induction were set forth by Faraday and formalized mathematically by Maxwell.

Maxwell reasoned that moving charges in a wire would give rise to an electric field surrounding the wire. This electric field would induces a magnetic field at 90 degrees. The induced magnetic field in turn, can and could induces another electric field, which induces a further magnetic field, and so on. This can continue on indefinitely based upon how much charge can be stored in a membrane. *This ability radically changed from prokaryotes and archea and eukaryotes because of the presence of DHA in eukaryotic organisms.*

Circadian rhythms of melatonin and cortisol are therefore aligned with the solar cycle to promote sleep during the night and wakefulness during the daytime in mammals. At the cellular level, genes involved in lipid synthesis and fatty acid oxidation are rhythmically activated and repressed by core clock proteins in a tissue-specific manner in eukaryotes. *Consequently, loss of clock gene function or misalignment of circadian rhythms with feeding cycles (e.g., in shift work) results in impaired lipid homeostasis.* The key parts of cell membranes of lipid rafts seem to be made between 9-12 noon. It is likely that these chemicals are placed into the cell membranes at night under the direction of electric and magnetic fields and mitochondrial quantum dynamics. It has been shown that DHA needs to be in the SN-2 position to get into the brain for incorporation into the lipid rafts of neurons. Intermolecular complexes in cell membranes give rise to the sub-microscopic cellular organization are usually attributed to steric factors, or the precise shape specific to the different molecular species involved. Changes in the size and shape of proteins links the thermodynamic realm to the quantum realm. This insight continues to elude modern science. I got this idea from reading Gilbert Ling’s work.

There is also something fundamental to understand about electric and magnetic fields generated in mitochondria. Those cell membranes are not constructed in equivalent fashion by evolution, as Gilbert Ling showed in his work. They rely in different construction of their inner and outer cell membranes and use different atoms. This will change their oscillations

and physiologic abilities. Moreover, the continuous mutual induction of these two fields only occurs in an oscillating or vibrating electrical circuit, or from a pair of oscillating charges. This begins to explain why the membranes have different constructions, so that different oscillations can be easily developed and propagated to induce the electric and magnetic field differences required for quantum processes to develop in mitochondria. That is because, just as the charges have to be moving in an electric field in order to induce a magnetic field, the magnetic field has to be changing to induce an electric field. This is why the construction of cell membranes is critically different in all three kingdoms of life. The vibration or oscillations are reflected in their lipid chemistry and are tied to calcium flux within a cell. In eukaryotes cholesterol use in the cell membrane is critically important. 25% of cholesterol is found in the CNS, and the brain only makes up 2% of the total mass in humans. Cholesterol represents a key molecular component of the membranes' lipid rafts, which are cholesterol- and sphingolipid-enriched membrane microdomains. They function as platforms, under the control of DHA, to concentrate and segregate proteins within the plane of the bilayer. **This has huge implications on how they oscillate and vibrate affecting the water within a cell or within blood plasma. People forget that liquid water in cells and blood has another key thermodynamic effect.** In liquid water, LDW clusters predominate, and hence water volume shrinks when heated by infrared light released from mitochondria.

I cannot stress how critical these alternating relationships are to one another. This shrinks cell volumes and mitochondrial volumes just using heat and water's interaction. This is why ice expands when water cools. It also points out why cold thermogenesis works fundamentally because cold increase heat release from mitochondria naturally. This makes you more energy efficient. This makes water the ideal substance for life because of Einstein's mass equivalence equation.

Ion channels are both directly and indirectly sensitive to the lipid composition of the membrane in which they are embedded. Caveolar and non-caveolar rafts form tightly packed aggregates of cholesterol and sphingolipids, chiefly sphingomyelin and glycosphingolipids, and this lipid composition influences physical characteristics of the membrane such as thickness, curvature and the ability to bend and compress. Every time a channel protein undergoes a conformational change *it causes a local disturbance in the surrounding bilayer to create an oscillation.* An oscillation is often thought of like a vibration but there is a difference. How do oscillation differ from the quantum waves that help them form? **Oscillations are not linked to a time reference, but they are pinned to a location. Vibrations are linked to a time reference but not a location in the quantum world. Vibrations can summate and become solitons that ride on the cell membranes.** The vibrations are linked to the circadian clocks within cells of every tissue in the body to tune that clock into its environment. They carrying information and energy bidirectionally or within a circle. I would remind you a mitochondria is an ellipse with two cell membranes that vibrate and oscillate.

In this way, **as long as the cell is living but not moving, only vibrations will be created.** For example *our mitochondria only vibrate when we sleep.* This is why our muscles are paralyzed when we are in our deepest state of sleep (REM CYCLE) when particles are becoming entangled. This has huge implications, as you will find out soon. **When we awaken, our vibrations graduate to a soliton oscillation wave form because we begin to move. When the vibration moves it becomes a soliton or an oscillating wave**. This soliton acts kinetically much like a tsunami wave would in water, but it is capable of carrying timing information from the environment because of its linkage to the environment. It is another way for the cell membranes to help us tell time and create noise in a molecular fashion. *Solitons can have dramatic effects on water over short distances and short time scales within cells to*

propagate information. These oscillations have a huge impact on ion channels embedded in our cell membranes from an energy standpoint.

The overall energetic cost of a channel transition will thus include not only the intrinsic channel activation energy, but also energy associated with membrane deformation from these oscillations. (reviewed by Andersen & Koeppe, 2007). The energetics and kinetics of channel gating, for example, will therefore be modulated by *the local lipid environment* and this may account for some of the changes in kinetic behavior seen upon altering cholesterol levels in the membrane. This is where DHA and cholesterol become important electrically for human life.

Another important feature of cholesterol sulfate incorporation in a cell membrane is that it is amphiphilic. This occurs due to its overall negative charge due to the effect of sulfur. Moreover, this makes it act 'like a semiconductor' would in a cell membrane. In fact, *DHA and sulfated cholesterol need each other in a parasitic arrangement to make cell membranes tell proper quantum time based upon their interaction with sunlight.* This is critical in the 9-12 AM hours. This makes it the ideal partner to work with DHA in the development of the electric field in biology.

So you might be wondering how these early morning oscillation from the sun interact with the cell membrane translates from the heavens to your cell surface and into your SCN? Light is one pathway through the retina that biology has nailed down. **But here is the crazy part scientists have failed to see; the SCN has few efferent outputs to tell the rest of the brain or body what time it is? So how do we do it?**

Quantum biology is astounding with the threads she weaves to tell time. The planets are negatively charged and move around the positively charged sun while vibrating. The are in their orbit due to the electromagnetic forces between sun and planet and the effect of gravity on their masses. Planets are constantly losing electrons as they vibrate around the sun. This loss of mass causes them to rotate about their own axis

and their specific axes are arranged at specific angles. On earth, our 23 degree tilt is what causes seasons. These vibratory motions are sensed by your cell membranes. The frequency of vibration deals in information transfer. A seasonal wavelength is created is the distance moved by the earth during a single orbit of the sun. The earth's tilt inclines the rays of light to also alter that wavelength. Your mitochondria are that sensor that picks up those signals using magnetoreception. This is exactly how a European robin migrates around the environment. It got the idea to use these method because this is how circadian biologic signals began 4.5 billion years ago. You just did not realize how **ancient magnetoreception is**.

Circadian biology in the brain is controlled by light, but the body clocks are controlled by vibration. We take the vibrations of the orbit of the Earth and use the ever changing inclination of the sun's light vibration to tell the season we are in. In this way, your body has two reference points to build a timescale reference. *This is how life created the arrow of time.* Modern science thinks time is concrete. Physics is the only branch of science that knows it is a creation of interference patterns of waves. They just do not understand how it happens in living things, yet.

Circadian information comes in three forms of vibration, light, sound, and solitons on cell membranes. Circadian information is only information, if it is properly understood by the body that collects the data. Moreover, it has to be repetitious in the system that collects these vibrations. Repetition is the mother of all learning. We seem to have forgotten this fundamental recipe of nature, but Mother Nature has not, and modern disease generation is the constant reminder of that lapse in judgement.

I showed in Tensegrity 7 that endothelial nitric oxide synthase produces not only nitric oxide but also sulfate, and that sulfate production is stimulated by specific frequencies of morning sunlight. This sulfate production is critical to DHA protection in RBC's that deliver DHA to mitochondria to

construct cell membranes properly within tissues. DHA concentrations determines what lipids can be inserted into cell membranes and that lipid rafts need to have sulfated cholesterol in them to work properly via oscillation or vibration to create molecular noise. Cholesterol is present in all cellular membranes, where it is vital for their proper structure and function. For example when their is a sulfur shortage in WBC's an impaired immune response manifests fundamentally linking many initial first steps in the etiology of many immune mediated diseases. If cholesterol is not sulfated by sunlight naturally, it oscillates and vibrates differently than un-sulfated cholesterol, changing its physiologic ability within a cell membrane. If you do not understand this you can not have any "clarity on cholesterol". This causes a de-coherence in the cell, making the quantum mechanisms of tunneling and entanglement unavailable for energy transfers in a cell. This degrades signaling and results in disease propagation over time.

Water is the other particularly interesting part of this quantum dance in this scenario because it acts as an aperiodic crystal that is another phase of solids that has unique properties. Physicists have remarked that it is significant that quasicrystals represent the minimum energy structure when they exist in nature. This makes sense for life when one considers the implication of energy flows. Normally energy flows from higher states to lower states (4th law of thermodynamics), so cell water acting as an aperiodic crystal lowest energy state fits life's metastable design perfectly. All energy generated in the mitochondria will naturally flow into the water micelles around mitochondria and it can then flow to lower energy areas within the cell using Onsager relationships. Water must conserve energy by acting as a *quantum infrared heat engine*. It helps our cells that water absorbs electromagnetic spectrum best in the infrared range of frequencies. By acting in this fashion, water provides a link between harmony and tension that is required in 'setting the

table’ for coherent domains within a cell to become possible. It is the correct degree of symmetry breakage that allows a cell to remain metastable where the beauty of nature blooms. Life is designed to sit on the ledge between thermodynamic waves and coherent quantum mechanism involved in cellular function.

We can turn life’s “quantum volume’s down” artificially with anesthetics, but we still have not figured out how to turn off the quantum mechanisms from their thermodynamic couplers to completely to examine them, to see if life ceases when they become uncoupled from the thermal motions of atoms in cells. I do believe the 3 gases do this uncoupling to a certain degree and we would be wise in studying them in this fashion. NO and H_2S really seem to have this effect on mitochondria on a short lived basis. **It seems when life becomes uncoupled from its quantum mechanisms these gases increase in cellular biology to create some order when quantum tunneling and entanglement are disrupted.** It is clear to me that modern disease results from the chronic uncoupling of these quantum processes because of thermodynamic instability. This is why higher temperature’s are associated with leptin resistant states and alterations in these key gases and free radical generation. Free radicals seem to share entangled electrons and protons with these gases to give their quantum effects. These states in clinical medicine are always associated with some modern disease.

Complexity is built upon electron collection which is stored by DHA and amplified by our mitochondria to be delivered to all parts of the cell in many chemicals to generates the electric and magnetic fields to act in unison. But these collections of “like thinking electrons” needs the action of protons to create true self organization. Macroscopic order is seen in convection flows in heated water (Pollack), hurricanes, tornadoes, and Jupiter’s red spot. It is seen in swarming or birds, insects, and fish too. What is remarkable is that below this macroscopic order of things there is no molecular order when you look for it. This is where the

quantum realm is linked to the thermodynamic realm by Onsager's reciprocal relationship is foundational here. You heard about it in Tensegrity 9. This unstated 4th rule of thermodynamics is that energy flows from high potential states or higher temperatures to lower potential states and lower temperatures and organizes naturally. The Onsager reciprocity relation shows how symmetrical thermodynamic coupling of processes can arise naturally in a system under energy flow. Mitochondria happen to release heat in the form of infra red heat and this heat release can be used to organize coherence in a cell using Onsager's relationship as a fundamental coupling mechanism of **heat transfer in a quantum engine.**

Metastability puts cells at the edge of order and chaos on a ledge between thermodynamics and the subatomic processes. Chaos when given the slightest bias generates order automatically at the macroscopic levels. Order from chaos is my definition of metastability and where the origin of order comes from fundamentally in nature. DNA has this built in to its helical structure hydrogen bonds which interact with the hydrogen bonds of found in water. This allows proton tunneling between both hydrogen molecular networks that function under the kinetic isotope effect. In this way, all nucleic acids can be thought of as enzymes with dipole moments.

CHEMISTRY GEEKS: In a covalent bond, which is the majority of chemical bonds in biological molecules, two atoms share one or more pairs of electrons in order to provide each with a closed outer electron shell. Molecules formed by covalent bonds, in which the centers of the positive and negative charges are separated, or do not exactly coincide, are said to be dipolar, and possess a dipole moment: **m=Qr** where *Q* is the charge separated and *r* the distance between them. Dipolar molecules interact electrostatically with one another, the magnitude of the force being proportional to $1/d^4$, where *d* is the distance separating the two molecules. *The magnitude of the dipole moment in each case depends on the difference in electronegativity between the atoms involved in bonding*. The

order of electronegativity is, for example, in atoms used in biology from less to more is
H < C < N < O

Water has a dipole moment of 1.85 Debye. Polypeptide chains in the α-helical configuration have enormous dipole moments upwards of 500 Debye, as the individual moments of the peptide bonds are all aligned. In the double helical DNA, on the other hand, the anti-parallel arrangement of the two strands means that there is no net dipole moment, even though the single strands have their dipole moments due to the sugar-phosphate bonds in the backbone all aligned in the same direction. A third bonding mechanism in nucleic acids are the hydrogen bond, which arises from dipole interactions in molecules where hydrogen is bonded to an electronegative atom such as oxygen, or nitrogen. These bonds are subject to quantum tunneling of protons to cause tautomers that can change the physiologic response of the nucleic acid. Remember that H+ is basically a proton. Here you can see how hydrogen once again is acting as the rogue element of the periodic table.
What do these protons do between DNA strands and water? **They allow nucleic acids to emit electromagnetic waves.** These emitted waves alter membranes by increasing motions. Mechanical deformations from any source wave automatically generate electrical disturbances, and vice versa. This is why DHA in cell membranes is critical in eukaryotes for signaling.
HOW IT ALL HAPPENS SIMPLY: All matter is energy according to Einstein's $E=mc^2$. Hydrogen nuclei, H+ are the chameleon in life's periodic table. Vibrations and oscillations and proton currents can flow in the layer of water molecules immediately next to membranes and macromolecules
The molecules adjacent to H+, like proteins and nucleic acids, send out specific frequencies of electromagnetic waves which not only enable them to 'see' and 'hear' each other, as both photon and phonon electromagnetic waves. This enables them to influence each other at a distance and become ineluctably drawn to each other if vibrating out of phase. This is how

molecular sex first was innovated by nucleic acids and H+.
The hydrogen bonds between base pairs in the DNA double helix are responsible for the template mechanism, which ensures the faithful reproduction of the base sequence of the DNA molecule during replication. They also can imprint water with energy and information. Hydrogen bonds also form between water molecules, giving rise to supramolecular aggregates or clusters that Martin Chaplin has extensively laid out on his website. You might have a look at his work. The clustering of water is a cooperative phenomenon, which means that forming one hydrogen bond immediately favors the formation of several other hydrogen bonds, and vice versa, breaking one bond leads to breaking up a whole cluster. This is tied to water density and the size and shape of water clusters adjacent to nucleic acids. H+ tunneling causes the clusters to show **dynamic flickering of its H+ networks** in both chemicals. In this sense, *water should be thought of as a composite collection of atoms that interlock tightly, like nuts and bolts, but can also disconnect and rearrange themselves into the same number of identical molecules in different combinations*. It has also been shown that no enzyme can functionally work without being plastacized by the tautomers that hydrogen protons provide protein polymers. This is how compliant design in life was fundamentally is created in us.

SUMMARY:

A cell is bound by the cell membrane, a double layer of lipids with dissolved proteins, which is supported by and attached to the membrane skeleton composed of a basketwork of contractile filamentous proteins lying immediately underneath it. The membrane skeleton, in turn, connects with the three-dimensional network of various fibrous proteins collectively known as the cytoskeleton, which links up the inside of the

cell like a system of telegraph wires terminating onto the membrane of the nucleus. In the nucleus, the chromosomes are anchored directly to the inside of the nuclear membrane. The nuclear membrane and the cell membrane are also in communication via concentric stacks of membranous vesicles, the Golgi apparatus that has special secretory functions, and the endoplasmic reticulum, a system of three-dimensional canals and spaces involved in intracellular transport and occupying a large proportion of the cell volume. A substantial proportion of the intracellular volume is also taken up by organelles such as the mitochondria, where foods are oxidized to CO_2 and H_2O with the occasional generation of ATP mostly during the day, and ribosomes on which polypeptide chains are synthesized by ubiquination signaling. Finally, what is left over is the cytosol filled with cell water that contains more molecules in it than the rest of the cell combined. Biochemists never consider this design when the homogenize a cell to perform their experiments and tell you their version of “how life unfolds”.

Why are cell membranes in eukaryotes loaded with DHA a key part of life? You need an “antenna to sense” the world you live in. How would coherent excitations make the system sensitive to specific, weak signals coming from our protected ionosphere? Such a weak signal will be received by the system only when the system is ‘in tune’. This is how a guitar works. The string is struck and the sound resonates in the cavity of the wood and it is amplified by harmonics. Instead, you might like the analogy of a very sensitive radio receiver, which can resonate to the signal to other radio’s or quantum quibits in your cell. Furthermore, even a very weak signal will have to be greatly amplified to be “heard”. Something has to be heard to be repeated for the rest of the choir to hear it. This music of life can not just affect one molecule, it must affect them all so they all can work together as a symphony would do. Moreover, these molecules must be tuned and in the same state of readiness, or be in tune, so they will all be

affected in the same way. This is why life is metastable. The resultant circadian signals are correspondingly multiplied many times, as pulsed magnetoelastic waves, repetitively, as there are molecules responding to its music. The waves have to made electromechanical for the tensegrity system to work at all scales, as you will see later in the series.

RNA and DNA base pairs are the ultimate quibits, in this quantum design because they also sense vibrations of all types, just like our cell membranes do. And that's really why humans have so many retrotransposons in our nucleic acids. These viral parts give us *massive quantum computational power* as well as the ultimate epigenetic adaptability to remain metastable to live on the edge of thermodynamic reality and quantum processing. Consider HERV parts like viral simulations of what might happen if this gene was expressed in a certain environment. These are not unrelated because computer simulations can predict success or failure prior to the execution of an experiment. That's also likely why evolution sped up so much after Factor X. Life was given new abilities to create more possibilities for survival using viral genes in their interaction with our mitochondrial sensors. **The two animals that made it through the asteroid event both had excess mitochondrial capacity in their cells. This was no coincidence.** This gave them a leg up after the asteroid impact, but it also made timing even more crucial in wellness and illness generation. *Nature learned how to run computer simulations on potential adaptations before actually wasting a lot of time using generations on actual Darwinian trial and error.* This is why I believe Darwin was fundamentally wrong about evolution. **Mother Nature stacked the deck ahead of time with quantum mechanisms that we could tap when quantum timing was just right.** Moreover, then human consciousness eventually emerged from this brew for similar reasons. Consciousness is just another way Mother Nature has given us yet another way to stack the deck with quantum processes in biology, but we don't see it because we don't see

the scale she operates upon. The ability to mentally create and rehearse and execute a plan on a finer quantum level that just touches the thermodynamic level is an incredibly powerful epigenetic tool. The ultimate irony, is now it is backfiring on mankind because humans are selecting for comfort over survival at the species level. **Non native pulsed EMF = a life lived by slow decay.** Sobering truth bomb, don't you think? This is why I live on this scale now. Maybe now you can see where my perspectives have been built over the last decade?

Watch this Video now

Royal Raymond Rife was an American inventor and early exponent of high-magnification time-lapse cine-micrography that used oscillations on cells. In the 1930s, he claimed that by using a specially designed optical microscope, he could observe microbes which were too small to visualize with previously existing technology. Rife also reported that a 'beam ray' device of his invention could weaken or destroy the pathogens by energetically exciting destructive resonant frequencies in their constituent chemicals. Because his results could not be duplicated he was branded a quack and the American Medical Association discredited him in the 20th century. The irony was no one could reproduce these results because they are quantum mechanical and require technology that was not yet invented to measure these effects. Today, that has changed. Even today most physicians and patients remain unaware of what he found in the early 20th century. Today, we have companies, like Novobiotronics Inc., showing us that certain frequencies and their resonant frequencies can have a massive effect on the biology of cells. The mainstream cannot fathom these effects because they are all quantum mechanical and not mechanistic as classical science expects breakthroughs to be. It is time to rethink our truths because we are on the wrong scale of science to see how things really work.
Science is showing us that pushes and pulls on a cells' tensegrity system, not just genes, determine whether or not

they remain healthy or cancerous.

Two proteins YAP and TAZ seem to form a light switch that turns on and off the cell's response to the physical forces applied to it. The levels of YAP and TAZ have to allow a 'perfect balance to exist in cellular tensegrity' for proper regeneration. Smaller levels translates into failure to heal, and too much of it carries the risk of oncogenesis. When a cell is condensed YAP and TAZ cannot enter the nuclear membrane. When a cell is larger or uncondensed they can enter the nucleus to cause cellular growth by turning on expression. It turns out cancer data shows that these size changes predate the genetic changes in all cancers. Cancer might begin due to rift in the tensegrity architecture. It appears cancer maybe wounds that never heal because they constantly produce cells needed to repair damage. Sadly these researchers do not see the link between size and shape to thermodynamics yet.

We remain clueless that we cannot artificially select for what nature has not already fashioned. This is why non native EMF and genetic engineering are destroying life as nature built it. *You might say non native EMF and fake light are "fauxtons" for our tensegrity network.* The vibrations and oscillations they are creating are causing interference patterns in our ability to signal and use quantum mechanism built into our mitochondrial sensors. The excited molecules and membranes vibrate at various characteristic frequencies involving coupled electrical displacement and mechanical deformation. This eventually builds up into collective modes of both electromechanical and magnetoelastic oscillations (phonons or sound waves) and electromagnetic radiations (photons) that extend over macroscopic distances within the organism and perhaps also outside the organism to create a global scaling phenomena. These things may move markets, behaviors of crowds, and effect the solar wind above our planet. The limits to these actions are incredibly deep and complex in ways we have yet to fathom.

Mitochondria are the ultimate antenna/sensor for

magnetoelastic oscillations that act as quantum heat engines. Until we become able to build life from inert chemicals we do not fully understand the phenomena of how life is innovated. **This should keep mankind humble, and not to continuing to trample on the toes of Mother Nature as we have done.** *Until we reverse engineer how life forms naturally, using protein polymers, water, and the electric and magnetic fields we really know nothing about the nature of life.*

CITES:

1. http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.1945.tb36170.x/abstract;jsessionid=735C6EFE5CD5AB6344278207A40B1DD0.f03t02
2. http://www.eoht.info/page/fourth+law+of+thermodynamics
3. Ho, Mae-Wan (2008-08-06). The Rainbow and the Worm: The Physics of Organisms
4. http://www-06.all-portland.net/bst/031/0934/0310934.pdf.
5. http://jp.physoc.org/content/588/17/3169.full
6. http://people.csail.mit.edu/seneff/autismR2S2_reviewed.pdf
7. http://www.sciencedirect.com/science/article/pii/S1673852714000666
8. http://forum.jackkruse.com/index.php?threads/is-dna-an-antenna-for-native-emf.10981/
9. http://www.plosone.org/…/10.1371/journal.pone.0044392
10. http://www.nature.com/news/flashes-of-light-show-how-memories-are-made-1.15330?WT.mc_id=TWT_NatureNews
11. http://www.ncbi.nlm.nih.gov/pubmed/24645646
12. Photorepair Prevents Ultraviolet-induced Apoptosis in Human Cells Expressing the Marsupial Photolyase Gene. The Journal of Cancer Research. The American Journal of Cancer. March 1, 2000.

13. Bischof, Marco. PhD. Biophotons – The Light in Our Cells. Germany. 1995
14. Wood SH, Loudon A. Clocks for all seasons: unwinding the roles of circadian and interval timers in the pituitary. Journal of Endocrinology.http://joe.endocrinology-journals.org/content/early/2014/06/02/JOE-14-0141.abstract
15. http://en.wikipedia.org/wiki/Royal_Rife
16. Rosenow EC (1932). “OBSERVATIONS WITH THE RIFE MICROSCOPE OF FILTER-PASSING FORMS OF MICROORGANISMS”. Science 76 (1965): 192–3.