

UBIQUITINATION 9: FREQUENCY AWAKENING

READERS SUMMARY

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“If you want to find the secrets of the universe, think in terms of energy, frequency and vibration.” – Nikola Tesla

“What we have called matter is energy, whose vibration has been so lowered as to be perceptible to the senses. There is no matter.” – Albert Einstein

Tesla said it. Einstein Agreed. Modern physics has proved it. It is now factual to say that everything, including our own bodies, is made up of energy vibrating at different frequencies.

Light orders all matter in us and in the universe. All matter is made up of atoms. So how does the science of physics explain this?

Net solar radiation on Earth are a manifestation of the balance between incoming and outgoing shortwave and long wave radiation. All radiations are waves that have amplitude and

frequencies. Awakening health within your cells is a synonym for raising one's frequency while yoking its amplitude to that rise in intensity. As intensity rises you become aware of different perspectives, from which, you begin to resonate with.

These solar radiation are built into ecosystems that directly self organize and are self correcting. This occurs by affecting net radiations primarily through the albedo of the earth and atmosphere (shortwave reflectance or absorption) This is why Tensegrity 7 was and is critical for you to understand. We need sulfated lipids and proteins in our skin to diffuse solar radiations to reflect harmful frequencies and absorb healthy one. Plants do the same by altering the chemistry on their leafs. Humans must have the same ability in their skin and we no longer do. This is why dermatologists believe the sun is bad for us. Solar radiations have to be optimized for water chemistry. Water absorbs best at 270 nm and it is most charge separated by IR and UV (infrared and ultraviolet) light to build a huge battery for living things.

Everyone seems to know that electricity runs freely through water. What most do not know is that it becomes more powerful and useful to build complexity when the water is charge separated by solar radiations in the IR and UV range. IR is a synonym for heat.

Heat flux is incredibly important in our quantum ecosystem on Earth. It connects plants to animals cells. When we consider timescales a year or greater, the Earth is in a state of radiative equilibrium, meaning that the Earth releases as much energy as it absorbs. On average, Earth emits 79% of the absorbed solar energy as low energy long wave radiation (3000 to 30,000 nm) due to its relatively low surface temperature. The remaining energy is transferred from Earth's atmosphere by evaporation of water. This process is called *latent heat flux*. It accounts for 16% of terrestrial energy losses. The transfer of heat to the air from the warm surface to the cooler

overlying atmosphere is called the *sensible heat flux*. This accounts normally, for 5% of terrestrial energy losses. These statements are how phase transition of energy flows happen between the sun and Earth naturally. This transfer of energy, or phase transition, dramatically affects water cycles on Earth. Heat absorbed from the surface when water evaporates is subsequently released to the atmosphere when water vapor condenses, resulting in the formation of clouds and precipitation. All forms of nnEMF's (non native EMF) alter the balance of these heat transfers because they cause a dehydration effect in the concentration of water. This is why the donut hole in Australia and New Zealand is one of the main driver's of illness down under.

The atmosphere also transduces energy flows from the sun to life on Earth below to affect it. How? The atmosphere naturally absorb's much of the long wave solar radiation. Without this natural effect the surface temperature of the Earth would be 33 degrees celsius low than it is today. Conversely, when those gases rise or when nnEMF fill the atmosphere the temperature can be expected to soar and oceans will acidify very quickly. The atmosphere transmits about half of the incoming shortwave solar radiations to the Earth's surface. It absorbs 90% of the long wave infrared radiations emitted by the surface. This is how ground water becomes energized by the sun via the atmosphere in coupled fashion. The IR radiated from the Earth techtonic plates fills it with a constant source of IR light. The only thing water needs to become the ultimate battery for life is to be adjacent to any protein and exposed to UV sunlight to grow its exclusion zone. This make water a stronger battery. Plants do this and so do we.

I met a guy named Luke Storey in LA recently, who goes to unreal lengths to capture his water. He has no idea why he is drawn to it, but I told him he would soon. This blog just gave you that quantized magic that Luke senses. He was a speaker at a meeting of the Society International with me. I promised

him that I would use science to explain his obsession. He is not obsessed. He is sensing our quantized ecosystem properly. Most absorbed energy is released to the atmosphere as latent heat flux in plants via evapotranspiration. Sensible heat flux occurs from the heated Earth to the cooler atmosphere. The Bowen ratio is the ratio of sensible to latent heat flux in an ecosystem. This ratio determines the strength of the coupling of the water cycle in living things to the energy budget that is present on Earth. It is a very dynamic ratio and responds very rapidly to changes within our quantized ecosystem. In our modern world, this system is deeply uncoupled now because of what humans have created in the last 120 years. This is why aquifers are drying up and climate is changing now at an astounding rate that is surprising NASA and most scientists. This is a story you won't 'hear' at Paleo fx this month in Austin. It shouldn't be a surprise to anyone who is understands physics. The answer is in quantum physics because this is the science that describes the actions of light upon atoms in any ecosystem. Light quantizes and affects the world we inhabit and it also does the same thing to our cells using specific frequencies of its radiations. The proper frequencies of light are what provides order for our cell and our tissues to limit chaos and build the state that supports what humans call life.

PHYSICS DETOUR FOR THE SKEPTICS: THIS SCIENCE IS 100% PROVEN BY THOUSANDS OF PHYSICS EXPERIMENTS

Non native EMF causes electron steal syndrome everywhere including DHA inside your cell membranes and the water that surrounds your DNA. If you get stripped of your of electrons it causes you not to be able to sense the Earth's magnetic field nor the electromagnetic spectrum around your cells. The physics is not complex. Let us consider how it works in cold water: Cold water is more dense, hence it has more electrons.

Isn't it convenient that DHA comes from the marine seafood chain and is most common in colder water fish? The more

electrons you collect the more electron repulsion you generate in cold water or temps so you do not suffer from cold exposure because your endogenous electromagnetic fields protect you; this is how polar bears, penguins, and fish do it. They are all linked to the marine seafood chain and the sea they swim in is called the photic zone where sun penetrates this water.

Take for example two electrons, one inside you from DHA and the other ones in found in abundance of dense cold water. These act to repel each other due to the electromagnetic force in physics. Physicists say that there is a mediator or exchange particle which is transferred between them, called the photon. A photon is a frequency of light. A photon can be a "particle" or a "wave" of light. A beam of light is a great many photons moving together in unison. There structure is aligned by frequency or by amplitude or both. When both are yoked we call that light a laser beam. Physicists use lasers to entangle atoms. Life uses light to do the same in your mitochondria using oxygen.

If you increase the intensity of a beam of light without changing the frequency of its wave, you actually increase the number of photons present. Light can act either as an photon or an electron. This is the basis of Einstein's photoelectric effect. The difference is that *an electron has a small mass but a photon has none*. This is very important thermodynamically because of mass equivalence. When an electron drops from an excited state to its ground state, the electron releases one photon. It has been recently proven experimentally, one photon released in a lab can entangle 3000 atoms. Here is where physics gets tricky. The concepts of "intensity" and "amplitude" *do not apply to an individual photon*. For an electron, energy can show up as a combination of speed and mass, because this is what electrons have.

Photons have no mass so their intensity is tied to their wavelength frequency only. Frequency is the key factor for living cells because light is the key factor ordering atoms in

our cells. For a photon, mass is zero and speed is always the same, the speed of light. Frequency is the only variable available to act as the indicator of the photon's energy. If one imagines two ice skaters facing each other as two electrons, and one throws a ball to the other person both skaters will move apart, just as two electrons would repel each other in the scenario above.

When delving inside the proton (or neutron) it is not the electron which actually 'probes' the nucleon or the nucleus, but the photon. Why? because the mass of the electron limits its action or movements. When it is an electron that gives some of its energy away (and so loses some of its momentum) to the photon. **The momentum is the kinetic energy transferred to the photon.** Energy can be transferred to another form in physics, but it cannot be created nor destroyed. The more momentum which is transferred to the photon from the electron, the more energy the electron loses to the released photon.

The photon become filled with force to do work. **That force is what your brain uses at night to do the work of regeneration in sleep.** Soon I will share with you the story of biophotons and optogenetics in this series.

In the photoelectric effect Plank states that **$E=hf$** . This means that the energy of the photon is proportional to the frequency of light's wavelength. The more energy a photon has the shorter the wavelength of the photon. Conversely, the less momentum is transferred to the photon, the longer the wavelength becomes. The photon of a *blue light photon* has a shorter wavelength than a red light photon, therefore blue light carries more energy. This means blue light has more power than red light does and this has some consequences for living systems.

Intensity of light is tied to longevity in stars and in us. A star that emits more blue light burns brighter but dies sooner. A red giant star can last trillions of years. Your brain tends to be in the habit of collecting red light

photons. Similarly, weight lifters, NFL players, and marathoner's biology acts like a bright blue/white star. They flash their brilliance for a time, but they die faster than those who create thermodynamic favorable environments that don't emit all their light too fast. Cells are designed to contain solar power for the long haul to create entangled particles to make tissue work optimally with one another for longer periods of time. The choice you make in the environment you allow your cells to sense, is the life you will get. Physics 101.



LETS TALK FOOD SINCE THIS IS WHAT EVERYONE IS PREOCCUPIED WITH:

When we consume a food like broccoli, for example, and digest it, it is metabolized into carbon dioxide (CO_2) and water, plus the light stored from the sun and photosynthesis. We extract the CO_2 and eliminate the water, but the light, an electromagnetic wave, must be stored somewhere. When taken in by the body, the energy of these photons dissipates and becomes distributed over the entire spectrum of electromagnetic frequencies, from the lowest to the highest. Plants do this in the photopigments in their leaves and we use lipids like DHA to transduce that light signal. This energy is the driving force for all the chemical reactions of molecules in our body. **Before any chemical reaction can occur, at least one electron must be activated by a photon with a certain wavelength and enough energy from the sun.**

If the optics of the proteins in your brain are off, for any reason (and there are many).....you cannot collect red light within your brain. This is critical aspect of optical regeneration. So you do not think light can regenerate you?

You'll soon be introduce to the work of Russians physicists and Fritz Popp who will demolish that bad belief in this series.



BACK TO THE BIOLOGY OF REGENERATION

The self correcting process in mammals has been very well worked out in the literature but few have read the experimental work. It is called the DC electric current. Becker and many others scientists have now proven this injury current It is operational in wakefulness. It however changes its energy form at night when it does most of its work in sleep by becoming light. The switch that turns the DC electric current to light when it gets dark is DHA. This is why DHA has been preserved in all eukaryotes for 600 million years.



This is why ubiquitination 8 is a very important blog to assimilate fully. For people who follow this blog you must realize that medicine *advocates suspended restoration over optimal regeneration*. I will not settle for a B, C, or D when an A is available.

DHA in cell membranes not only changes sunlight to electricity but it can turn electricity to light. This light then can be used and transduce other molecules using other forms of energy. The physics of the environment determines what energy pathways can be utilized. Not all pathways are possible in all environments. This is our blind spot on biology today.

The physics of the environment determine the trajectory that life can ascend or descend to.

ELECTRIC AND MAGNETIC FIELDS

Power-frequency fields, both electric and magnetic, induce electric fields and hence currents in the body. An external electric field is attenuated greatly inside the body, but the internal field then drives a current in the body. A magnetic

field induces an electric field, which will in turn drive a current in the conducting body. The Earth's magnetic field is $\sim 50 \mu\text{T}$, varying from about $30 \mu\text{T}$ near the equator to about $60 \mu\text{T}$ at the poles. The radical pair mechanism (free radical) is an accepted way in which magnetic fields can affect specific types of chemical reactions, generally increasing reactive free radical concentration in low fields and decreasing them in high fields. These have been proven to be used in bees, bats, butterflies for navigation. A highly powered magnetic or electric field alters navigation abilities in these creatures. A highly powered magnetic field induces low superoxide levels in mitochondria. T2D patients all have absent superoxide levels. Both electric and magnetic fields exert forces on charged particles. Mitochondria use only charged particles as their inputs and outputs, called electrons and protons.



PHYSICS GEEKS: The force exerted by an electric field on a charge q is $\mathbf{F} = q\mathbf{E}$, directed in the same direction as the field. The force exerted by a magnetic field appears only on a moving charge and is $\mathbf{F} = q\mathbf{v} \times \mathbf{B}$, directed perpendicularly to both velocity \mathbf{v} and field \mathbf{B} .

Sodium, calcium and chloride ions exist in higher concentrations on the outside of each neuron, and potassium and membrane-impermeant anions are concentrated on the inside. The net result is that the interior of the cell is negatively charged compared to the exterior; generally, inactive mammalian neurons exhibit a "resting" membrane potential of -60 to -75 mV . An externally applied electric field will stimulate the peripheral nerve cell axon resulting in one or more action potentials if the induced membrane depolarization is above a threshold value sufficient for the opening of the voltage gated sodium channels to become self-sustaining. For many nerve axons, the action potential threshold is around -50 mV to -55 mV , some 10 – 15 mV above the "resting" potential. Ca^{2+}

flows determine how these on off switches work in neurons of the brain, gut, and peripheral nervous system. You'll be learning a bit more about Ca^{2+} as the series goes on. It is the major switch that nEMF alters in our environment.

Light frequency is what drives how carbon recycles in all living things, but other oscillations and waves can also be used by cells to generate signaling. The carbon cycle is another synonym for food, in case you were wondering. Food in humans is akin to soil composition in plants. This is why your microbiome is present where food is located. The same is true for plants. Plants need soil microbes to decompose organic matter to liberate nitrogen to make the photosynthetic cores in leaves to make sugars from sunlight frequencies and CO_2 .

CAN MUSIC HEAL US ?

Can sound frequencies also affect us biologically? They sure can. The mixing of frequencies can help or hurt our cells depending upon the environment that they are forced to exist in. What determines that fate, is the atomic make up of cells, the electrodynamic field the cell senses, and the orientation and geometry of things suspended and connected to the cytoskeleton of the cell. Sound energy can recharge our batteries' the DC electric charge in us. We can see this current in an ECG, EEG, MEG data from our brain. Ultrasound waves were found in Dr. Gerald Pollack's work to expanded the exclusion zone in water by its presence or absence. This is why music frequency can help or hurt us. The frequency of music plays a role in the ability to regenerate by altering the EZ size. It can eventually affect the DC current strength of the mammalian battery. Anything that increases the EZ in water increases its redox potential. Anything that increases the EZ in water has the ability to increase the DC current in cells. Why do I bring up this linkage of sound frequency to the DC current? Our brain is designed to sense all types of wave forms from our environment. Our brain summates, subtracts, and reconstructs the three dimensional waveforms

and their frequencies to simulate the fractal geometry of life. The geometry of life is captured in the 3 dimension fractals found within a cell. *Geometry links to quantum mechanics.*

OPTICAL NEUROSURGERY OF CIRCADIAN BIOLOGY:

Light entrains circadian signaling its frequency is linked to alpha waves in our brain. Alpha waves are reduced with open eyes, drowsiness and sleep. Occipital alpha waves during periods of eyes closed (light absent) are the strongest EEG brain signals. The second occurrence of alpha wave activity is *during REM sleep*. **The alpha wave is strongly associated with the ability to entangle particles when low intensity biophotons are released from neurons in the presence of oxygen to make free radicals.**



Harmonic frequencies of the alpha wave in our brain can help us heal many illnesses, because alpha waves control our circadian signaling in our brain. They also increase in REM sleep which is restorative no matter what literature you read. No one seems to make this connection to wellness. That alpha wave is linked directly to the “heart beat” of the Earth that is called the Schumann resonance. Its frequency is 7.83 Hz. That wave is a standing waves that resonates between the tectonic plates and the ionosphere of the atmosphere to generate the alpha wave in the brains of all animals tested to date. This alpha wave matches the wave and harmonics linked to circadian signals in all living things. Every living thing tested, so far, has been shown to have an endogenous circadian signal. All circadian signals tie to ubiquitination rates; higher is bad and lower is better. Higher = death, lower = longevity.

PHYSICS DETOUR: What is a harmonic? When an object is forced into resonance vibrations at one of its natural frequencies, it vibrates in a manner such that a standing wave pattern is formed within the object. The natural frequency of life is

7.83 Hz and this standing wave resonates in the ionosphere of Earth. From this specific frequency, we can generate harmonics of this wave. Whether it is a guitar string, the Earth's magnetic field, a Chladni plate, or the air column enclosed within a trombone, the vibrating medium vibrates in such a way that a standing wave pattern results. Each natural frequency that an object or instrument produces has its own characteristic vibrational mode or standing wave pattern. The Earth's standing wave is the Schumann wave. Its waveform frequency, amplitude, and harmonic is conserved in our brain. We can use harmonics of this wave to generate patterns for signaling. This is what an EEG shows a clinician. These patterns are only created within the brain, object, or instrument at specific frequencies of vibration; these frequencies are known as harmonic frequencies, or merely harmonics. At any frequency other than a harmonic frequency, the resulting disturbance of the medium is irregular and non-repeating. It cancels out and this degrades signaling. **When the alpha wave is degraded life gets sick first and then it dies quicker.** Music has a direct affect on these frequencies. For musical instruments and other objects that vibrate in regular and periodic fashion, the harmonic frequencies are related to each other by simple whole number ratios. The harmonic frequencies in the brain are complex and chaotic but they are understandable. We use them in cochlear implants, MEG, and optogenetics. *The less chaotic they become the closer life is to death or extinction.* The more variable they are the more life strengthens. The same relationships are found in heart rate variability studies. Everything in life is about frequencies of the waves in our environment. It is time you embrace this paradox of biology. **Physics is life's master conductor, unbeknownst to modern medicine men. The frequency of life's music begins with the alpha wave and is linked to the DC electric current.**

NON GEEKS: Harmonics are just frequencies of standing waves present in our environment. This implies that if there are

waves in our environment that disturb our natural frequency or harmonic it can cancel our our alpha waves. We can see this effect on EEG. Modern life has a great ability of creating these irregular and non repeating waves to destroy signaling in the brain. Why is this important? Light and sound both happen to be waves that use many frequencies. Anything that integrates and affects them, can directly alter signaling in the brain to control circadian signaling. Our tissues are designed to devour and assimilate these frequencies via our sensory systems. From there they are integrated and organized with the brain to make sense of the world we live in. It also turns out frequencies affect frequencies; much like mixing ingredients with other ingredients affects the overall flavor of a meal. Modern life has created many harmonics frequencies in technology devices that have slowly destroyed the connection that our brain has to the alpha wave. Again, measuring this on an EEG is easy. **Anyone who has an alteration in REM sleep also has this disconnection.** This disconnection is linked to the first, and most important circle or life called ubiquitination. Light cycles link to ubiquitin. Ubiquitin directly links to the second coupled cycle in life called the cell cycle. This cycle directs normal growth and regeneration in animals and plants. Regeneration in plants and animals is tied to generation of a DC current.

The key point Robert O. Becker made in his research 60 years ago is that the DC electric current within animals is what allows for regeneration of cells and tissues. The DC electric current is operational in daylight and not in the dark when we sleep. This process marries perfectly with the physics of electric currents in humans. The mammal body (human or animal) significantly perturbs a low-frequency electric field naturally created by Earth and the sun. In most practical cases of human exposure, the field is vertical, with respect to the ground. This is orientation is important for mammals who organize their DC electric current in their heads. Humans stress this system more than any other mammal because they are the only **erect bipedal mammal**. This affects the bone

regeneration ability because it uses the photoelectric effect.

This limits their ability to generate large internal DC currents to regenerate tissues compared to other mammals who walk on all fours and are better connected to the field. It also points out likely why humans lost their surface hair; they needed the solar power from their skin to offset the loss of putting most of their mitochondria in the brain further from the Earth's magnetic field. Bipedalism put their brain's mitochondrial density away from the strongest part of nature's electric field. **This evolutionary move, really stressed the vertical electric field for humans and caused evolutionary change of our skin to a solar battery to recharge the electric charge we lost from walking.**

The use of sulfation of cholesterol, Vitamin D3 and sulfated DHEA in the skin increased of the skin's ability to capture photonic energy to augment the DC electric charge. This is why in humans the sun can be healing. We saw this in the 1950's in tuberculosis and psoriasis. Modern dermatological beliefs have taken us further from the natural physics of how we generate internal DC electric currents to offset the discharging nature of the modern world.

SUMMARY

At low frequencies, the body is a good conductor, and the electric field is nearly normal to its surface. The electric field inside the body is many orders of magnitude smaller than the external field. The electric field in the body strongly depends also on the contact between the body and the electric ground, where the highest fields are found when the body is in perfect contact with ground through both feet (Deno & Zaffanella, 1982). The further away from the ground the body is located, the lower the electric fields in tissues. This is fundamentally why space travel for NASA is a major problem. We also saw recently how it might effect a commercial airline pilot who was depressed before his flight. Depression is associated with a low DC current and low EEG voltage. It also

points out why our modern world is shorting out our internal battery made of DHA and water. This battery is designed to be recharged 100% by AM sunlight and the nighttime magnetic flux.

Rarely are humans grounded as other animals are when they sleep. When you lose the charge from the solar electromagnetic battery the clinical result is found in your Vitamin D level. Dermatologist and most primary care physicians do not appreciate this electric circuit because they do not understand how our body uses physics to generate energy. Our Vitamin D level is like a "battery gauge" for our internal DC electric charge. This reflects the internal DC electric current in your cells. **The lower the D3 levels are, the lower your ability is to convert sunlight to energy or hold the charge you get for free from the AM sunlight in water in your cell.**

The electric field on Earth is very complex in its creation and generation. It relies on solar radiation and water chemistry of the environment. Because of how it is generated, the modern environment we allow has become the major way our internal batteries have become discharged or devoid of holding that charge. Our internal battery works with between the interaction of DHA and water with sunlight. We can clinically sense the presence of electric currents in us, by our chronic connection or disconnection from the Earth or the sun. Eutherian mammals are designed with systems to be able to disconnect from it for longer period of times but our modern world has made us live completely disconnected from the Earth's field. *If this is allowed to continue chronically, humans lose their ability to generate alpha rhythms in the brain.* Those rhythms are critical in setting the circadian cycles which control ubiquitination rates. The maintenance of the Earth's Schumann resonance is tied to lightning strikes, the magnetic flux, and solar radiation impacts to the ionosphere in our atmosphere. **The science is complex but the smart can see the linkage if they are willing to look.**



The part of the electric charge equation we are destroying today is that we are creating an environment that discharges the electric charge in us as we live and sleep on a chronic basis. **This is why Vitamin D3 levels are assessed as they are even when you are in the sun or taking supplemental Vitamin D3.**

CITES:

<http://www.ncbi.nlm.nih.gov/pubmed/21457072>

<http://www.ncbi.nlm.nih.gov/pubmed/22676645>

<http://qhwiki.com/page:winter-vs-summer>

<http://www.who.int/peh-emf/publications/Chapter%203.pdf?ua=1>

<http://www.physicsclassroom.com/class/sound/Lesson-4/Fundamental-Frequency-and-Harmonics>

http://www.who.int/peh-emf/publications/elf_ehc/en/

<http://skeptics.stackexchange.com/questions/9407/is-432hz-sound-frequency-more-natural-or-beneficial-to-human-body-than-440hz>

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4093745/>

<http://www.gizmag.com/synthetic-magnetism-stanford-photonic-crystal/25261/>