TIME #2: HOW IS TIME BUILT?

READERS SUMMARY:

1. WHERE DOES TIME COME FROM?

2. WHY DOES BIOLOGY HAVE ONLY A FORWARD DIRECTION FOR TIME?

3. WHAT IS A QUANTUM DOT?

4. DOES THE SUN, WATER, AND DHA DETERMINE TIME?

5. WHAT IS GRAVITATIONAL LENSING?

Since the 19th century, light was known to be a wave of electric and magnetic fields. In the early 20th century, the physics revolution known as quantum mechanics included the alternative description of light as a collection of particles called photons. Roy Glauber of Harvard University realized that with the invention of the laser and the detectors capable of sensing a single photon, a complete quantum theory of light was needed. One single photon can control many atoms. His theory, published in 1963, explained that photons are not entirely independent objects and that detecting a photon from a light beam affects the probability of detecting another photon. His theory marked the birth of the field of quantum optics, which led to a wide range of advances, such as a type of optics-based cryptography that has already been used for some bank transactions. Glauber shared the 2005 Nobel Prize in physics for his work. My bet is that Glauber's work will revolutionize neuroscience and medicine one day. **Light and atoms are the fundamental building blocks life uses to organize. Light and atomic interactions build biologic time.**

Society, like atoms, exist in an open system or field. A society like biology is designed to be far from equilibrium so it can harmonize with nature. Technology is uncoupling that

relationship of how energy flows from an ecosystem to humans. How can any life form exist with all its complexity and richness? When you see your family at Christmas and on the fourth of July at a gathering you recognize them immediately. What is shocking is that modern science has proven that not one of the atoms on their face in December remains in place in July, but that level of change is not perceived or observed. Today, we can tag atoms with quantum dots, and show that every protein in the body turns over. What is a quantum dot? It is a really small piece of matter that can change light's color into any other color. Light alters the small piece of matter by altering its size. Size sets the color and color equals a frequency shift.

Quantum dots have shown us some organs in the gut, like the liver, turn over several times in that 6 months. Living creatures retain their form and function in spite of this remarkable diversity found in atomic recycling. Modern doctrine in biology says that the chemical make up of tissues is directly correlated to physiologic function. ***Biology today, fails to provide an explanation how a structural permanence persists while this massive change is ongoing.***

This points to life being organized in some way by a field of action to control atoms to do what they need to do for life to exist. Physics shows us that daylight can scatter atoms in us, and at night we can refocus those atoms back into the lattice to work with sunlight. *Those slight changes in us are what science calls redox chemistry.* Removing and adding electrons or light can alter the redo state of proteins. Life is lived between those two states of existence. The maintenance of the size and shape of proteins and lipids within us is a function of the local redox potential of the atoms in that part of a cell. This relationship determines how light can move in our cells.

So does it follow, that technology might have the power to alter the relationships between light and atoms in us? Might

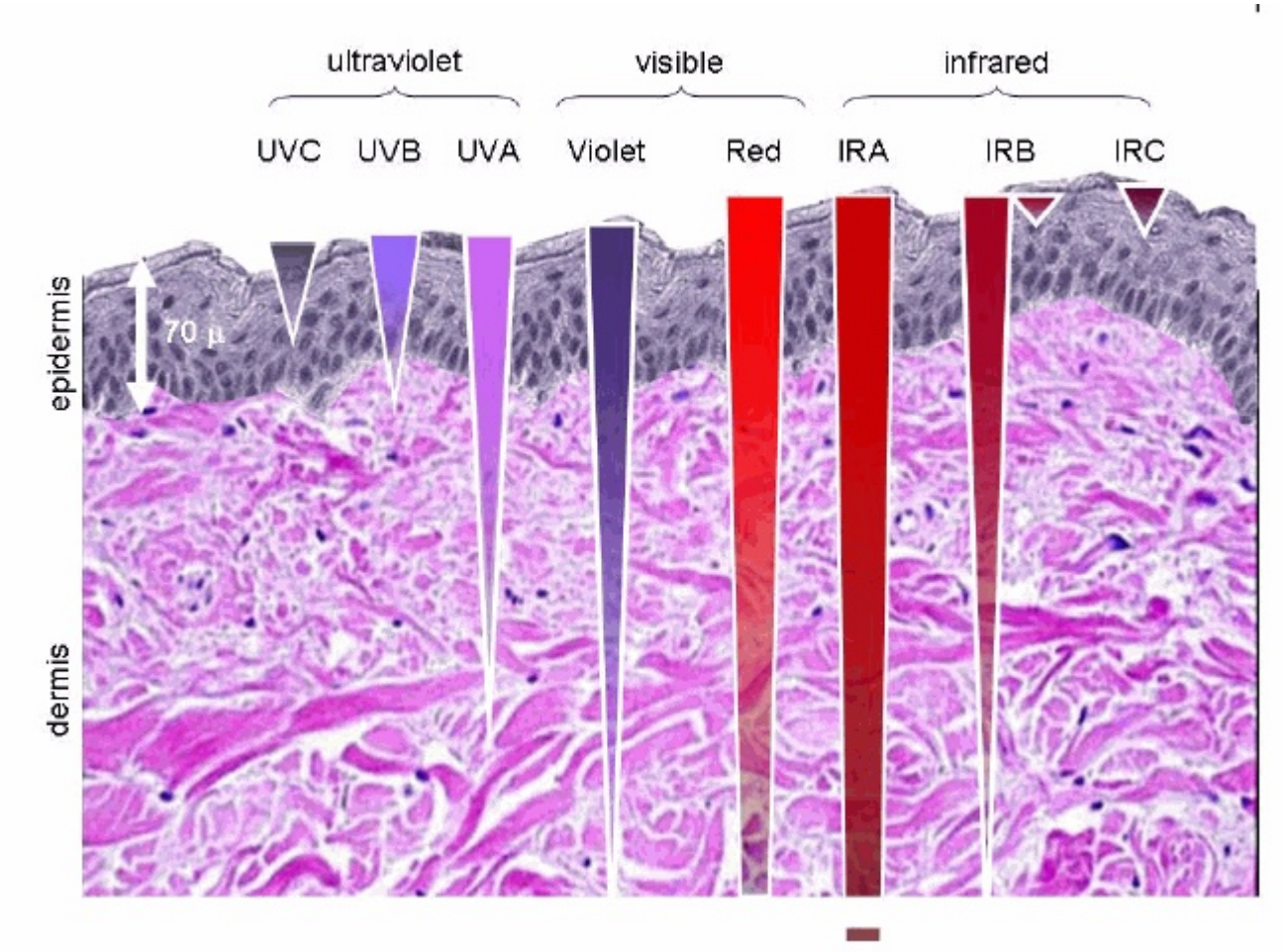
the light emitted by technology into our eyes and ionosphere be the key in uncoupling light from the atoms in nature that make us up? Might this alone alter the quantum yield of sunlight? People have been habitualized into believing all progress and technology has a positive connotation. Might this belief be obstructing the viewpoint of nature, in the game of life? Can time be destroyed by technology in some small way to make big changes in us?

LIFE'S BASICS: Proteins, lipids, and water in us capture light from the sun

Life is basically about electricity and magnetism. Think about tests done by your doctor in an EKG, EEG, and an EMG. All show the electrical and magnetic potential of our organ systems. Anything and everything electrical stems from the phenomena of charge. No one seems to have a clue why this relationship in nature exists, but physics tells us it is true. *Atoms are made up of 3 parts:* Protons have a positive charge, neutrons are neutral, and electrons have a negative charge. Here is the interesting part: Electrons have the equal and opposite charge of protons, but an electrons atomic mass is 1/1836th that of a proton. This is a huge difference in mass. *Thusly, a charge main variable is their atomic mass.* Atomic mass determines size and shape in protein lattices. This determines the how the speed of light can travel in our tissues. The speed of light is varied when in a substance because it becomes encumbered by electrons. This is why size and shape alter the thermodynamics of things made up of electrons and protons. ***Light only interacts with electrons via the photoelectric effect.*** Light instantaneously interacts with light to create the fastest pathway through tissues. This is tied to Fermat's principle. *Light does not interact with protons or neutrons and has to go around them.* This increases the distance that light must travel and it creates tiny delay in tissues. Just because the distance increases does not mean the path is longer in all cases. That small delay creates a signal that

denotes biologic time in a cell. That delay is observed in the telomere length of a cell. What moves atoms or things made up of atoms? Light is capable of this fundamental task and nothing else can.

MAIN TAKE BLOG AWAY: ***How light is captured and travels in our tissues is how time manifests in biology.***



ARE WE MADE OF QUANTUM DOTS?

Light interacts with atoms within us that are called nano-crystals. Most know them as proteins or lipids. Most biologic nano-crystals can be called quantum dots. **A quantum dot (QD) is a nanocrystal made of semiconductor materials that is small enough to exhibit quantum mechanical properties intrinsically.**

They are capable of changing size and shape when the light

hits them. Compared with small molecular dyes we used to use in biology in the past, the intense fluorescence emission of QDs makes it easier to track single protein molecules in cells today. It turns out they are remarkably resistant to photobleaching, and their narrow emission spectrum facilitates imaging of many proteins simultaneously. *This makes them valuable in understanding quantum mechanisms in biologic systems.* Today, we have the ability to track the information about proteins, lipids, and water in cells. The problem is biochemists and clinicians do not know this ability even exists. QD's have large two-photon cross sections which allow in vivo imaging at greater depths so we can understand better how light and atoms in biology work fundamentally in cells and tissues. Since QD's have become commercially available, their use to study protein trafficking has grown rapidly. *Ironically, few in ancestral health have paid much attention to them.*

Quantum dots have distinct energy levels that shift when exposed to an electrostatic field. Physicists utilize this so-called "electrostatic gating" to ascertain electronic structure and transport properties. Biophysicists use quantum dots to ascertain precise 3D molecular lattice and function. The iron-sulfur protein cores of every cytochrome are likely quantum dots in our mitochondria. I believe magnesium atom, at the core of chlorophyll, is another quantum dot sitting in the porphyrin ring. I believe the same is true of the iron atom that sits within the porphyrin ring of red hemoglobin. UV light interacts with porphyrin in chlorophyll and hemoglobin in many ways science has failed to realize. **All these acts in quantum mechanical fashion to change light's path in our tissues and that small change in path creates time for living things.** I expect that we will soon find out that the iron-sulfur complexes in mitochondria do the same thing when they interact with photons that travel on electrons from foods/herbs/drugs that living things ingest.

Inflammation affects the way light interacts with our tissues via their mass effect. ***Inflammation can be built with protons; with the lack of electrons, or the combination of both. Inflammation is like fire.*** Each situation creates a different condition for a lattice on fire. In this way, life is lived in a home on fire, there's no fire department to call; no way out, just windows of ideas to look out of, while the fire burns the house down with us trapped, we appear locked in. The key to escaping from the cage is curiosity. Life never teaches its pupils. Its only attempt to provide the conditions in which they can learn by "slow burning". Curiosity is the fire hose of water to the fire's advance. The things that interfere with this slow burn are our current precepts. If we stick with them long enough we get injured. We call that illness today. Learning is not a spectator sport; it requires us to have skin in the game to be heated up to sense the fire within. *This is what the redox potential is like in us. It is about how light travels or is slowed in tissues.* In this way, the uncreative mind can only spot wrong answers, but it takes a very creative mind to spot wrong questions. Spotting them is the key to extricating yourself from ideas that burn down your house. *How fast you burn determines the time you have left on this planet.*

FIELDS OF ACTION: Levee one of the QUILT.

PHYSICS GEEKS: Light has a universal speed limit at 186,000 miles an hour. Light travels 30 centimeters in one nano-second. The only way to increase its energy/power is to increase its frequency. That change in energy can alter the electric and magnetic fields associated with an atomic lattice. When those fields are altered, so are the interactions that can occur with specific light frequencies. *The frequency of light determines the current and the force of the current.* Current is the flow of electrons or protons and is measured in amperes.

Current has another feature called electromotive force. *This is the "push" behind the current and it is measured in volts.* Currents in space flow differently than they do on Earth. This is a function of the plasma they exist in. Plasma is one of the four fundamental states of matter, the others being solid, liquid, and gas. A plasma has properties unlike those of the other states of matter. Plasma in space can travel multi-directionally. Plasma's inside the ionosphere can only flow unidirectionally. The presence of a significant number of charge carriers makes plasma electrically conductive so that it responds strongly to electromagnetic fields. Like gas, plasma does not have a definite shape or a definite volume unless enclosed in a container or contained by an environment. Unlike gas, under the influence of a magnetic field, it may form structures such as filaments, beams and double layers. In space, current flows in all directions because space is essentially a vacuum filled with double layered plasmas. *The ionosphere itself is a plasma.* Sunlight must traverse that plasma. On Earth, within the ionosphere where life exists, energy flows unidirectionally from the sun to the surface of the Earth. This flow controls the quantum yield of photosynthesis which forms the basis of the food webs on Earth. **Current only flows when a source of electrons is connected to a conductor that contains fewer electrons.** This is why lightening (another plasma) flows from clouds to the Earth's surface and not into space. This allows flow from things with a higher electron density to one with a lower density of electrons. If there is no conductor present between these density changes in electrons, there is only a hypothetical charge of flow we call the electric potential. That potential is also measured in *volts*.

An electric field forms around any electric charge and we can now imagine them with unrivaled precision. That implies that any other charged object if it has an opposite polarity, will be attracted. If the charge is similar they will be repelled. The charge differentially is reflected in the *distance* between

the two densities. The distance between to charged particles is called an electric field. The field is the region of the space of this plasma in which an electric charge can be measured. This is measured in volts per unit of area. All electric fields are associated with magnetic field actions by Maxwell's laws. We can distinguish electric fields from magnetic ones easily today. This was not true in our recent past.

Charge is poorly understood by most people. Understanding of magnetism, by most, is atrocious. Magnetism is an intrinsic property of atoms that manifests in two polarities. Any flow of electrons is accompanied by a combined electric and magnetic field around the current of flow of electrons. Those two fields are always at 90-degree angles to one another. As electrons flow, they disturb other electrons around them in these fields. Just as a current produces a magnetic field, a magnetic, when it moves in relation to a conductor, induces a current. Magnetic fields are measured in Gauss. Both fields are determined by lines of force and they indicate the direction and shape of the field locally between particles. Both fields power declines with distance but their influence over charged particles is *infinite.*

MAGNETIC FIELDS

Magnetic fields are produced by the motion of electrical charges. A fundamental property of magnetic fields is that they exert forces on moving electrical charges. Magnetism is best visualized by putting a magnet under a paper and throwing iron filings on the paper. You can see the field the magnet generates by looking at the pattern of the iron filings. If you throw away the filings and add new iron filings the exact same pattern will emerge showing you that the magnet, and not the atoms of iron, determine the shape of the field of action. This action is very similar to what the human body undergoes every night and day cycle. Its molecules are disturbed by daylight constantly and are condensed back to their form at

night. Sunlight alters, disturbs, and un-condenses magnetic fields. Sometimes atoms in us are lost and we have to replace them from our environment. We get a fresh supply of atoms from water, food, and from light. But thanks to the controlling forces within our cells, namely our mitochondrial electric and magnetic fields, new molecules and cells are rebuilt as before and arrange themselves in the same pattern as old atoms were.

NON GEEKS: This process of interactions of these field underlies the entire previous series. Ubiquitination is essentially our ability to recycle our atomic lattice, properly in our living state. When we are efficient at recycling old to new, our ubiquitin marking rate is low and our magnetic field strength is strong. What determines a living states lifetime of proper functioning electrically or magnetically is the charge contained in our atoms, and the forces they retain within this lattice as light and dark interact with the lattice. Light's presence and absence interact with our atoms and alter charges, flow, direction, and the distance between fields of atoms in our tissues. **It is this field of action where time manifests for biology.**

In essence, time can be thought of as another field of interaction between light and the atoms in us. Since mitochondria are the major source of magnetic force in life, they act as tiny nano-electromagnets that are capable of controlling the size and shape of things within a cell. In this way, they act as *quantum dots* in a cell. Their control lever is known as the tensegrity mechanism. Tensegrity can be visualized like the iron filings on a paper mentioned above. Tensegrity controls the sizes and distances between the mitochondria and nucleus in cells. Since distance and size are tied to the interaction between light and atoms; it must be quantized in some fashion. This implies the size of the mitochondria and nucleus and the distance between the mitochondria and nucleus has a physical basis. Moreover, this

physical basis must be related to the physiologic functioning of the field within the small spaces of a cell.

PHYSICS GEEKS: The pattern or organization of any biotic ecosystem is established by a complex electrodynamic field which is determined by its **A**: *atomic makeup*, **B**: *the behavior and orientation of those components by the electric and magnetic fields they are in.* There is another nuance, however, that is lost on most people. Physics has clearly proven that the atomic components are critical to the character of the field. What is also true, but counterintuitive to most, is that the relationship of the field and particles is not asymmetrical!

What?

NON GEEKS: This implies the relationship between them is not a one-way street. The field determines both, the molecular 3-dimensional relationships of the component parts of proteins and lipids. For example, DHA and water's atoms determine the field of action on the surface of the brain, and they act within another field inside the dura mater and skull. The dura and skull are the brain's environment. That environment then has other fields that can interact with the field that DHA and water created. The field of interaction can be thought of as a bio-plasma. The bio-plasma is similar to the ionosphere. Bioplasma is nano-crystals filled with quantum dots. Quantum dots have another unique ability to control the directional flow of energy within the fields they create or participate within. **The interactions between light and atoms create sizes, shapes, frequencies, and distances in proteins, and those distances are where time begins to manifest and matter to all things alive.** ***It also holds true that the atoms at our surfaces create a field of action with incident light rays from the sun.***

SO WHERE DOES TIME COME FROM?

Time manifests because of General and Special Reality and its relationship to gravitational lensing. What is that? Gravitational lensing was the prediction of The General Theory of Relativity (GTR) proposed by Einstein. According to GTR, the gravity curves the space-time, this curvature of space-time affects the path of light. The gravitational lensing is different from optical lensing that occurs in our eye. *One major difference is that the gravitational lensing is same for all wavelengths of light.* The light of all wavelengths bends by the same amount under the influence of gravity. On the other hand, the bending of light is different for various wavelengths in the case of an optical lens. These difference are where timing via an optical lattice clock in the eye began for evolutionary design.

GPS

If timing is off, distant signals will also be awry, because they rely on size and distance. Biologic things occur and are applied only as time elapses in proper cycles spatially and temporally. This very same feature is why GPS clocks orbiting the Earth must run faster than clocks on the ground to navigate properly. Atomic clocks are 38 microseconds faster than clocks on the ground. In 38 microseconds, at the speed of light, if this clock difference did not exist, GPS devices on Earth would be off by a factor over ten kilometers of distance on the surface of Earth rendering them useless for directions. Remember these atomic clocks controlling your Garmin GPS devices are in orbit way above your head and above the Earth. Your SCN is above your peripheral clocks in your body too. Why?

When you go higher away from Earth's core, even by an inch, two physical forces begin to have an action on the matter. Gravity and Delbrück's effect on light becomes much more magnified in these conditions. This is why living at elevation in a "microwaved world" is a really bad modern idea. This is why tall people die sooner than shorter people. It is also

why living in a high rise, flying frequently, being a pilot, or an astronaut is a horrible idea for your biology when you understand how your SCN works. Why? **Elevation alone, makes your brain age faster than the rest of your body.** This destroys signaling everywhere in your body unless you can compensate for it. This is why airline pilots can drop dead during flights. It is also why business travelers get blood clots on planes.

How does altitude cause this? At elevation, you begin "losing time" because your respiratory proteins in your Electron Chain Transport of mitochondria swell up at an atomic level. Anything in biology that swells, implies an increase size and distance. **One Angstrom increase in distance decreases the flow of electrons by a factor of ten.** This is a quantum effect. That size change alters the current of flow of electrons; it affects the charges of atoms, and that in turn affects the fields they are capable of generating. We can measure those changes in electric and magnetic fields with EEG's, ECG's, EMG's or MEG machines today. This is no longer a speculative point. It is, however, not well known.

Would you like more proof that time is a function of the interaction of light on atoms? As atoms come together in groups, *they gain mass*. As mass increases, gravitational force gets stronger, as a result. As gravity increases, all light frequency bend toward the object with mass. If you happen to be an object on the surface of that object with mass, you can benefit from this effect by being an antenna for this bent light. Life lives on Earth, and earth has mass, so all life forms benefit from this relationship.

Living things are filled with antennae for light. Humans have lenses in their eyes and their eyes have an RPE that absorbs all frequencies of UV light because its dense core granules are filled with melanin. Our skin has melanin too. This leaves the rest of light behind in the eye to interact differently.

Incident light on life's surfaces becomes more capable of altering the distances between certain atoms more than others because of the mass they contain. The reason is simple. Anything containing more mass introduces more gravitational pull. Neutrons and protons act like blockers do in football. They block light's path. Light is like a running back, in this example. Light has to "run around" the protons and neutrons. Light, however, has to interact via a 'law' set forth by nature. That law is the photoelectric effect which requires it to hit electrons and electrons only, in an antenna exposed to any incident light. An antenna is like a surface or edge. All waves diffract (= bends around edges). In our tissues, we have proteins like melanin and carotenoids to absorb UV frequencies on our surfaces. This leaves behind other colors in our lattice to interact. Blue light has the next shortest frequency in living things. Blue light exhibits this bending effect most often in the living things via their retina and skin. Purple light is assimilated quickly by our storage proteins in all our surfaces. It also turns out that every cell in our body emits ELF-UV when it signals. This makes UV light quite different than other frequencies in full spectrum sunlight.

UNDERSTANDING LIGHT AND GRAVITY

Light gets bent because it travels in space-time that is warped around massive objects. Light sometimes passes through space (or space-time) that is warped or bent because of a nearby object having very strong gravitational force. The light passes through this space in what (from the light's point of view) is a straight line. To other observers, the light may appear to have followed a bent path. To antenna's sticking up off the surface of the planet, this has another physical effect: called gravitational lensing. This was mentioned earlier. Gravity warps space-time, and light "appears to bend" as it travels through this warped space-time. The light isn't doing anything except following what is

a completely natural path through space. What General Relativity says, is that any massive object warps the spacetime around it. You can think of this with a simple analogy. Imagine a stretched rubber sheet that is completely flat. This represents the spacetime when there is no mass. Now, if you put a heavy ball in the rubber sheet, it will cause a distortion in the sheet. This is exactly what happens in space, except that it is in 3 dimensions instead of two. Further, a photon always travels by the shortest distance between two points. This is known as Fermat's principle. And light chooses this path because it only interacts with electrons. This is another quantum quirk. If a lattice has a lot of electrons it can make light's path faster than it would if electrons were missing. *This means time is related to the electron density of our tissues.*

This shortens the path of light and creates time for antenna's living on the surface. As spacetime is warped by things like protons and neutrons, the light appears to bend around a massive object and it slows on a relative basis. In reality, it is not that the object is actually attracting light, but it is just that the photons are traveling by the shortest distance in a curved spacetime situation.

TIME IS EMERGENT BECAUSE OF ELECTRON DENSITY

This same relationship occurs on Earth as it does with protons and neutrons in our tissues. Light always chooses the fastest path in our tissues because of Fermat's law. So what happens when the lattice has too many protons or neutrons in it? What happens when you have a tissue like a retina that has a lot more electrons in it because of its superior DHA content? Moreover, what happens to time if there are not enough electrons in our surfaces for light to follow?

Since light only interacts with electrons, it has to "run around" neutrons and protons, time is created because the path for light takes longer. Time gets a direction. This is why

inflammation (protons) shorten lifespan. Time is relatively altered for the lattice compared to the incident light from the sun. *That small difference is accounted for by our retina's "eye clock".* The photons of light, in this example, are not technically affected by large gravitational fields; instead, space and time become distorted in our cells around incredibly massive objects and the light simply follows this distorted curvature of space. What happens around stars and planets, also happens around protons and neutrons in our cells because they have a lot more mass than electrons. The only difference is the scale. These relationships are so tiny they are hard to fathom making a difference. So how could they possibly affect living things?

That small relationship in subatomic particles affects the size, alters the shape, and the distance of atoms in our protein lattices to alter the direction of light's path in us. Since purple light is absorbed and stored by most of our proteins, blue light interaction creates a lot of ROS at our surfaces where mitochondria are present in the retina. It is well known blue light stress creates swelling of the cytochrome proteins. *My belief is that the swelling occurs because we have quantum dots in the inner mitochondrial membrane that react to blue light to swell and cause make ROS signaling by the iron-sulfur complexes.* We know that blue light penetrates into the fat layers below surfaces. Excessive ROS slows ECT flow and current, and this changes how light can interact in mitochondria. Red light is the antidote to the blue light ROS because it shrinks cytochrome c. Red light also is a far deeper penetrator of our tissues. It can go 10-30 cm into our bodies to offset the blue ROS.

How light interacts with our surfaces is where time begins to emerge, and give biology an arrow of time. I have told you mitochondria and stars have a lot in common. Both are filled with H^+ ions. Normally we think light will only bend around stars, but this is not technically true. Anything with mass

causes light to interact with it. The effect may be tiny, but our bodies pay attention to it. It seems mitochondria in our RPE are really attuned to it because they measure it. This is how time "ticks and tocks" our gears.

In 2010, scientists at the National Institute of Standards and Technology went further, in proving that my insights about light and gravity, might be correct in cells. **Their experiments showed that just at 1-foot elevation, a clock ticks four-hundredth-quadrillionth faster per second than it does on the ground.** I would remind you, all most humans stand erect and are 5-6 feet tall. The taller people are the sooner they die on average.

This means your head ages faster than your feet normally just because of the physics of light. Now we have proof why the SCN has to have higher levels of DHA in its structure to operate for a lifetime. The choroid of the eye has more DHA in it than the human brain does relatively. It has more DHA in it so the light that enters our pupil can interact with pi electron cloud in DHA to make our clock tick. The photoelectric effect is the law that is key here. **DHA in our RPE turns UV and blue light into a DC electric current that can provide a higher current of flow to run our "eye clock mechanism faster"** than peripheral organ clocks in our feet or gut organs so our body senses time correctly in both places. Tissues have to control light path and electric currents using DHA in cell membranes just like atomic clocks control Garmin devices in our gadgets. The physics in both cases are identical. These experiments clinched the relationship fundamentally. Biology is still unaware of the deep meaning of these findings.

BLOG TAKE HOME POINT: The "eye clock" creates time from the interaction between light and the pi electrons in DHA. That current of flow is directed by a large push in voltage by purple and blue light through the central retino-hypothalamic tracts that enter our SCN. That interaction is the basis of

how circadian biology is coordinated.

Consider this fact: Half the bestselling drugs in the US target the product of circadian genes, yet big pharma continues to ignore chronobiology at our peril. Why? They are interested in customer retention and not customer healing.

Why height/altitude is bad in a blue-lit world devoid of purple light: This relationship cements why any altitude, off Earth's surface, seems to deadly for living things. Living in a high rise building, flying constantly, or space travel will be a prescription for term life insurance. It is not an Rx for pills, surgery, or a dietary fix. The drugs that Big pharma uses affect the timing mechanisms are static, and don't vary with the waves in our environment, so people have to continue to rely on drugs instead of using light to innovate solutions to environmental light problems.

When this mis-timing occurs in our retina's mitochondria ECT, it results in enlargement of our respiratory proteins of the central retina pathways where melanopsin is the gatekeeper photoreceptor. **Since swelling of one Angstrom slows ECT speeds by a factor of ten, SCN timing ability slows while the peripheral clocks speed up on a relative basis**. As ECT slows electron flow it causes inaccurate timing. Bad timing results in things like neuro-degeneration, T2D, and autoimmunity in our tissues where the timing mechanism is sped up. This is why chronic blue light exposure at night causes low melatonin levels in our eye first and this is signaled to our pineal gland. Light frequencies must be accurately coupled to the retina and brain to tell proper time. It is also why red light condenses respiratory proteins to make more ATP, because shrinking ECT size, increases the current of electron flow causing time dilation. Time shrinks when this occurs, and healing and regeneration can occur. The relationship of distance in these cytochrome proteins to the current of electron flow becomes asymmetric under the rule of General and Special relativity, and this asymmetry underpins how time

emerges and is perceived in that particular tissue.

HOW IS UV LIGHT REPLACED FROM THE SUN?

When time is lost, cells are stressed, and they leak more light. ELF-UV is the frequency lost. As ECT slows more UV light is lost. This worsens ECT flow speeds, and it slows the current present. This is measured in a low redox potential in a cell. UV light must be assimilated constantly via our surfaces to main the circadian timing mechanism in the eye clock mechanism and upon the skin. UV light is assimilated in the melanin dense granules in the RPE hexagonal cells. In the skin, UV light is stored in melanin. This light is released to tissues at night when sunlight is not present, and a cell adds it to its piezoelectric tensegrity system during sleep. This is why sleep is regenerative.

We cannot harvest this stored light to replace the ELF-UV stressed cells release of blue light is present in our retina or in our skin. Why? Blue light makes ROS and blue light lowers melatonin at the same time; melanin requires melatonin levels to be optimized and to be active to offload its light stores in our brown pigmented cells throughout our body. (think substantial nigra or the RPE) Melatonin lowers the ROS blue light causes naturally. When it is not present you lose the ability to assimilate purple light. It is why stressed cells are linked to symptoms associated with ELF-UV light releases. These cells also suffer from chronically low UV light assimilation and result in low vitamin D3 production in our skin and plasma. A low *Vitamin D3 plasma level is just a chemical signal that UV light is absent in tissues;* when UV light is absent in tissues this produces low DC electric currents in our tissues. Lower DC currents have been shown in both plants and all animals to equate to lower regeneration speeds in their cells. Low regeneration = poor sleep. During wakefulness the DC electric current is measurable, at night it is not because at night the DC electric current is being converted back to UV light by the action of DHA in our cell

membranes. DHA is the only chemical in 600 million years of evolution not to have been replaced in neural tissues or eukaryotic cell membranes.

When time speeds up in our cells, we die sooner because we get ill faster. It is why all of these things directly link to high ubiquitination rates in proteins. Biologic time is a function of ubiquitin marking rates in biology. In combination, they are all associated with disease generation because increased protein synthesis costs mammals the most energy resources. **Life is about conserving energy, not expending it.** We can expend energy when we are able to store a lot of light energy in our tissues. Any time a cell is stressed it leaks ELF-UV light. When we expend too much energy, life dies. Before it dies, it tends to get ill. When ECT flow ceases so does life. It must constantly be fed a diet of electrons from light or from food. *The more we get from the sun and magnetic field the less we need from food.*

The “mis-timing” leads to massive effects at the quantum scale of protons and electrons in CSF because the scale of action of the SCN is on subatomic particles, not on GPS devices in tech gadgets. The differences are smaller because unlike orbiting clocks, our SCN’s are only 6 feet above the clocks in our feet. The distances are small still with respect to our liver and pancreas. Moreover, the eye clock is not rotating 14,000 kilometer’s an hour, like atomic clocks orbiting Earth are. The SCN circadian clock has to run faster than the organ body clocks because of the warping effects of gravity, Delbruck scattering, and lowered electric and magnetic fields generated within the ECT in mitochondria. The SCN has to run faster than all these things to stay ahead of, hence they are younger, than the rest of our body. This is fundamentally why all animals sleep. **Our SCN actually ages faster than clocks in other parts of our body. DHA is replaced in the retina during REM sleep to make our head younger once again.**

If it did not, nothing would be or could be linked to our

circadian cycle. This is how uncoupling of time happens in every one of your cells. *This also supports the idea that time is not primordial; it emerges because of spatial-temporal relationships of atoms recycling in life.* There is no excellence of cell function when light becomes uncoupled from our "atomic eye clock". This situation happens a lot in a modern microwaved blue-lit world and leads to difficulties, we call diseases of aging. Nothing will age us faster than an "***alien blue sun***".

Einstein's general and special relativity is still functioning in that six-foot difference between your head and feet even if you do not perceive it. Your "eye metronome" does via the central retinal pathways. I mentioned above that in 2010, physicists measured this difference for the first time in history above. *Not one biologic experiment I know of has controlled for this primordial physical relationship.* I knew it existed ten years ago because the laws of physics say it had to exist, because of how GPS physically operates on Earth. Just because biology couldn't measure it then well, did not mean it the relationship was not true or existed. **An absence of evidence is not an absence of effect.** This prediction I made in 2005, was confirmed in the 2010 experiment mentioned above. Now, all of us will have to wait for biologists to realize that few feet difference between our head and organs below it, like our liver, is why all life has to sleep. The distance between your central timing mechanism and your peripheral timing mechanisms in cells is the most critical step to the creation of wellness. Those relative difference in the clocks speeds of your "eye clock" from your peripheral tissue clocks must run in similar fashion to the physics that drives a GPS device in your phone. When they do not or cannot, it has a massive effect on how the electrons and protons in your body flow in our mitochondria. It has very little to do with food or exercise.

GRAVITATIONAL LENSING REVIEW

Why was I so sure ten years ago I was right about this? The most interesting feature of gravity is its effect on light. ***Light can actually gain weight as it travels***!!!! How you ask?

Gravitational force is capable of bending light by frequency. If this is possible, it raises the question how heavy is bending light?
Drop a stone from a bridge, and it will accelerate, but shine a laser beam down, and its propagation speed remains fixed. Still, Einstein's relativity theory predicts that the light beam will gain energy as it drops to something with mass, not by speeding up, *but by slightly increasing its frequency*. A change in frequency is equivalent to a tiny shift in color. This means that gravity and mass alone act like a quantum dot, which was mentioned earlier.

This shift was too small to detect until 1959 when physicists discovered an extremely precise technique for measuring the frequency of short-wavelength light called gamma rays. I read about that when I was younger. Robert Pound and Glen Rebka of Harvard University set up a gamma-ray source at the top of a tower in a Harvard physics building and a detector in the basement, 74 feet below. They detected a frequency shift of just a few parts at 10^{15} wavelength and verified the so-called gravitational redshift predicted by Einstein to within ten percent of the expected value. **In 2010, their experiment was refined further, to show a more detailed picture of how light changes as it drops toward anything with gravity.**

This is when I realized "time creation", had to be intricately connected to gravity at some level. *This implies time emerges from the interactions of light with physical forces present on a planet.* Feynman said once, that he was to give one scientific fact to a new civilization for them to innovate from, he would tell them about how light interacts with atoms. I never knew why he said it, until I understood how gravity really affects light as it falls to Earth from the sun. He

said, “this interaction was like a religious revelation to people of science”. I think his insight is correct. Might this also be why the equations in Feynman’s QED math describing physics never includes time as a variable? Time does appear in classical physics equations but never in quantum ones.

Today, it is not controversial that gravity is capable of bending light. Stars, planets, and atoms are capable of doing it, did you know that? Today, most biologists still do not, and they have no idea of its deep implications for their own work. *This is why the further we get from the Earth’s surface, the faster a clock must run to make time accurately because light bends any mass in its wake.* This means when you fly you better consider eating a lot of DHA preflight and before to make your SCN a better timepiece. Gravitational lensing accounts for half of the effect of the bending of light in a gravitational field. Since the Earth has a lot of mass, it has to affect things that live on Earth. It turns out, our eye clock uses the same physics to create time for cells because of how light and DHA electrons interact. Recall the retina has more DHA in it than the human brain on a relative basis. The eye also contains a perfect black box radiator (pupil) that allows light to fall to our retina where trillions of electrons wait in DHA to be energized or excited. *Those incident light waves are what creates a reality of your life by creating time.*

HOW TIME CREATES OUR REALITY

Light responses in bipolar cells are initiated by synapses with photoreceptors. The bipolar cells then transmit the signals from the photoreceptors or the horizontal cells and pass it on to the ganglion cells directly or indirectly via amercing cells in the retina. Unlike most neurons, bipolar cells communicate via graded potentials and not action potentials. This means light frequency is on a slope. That slope is related in quantum fashion to the neurotransmitters in the brain. All neurotransmitters are also quantized to

light because they contain aromatic rings in their proteins that absorb UV light. This is why dopamine and UV light are linked. In the retina, like horizontal cells are arranged, amacrine cells work laterally as well. However, horizontal cells are connected to the output of rod and cone cells. These are the main photoreceptor of the eye clock and camera. Amacrine cells affect the output from bipolar cells directly (they are inhibitory), and are therefore more specialized. The specialization comes in the form of light frequencies they respond too. Each type of amacrine cell releases one or several neurotransmitters where it connects with other cells in the brain to communicate what they do to other protein lattices. This is why there are 33 types of amacrine cells in the retina. If you understand factorial math, that means within our single octave of the visible spectrum amacrine cells can handle 8,683,317,618,811,886,495,518,194,401,280,000,000 different frequencies of light. So when you realize that biochemistry only uses 100,000 reactions per second, light frequencies can easily handle this control task. It also makes you realize how accurate your retina's eye clock mechanism is. Biochemists have no clue what controls enzymatic flux in biochemistry but now you do.

This is how sorting out the visible spectrum of light occurs in the eye. Humans operate in just one octave of 73 octaves of the light total spectrum. Within that one octave, are hundreds of thousands of frequencies of light exist. Amacrine cells determine what frequencies we pay most attention to and link them to neurotransmitters that respond to these specific frequencies. They are responding in a quantized fashion controlled by light alone. The rest of the frequencies we remain oblivious too, in our retina because our visual sense is not attuned to them.

Everything we put on our surfaces is capable of distorting our sensory perception of light. Sunglasses, contacts, and

clothes are capable of altering these relationships. This can alter our reality and can lead to many diseases. Our senses are attuned to specific waveforms and are specific to our morphologic development. Our senses are tuned to use the specific octave of the spectrum in our local environment in the best ways possible. When you move away from your ideal adapted environment your life and reality change. Why? Blocking one part of the spectrum alters biochemistry at deeper levels because it often regulates another layer of organization in a tissue. This is akin to having sex with your clothes on. We can have sex like this, but nature wants us naked for a reason. Mother Nature perspective is the one makes this distinction and this point should be important to adhere to. Our surfaces are designed to decipher waveforms from the space around us; they remain invisible to us unless we have our senses intact to capture those light waves with the electrons in our retina. This is why DHA is critical for humans.

RELATIVITY AND THE METRONOME

The ability of a hyper-sensitive clock to determine small differences in light or in altitude is based on Einstein's predictions in General and Special relativity. These laws predict that the farther one gets from the center of an attractor (like Earth), the faster time moves. Blue light makes ROS and time clicks faster in our eye clock. **The faster time moves, the older a living thing becomes.** This showed us for the first time in human history that time truly was relative, but, it also shows how time relies on gravity to manifest. Gravity manifests when atoms come together and condense into something with a mass. In a sense, time and gravity are emergent properties of matter!

The SCN is a special "optical lattice eye clock" attuned by electric and magnetic fields. Blue light alters both types of fields. When you consider that modern life uses blue light for lighting its screens, the problem should become obvious.

Optical lattice clocks are capable of change time rapidly in cells when the light signal is altered or is alien to what attunes them. All clocks need a stable reference point to tell time. The eye clock in us uses blue light's ability to optically bend through the lens of our eyes to get that reference point. This occurs maximally at 460 nm of a wavelength of light and this is how those ganglionic clock receptors react (melanopsin). This bending is also affected by changes of water in microtubules (MT) in our retinal cells. When we have non-native excessive environmental exposure of blue light at night (think tech gadgets), it destroys DHA in retinal cells; Lowering DHA in the eye lowers the DC electric current in the central retinal pathways that control the speed of the SCN. Without DHA, the SCN clock runs slower and we die soon because our time expires. Non-native EMF's also dehydrate's cells. This lowers their water content. A lowered water content affects microtubule function in every neuron. When the choroid and RPE are dehydrated, light energy cannot be transferred from the retina to neural networks of the brain or to CSF. Water is the ideal chromophore for the red light. Red light shrinks the ECT proteins to regenerate tissues by increasing ATP levels in mitochondria. This color of light is the antidote for blue light because it offsets the ROS of blue light to increase melatonin levels in the brain. When this happens it allows neurons to regain UV light from our protein stores. This causes our cells to lose energy and information in the system, and we age faster as a result. Time speeds up again, and life gets tougher.

When DHA levels are lowered in the "eye clock" pathways, and not replaced during REM sleep, the Rolex in your head no longer runs faster than the peripheral circadian clocks. Disease ensues in the tissues with the faster running peripheral clock in relation to the slower clock in the SCN.

In my opinion, this is where disease manifests today. The altered light physics of the environment dictates the biologic

diseases we get. Now it begins to make sense why half the bestselling drugs in the US target the product of circadian genes, yet no one gets better. The reason is everyone is now affected by an alien blue sun for the last 120 years. This is when man moved from fire and went to electric lighting. The irony is, Big pharma and healthcare practitioners seem very unaware of these linkages. I think "Big pharma" knows about these relationships, and plays dumb, by designing clinical trials that will never let "the genie out of the box". It is our job to explore this aspect of life. I think most healthcare practitioners are blind to it because they do not understand the physics of light.

Medical education contains no physics education, but this is no excuse when our patients are dying faster and getting more sick from unusual diseases. Learning does not stop in residency. Learning is not a spectator sport it requires us to have skin in the game to be heated up. This awakens our senses by stoking sparks of curiosity in us. Life is what physicians protect. This makes time, like a house in flames. The non-creative mind can only spot wrong answers, but it takes a very creative mind to spot wrong questions. Spotting them is the key to extricating yourself from bad modern ideas that burn down your house and burn time.

NUMBERS THAT CREATE THE FIELDS THAT CREATE TIME IN THE EYE

The atomic clocks that we use now to control GPS devices are like a watch with a hand that moves 9 billion times per second. That sounds incredibly fast but it pales in comparison to what magnetic fields are capable of producing in our eye. The ' eye-clock' in our SCN oscillates at the speed of a billion trillion times per second; our retina has a massive density of mitochondria that generate many electric and magnetic fields at small scales. Mitochondria are the source of magnetic fields we measure with MEG devices. Did you know that magnetism has the **HIGHEST** oscillatory rate we know of in nature? Few people know this. It is

18,446,744,073,709,551,616 oscillations per second!!! Now compare that rate of vibration to the eye clock's ability to capture frequencies of light. **Now you begin to see why mitochondria in our central retina can accurately measure the small oscillations from our environment.** The timing mechanism oscillates at higher speeds to accommodate light's interaction with the pi electron clouds of DHA. Remember light can only interact with electrons because of the photoelectric effect.

It is hard for the mind to grasp that many things vibrating that many times in a second, but it happens. For those of you bad at math: That number above describing magnetic oscillations is 18 quintillion, 446 quadrillions, 744 trillion, 73 billion, 709 million, 551 thousand, 6 hundred, and 16 oscillations per second of vibrational energy. That is the scale of physics working in your "eye clock". Our retina is capable of keeping track of ripples of light oscillations at these speeds to direct how we handle electrons and protons in our ECT in mitochondria to create time for our own N=1.

This ability alone, allowed time to emerge for cells. This timing mechanism controls all cell growth and metabolism in life.

TIME IS CREATED BY LIGHT AND ELECTRONS

Remember, time is not found in any QED equation. It is found in classical physics equation but not the ones that deal with electrons and protons. This is a key distinction. Time is derived because biology is built around an open system of atoms working far from equilibrium; this interaction allowed several fields of charges to develop because of the collisions with light oscillations at these incredible vibrational speeds. This is precision accuracy that biology needs to work.

Do you still think your blue lit technology LED screens are safe to use?

How do you take Dr. Gerald Pollack's ideas in this interview

and see its far-reaching effects for the clock timing mechanism in our eye? Listen carefully to the end of the interview. Dan and Gerry both agree, life comes down to negative charge and electrons. Light interacts with electrons only, via the photoelectric effect. But light also excludes anything larger than the size of protons too. Protons on Earth come in multiple sizes. This is why their belief exists even if they are not aware of why it is important. You know I have said everything comes down to light frequencies and timing, so how do these two concepts marry?

YOUR EYE IS A CLOCK FIRST AND A CAMERA SECOND

When light is present at sunrise, it sets the SCN clock in motion because blue light appears after being absent at night. UV light is not usually present at sunrise because it has to traverse longer distances in the atmosphere. UV light does not penetrate surfaces well. Blue light does penetrate surface well, and it is why this frequency is used initially to signal the pituitary that the sun has risen. Blue light alerts us in the AM. It is the strongest frequency of light present at dawn. Since blue light bends optically most it affects retinal photoreception.

As the daylight grows UV light penetrates the Earth's surface and hits our surfaces. Sunlight dampens gravitational force. Gravity's effect on light is much less during the day than it is at night. So during the day time, the optics of the eyes lens becomes most important. This is when the eye camera works with the cone photoreceptors. The effect of blue light in our eye is not as great as it is at night because sunlight has a balanced amount of red and blue light. the red light is the antidote for the ROS that blue makes. This explains why the retina is mainly attuned to green-yellow frequencies for camera vision. Blue light presence is key in the early AM and its absence is key at night for the eye clock function to work optimally. So what does this imply at sunset? At night, gravity on Earth is stronger, blue and purple light are not

present so they should not be coming through the pupil. Purple light has been stored in melanin proteins during the day and at night, the light energy stored is ready to be offloaded to porphyrins and other proteins in our tissues in the absence of blue light. Therefore, blue light at night, causes us to lose UV light and time most to a greater degree than it does during daylight.

WHY IS THE CRITICAL?

Blue light frequencies at night bend more via our lens in our eye to increase melanopsin photoreception when it should be decreasing. As the night progresses, the blue light should be more rare, not more common as it is today because of technology gadgets! If you look at Dr. Pollack's book, The Fourth Phase of Water, on page 296 you will see when water is confined in a tube like a microtubule is in a neuron, water exerts a force on the side of the tube. At night, melatonin rises, CSF cools, electron density increases, and this drives EZ water inside microtubules. *At night, inside a microtubule (MT), the exclusion zone of water becomes more negatively charged because of the increased electron density while light is not present via the pupil.*

This makes the MT's more hydrophilic, thusly, the MT's can defy gravitational force, and flow up and into MT's much the same why xylem can do in wood. Again, Dr. Pollack experiments have already proven these facts for us. They are not speculation. One problem: Biochemists, biologist, and few clinicians read Dr. Pollack's work as closely as they should. Humans see well but are poor observers of nature.

When this happens in our cells at night, it increases proton flows in the EZ water of the MT, making them more hydrophilic. Hydrophilic tubes = more electrons = more proton flows = a larger exclusion zone in water. This effect is magnified when you confine the water to a smaller diameter. The entry point of an MT is 30 nm at the neocortical surface in the brain and

it tapers down to 1.4 nm deep in the white matter tracts of the brain. The EZ in MT excludes protons, thereby driving chemiosmosis; chemiosmosis is what ALL LIFE on Earth uses to live. This fuels the nano-quantum motor the ATPase. Nick Lane's new book, The Vital Question, discusses this topic in detail for those of you who do not understand it.

As EZ water is formed in MT at night because melatonin cools CSF, there is less bending of light stored in proteins. This becomes a key optical signal that develops in your eye clock pathways that act as our most precise optical lattice timing mechanism. These quantum mechanical atomic interactions, in concert, lead to time dilatation in the central retinal pathways to make your head younger by regenerating our photoreceptors and mitochondria in our retina. In essence, time shrinks by the action of EZ water in microtubules when light is not present via the pupil. As time shrinks, you get younger as a result because you become able to regenerate. ***At night time, your head is designed to get younger by nature's design.***

KEY BLOG POINT: When time expands during daylight, you age faster, and time manifests and gains its forward direction that we are all familiar with. Sleep must occur to make the eye clock run faster than the peripheral body clock; as a result, time dilates. This is why you lose time perception at night and during anesthesia. This is why every living thing on this planet has to sleep for this reason because their eye clocks must regenerate at this time for biology to work. This is the only reason sleep is ubiquitous in the animal kingdom. It is due to the physical interaction of incident light on our surfaces with an optical lattice of atoms in our eye. Shocking, huh?

The result of the combination of these physical forces can be measured in telomere lengths in cells. This is how cells "keep time" with reference from the "eye clock". This makes telomere lengths, relative to DHA levels in your "eye clock" mechanism;

It also relates directly to mitochondria by changing the size, shape and length of your respiratory proteins in your ECT.

I am sure all of my predictions here will be proven in the near future. It has already been shown clearly in research that meditation releases bio-photons which result in activation of telomerase to regenerate time. This light release is capable of making cells react to its signal. It, however, requires a large net negative charge to be present in the walls of microtubules in the tensegrity system of the cell to work properly. The telomerase enzyme helps to lengthen telomeres at night in the absence of blue light, to get us younger using time dilation. *The absence or presence of blue light is a key redox sensor for life and death.* This means life uses the NAD^+/NADH ratio as a biochemical proxy for lights interaction on mitochondria. Using a blue light at night puts you closer to illness and death because of this relationship.

It lowers NAD^+ while making singlet state ROS at cytochrome 1. **In this sense, health is merely the slowest form of death we create in our life.**

<u>HOW DOES THE BRAIN TIME DILATE: GRAVITY</u>

REVIEW: When light is absent, electrons are more densely packed in cell water, and oxygen levels are higher in cell water, proteins are more hydrophilic, and water can rise inside microtubules defying gravity. This defying action affects the optical lattice timing mechanism in the SCN's MT's to dilate time. During daylight, electron density decreases in water and there is a less gravitational force in action in the brain and time slows down. As a result, we become able to sense it. It emerges because of the complex dance light has with gravity during day-night changes and with EZ water in the brain's microtubules. They undergo quantum changes as the microtubules narrow as we move further away from the neocortex. Water acts much differently in the tight spaces of

microtubules. Light can alter their hydrophilic and hydrophobic abilities when it is confined below 1.4 nm. The temporal sequence of collisions of light with atoms in our microtubules optical lattice determines the direction of our arrow of time.

If we can make any clock 1,000 times more accurate, we could hear the symphony of the universe in each cell. Mother Nature did just that in the construction of the atoms in our SCN using DHA as the key chemical. DHA's pi electron cloud works optimally at a 6 Angstroms distance. Respiratory proteins work at 8-18 Angstroms. This means the eye clock and every cell membrane in our body is designed to work faster speeds when light hits this surface to turn the light signal into a DC electric current. This makes the SCN speed faster than the speeds at ECT where food is broken to electrons. The inner mitochondrial membrane has no DHA because it is of bacterial origin. It has iron and molybdenum as its electron target for the photoelectric effect. **This is why ECT speeds are slower than DHA in the eye**. DHA's quantum effect is really built into its 6 Angstrom reaction time with respect to light collisions. Fermat's law cements the relationship. Molybdenum and iron to interact with electrons to generate energy at 8-18 Angstroms in cytochromes. Their size is larger, therefore, electron tunneling speeds in ECT is slower than it is in the eye.

Because of this relationship, losing DHA in the retina is the fastest way to get ill. Blue light into the pupil at night destroys DHA in the RPE. Time is lost when this happens.

Implications of the relationship for future clinicians:

Since DHA can turn light into a DC electric current or vice versa, **this means that someday we might be able to use spectroscopy to measure the health of our "eye clock".** Today we have NAD^+ and pseudohypoxia as our best measure.

Spectroscopy allows the measurement of interactions between electromagnetic radiations and matter.

SO HOW DO WE LOSE TIME IN LIFE? WHEN WE DO LOSE IT AND WHY ARE DISEASES THE RESULT?

Consider water's action in an altered light environment. As non-native EMF increases in your environment (blue or wifi as an example), the result is dehydration and calcium efflux. This decreases the exclusion zone in cells. A negative charge is lost. Positive charges (inflammation) manifest. Calcium, the cement of the lipid bilayers in every cell of your body, is effluxed. This unzips the cell membrane and more positive charges in a cell result. DHA levels drop. When DHA levels drop, lights path must change as a result, and time speeds up for these tissues.

This relationship is present in animals and plants. Consider the following: The more positive charge (protons) that is present in a cell, soil, or atmosphere, the more evaporation increases. In plants, this lowers photosynthetic capacity by lowering the quantum yield. Photosynthetic capacity drops. In you, it lowers your ability to make and move energy within the cell and lowers your redox potential. How?

As positive charges increase in the brain, microtubules can change shape and their diameter, and this limits water's ability to flow into and up microtubules. The lack of water, or the relative growth of the positive charge, enhances the action of gravity on the tensegrity system, and light released within a cell. This light is usually ELF-UV light. As we lose UV light we age faster. This alters the natural relationships between light and gravity. This means gravitational lensing is altered. The timing mechanism is the brain is disrupted. Normally in sleep, gravity's effect is lessened, therefore time slows. These actions are coupled to mitochondrial size

and shape by affecting the tensegrity of the cytoskeleton which is directly impacted by Archimedes principle of water within a cell.

This stimulates autophagy to condense and shrink a mitochondrion to become efficient. When water is missing (dehydration), this relationship is also destroyed and entering autophagy becomes improbable. Mitochondrial energy production and capacity is lessened because the length of the respiratory chains increase because the size of each one is increased. Here you can see how both photosynthesis is lost in plants and mitochondrial energy production are lost in us. **The effect of water, light, and gravity all act to create or destroy time.**

ANOTHER TAKE HOME: Time is emergent because Mother Nature needed to control the open systems of atoms in our environment to organize them to become biotic using electric and magnetic fields. DHA is the only lipid that can turn sunlight into a DC electric current. It also can turn the DC current back to light when it is present in our cell membranes. When calcium cement is lost in cell membranes this ability to contain DHA is lost in cell membranes and they lose light back to their environment. Excessive nnEMF and/or blue light exposure at night cause this effect on calcium. This is why Fritz Popp and Roeland Van Wijk have found light loss from cells in disease states in their experiments using photomultipliers.

Many Russian scientists have found the very same data for 100 years. These results have been reproduced many times over. **The DC current works in us during daylight awake hours because sunlight is changed to a negative current in cells**. At night, no light should be present, so the DC current vanishes in cells. As a result, gravitational forces become stronger at night, in the absence of light, in our environment and in our cells. This changes the tensegrity system in cells. This acts to condense matter in darkness and in colder environments. This is why melatonin lowers body temperature at night. The

pineal gland is capable of focusing light collected from melanin to cool CSF within the ventricular surface. Light can be focused to cool liquids. Science is just awakening to these ideas as the last hyperlink shows. It is also why blue light is deadly at night because it destroys the cooling mechanism light provides when melatonin cycles are optimized and DHA levels in cells are adequate. When a mitochondrion condenses, its magnetic field also strengthens. As the magnetic field condenses, light energy stored in melanin proteins, and the dense core granules in the RPE begin to give up their electrons that are loaded with ultraviolet wavelengths. Those ultraviolet wavelengths are delivered to NADH which is strongly absorbent at 340 nm. As magnetic flux strengthens, it provides this light energy in the absence of light, to drive electrons to repair oxidative damage from wakefulness.

Light's presence or absence directly affects the exclusion zone of water, and this, in turn, changes the tension in a cell. The change of tension in the cell is transmitted by Archimedes principle to the nuclear membrane where genes are buried in clumps of DNA. In plants, leaves are quantum computers used for sampling light waves in its environment. In humans, mitochondria are quantum computers, and the environment they exist in is their measuring devices. Genes respond to the signals mitochondria give them. Mitochondrial signaling is the middleman in this quantum measuring device. When anything is measured in quantum physics a waveform is said to collapse and reality can manifest. Measurement and observation alone affect a gene's expression or repression. **The genome is an 'organ of the cell', not its dictator.** When a gene is compressed it will not be copied. A gene that is in its uncompressed state will be copied more. The change in tension within a cell, between mitochondria and the nuclear membrane, leads to a change in the pattern of cellular signaling. This complex orchestration is controlled by an optical lattice Rolex in your head that responds to light.

When it cannot tell time, you get ill because the distance between your mitochondria and nuclear membrane is changed. The rate of decline in an illness state is defined by a low redox potential and is proportional to the extraneous light you allow at night.

Everything in living things is tied to their redox state. Positive charge (inflammation) rules the day and the negative charge restores life at night. How it occurs offends common sense because biology is quantized, and very few in biology and healthcare realize this. Contrary to popular belief, there is no Occam's razor in biology. Since science has found all photosynthesis steps are fully quantized, this alone, should convince anyone that nature uses a very complex set of quantum rules to recreate conditions of existence to animate life from *abiotic atoms*. How she does it, well that is the story I am building piece by piece on each blog. I will continue to disrupt you with curiosity.

To know a person's library is, in some measure, to know their mind. There is a great difference between knowing and understanding: you can know a lot about something and not really understand it. Let nature guide you. An unnatural point of view can be a dangerous luxury when substituted for real insight and understanding. Don't let modern reality technologies get in way of your insight. It is a barrier to the scale that life operates at. The strength of your obstacles in reasoning is what determines the weight of your potential in understanding. Your potential to use nature will provide the power to destroy today's reality and its faulty beliefs.

Switch off, folks. Technology must evolve, and so must your use of it. Enjoy an analog day more than once a week.

New signs installed in downtown Stockholm: Humans worship alien blue sun’s 95% of their life and never consider it’s effect on cells.

CITES:

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