UBIQUITINATION 20: LINKING LIGHT TO PLANTS AND ANIMALS

READERS SUMMARY:

HOW DOES LIGHT LINK PLANTS AND ANIMALS?

WHAT ARE THE DEEP BIOLOGIC IMPLICATIONS IF THAT SYSTEM IS AWRY?

CAN ARTIFICIAL LIGHT ALONE EXPLAIN DISEASE AND PSEUDO-HYPOXIA?

The Earth's environment is a 24/7 factor that plants and animals have to deal with. Every single minute of the day we have the chance to be exposed to various spectrums of natural or artificial light or total darkness if we do sleep correctly. Plants eat sunlight and drink water for their food. Compare that to eating food for animals. Humans may spend an hour, in total eating meals. Have you ever wonder which matters more, light or food? **Plants don't need food because the use light and CO_2 from the thin air to make sugar.**

Humans properly connected to light cycles and Earth who have their energy generating mitochondria coupled to nitrogen cycles don't need a ton of food to live either. We have the ability to run for long periods of time using the part of the our mammalian battery that uses photosynthesis exclusively.

Food is not the man driver of ubiquitin marking for protein recycling in humans. It maybe your opinion or a current belief, but it is not a natural truth. It should really scare us that some of current guru's and experts think that education about quantum physics that challenges their ideas is equivalent to an attack on their beliefs, but that is what we

have today in ancestral health and medicine.
Plants have no need for food electrons because they get all electrons from the sun and the Earth's magnetic field. They are as alive as we are. They use the DC current to regenerate as all animals do. This means how they make energy is coupled to animal metabolism is a very deep way. How and why? *That is the story of this entire series.* Regeneration pathways are identical in both plants and animals in our past, today, and likely into the future because of the physics of light on surfaces of matter that makes us up. Photosynthesis concerns itself with how light interacts with a leaf.
Wakefulness in animals is associated with the presence of the DC current in our cells and it disappears in sleep and when light is absent. In sleep, it appears light signaling in the brain and most cells predominates. Most people do not realize these changes and relationships are linked in us physically.
Plants also regulate their photosynthetic balance to the presence or absence of light by altering the components involved in photosynthesis in quantum fashion. All plants are coupled to animal life by way of the CO_2 and O_2 cycles. Photosynthesis forms the basis of all food chains on the planet linking plants to animals. Photosynthesis operates most efficiently when the rate of CO_2 diffusion into the leaf matches the biochemical capacity of the leaf to fix CO_2. CO_2 is a gas that comes from plants and is stored in our atmosphere. It can be thought of as a bio-plasma surrounding Earth that sunlight interacts with daily. The chemistry of the atmosphere varies day to night because of this interaction. We do the same things using water and O_2 reduction in a mitochondria. Plants do it by altering ***stomatal conductance*** of their pores. This is how C_3, C_4 and CAM photosynthesis reacts to varied and different environments with respect to water presence and light's inclination. This is why my magnolia tree on Bourbon Street has huge floppy leaves right now pointed at the ground when summer light is powerful.
Light dramatically alters how electrons are handled in plants

and animals but too few people in biology see the homology between them. I would suggest you read “Life at the Edge”, by Jim Al Khalili for more details. When you read this book, you begin to sense why biologic research has lost its way since 1950. Biology has rejected quantum mechanisms at play in life for faulty beliefs. Today physicists know quantum mechanisms are at the core of what makes life special. Moreover, in photosynthesis research, physicists have been floored that quantum mechanics is able to exist in ***wet and warm*** environments in plants. **This is the key lesson in “Life at the Edge”**. The reason they have been stumped is because in a lab they have only developed detectors that use cold dry environments to find these effects. Just because you have a lack of evidence from your lab experiments, does not preclude life using quantum mechanics in ways you are yet to discover. That logic escapes many modern guru’s.

You’ll find as this blog series evolves, this is why biology has forgotten experiments that have already proven, been reproduced, and published, prior to World War 2 in Russia, that link light to nitrogen coupling to drive growth states. This cycle determines how carbon can be used in biologic systems, plant or animal. The details of this “huge error in biology” are ***detailed in Roeland Van Wijk’s work, in the presence of oxygen, on how light frequencies sculpt life in all kingdoms.***
Eukaryotic cells all release ELF UV light, and in Roeland Van Wijk book, “**Life Sculpting Light**“, you’ll begin to see how O_2 consumption and cellular light release seem linked in a very interesting way. Hemoglobin (made of porphyrins) carries O_2 but it appears that free radical release and O_2 utilization are the key to light generation in cells. Today, many experts view free radicals as bad actors. Nothing about that opinion is true.

The lack of effect of antioxidant supplementation in human studies to increase lifespan, to promote health or prevent

oncogenesis has led to a very interesting hypothesis. What works in less complex organisms does not seem to translate in more complex organisms in published literature. Supplementation of antioxidants just has minimal effect and in some cases may be harmful. I mentioned this in CPC #9, that if your body makes an antioxidant or protein that maybe it is not best to take an exogenous version of this chemical. This idea runs very counter to the paleo guru's an alternative health practitioner's today. This puts me at odds with their beliefs and their business models. Supplementation with antioxidants has been linked to increased incidence of a number of diseases to adverse effects of human longevity. My observations are congruent with the previously published studies of Micheal Ristow in 2009. This news was not well recieved when I mentioned it 4 years ago in my blog or my forum. It was also not well recieved at the Paleo fx conference I spoke at in 2012.

This is especially critical at the skin surfaces where sunlight interacts with our skin and the blood vessels below the surface skin levels. This is where UVB light makes sulfated vitamin D and where sulfated cholesterol should be. **We need AM UV light 290-390nm to be present for proper circadian signaling, while simultaneously eliminating blue light (400-490nm) after the sunsets.** This makes looking at RBC's measurements on labs critical because RBC's contain porphyrins. All porphyrins all absorb UV frequencies across the full spectrum of sunlight. This assumes we are using full spectrum light in the AM. Since light interacts initially at the skin level these relationships become more critical to understand.

Porphyrins have 4 critically positioned nitrogen atoms inside their molecular ring. This proteins is found as the core protein of hemoglobin. RBC's have no mitochondria, but they're loaded with catalase, and deal with free radical signaling (H_2O_2). H_2O_2 breaks down into H_2O and O_2 in most places but not

in arteries or in veins where hemoglobin is present. Many heme-binding proteins have diverse functions. Some known functions include electron-transferring cytochromes, intracellular peroxidases and lignin-degrading extracellular peroxidases. Peroxidases are heme-containing enzymes that use hydrogen peroxide as the electron acceptor to catalyze a number of oxidative reactions. Your thyroid uses a specific type of peroxidase to function well with iodine.

You'll find if and when you look, in plants, this nitrogen coupling to light frequencies is also an important issue too. In long lived leaves, they typically have low nitrogen concentrations and a very low photosynthetic capacity. **Low nitrogen concentrations in leaves imply low ubiquitin rates in plants because nitrogen turnover is limited in capacity.** Is this relationship maintained in animals? In animals, cancer is more common when ubiquitin rates are elevated. ***When ubiquitin marking is lower, cancer is rare.*** Ubiquitin rates in plants and animals are linked to the frequency of light waves that interact with them initially. In plants that interaction occurs on leaves, and in animals it occurs on their skin.

The shorter the wavelength the more cancer we should expect. Blue light fits that bill because it is highly powered; as light becomes more blue, especially at night, the situation worsens. Blue light in the AM does not have the same effects as blue light at night. The reason for this is the pigments in proteins that can be activated at different times of the day because of the frequency difference within the blue range. In the AM we need UV in the 290 nm-420 range. At night we need to avoid anything around the 480 nm peak of melanopsin which is longer blue frequency at night. AM sunlight is more highly powered to activate the release of pituitary hormones from the anterior lobe. The energy of its constituent photons increases, and the number of materials (proteins) which can be excited to a high energy state and usefully convert that energy to light diminishes rapidly. When blue light is dialed

down in power (nitrogen interaction in proteins like NAD^+ and $FADH_2$) you should expect lowered cancer rates, while retaining a higher capacity to regenerate well. This is why we need UV light in the AM and we need to avoid blue light after sunset. Regeneration = a strong DC electric current. In you, your vitamin D level should also be higher in the AM because of its initial interaction of UVB light in your skin surfaces. ***When that light frequency signal is altered or missing***, so will the signaling in the deeper levels of the skin cells and arterioles that feed these tissues oxygen. This lowers oxygen in mitochondria and pseudohypoxia results. AM sunlight increases O2 delivery to the the skin when light hits RBC's because of what RBC's contain. Porphyrins and hemoglobin. RBC's deliver oxygen to mitochondria optimally in the skin when this situation occurs, so as a result, there is more venous oxygen present. This means that AM sunlight (UV-IR) increases venous oxygen levels naturally. This is frequency affect of AM sunlight. As the frequency of light in your environment decreases or is missing , autoimmunity and obesity should be expected to rise quickly in populations based upon these physical relationships. *Does this set of circumstance sound familiar to anyone?*

Plants lose their ability to regenerate with artificial light exposure at night. In this circumstance, they make less O_2 and consume less $CO_{2,}$ while their ubiquitin rates increase!! This explains why the Warburg metabolism exists in animals who face the same circumstance, who are exposed to chronic artificial light. The Warburg metabolism is always linked to glucose utilization, but it is not a fuel source, as most believe today. When cells are facing elevated ubiquitin levels, they release larger amounts of ELF-UV light. Glucose rises to protect other cells from this signal. Glycosylation of porphyrins in RBC's reduces their ability to absorb ELF-UV light to protect cellular signaling. During the same time O_2 consumption rises and blood plasma and the environment around

cytochrome 1 becomes hypoxic. As a result, CO_2 rises and NAD^+ falls. This is why NAD^+ drops in people with excessive blue light exposure from artificial light sources inside and in technology gagdets. NAD^+ contains nitrogen within cytochrome 1!! NAD+ drops in aging and all neolithic diseases, in case you did not know. *Any pseudohypoxic state causes NAD^+ to drop*.

When NAD^+ drops, free radical signaling changes dramatically (singlet vs triplet oxygen species and RNS species) and ELF-UV light release increases from cells.

Artificial light exposure anytime, but especially at night time, increases ubiquitin rates in plants and animals. This is why ammonia shows up at higher levels when light and nitrogen interactions are uncoupled in the environment to cause diseases in both plants and animals. **This is the real reason why the Warburg effect exists in biology.** This effect that Warburg found however, has been badly misinterpreted for the better part of 90 years by biology and medicine. ***It is a beacon of an uncoupled ubiquitin and light cycles, not a marker for an alternative fuel source for cancer cells.*** It is always tied to low NAD^+ levels and higher levels of NADH.

Nitrogen and light coupling in humans occurs between cytochrome 1 and its microbiome. Proper free radical signaling depends upon light's specific frequency, while coupling that frequency to NAD^+ levels (nitrogen cycling) in cells. Nitrogen cycling is designed to be stable by evolution in plants and animals, and when it is not, you know immediately it is tied to an altered light cycle in some fashion. **High glucose and ammonia production in cancer cells metabolism is a great clinical marker for a person living in a toxic artificial lit environment**.

I said something controversial in an interview this month. **"With time it will be proven surface chemistry of the eye, skin, and gut is more important than biochemistry for humans."**

It shocked the interviewer, until I explained to them how water chemistry works. If your water comes from rivers or reservoirs (and most of it does in the USA) rather than wells, the problem is even worse. (I have a well on my property) This surface water reacts with chlorine to form chloroform, a highly carcinogenic substance that increases ubiquitin marking. I told them in Florida the municipal government warned people about re-filling their pools with this water, but never said a word about drinking the water. I then pointed them to a the front-page headline in the Miami Herald read: "Chlorine in water linked to cancer." Wisdom over dogma should be what guides us, not our current beliefs.

Medicine treats the eye as a camera when its most important physiologic role is as an optical clock. Glucose is fully capable of braking ubiquitin when ubiquitin is coupled to the cell cycle, but not when it is uncoupled and isolated. The reason glucose has this ability because it contain a strong blue light signal in it for the SCN in the eye to provide negative feedback for the SCN. This ability is lost when light cycles are uncoupled from the nitrogen cycle in the eye or gut. When it is isolated, glucose levels go through the roof to stop the PER 1 and PER 2 clock genes from turning over proteins by ubiquitin marking in cells. The Warburg metabolism is not what we think it is; it is a signal of an environmental circadian mismatch, looking for a brake pad (glucose level) that no longer can work properly. Glucose levels will affect the $NADH/NAD^+$ couple at cytochrome 1 to slow electron flow to oxygen when light cycles are unencumbered. This brake pad cannot work when light cycles are uncoupled from cytochrome 1.

When ubiquitin is uncoupled from NAD^+ by blue light frequencies on a chronic basis, we set up the cell cycle for perennial pro growth. This simulates a perennial summer time seasonal signal. This happens just with the exposure of artificial light at night time. Warburg went further in his experiments if you read them carefully. Few have, in my opinion. He said the lack of oxygen (pseudohypoxia) resulted in the loss of

cellular differentiation in cells lines and ultimately this is what lead to cancer. Loss of cellular differentiation is a key finding in cancers. **Warburg was right, but he had no idea why he was right. We still do not realize this either in modern times.** Why? The Warburg effect is the result of altered light signaling. The quantum mechanics of light and the photoelectric effect had not been worked out when he found the effect in his experiments. His experiments were published in 1923-24. Einstein paper on the photoelectric effect came out in 1905 but was not rewarded a Nobel prize until 1922.

The key part of Einstein's work that explains Warburg's effect is the relationship of time and the frequency of light. The only way to increase its energy is to increase its frequency. Light however can be slowed down or speed up with atomic collisions or by a change in temperature. Light collides with out atmosphere gases first. 78% of those atoms are nitrogen. Blue light has a high frequency, and more power to do work, and this is why it drives growth of living things. Warburg's effect had 100% linkage with light emission from cells and free radical formation. No one realized in 1924 what light might due to nitrogen in an anoxic and aerobic environment to control growth of cells. More irony? They still don't understand the effects.

Why is circadian biology so critical to life? In ubiquitination 10 we saw that one specific photon frequency can control 3000 atoms. The accuracy of atomic clocks improves as more and more atoms oscillate in a cloud of electrons. More electrons mean more collisions and a better clock timing mechanism becomes possible. DHA has massive pi electron clouds and fills the retina. Conventional atomic clocks' precision is proportional to the square root of the number of atoms it contains: This is what an optical atomic clock provides. It is the type of clock built into your SCN. For example, consider a clock with nine times more atoms would only be three times as accurate. If these same atoms within DHA were entangled by a single photon, a biologic clock's precision could be directly proportional to the number of

atoms entangled – in this case, **the circadian clock in the SCN would nine times more accurate.** This is how complexity was built and why the brain evolved.

The larger the number of entangled particles, then, the better an atomic clock's timekeeping would be. Biology needs an accurate clock for its electron chain and cytochromes. It uses light to build such a clock. Melanopsin is found in intrinsically photosensitive retinal ganglion cells (iPRGCs), which are sensitive to the absorption of short-wavelength (BLUE) visible light. The photopigment of photoreceptive ganglion cells, melanopsin, is excited by light mainly in the blue portion of the visible spectrum (absorption peaks at ~480 nanometers). This is in the blue range of light.
The visible colors from shortest to longest wavelength are: violet, blue, green, yellow, orange, and red. Ultraviolet radiation has a shorter wavelength than the visible violet light and is not seen by the human eye. Infrared radiation has a longer wavelength than visible red light and it is also not sensed by the human eye. Something must have constricted the spectrum of light between UV and IR for a reason.
I decided to look into the topic our perception of color in nature. Why would nature use blue light for a clock? I was struck by the many statements in literature that the color blue is exceptionally rare in nature. Moreover, I was shocked to find out, as a consequence, philologists claim, this is the last color to enter human vocabulary in the course of the evolution of individual languages. This was simply because we rarely need for it historically speaking, to describe things that are blue was not needed. Blue light controls the timing mechanism in the human SCN clock, because it is rare and because this frequency bends the most under gravity's effect. Its deflection is precise and can used to measure things against. It is an ideal optical reference point.
It controls every clock gene in humans because they use cryptochrome proteins in them. Cryptochromes, are flavoproteins related to the photolyases, have also been found

as mammalian circadian photopigments in organ clocks that are present before every mammalian gene in our nucleic acids. *I learned all flavin pigments found in nature respond to blue light frequencies.* This is how extreme accuracy of the circadian clock is maintained by blue light frequencies. Excessive artificial blue light will act to slow down the SCN clock. Non native EMF, outside of blue light, have the ability to speed up peripheral circadian clocks. This alters the relativity relationship between the SCN and peripheral circadian clocks. Blue light is rare in nature and I believe this is why its choice for use in technology is a huge driver of modern diseases. When you marry its use with the use of non native parts of the spectrum we have the development of the perfect storm for speeding up ubiquitin rates.

The next blog gets into why plants cannot get cancer but animals can. All tied to light that is shown on their surfaces.

CITES:

My thoughts and ideas