ORGANIZATIONAL STRUCTURAL FAILURE 1: GUT/COLLAGEN LINK

READERS SUMMARY:

WHAT DO YOU KNOW ABOUT THE ELECTRIC COMPANY BUILT INTO YOUR COLLAGEN?

This blog is intimately linked to the January through June 2014 webinars. April's webinar call "**The Electric Company**" is based upon the ideas in this blog.

So todays blog starts via a discussion on the forum about raw foods. you might want to review what I said in Brain gut 5 on this topic.

Hi JK I am Melanie,

There is a product called Mega Hydrate created by Dr. Patrick Flanagan. The product is called hydride ions which are supposed to have an additional unpaired electron, making them potent anti oxidants. I am guessing these would improve redox potential.

Dr. Flanagan stated raw foods and fresh cold pressed raw juices are full of hydride ions and thus raw food and juices would improve redox potential. I wonder if this is accurate?

I respond: Hydride? If you understand Ling and Pollack's work on water and charge separation you will understand that Flanagan is sadly mistaken. He clearly is assuming the reader

knows nothing about physics and about water chemistry.
Water becomes a hydride only in an alloy with a metal. In life, water is charge separates into -OH and hydronium ions which are also called protons.

A **hydride** is the anion of hydrogen, H−.

Melanie: I wonder if you could explain how raw food, especially freshly picked affects the redox potential.

Me: the last two people explained it before I could. The last two people got the linkage…..water and grounding.

Melanie: Dr. Kruse, if grounding is a component, what about sprouts that are grown in the kitchen?

Me: this is going to get interesting now Melanie as I go on my rant……

Veggies are just not that critical to ***young humans***……this is why kids don't want to eat them instinctively. But as the brain grows to maturity toward the age 25, the need for veggies grows as the brain fully myelinates. Think about what I wrote in Energy and Epigenetics 1. Kids do not have not the fully developed brain and are under-myelinated. This makes them very sensitive to non-native EMF. This becomes an organizational and structural problem for their developing brain because it directly affects their ability to properly use a process in their brain called a **magnetic moment.** A fully developed human brain needs certain foods like eggs, pork, and veggies to provide sulfated amino acids that are loaded with electrons in their thiol groups are used to create an increased voltage in cell membranes. They work with oxygen in performing this task. When the sulfur moieties are bound to the cholesterol proteins in cell membranes this allows for excessive electron flow in their cell membranes to upgrade the redox potential charge on them.

There is another part of this story few are putting together……raw protein and substrate of the ketogenic diet with seafood like chitin and shells provide both pre and probiotics to feed the distal gut microbiome. The microbiome is designed to convert all this stuff to butyrate, a short chain fatty acid in the colon. Many people ask me why I don't talk about veggies like Dr. Wahl does in her version of the paleo diet. In my view, she has only half the story right. And yet, it seems to have worked for her. I personally think she has the ability to get even better if she tweaks what she is doing further. Her story has the same mechanism as Jeremy's story in the March 2014 webinar but with a different twist. Both are intimately tied to water chemistry.

I focus on QED and with people with altered mitochondria with respect to how they work in the human brain. I do not believe anyone else in paleo is paying attention to what I am because they focus on food and not electrons specifically. The human central nervous system and immune system need to collect as many free electrons as possible because their optimal function is directly proportional to how much "massless energy" we have. This makes me the maverick and an outcast because my perspective is quite different than theirs. However, I like that. I don't want to settle for average thinking, because in my view, that is what paleo is. Paleo does not take human brain evolution into account in any of their paradigms. I have a problem with that when their target market is humans. There is no way to develop a human brain eating meat alone. It must be a seasonal marine-based diet. See Brain gut 5 for those details. ***Paleo is an Rx for a moderate approach***, a clear step in the right direction from the SAD. I am not interested in a step in the right direction. I'm interested in an approach that is correct for our current electromagnetic environment and not the one from 10,000 years ago. If you want a disease reversal you better understand why what happened in the past is immaterial to today's world because of the laws of thermodynamics.

Why do I have this perspective?

The implication of the first law of thermodynamics is large for a Black Swan. Energy in the universe is a zero-sum game. It means energy is fixed in the universe just like the speed of light is fixed. This means there is a set amount of energy that can change between many different forms of energy. What causes these transitions? The electromagnetic environment is the short answer. This is the basis of your redox potential in your cell. When it varies the types of matter you make has to vary by definition of the first law of Thermodynamics. This brings us to Rudolf Clausius who began the understanding of the second law in the 1850s and 60s using mathematics. He found that not only did energy have a setpoint, but that it followed a strict law. Energy transitions always seem to go from hot to cold. This implies when your colony of mitochondria is falling for any reason, you must seek to increase their ability to make heat in some way (sun) or lower the environmental temperatures around this colony of mitochondria to make heat transfer more efficient. This is exactly what Carnot Theorem said too at the same time. The flow of heat is a one-way process in nature. So life decided to something amazing. She decided to store energy and not let it become thermalized so cells could transform the energy into matter the cell deems necessary to live far from equilibrium. This is one of those weird things in how light can operate in life below the submolecular level.

I want my patients to gain full reversals of diseases back to their full evolutionary potential which requires a powerful redox potential in their mitochondria. We need seafood and animal protein to make it work. Moreover, this is why I tell vegans and vegetarians optimal is not possible for them unless they tweak their template. Marine and animal fiber from chitin, tendons, broths, and marine exoskeletons explain how we retain our good gut health despite extremely low plant-

fiber intake!

We are not chimps…….we are human and we do things in our gut differently for a **quantum reason**. This is why the Epi-paleo Rx _stands head and shoulders about other paleo templates because of how it sculpts your gut microbiome and supports your brain energics. It takes the human brain into account from the get go.

Now on to today's blog for the description behind Melanie's questions.

Many people forget the evolutionary story of how we went from chimp to man that I documented in Brain gut 3, Brain gut 4 and Brain gut 5. Fat is critical to human brain development. This is especially true in infant humans. It is one of the more striking difference between us and chimp infants. We have it and they don't. So how might a change in gut flora lead to this evolutionary drive to make our fat mass create a brain? Well, we first would see changes in your health by altering and sculpting your hormone panel to create new signals for a developing and quickly evolving brain in the primate tree.

In humans, developing fat mass is tightly coupled to the evolutionary rise of the MHC1 gene in humans that controls both neurogenesis and the development of the immune system. Both require massive amounts of electrons to work well. We covered this in Energy and Epigenetics 7. This is why many autoimmune conditions are tied to obesity as a comorbid condition and why many women with AI's have difficulty losing weight. In modern humans, obesity has become an inflammatory brain condition due to circadian cycle mismatches. These mismatches create inflammation from changes that form in our hormone panel. For example, in this case, obesity alters the normal cortisol melatonin cycle. When cortisol is high it

destroys the basic function of the semiconductor in humans based on collagen and water.

You may be asking where did the infection come from first? Alterations in our gut flora actually are what causes humans to become obese. Remember obesity is a failure of the second law of thermodynamics. It is not really a disease. It is the loss of energy from the system we call life. Thermodynamics is a physics term that deals with how systems handle energy. We are losing energy to our environment when we become fat.

The stimulus leading to this change (fat) was alterations in the environment that changed the ratio's of cortisol and melatonin during different times of the day. Even today, humans have reflexes that harken back to our past. The gastrocolic reflex is one such reflex. When cortisol is higher during certain parts of the day it can "sculpt an organ's appearance and function" because of it's physical effect's on collagen in the gut. I have spoken about that in the April and May 2014 webinar's in detail. I really hammer it home in the June 2014 webinar.

So what does cortisol do to collagen?

Cortisol alters the cells collagen by controlling its piezoelectric abilities. If the electric current in the gut falls, a cell gets larger by swelling. If its redox potential improves, the cell gets smaller. This is the essence of energy mass equivalence in nature. All mass equivalence problems are actually thermodynamic problems that life must face in reality to allow life to occur. As any system loses energy, changes its shape and volume based upon the Einstein's mass equivalence equation we spoke about in EMF 2. Jeremy's blog was a case study on just why this is the case. What people do not realize is that the relationships are dictated by Einstein's mass equivalence equation which directly links it to thermodynamics within the system. When a cell loses its piezoelectric current on collagen, the cell

initially gets larger and its redox potential falls. **Collagen structures what a cell will look like and what volume it can have. This effect is major. It can define life and death and few people realize it.**

KEY EVOLUTIONARY POINT: Human guts shortened distally and our teeth radically changed simultaneously. These thermodynamic changes immediately changed the relationship between what our gut flora could do and could not do. Today the changes can be seen. When you have the teeth of a herbivore and a diet based upon high marine fat and proteins it will act to deliver a lot of undigested and not fully processed foods to our but flora. This change in structure lead to a phenotype change. It made our babies fatter than our chimp ancestors to support our species brain growth post natal period. So how did these events all happen together?

It has to due with shear numbers and the species of bacteria in our gut. There is a particular flora that produces adiposity and obesity in humans. These bacteria make something called FIAF (Fasting induced adipose factor) that control this process. FIAF blocks lipoprotein lipase (LPL) in fat cells. LPL allows us to convert dietary free fatty acids made from beta oxidation of a ketogenic diet and it carries these FFA to mitochondria where massive amounts of protons are spit out from mitochondria. The FFA's undergo beta oxidation to deliver a substantial amount of electrons to the inner mitochondrial membrane to maintain the redox potential to allow for proton creation.

NON GEEKS: Electrons carry a negative charge and have the dual ability of storing massless energy and information. Protons have a positive charge and are a source of mass containing energy and information. Protons are ideal particles in distributing that potential energy throughout water bound to collagen in all tissues in our body. Electrons

can be moved via semiconduction or through optical transmission because electrons can also be photons. This is how the human brain initially fueled its own massive energy needs thermodynamically. FFA are normally carried in lipoproteins in our blood (think cholesterol lipoproteins) and they deposit them into neutral fats that are stored in adipocytes. FFA are the best source of protons in the animal kingdom. Sunlight is the best source for exciting electrons contained in foods. The Earth's magnetic field is another source of electrons. Protons carry more potential energy and information from our environment that can be used and distributed across a biologic system to drive development from environmental pressures. Photons and electrons both carry information (OAM) and energy but differ substantially in how they do it. This is a big thermodynamic clue why life is organized the way it is.

PHYSICS GEEKS AND INTERESTED BIOLOGY GEEKS: electrons differ in 2 respects: energy and spin. Life's semiconductors use both features to decipher what is going on in our world.

- **Electron –** a fundamental subatomic particle which carries a negative electric charge.It has a mass of 9.1 X 10^{-31} Kg, and an electric charge of 1.602 X 10^{-19} Coulombs (denoted as **-e**)The electron gives rise to the electromagnetic properties of the atom as well as the innate ability to chemically bond with the nuclei of adjacent atoms in nature. It can be bound to the atom or it can lead an independent life outside of the atom.
- **Electrons differ in the spin characteristics.** These are denoted by quantum spin numbers.There are four quantum numbers which can describe the electron completely.
    - Principal quantum number(n)
    - Azimuthal quantum number(□)
    - Magnetic quantum number(m)
    - Spin quantum number(s): An electron has spin *s* =

$\frac{1}{2}$, consequently m_s will be $\pm\frac{1}{2}$, corresponding with "spin" and "opposite spin." Each electron in any individual orbital must have different spins because of the Pauli exclusion principle, therefore an orbital never contains more than two electrons. Electrons that are free in a lattice or crystal for semiconduction retain their spin and the are always coupled to the other electron they are paired with no matter how close or far apart they are. This is called entanglement. No matter where that electron goes, the other electron contains informational and energy characteristics of the one another. If something happens to one, it must happen to the other electron, no matter where that electron is in the body or the universe.

- **Energy Levels** – Electrons can only contain distinct quanta of energy. This is often represented graphically as having distinct energy levels or electron orbits.

GUT STRUCTURE LINKING TO ELECTRONS AND PROTONS: The FIAF is made by our liver, muscles, and our small bowel wall and when food sources (think electrons and protons) ***are in short supply***. This means we must sense a paucity of electrons and protons across the entire system to create FIAF and subcutaneous fat that is common to our species. We know human evolution occurred in the East African rift zone and food from the ocean was plentiful.

So why and how would evolution build a GI tract to simulate a low energy state in the gut?

The answer is simple, to make FIAF in order to make subcutaneous fat to support post natal brain growth. The marine fats were reserved for brain construction. The

simultaneous co-evolution of the MHC1 gene allowed for massive brain growth and immune system expansion. It just required a lot of electrons from the magnetic field and from seafood to happen. Seafood is electron dense. The East African Rift is where 3 tectonic plates meet. Seafood also swims in water that is electron dense compared to the land sources.

So how did Lady Evolution limit the environmental signal in our gut that a lot of electrons and protons were present to make subcutaneous fat that baby humans are famous for?

Her plan was to limit our ability to chew or masticate our marine food choices well early in life before our brain was fully developed. This would limit the processing our food undergoes and would deliver more electrons and protons to our gut microbiome. This would allow our gut microbiome to create our SUBCUTANEOUS fat mass. Subcutaneous fat is loaded with stem cells. This white adipose tissue has the highest amount of plasticity of any human stem cell tested to date. It changes when electrons and protons are removed or added to this form of matter in humans. Subcutaneous fat responds to the DC current in humans because when the charge is dropped collagen disassembles and WAT becomes a new protein called vascular stromal factor. This is evidence of a phase transition thermodynamically that occurs within fat in a quantized fashion.

In this process, we would be constantly losing electrons and protons to the gut microbiome to create subcutaneous fat mass while increasing our stem cell potential to replace cells if they needed to be replaced. Fat mass is a product of thermodynamic energy loss in a system. Lady evolution however has found a way to expand WAT and use it as a farm system for tissues in humans under the control of other morphogenic protein signals. I told you how we expand fat mass thermodynamically in detail in the EMF 2 blog post. The less we process our food in the mouth esophagus and stomach, (rostral gut) the **more undigested prebiotic fibers** would be

delivered to our microbiome in our shortened distal gut. Shortening of our gut guaranteed a constant source of subcutaneous white adipose tissue would be available as long as our microbiome remained complex and species divergent. The sun is the critical component which sculpts the microbiome. Compared to other primates, we got our gut diversity by isolating the microbiome by distance. This is really why the human gut has shortened in us. This same idea is seen in ecological systems all over the world.

Fast forward to today: Today we are feeding ourselves a constant source of highly processed food. Today, most processed food is made from only four basic ingredients, which we digest very quickly before the gut microbiome can get it. This decreases FIAF and also simplifies the gut flora as this environmental situation goes on.

The SAD is made up of: 1) refined flour 2)refined sugar 3) man made vegetable oil 4) and man made processed dairy. When you eat this way, you develop a new kind of **"emergent fat"** called visceral fat. That type of fat is new to our biology.

Here is how it happens in quantized fashion. When we eat a SAD, there is a metabolic shift in our gut flora to a more simple flora with less species diversity. This is a big clue to how evolution really works. The more processed the food the quicker it is absorbed into us and not into the microbiome. In this case, our gut bacteria can not make the FIAF normally, which develops our subcutaneous fat to support myelination and immune function development. When we create fat using a simplified gut microbiome, the fat we create becomes visceral fat and causes disease by increasing inflammation. Why does fat go to the liver first, over our SQ fat?

The lowered levels of FIAF increases cortisol levels in the enterohepatic circulation of the liver. When cortisol rises

in the stroma of the liver it reduces collagen cross links and decreases the collagen cytoarchitecture to increase hepatic cell size. When this happens two things occur. Water is lost and magnesium is also lost in the stromal cells. This size change happens because of a thermodynamic loss in the liver's tensegrity system. The enterohepatic circulation main effect in humans is to control the the stromal size which is the honeycomb collagen network that supports the cells in the liver called hepatocytes. When the stroma becomes "more loose", a new emergent protein becomes more prevalent called Omentin.

Omentin is released from these stromal cells as they get loose. Omentin regulates insulin function. Omentin only affects the development of visceral adipocytes and not subcutaneous adipocytes. This protein allows rapid enlargement of fat in the liver cells because their is a "short circuit in the collagen skeleton" of the liver. This change also directly affects the circadian regulation of insulin as well. Remember that insulin levels are higher when the diet is based around a simplified gut flora as well. Simple carbohydrates are easily absorbed and further stimulate insulin and omentin release. This is the accelerator peddle of metabolic syndrome. It is a double whammy for the rapid development of metabolic syndrome.

Omentin also cause arterial enlargement within the liver and this sets the stage for hypertension in Metabolic Syndrome. When omentin is released from the stromal cells in the liver, resistin is released in a coupled fashion from monocytes from the immune system and this sets the stage for hyperlipemia. Resistin has been shown to cause high levels of 'bad' cholesterol as energy is lost thermodyanically. All lipoproteins with a larger sizes and volume are made. Thermodynamically speaking, any time size and volume increase energy being lost. This relationship is tied to the mass equivalence equation.

Key Point where hyperlipidemia comes from: Resistin results in increased production of low-density lipoprotein (LDL) and VLDL, while simultaneously degrading the LDL receptors in the liver. As a result, the liver is less able to clear 'bad' cholesterol from the body because of this change in the LDL receptor. Since the LDL hangs around in the plasma longer, it is oxidized more easily. ***This process all begins because of the loss of electrostatic charge in the liver's collagen tensegrity system. This is a triboelectric function.***

When the collagen is de-electrified, water is liberated into the plasma and cleared by the kidneys and not resorbed in the colon. This is why diabetics urinate more, are chronically dehydrated and have low magnesium levels. These changes in collagen's charge all lead to the thermodynamic deposition of fat within the liver to alter the size and volume of our liver's hepatocytes first. This is why metabolic syndrome is associated with fatty liver. This means the liver becomes less efficient in doing its normal duties. ***The fat is highly inflammatory specifically because of its direct actions on cortisol, collagen and water.*** There is a huge "**emergent difference**" between visceral fat and subcutaneous fat that is tied to charge and energy loss in collagen.

Our colon is the **anaerobic reactor** that reproduces our gut flora. The appendix is the "sperm bank" that keeps a nice sample of our current gut flora in case we get a nasty bought of gastritis that cleans our microfilms and our flora out into the toilet. Humans normally eat things under conditions **with little to no oxygen present in their gut normally**. This type of colonic environment stimulates the complex and diverse gut flora to extract a lot of energy from food. These chemical reactions are redox maneuvers. The basic goal is to extract as much oxygen from the food, and leave behind carbon and hydrogen. This is essential what a ' human turd' is, in its basic form.

Why is the human gut constructed this way, with respect to oxygen?

Oxygen is a powerful element for the human gut because of what it does to electrons. Oxygen use by life began the initial penetration of solving complexity in tissues and organizational structure. Tissue complexity is enabled by electrons, and is responsible for producing more electrons in a thermodynamic system. This is why life exploded after the Cambrian event. There is no other reason. We need more electrons to get more oxygen so we can generate more electrons. This is why humans lost their fur. Their skin became a new way to recover more electrons from the sun, in the from of photons. Remember electrons and photons are basically the same thing with respect to how the photoelectric effect operates in the quantum realm (oversimplified). They are the only way to capture a massless source of energy and information contained in light.

When electrons are stripped from proteins in our food the chemical bonds weaken in the food to release electrons. These electrons are delivered to the inner mitochondrial membrane to make more oxygen. Humans make more oxygen by reducing it in their mitochondria. Reduction is the addition of electrons to oxygen. What do humans do with these electrons? They made a human brain and immune system with them. This is why massless forms of energy and information directly leads to complexity. They are thermodynamically the most favorable quantum package to do the job cheaply on an energy basis. The gut microbiome job is to make subcutaneous fat to support the post natal growth of this brain brain made upon the back of the photoelectric effect. Keeping oxygen low in your distal gut causes a massive explosive growth of anaerobic bacteria in your gut. Simultaneous isolation of this island of critters leads to species diversity as well.

In this anaerobic environment, gut bacteria have an amazing capability to extract energy from food for its host. This

creates the scarcity signal humans need to create the subcutaneous fat mass we have. Other primates can not do this because their guts are longer and their food sources are carbohydrate based from the canopies. Humans got theirs from the marine food chain when their clade got isolated from the forest. It also shows you why chimps are born razor thin and have longer guts. Bacteria have little ability to save this energy best for themselves and not for us. The human body usurps their ability to be great energy extractors and uses it for itself to build our subcutaneous fat. It is a parasitic relationship that requires circadian balance to work perfectly. This is how the gut and brain are linked in an evolutionary fashion. Your gut flora is what makes your subcutaneous fat. Your SQ fat helps the infant brain to mature postnatally, but then it does something shocking in adults. It is where we store many stem cells that we use to regenerate our tissues. You subcutaneous fat becomes a massive source of stem cells to replenish your body. Your gut flora is under control of incretin gut hormones which respond to environmental signals!

This also helps explain why obesity surgery reverses type 2 diabetes as soon as the bowel is opened to air and oxygen rushes in!!!! It allows the introduction of oxygen into a thermodynamic system that should have none. The molecular target of obesity surgery is the direct entry of oxygen into a place it should not be, and the altered gut flora is disabled for a time being. This temporarily destroys the simplified gut flora. This effect only lasts 9-14 months because the flora readapts to the new signals we give it. Those signals can never be the same once the gut is surgically altered. **BOOM.**

Since the human colon is anaerobic, when we feed this type of bacteria a diet high in simple carbohydrates they extract the oxygen and and leave us with bowel gas and **lower levels of FIAF**. This fat is loaded with long chain fatty acids, but to

gain the energy in its chemical bonds to liberate these electrons and protons they need to have to have oxygen to access it. Normally, the bacteria don't have that luxury in our gut, so they are inept at using the fat they created for us! It was a pretty slick evolutionary trick to fuel a brain. We, however, can use it at our inner mitochondrial membrane in our gut cells within the gut associate lymphatic tissue (GALT). Here the fats create protons and electrons for the electron chain transport chain in the GALT. The GALT's mitochondrial matrices goal is to produce massive amounts of electrons for the creation of the brain and immune system. In fact, long chain fatty acids have huge energy potential for the host, because FFA make tons of protons in our mitochondria. One molecule of glucose has only six carbons. Glucose can make approximately 36 ATP. Using this energy source constantly leads to a limited amount of ATP production to unfold proteins side chains to allow water to bind to them to form their hydration shells when we use this as a primary source of energy.

Now consider one molecule of an 18 carbon stearic acid, a FFA, has three times as many carbons as glucose, but makes **four times** the amount of ATP (147 ATP). It does this while only having two times the *caloric density* of glucose. This shows you precisely why a calorie is not a calorie thermodynamically in a quantized system. It is also why the "theory of CICO" makes little quantum sense.

Normally, in the distal colon, we make large amounts of long chain fatty acids from carbohydrates our short gut with a diverse gut microbiome. It is here where humans resorb massive amounts of water to make the protons flows to create energy under normal healthy conditions. This also belies why the ketogenic diet in humans can work with 90% water basis and only 10% fat density that I mentioned in the Quantum electron blog post 3 years ago. People forget the goal of mitochondria is make water from metabolism so we can oxidize the water

photosynthetically using proteins like melanin. Mind you this is not a sustainable diet for humans, but I bring it up here as a teaching point why this intervention works.

So when the "sick human host" changes their behavior and eats a **fat laden ketogenic diet, from a SAD** it creates a huge "**positive thermodynamic change**" for our simplified gut flora. This phase transition simulates how our gut was designed to work by Lady Evolution to begin with. The gut bacteria can not access the energy in these fats because there is no molecular oxygen present in our gut and the human host loses their hunger because the leptin receptor is seeing a steady stream of electrons once again. This also changes the magnetic moment of protons in the lumen of the gut and the enterocytes have to deal with a different amount of hydrogen isotopes from food breakdown. If the circadian mechanism is off, the enterocytes will accumulate too much deuterium and this will change the electrostatic charge of the gut lining and the lining will become more permeable.

This gut signal travels to the brain via the vagus nerve via its DC current. This is the perfect scenario for a human reversing a disease and really bad news for the simplified gut bacteria. They die and a more diverse flora can begin once again if we maintain the proper signaling. This is why one has to question the validity of any "safe starch theory", in my view. The quantum molecular biology of the organization of the gut does not support this theory.

Those with a simplified gut flora tend to have many autoimmune conditions and SIBO. The enterocytes are filled with deuterium and these cells no longer shed every 24-48 hours. This allows the gut barrier to leak and ultimately it effects other barriers in the body (BBB and gonads). These patients have a lot of oxygen left over in their guts for a variety of reasons I will go over in due time. This is why many of them need more food substrate to satiate themselves. When they limit food, they are effectively lowering the number electrons

and protons to the cell's in the gut's immune system and making their situation worse. This is when things begin to really break down for their redox potential in tissues and for their health. As the redox potential fall's, the gut barrier becomes altered. When electrons are sparse, this alters how proteins can function in the GALT. When this happens this protein alteration is called "molecular mimicry". Molecular mimicry is a process where a foreign antigen shares sequence or structural similarities with self-antigens. Molecular mimicry has typically been characterized on an antibody or T cell level.

However, structural relatedness between pathogen and self does not account for T cell activation in a number of autoimmune diseases in studies. Why? They never account for the massless energy due to the constant and chronic loss electrons. This point is critical, because it is a huge net thermodynamic loss in the immune system.

When electrons are stripped from proteins, new proteins emerge that are created by the immune system. Resistin is one of those proteins. There are many others. These thermodynamic losses begin to alter the charges in the immune proteins made. The electromagnetic force is what controls all charge particles in the universe. Today's environment allows for a much higher non native EMF force to act on these altered charged proteins. Everyone of these proteins carry charges. If the electromagnetic environment is excessively energized as it is today, these proteins become ionized. Thermodynamically speaking, the electromagnetic force controls these charges with infinite power and range. This is a quantum natural effect and should be no mystery. Too few have realize this is why autoimmunity occurs. It is not a food story as paleo land believes. It also implies the the electromagnetic force can alter the ionized proteins to directly alter protein function within the immune system as a chaperone protein would on DNA or RNA. This has major

implications as you will see soon as the series unfolds.

FIAF is a quantum molecular signal created from the information and energy collected from the electrons and protons from our environment. Food is essentially a conduit for carry information and energy to the gut microbiome to the brain by way of the vagus nerve. Here the brain decipher's the quantum message in the leptin receptor. This energy and information then crafts or sculpts the type of gut microbiome that is possible by quorum sensing.

It all seems counterintuitive until you look at the human occlusal surfaces of human teeth and marry it to the observation that humans have a short distal gut and massive brains compared to our ancestor primates. When you compare what we observe in humans compared to our chimp ancestors, it begins to make a lot of sense.

Our teeth have evolved not to chew proteins and fats well on purpose so we could generate the sub cutaneous fat for the infants post natal brain growth to facilitate bipedalism. Chimps and other primates have radically different dentition than humans. Bipedalism evolved before the brain growth came in Homo. Humans are trying to recreate the environmental signal of scarcity within their own gut to optimally to create subcutaneous fat that we need to grow and energize our brain with. The fuel source is free electrons from any source. This is what drove the changes in humans from other primates. Every single difference in our systems improves the collection of massless forms of energy and information in electrons and photons.

Where do electrons come from? Electron dense diets, the photoelectric effect, and the earth's magnetic field. Recall what I wrote in Brain- 3, 4 , and 5. Remember in the East African rift zone we had plenty of food, plenty of sun, and it sits on 3 tectonic plates that separated geologically over a short period of time given the surface a **very strong native**

magnetic signal for a period of time.

KEY POINT # 2: So what did Lady Evolution do with these variables to solve the thermodynamic equation? She created an ingenious scarcity signal by making us have the teeth of a herbivore, with a mandibular ramus close to 90 degrees so we would be less efficient in chewing food. At the same time, our gut shrunk and we had a ton of electrons in the marine food chain. By altering our teeth's occlusal surfaces and shortening our distal gut, she guaranteed that our species would make a ton of subcutaneous fat to support human brain development from the marine chain we began to eat 6 million years ago. All this was done using the power of electrons to ionize proteins and change their physiologic abilities.

What is not well appreciated by many, is that the FIAF in our intestinal wall is controlled 100 % by our gut flora, and what energy and information it sees are in the form of electrons and protons, not macrontrients.

When we have a simplified gut flora, as modern humans do, it favors visceral fat cell creation. Because our gut microbiome shrinks and dies off. It becomes more simple and less complex, and less species diverse. When our gut flora is complex and healthy, it has 100 trillion cells with 250 species. We tend not to make visceral fat in this instance either!

Today, experiments have shown that when the gut bacteria are active metabolically due to the presence of simple sugars, production of FIAF ceases, and visceral fat creation is signaled over subcutaneous fat mass. **This implies that our gut flora is directly tied to inflammatory fat creation in humans**.

How does the brain get all this information from the gut? Here is why some neurobiology researchers are CLUELESS. They know nothing about how the brain really works.

The gut flora's action is directly signaled to the brain via the afferent nerve fibers in the vagus nerve. The vagus nerve is located in the floor or the fourth ventricle in the hind brain. This ventricle is filled with CSF; Think water.

In those newly created visceral fat cells, a protein called **leptin** is also produced, and acts as an electron score keeper for the brain of how much fat is stored in the body. The more leptin you make, the larger your brain parenchyma becomes, and the smaller your CSF ventricles get. This is another phase transition thermodynamically. This makes your fourth ventricle smaller. When it gets smaller you can not generate a large DC current in this space. When you can not make a large DC current in CSF water, all the circumventricular organs in the brain get this thermodynamic signal. The leptin receptor is one such organ in the hypothalamus. This lowered DC current also diminishes your ability to sleep. A lower DC current also can not use the stem cells in your subcutaneous fat layers because you are making visceral fat over subcutaneous fat. Here is another example of a phase transition in water. This message is built into the water hydrogen bonding networks and is sent to every part of the brain that does not have a blood brain barrier.

In the brain, when it has been dark for 4 hours around midnight, the leptin receptor of the brain begins to assess total energy balance in the body by sampling the thermodynamics in CSF water. This is an electron accounting story. This should get you thinking about the results of my "resistant starch biohack" that you heard on the webinar in January 2014. What did I tell you happened? What did I do to remedy the issue? **BOOM**

TRUTH BOMB ALERT

Eating raw seafood like, oysters, shrimp, and their organ meats contains the most prebiotic glycans. Organ parts from seafood and organ meat are particularly good because it has

the most prebiotics because it has **the most collagen** in it. It also has massive amounts of CoEnQ10. When the meat is freshly killed, like would be the case in human history prior to agriculture; lots of prebiotic glycans would be delivered to a carnivore like a microbiome to allow for optimal gut function. This would also be eaten OUTSIDE under the sculpting power of the sun and not indoors in a kitchen filled with blue light and nnEMF. This is why in my opinion, "zoo animals" get excessively obese under the direction of human intervention. They eat like modern humans eat today. It has little to do with them being contained or their diets, it has to do with the lack of of sunlight and a lack of raw carnivorous substrates to keep their gut microbiome in its natural state and in balance with the animals leptin receptor in its brain.

The change in the gut microbiome is one of the ultimate circadian mismatch creators. Remember food carries the circadian signals of the growth seasons from the Earth, to our gut, and on to our brain's in the hypothalamus. When a "zoo animal" is feed by convenience and not in the manner of its design, things go awry. The GI tract was designed and sculpted to work with the electromagnetic spectrum signals (sun) that carry information and energy data in electrons and protons. When that data does not yoke with the spectrum present in the current habitat, the scales tip too far to the obesogenic template in our gut microbiome. This allows us to lose electrons constantly in our brain and gut leading to a loss of complexity. When your gut gets simple foods, your brain and immune system function badly. This is why all autoimmune diseases are tied to poor brain function.

A PARABLE PALEO MIGHT UNDERSTAND NOW? (From the Cite 7 below.)

'Tell me, young stranger, you probably also do gymnastics and work out at the gym huh?'
I was in fact working very hard at gymnastics at that time and

although I knew all the methods recommended by the Indian Yogis, I kept to the system of the Swede, Mueller. I told the dervish that I did work at gymnastics and considered it necessary to practise twice a day, morning and evening, and I explained briefly the kind of exercises I was doing.
'This is only for the development of arms, legs and in general the external muscles,' said the old man, 'but you have also inner muscles which are not affected at all by your mechanical movements.'
'Yes, certainly,' said I.
'Good. Let us now return to your way of chewing your food,' the old man continued. 'If you chew in this way as a means to health or for the sake of other attainments, then I shall have to say, if you would like to know my sincere opinion, that you have chosen the worst possible way. By chewing your food so carefully you reduce the work of your stomach. Now you are young and everything is all right, but you are accustoming your stomach to do nothing; and when you are older, owing to the lack of normal work, your muscles will be to a certain extent atrophied. And that is bound to occur if you continue this system of chewing. You know that our muscles and body get weaker in old age. Now, in addition to the natural weaknesses of old age, you will have another brought on by yourself, because you are accustoming your stomach not to work. Can you imagine how it will be then?

'On the contrary, ***it is not at all necessary to masticate carefully.*** At your age it is better not to chew at all, but to swallow whole pieces, even bones if possible, to give work to your stomach. I can see that those who have advised you to practise this mastication, and also those who write books about it, have, as is said, "heard a bell without knowing where the sound came from".'
These simple, obvious and consistent words of the old man made me completely change my first opinion of him. Until then I had put questions to him out of curiosity, but from that moment I felt a serious interest in him, and began to listen with the

greatest attention to everything he said.
Suddenly I understood with the whole of my being that ideas I had hitherto accepted as indisputable truths were incorrect. I realized that up till then I had seen things only from one side. Now many things appeared in quite a new light. Hundreds of new questions arose in my mind concerning this subject."

BOOM.

Ever wonder why old people get along OK without teeth? Dentures are even a modern mismatch. When modern humans lose teeth they also tend to eat more simple starches from the SAD template because they believe it will be better for them.

NON GEEKS: Processed foods at any time in your life allow for digestion that is too fast and furious. This alters the gastric transit times and it radically alters the gastrocolic reflex in humans. Thus, this reflex is responsible for the urge to defecate following a meal. Very few modern humans and "zoo animals" have a normal gastrocolic reflex anymore.

When you marry this info, with interior confinement, a lack of sun, fluoridate city water, modern technolgy, and city living it should be no wonder why "zoo animals" can not outlive their wild cohorts. This is how extinction events look at their outset. It is also why I include modern humans in the "zoo animal" cohort. It is common sense when you have my perspective.

The common mechanism in our environment is a thermodynamic one. What is happening to modern human gut flora's are what is happening in our oceans today. Obesity was rare in the 1930's and 40's and back then most humans had a large diversity of species in their gut. Marine biologists now look at ocean acidification the way in which I look at but microbiome and neolithic disease generation. **When the water chemistry in humans is altered and we are more 'protonated and less electronic', you begin to lose biodiversity in your gut,**

and disease ensues.

Oxygen creates electrons and carbon dioxide destroys consumes them. So a leaky gut, autoimmunity, or SIBO are diseases where oxygen is being lost within the thermodynamic equation and it is begin replaced by carbon dioxide dissolved in our cell water. In this respect, some highly tolerant gut microorganisms will become more abundant, but the overall diversity will be lost. Ironically, this same mechanism is what has occurred in all 5 of major mass extinctions on Earth.

If this disease process is allowed to progress on long enough, death comes to our good gut microorganisms. Think about this analogy: Non native EMF creates excessive protons and carbon dioxide within our CSF and in our intracellular water. Excessive acidification of the oceans and air has the same effect on water. Today we are seeing a loss of diversity and species of animals, insects, and plants on our planet now. The same process is happening in the modern humans gut. Extinction of our gut diversity is a form of death. Its effect on us, becomes magnified as time elapses.

COOKING MISMATCH

This is why modern cooking techniques need to be questioned too. It is even why bone broths and seafood exoskeleton broths have downsides. Few people see this. Crock pots and Sous vide's are great modern tools for convenience, but they degrade our microbiome and create a new environmental mismatchs that modern humans have had to deal with. It's been in their blind spot too. We need to realize eating the tough sinew and tendons of fresh animals allows for the glycans and GAG's to go undigested and make it to our distal gut to feed the critters there to keep the colon healthy by changing these things to butyrate and creating subcutaneous fat and not visceral fat.

Eating butter and coconut oil is a "modern paleo strategy" to

try to outthink mother nature's design. We are better off letting nature do what she does best when we understand circadian biology and the action of protons and electrons. Instead, we need to consider eating that grisel, chitin, and collagen in our dietary template; The April 2014 webinar will explain why. Are you a unhealthy skeptic? OK……

Consider other carnivorous animals:

> *Mastication and chewing in carnivores is not favored by evolution for a deep reason……think about great white sharks, lions, hyena's and crocodiles and gators……they all swallow their food whole with little chewing. Could the evolutionary Rx be the same for those predators who rely on their sensory systems for life, that they too, need an electron dense diet that requires less mastication to process the food based upon how their guts are sculpted too? This is why I eat oysters raw and do not chew them. I believe we need to eat them whole to deliver more food less digested to the distal gut which is underdeveloped in us for a deep reason. It is in our colon is where SCFA are made and where massive amounts of water is resorbed. This is the mark of energy conservation in humans in my belief paradigm. The undigested prebiotics help maintain distal gut integrity where there is no vagus nerve connecting to our brainstem. Water resorption actually is critical to normal gastric transit times and satiety. This explains why our teeth are not like other carnivores too……they are less developed for chewing well, so we deliver more undigested pieces of food to our colon for processing by our gut flora. Having been an oral surgeon in my past, I have always tried to make sense of the difference in human teeth from other carnivores. This is why the difference exists, in my opinion.*

The normal circadian rhythm of the gastocolic reflex works best with a fast digestion time and a food scarcity signal and in modern humans, this has been lost. It is lost because when

your food is highly digested early on in the process there is little left for the distal gut microbiome. It causes it to change and that change leads to modern humans current plight. Now maybe you can understand why constipation and dehydration are rampant in modern humans. When you eat a highly refined diet you simplify the gut flora and it creates visceral fat because it destroys collagen in the gut. It is even more common in those who go from the obesogenic SAD to a paleo template without a marine component.

Humans possess an unusual occlusal surface on their teeth compared to other primates. They resemble herbivorous animals who also have longer intestines and more stomachs to handle fibrous plant matter compared to carnivorous animals. **Many clueless vegans and vegetarians** believe this finding shows that humans are best adapted for eating "like a rabbit" or engaging in vegetarianism. This argument fails to note several human physiological features which clearly indicate a design for animal product consumption. First and foremost, is our stomach's production of hydrochloric acid, something not found in herbivores. HCL activates protein-splitting enzymes. Further, the human pancreas manufactures a full range of digestive enzymes to handle a wide variety of foods, both animal and vegetable based. But the occlusal surfaces of our human teeth appear to be a big evolutionary mismatch until you realize why the gut shrunk in humans from chimps. To make fat to make a brain because we had an abundant food supply in the East African Rift zone. If you digest your food less well you deliver more prebiotics to the distal colon to extract as many electrons from food and absorb all the water you can while creating the sub cutaneous fat you need to support infant brains. Read this blog about that process.

THE EPIGENETIC TRIGGER FOR AUTOIMMUNE CONDITIONS

In fact, the human colon major function is water resorption and not SCFA production as many believe. The reason for this? Protons carry potential energy and information that can do massive amounts of cellular work. These protons come from the charge separation of water in the colon. This mismatch is critical in patients who develop autoimmune conditions in their gut. Remember the gut immune system (GALT) sits right beyond the gut barrier. This is why mitochondria constantly make protons in all life forms. They create protons that

carry potential energy and information from our environment that is used to fuel the proper development of all of the arms of the immune system in your gut. When this system is thermodynamically off, the gut cells swell, the collagen substructure supporting the enterocytes become loose and this fosters leakage into the GALT. What else happens? The atomic structure of the protein called zonulin is altered in humans because of its charge changes. When it becomes ionized it become a direct open access point into the GALT. When the gut is off so is brain function. This means brain damage is a part of every single autoimmune condition known. I know that won't be popular, but it is correct.

THE DESTRUCTION OF THE GUT: CORTISOL

To optimize the handling of these subatomic particles naturally from food requires proper circadian signals from cortisol and melatonin within the brain. Both of these rely deftly on the Vitamin A and D cycles in the brain and body, respectively. Cortisol in excess destroys the collagen triple helix everywhere in the body. When cortisol is raised in the stroma of tissues there is a loss of electric charge. This chronic charge loss leads to an alteration of the serotonin supply in the gut to convert to melatonin. This is due to the loss of charge or the redox potential in the gut. It is tied to a defect in water chemistry due to a smaller exclusion zone of water in the central nervous system. This is the link to CSF, I mentioned earlier in the blog. When this happens their is a lowered charge carried in the DC current within the system. *When a person is more oxidized for any reason at all, there is a shift in our immune systems' T helper cells, favoring the TH1 arm of the immune system over the TH2 system.* This is a thermodynamic effect due to a loss of electrons.

When the TH1 arm dominates, the protein structure of zonulin is ionized and is altered on a molecular basis. A new emergent protein is the result and it allows for a loss of gut barrier integrity. This exposes food in the gut lumen to the GALT. Eventually, the proteins from gastric contents makes contact with cell mediated immune arms allowing for the formation of new emergent proteins that also can activate the same arms of the immune system, and the autoimmune battle begins. Eventually, this mismatch develops into most of the

auto immune diseases you all have heard of. TH1-dominated responses are involved in the pathogenesis of organ-specific autoimmune disorders, Crohn’s disease, sarcoidosis, acute kidney allograft rejection, and some unexplained recurrent abortions.

Where you see food as a metabolic fuel, I see it as electrons and protons and PHOTONS. Food is an electromagnetic fingerprint of sunlight. The organs in our body take the thermodynamic energy and information in electrons and protons and turn it into a biologic signal called hormone information. This process itself is also a phase transition thermodynamically. The symmetry breaker in any organ is its water content. If you are dehydrated this organ will be under thermodynamic pressure of the first and second laws of thermodynamics. These electrons and protons allow the proper coordinated actions of our brain to work with the adaptive nature of our current environment to decipher the signals for our immune system to properly engage and yoke with the environment signals it receives. This is why we must stop thinking about food as fuel, and understand how subatomic particles determine the molecular gymnastics that the proteins of biology can organize around and sculpt our tissues and determine their function. We are all quantum beings whether we want to believe it or not.

REVIEW

We evolved in the East African rift where food was plentiful compared to our chimp ancestors stuck in land in forests. A signal of plentiful food would have been disaterous to a primate with a longer gut used to eating a diet that was based more on plants and fruit. So what did Lady evolution do? She created a signal of scarcity by flatening our teeth and shortening our colon to make it appear like food was scarce when it was not to create subcutaneous fat. When food is less digested in the proximal gut, the signal to gut bacteria is that more food stuffs for them available and less for us. When energy drops in us we swell and get fatter because we are losing energy to the gut bacteria. In turn, our gut

microbiome creates FIAF via this stimulus of excessive nutrients and it greatly expands the diversity of the microbiome.

As FIAF rises, and this makes the human host burn its own fat for fuel and fat stores are slowly depleted to help feed the developing brain. As the brain fully develops around 25 years old this mechanism is no longer needed because as the brain fully myelinates it begins to develop more surface area of cell membranes to mitochondrial density. The omnivore diet begins to predominate and sulphur amino acids are incorporated into the cholesterol backbones to infuse these polar lipids with electrons to generates a voltage. This voltage allows the brain to become resonant with the environment. In other words it becomes a better antenna because it can hold a charge well and is fully myelinated. Cell membranes in the brain tend to be very stable and do not need to undergo replacement often so energy costs in the brain level off compared to the infant brain. This is precisely how the dance between our gut bacteria and our own adipose tissues is supposed to work in normal conditions. As amazing as this sounds it gets more bizarre.

Since our gut flora controls our ability to make and store fat what if I told you they also might control our desires for the foods that they really want, namely fiber and resistant carbohydrates in nuts and chocolate? Well, this is precisely what happens. The gut flora control the levels of neurotransmitters, agouti, ghrelin, and NPY in the peripheral and central nervous system and this drives us to want to eat certain things. The healthier the brain is the more accurate these intuitions will be (Inger alert). I have covered this numerous times already in many past blogs but I really hammer this point home in the April and May 2014 webinars. The type of gut flora we employ actually is tied to the environment, satiety, appetite, desires, and to the reward of the food with respect to the brain's frontal lobes.

(central dopamine levels)

Small minds think of "food reward" as a concept intrinsic to foods, but it is a a concept related directly to the type of gut flora we create and fluorish. The flora is tied to the choices we give it by the circadian signals we force them to live under.

These signals from the gut flora eventually get hard wired into the brain over time by Hebbian learning. Hebbian learning is neuroplasticity. This is a very dynamic process, and nothing in the gut or the brain is fixed in this process. It is adaptive and is a read and react system. This is why it is so hard to get a handle on clinically for physicians. Most researchers are clueless how this all happens because they do not see the quantum blueprint in us. I think medicine will be revolutionized in the next 100 years. The knowledge we are unaware of today, might just change everything we think is true today. This is why I tell everyone to question the things you hold to be most "true".

The key factor for humans maybe that the human gut flora as a child is very susceptible to the environment we allow it to sense before puberty occurs and the brain matures. This is ADHD, schizophrenia, and bipolar disorder all begin early on in life before total brain maturation occurs at 25 years old. It appears that the local environment that we live in in our early life, is quite critical to this development of this dynamic duo. the brain and gut are sculpted because of how epigenetic mechanisms are built within us. In cite 1 below, research is leading us to conclude that epigenetic DNA elements used to enhance and stabilize transgene expression all have specific epigenetic signatures derived from environmental circadian signals that might be at the basis of their mode of action. No one seems to see what I see from a 30,000 foot view.

This implies that where we live, the sources of food we eat,

and the light conditions we face, and the tech gadgets we use, sculpt our organs organization and structure. All of these factors are encoded in the balance of electrons and protons in our system, and this information and energy are directly transmitted to our brain via our vagus nerve by these neurotransmitters in the gut.

So how does epigenetics work on our nucleic acids?

Their are four basic forces of physics exert their forces on biologies epigenetic instruments. The biologic epigenetic targets are proteins. Physical forces act directly upon proteins. They are instruments of choice and proteins are the "musical substructure of life". These proteins are made up from the DNA and RNA code directly. "These instruments" happen to contain atoms arranged in a specific and particular way that can "modify the music" many different ways based upon the "mood" of the electromagnetic force. The most common reversible modifications of the side chains of these proteins that are involved are:

1. Redox modifications of cysteine thiols side groups.
2. Demethylation and methylation of lysine and arginine side groups.
3. Deacteylation and acetylation of lysine side chains.
4. Phosphorylation and dephosphorylation of serine, threonine and tyrosine in many biologic proteins.

How might the brain account for these things? This is the topic for the epic May 2014 webinar. The brain looks at micronutrients coming in through the gut and translates these chemical signals into neurotransmitters that the brain

circuits can understand and decipher. How it does it, is going to blow your mind. You can book that.

Key point #3: Consider, when we eat a diet high in fructose (found at the equator) the gut and body respond in kind by causing an increase in absorption of iron, while causing a relative copper deficiency in cells. **Remember, copper is a transition metal.** You might begin to see why I hammered this point home in the Quantum Autism blog now.

Copper controls just about every major biologic protein in the body. ***Becker found it in bone as the doping mechanism and copper controls collagen cross linking.*** When copper falls collagen loses its cross linking. When it loses copper its ability to carry an electric charge dissappears. When you lose an electric charge you basically have lost your redox potential in your gut. This means the collagen in your liver loses its tension and the cell volumes there increase and visceral fat expands into the liver. As a cell gets bigger, we see a thermodynamic issue develop. **All thermodynamic issues are directly tied to mass equivalence. This is why all body's deficient in energy get larger.**

Think about bad collagen anywhere. I see it all day, and everyday in the spine. As the collagen there loses its piezoelectric charge it thickens and gets larger. This compresses the underlying nerves to cause pain. Moreover, all of this is directly tied to loss of electrons in collagen. Copper is the doping mechanism in collagen. Collagen is a N type semiconductor. What does this mean? Through various techniques like doping, the semiconductor can be modified to have an excess of electrons. Copper gives its D shell electrons to collagen! This is what a N-type semiconductor is. When you have "bad collagen" anywhere in your body, you have a problem in doping, gating, dehydration, and/or tearing within collagen due to electron loss. When you lose electrons, you lose your charge, and the collagen ionizes. When doped semiconductors are joined to

metals (transition), to different semiconductors, and to the same semiconductor with different doping mechanisms, the "resulting junction" often strips the electron excess or deficiency out from the semiconductor near the junction. This is why tissues collecting metals is really a bad phenomena and a huge sign of a horrendous redox potential.

COLLAGEN AND SEX

Moreover, a copper deficiency is handled quiet differently in both sexes. Women need **more copper** than men do. For this reason, women lose collagen faster than a man does too. This will affect the ratio of PER1 to PER2 in their circadian mechanism. This has huge implications to a being whose energy source is a semiconductor made of 50 % of collagen and water. It is the primordial reason women get more autoimmune diseases than men. But it is also the reason women live longer than men too! It is also why they have less myelin than men. This makes them more sensitive to electromagnetic signals in the environment to program the germ line of their future children. **DOUBLE BOOM.**

The reason is simple. Copper is not only required for the production of collagen cross links but it is also required of the enzymes which convert progesterone into estrogen. However, in men, more zinc is required to form the enzymatic machinery needed to convert progesterone into testosterone. Men lose collagen more as they age and women do not (PER1 & PER2) and this is why wound breakdown in elderly men is twice what it is in female patients. Every surgeon should know this, but few do. See Cite 2.

When we eat a diet high in fructose, this will also lower zinc levels in cells. This lowers testosterone in men. Zinc is also transition metal and it has been demonstrated that intramuscular administration of *zinc* before any trauma results in an increased deposition of *collagen in tissues*.

Zinc is an essential mineral that is important for immune function, wound healing, normal taste and smell, and is needed for DNA synthesis of proteins. It seems we always come back to proteins when "we scale" the discussion past biology to the quantum level. Biology believes its DNA when it is really the interaction of the electromagnetic spectrum on proteins made from DNA that really matter. That is quantum scaling at work.

Higher fructose levels also cause a *transient magnesium deficiency* in all cells in both sexes when this occurs chronically. When magnesium drops inside a cell it is a sign you have lost intracellular water. This is why diabetics all have polyuria and are thirsty. Every doctor should know this but few seem to understand how it fits in with how a quantum cell works at a quantum scale. So Dr. Lustig is right, but for all the wrong reasons; but Richard Feinman told us all that in 2011.

When water is lost and magnesium drops it radically alters zinc and copper in proteins and these changes alter "the matter in cells" to set the stage for the disease to ensue. These changes all lead to a loss of organizational structure of the tissue in question: think a loss of beta cell function or a loss of the substantia nigra in Parkinson's or a change in CSF water to destroy sleep. This is why pseudotumor cerebri has and enlarge brain parenchyma to CSF ratio and results in slit ventricle syndrome. Yep, this is how sleep apnea begins too. All of these are thermodynamic issues. Transformation in energy flows alters the collagen and water semiconductors in life. This increases cellular volumes in the upper airways and mouth to restrict breathing and this cause a chronic hypoxia. Low oxygen levels means a lower amount of electrons compared to protons in the CSF. Chronic hypoxia was talked about in detail in CPC #8. This is why poor sleep and cancer are linked in every study. I would remind you what I said in Brain gut 11 and Brain gut 12 about this issue. Have a re read. If you believe food is

primoridal you better have a close re-read of all these blogs, because it is not. Solar redox is.

KEY POINT #4: Acutely, when sleep is poor, cortisol is raised and melatonin lowered, it directly changes the proteins that build your intestinal brush border. With more chronic alterations of cortisol, the mismatch causes the brain down regulates cortisol release from the PVN and increases the cortisol receptors to become way more sensitive to the hormone. As adrenal fatigue develops cortisol falls. This is how adrenal fatigue begins and develops and manifests as time elapses. These changes to receptor proteins alters how they can and do function even at low levels. This confuses people and then they recommend cortisol replacement!!! Guess what this does? It destroys more collagen and you lose more energy. Ask any person on chronic steroids. This is why the get buffalo humps and abdominal obesity. It simulates exactly what we see in modern human obesity with a simplified gut flora. This is how visceral fat is grown thermodynamically. It is do to a loss of collagen in the cells cytoarchitecture. Maybe now you know why I hate exogenous glucocorticoids, like hydrocortisone replacement in leptin resistant states!!!!

I mentioned here in this blog that is precisely how diabetes actually begins. This is how leptin resistance begins too. It begins with destruction of chromophore proteins.

When you lose water inside a cell, this lowers the magnesium available to make ATP. Lower ATP levels do not allow proteins to fully expand their water binding sites in the amino acid side chains. This limits water bonding and this radically alters a tissues normal physiologic functioning if it goes on too long. ***In this way, circadian signals directly alter the cell's collagen skeleton.*** Collagen fibrils are "the wires" in our quantum evolutionary blueprint. Water is "the battery" that electrifies collagen.

Cortisol has a massive effect on collagen and water. Both

of these chemicals form the basis of every semiconductor in your body to make energy and deliver it instantaneously where it is needed. ATP does not do this. Paleo guys believe that. This is a huge deal why tissues and cells lose their organizational structure. This is why magnesium deficiency is so common in people who eat processed carbohydrates in a mismatched environment with a lot of artificial light or excessive non native EMF.

This is why metabolic syndrome is exploding today everywhere. This is also why most diabetics suffer from low magnesium stores within cells, and over time this will help destroy their sleep and are afflicted with peripheral neuropathy too. Remember magnesium is hydrophilic cation inside a cell and if water is not around this is the main reason magnesium is a problem. Collagen is hydrophilic, so a loss of collagen means means a loss of water and magnesium every time you find it. **Just replacing magnesium in this situation does nothing to fix the organizational failure occuring inside a cell. Water must be bound to proteins for magnesium to have any effect.**

The reason these things happen is because in a high sunlight environment, normally found on Earth (think tropics or equator), humans can compensate for the higher fructose loads in their diet because the infrared part of the electromagnetic spectrum creates a constant flow of protons from the charge separation of water. This offsets how may protons have to be made by mitochondria. These animals are also gain a lot more electrons from the sun's light. Within the sun's light, part of this electromagnetic spectrum is found UVB light. UVB is used to simultaneously increase the levels of Vitamin D in our body. Higher levels of Vitamin D, also help up regulate the cell mediated immune systems, even when the gut is not delivering enough electrons and protons to the GALT to properly activate the immune system. The higher the sugar consumption is within our diet, the higher our liver has drive up LDL levels in our blood to carry more cholesterol to sites

where collagen is being destroyed. This is designed only to be a seasonal change in our tissues and one we use adaptively. Today our modern world provides a summer time circadian signal 24/7.

Cholesterol is the bandaid body glue when collagen is destroyed. Think of "pot hole" repair. The liver does this by limiting the LDL receptor from reuptaking LDL in our blood and by making more LDL in our liver to offset the energy loss throughout the entire system. **This is another example of a "protein modifying its function" due to energy changes or redox changes in a cell.**

The CPC#8 blog, and this blog, show you the first two folds of all proteins are determined by the DNA code. The last two folds are determined by the redox state of the cell. This is why so many proteins can have so many varied actions, even though their molecular structure looks identical to a molecular biologist. It is a quantum effect. They don't see the world of biology with quantum lenses. I do.

When this happens normally in seasons, there is minor alterations in our redox potential designed to be cellular signals. This is what mitochondria use to signal things to the rest of the system using ROS and RNS. When it happens chronically, outside of seasonal signals, the collateral damage begins across all organ systems and the organization structure of proteins everywhere is altered. Disease then ensues. LDL rises when free T 3 is low. T 4 is converted to T3 in the liver. Here you can see why the liver redox potential and the amount of T3 in your body are linked. Remember from the Hormone 101 blog that free T3 levels in the thyroid which allows the LDL to convert to pregnenolone, DHEA, and testosterone because of the higher than normal environmental exposures to the sun. This is why hormones are information directly tied to electrons and protons and not macronutrients. We can compensate for these dietary fructose changes seasonally as we evolved because our immune systems

are simultaneously up regulated by the higher levels of DHEA and Vitamin D levels. DHEA is 98 % yoked to IL-6 like we see in a Rayleigh Benard cells of water.

IL-6 is linked to just about every cancer on this planet. IL-6 destroys the redox potential everywhere it is found, because it raises cortisol in the stroma of organs. When cortisol is high, collagen is destroyed, and cells get larger in volume and mass. Water flows in the cell are altered, and swelling ensues worsening the volumes and mass relationship. Any time these are altered apoptosis and autophagy programs are altered. This is why water has its own specific nuclear footprint when we see cancer on an MRI. There is massive alterations to the Rayleigh Benard cycling of water inside cells. Everyone with sleep apnea has high levels of IL-6 in the brain which alters the EZ of water in the brain. It correlates 98 % of the time with DHEA levels. This is why DHEA and sleep are linked for the clinician. We can tolerate more inflammation within our brain from a ketogenic diet because our immune system is getting more electrons while limiting the wrong isoform of protons.

More electrons mean smaller cell volumes and mass. Remember electrons provide energy with no mass thermodyanmically. This is why I told you obesity was an inflammatory brain condition at its very core. This is the giant circle of life I laid out in the Hormone 101 blog post over 3 years ago.

Becoming an Epi-Paleo Rx Translator for optimal wellness

When we see an altered hormone panel in clinical practice it might signal something small now, but it could morph into something your mind might not even comprehend. If this continues long enough you will wind up with some major health

changes that become very complex and very difficult to treat. These diseases are treated only when they become firmly entrenched and obvious to most clinicians but the majority of a patient suffering from them have the problem persist for years undetected until things worsen. In the next blog, we cover two of those diseases that afflict humans based upon the information in this blog and greatly expanded in the March - June 2014 webinars that are coming. You should seriously consider viewing these webinars via my Epi-paleo store or consider membership. If you do not you won't see the entire picture I am painting. It is akin to seeing the Great Wall of China from a plane 30,000 feet above. It looks cool, but it won't change your perspective, disease state, or your life.

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