

# EMF 3: The Origin of Life

## Readers Summary

1. How did the space observations affect my thinking about life?
2. How did it start?
3. Why did it take so long to explode?
4. Why does evolutionary biology have it wrong now?
5. What really happened 580 million years ago?

**“If you are out to describe the truth, leave elegance to the tailor.” –Einstein**

The implications of the last blog, EMF 2 are massive for biology. **Those two space experiments show us that time contractions when we lose the sensation of magnetism, and it dilates when we increase it.** This implies we can die faster or reverse disease if we understand how it affects us. With this knowledge I knew I could help reverse many neolithic diseases. But it dawned on me on the plane ride home it also might explain how life really began in our oceans. Water and sunlight were primordial organizing elements on this planet.

The irony here, is two days before, I was standing in Rome in the Sistine Chapel showing my son the center panel of Michelangelo's masterpiece ceiling. It was then I realized I might want to know God's thoughts. I want to know God's thoughts in a biologic way and the path to that way used an alphabet called evolution.

Evolution in my eyes is the following:

- It does not mean random
- It does not mean to improve
- It does not mean morphing during a lifetime
- It does not mean abiogenesis

- It does not mean the origins of the universe
- It does not mean social Darwinism
- It does not mean genetic determinism
- It does not mean amoral
- It does not address theologic claims
- It does not mean atheism, communism, racism or any ideology

Evolution means change over time brought about by environmental change in the Earth, pure and simple

How it happens is a natural truth based upon quantized science

If you deny these things: The universe, change over time, then, in my eyes, you deny our current reality:

The theory of biological evolution attempts to explain the facts and connect the data that indicate that life on Earth is related through a common descent or process, and has been changing for close to 4 billion years. I am sure it will continue to evolve too. We don't have all the answers today, but we are getting better at finding some, and this post is foundational to evolution's role, in life's ascent at the ocean floor and eventually in Homo's solution.

I told a friend parts of this story in a phone call in 2011, and told him when I was done with all this that I would leave no doubt in any one's mind with what I found and why it altered my perception. I told him about Factor X, hoping he would see there was a bigger evolutionary story I was painting for people to see. He explained that it might upset the 'apple cart' and I should expect some backlash. I told him that people interested in ancestral living should be more interested in the truth of how our biology really works than what they believe. Martin Luther King said it best, "Every time we witness an injustice of thought, and do not act, we train our character to become passive in its presence, and thereby eventually lose the ability to defend ourselves and

the one's we love to create the life we need." I feel I need to write about this because our species survival is tied to these thoughts.

My message, last year at Paleo Fx, was to be a true voice and not an echo chamber. Moreover, that I believe Paleo community can make a difference to the world if they get out of their own way and examine their own dogma. My thoughts were only going to help them, because I believe the answer is found in the entirety of evolutionary history, and not just the last 15,000 years of it like Eaton and Cordain has suggested. They did not see how the far past may affect the here and now. I felt I might, and I told him he would too, as time goes on and I lay it out piece by piece.

I also told him that Paleo was the first giant step in the right direction, and that is why I cared about the movement. But they were not correct in their assumptions. Sometimes being half right can be as bad as being all wrong. They looked back 15,000 years. This is what attracted me to them initially. But they did not realize just how differently I was, because they do not understand the story of how circadian biology wrote the evolutionary story beginning 4 billion years ago. It used quantum mechanics. There would be no evolution without this story. It was a bold statement for sure, but I was not giving him all the goods over a year ago. Moreover, I was not worried about the arrows in my back from them. What others say about you is not a reflection of you, it is a reflection of their world.

Stopping the 'thought car', and agreeing to look into the rear view mirror to see your real story clearly helps you re-navigate your life now, to change your future. That is truly what the primal lifestyle does, in my opinion. But that first step only does one thing. It stops you from living your life like your driving down a road just looking through the windshield while your life- "time contracts" or you age faster like the Russian cosmonaut did. Ancestral living is that

first step that makes you turn around, and instead, look at the human story, to help you piece your life back together for the very first time. That is quite important. If you do not make it, you will never see where I am now going. Factor X brings us back to Homo's solution's, and today's blog brings us back to life's origin. Once we have a time scale that works, we can figure out all the smaller details much easier, like a simple algebra equation as our knowledge improves.

I knew looking back 15,000 years alone, could not encompass the whole story of us. I knew there was an even more amazing level of knowledge to get too, because of what EMF 2 makes us aware of for biology; it was all based upon life's evolution from its true genesis. I told my friend the primal lifestyle is the first step for mankind to reverse his current mess, K-T events were the next step for mankind in his understanding, and the final step back maybe contained here, in this blog. How did life form on this planet 4.5 billion years ago? See, we all come from this story.

There are three domains on life's evolutionary tree, Bacteria, Archaea, and Eukaryotes. We come from the latter, but how the other two ancient domains formed are germane to our plight today. In fact, every living thing has [100{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6}](#) interest in this story because it is how everything began. Also when you know life's true progression from its genesis, it implies we can alter healthcare for us now for our true betterment as a species. Medicine is fumbling the ball because it has no true epistemologic foundation to tie its biologic decisions too, like chemistry or physics has. The point is when we begin to use evolutionary biology to guide our decisions instead of our feelings and socially created beliefs, we get better permanently. We need to use evolutionary thinking to guide and master our thinking today.

If you're with me, I think you will get Optimal eventually. That is the modus operandi of my entire blog and it is the

thesis of my life now.

EMF 2 suggests to us that biology uses Einstein's equation in a very counter-intuitive way. It implies biology may not be a foundational discipline, as we were taught to believe. It maybe that quantum mechanics is primordial to all science. I think physics is the only foundational science now. It is also subject to the rules of of the physical universe too. We just need to understand that proper context now, to make sense of how to treat things correctly when things go awry. We are making many decisions that are contrary to this story of life today. We need to fully understand it to change them us and get us back on track. It is not good enough to be a good doctor, we need to aspire to greatness. I think this information will get us there. Is there a the silver lining of our current extinction story? Too often we enjoy the comfort of popular opinion without the discomfort of thought. I find slaying sacred cows makes great grass fed steaks now.

The organization of life is a thermodynamics problem to solve.

A physicist would begin looking at life right to left. So would an engineer. They would look at the variables present on Earth first , and then look at the goal of the machine they were trying to create and then use what they had at their disposal and build a machine capable of accomplishing the task at hand. Unfortunately, biologists do not see the world that way. And this is why they remain blind to life's real origin.

Sunlight is the electromagnetic radiation emitted from a star.

Many scientists ignored have published research that have shown that parts of the electromagnetic spectrum can causes a phase transition in water to lead to many other emergent properties in other forms of matter. In this way you can see at the very beginning sunlight had the ability to bond all forms of matter. Most forms of matter carry charges. This implies that the electromagnetic force control charged particles in some fashion. It does this somehow using the

“breakdown phase”s of water. Since we know today, that all proteins are surrounded by water inside cells, it stands to reason then that at the genesis of life sunlight took small particles to eventually make proteins. Proteins that had special abilities were then conserved. They were conserved using a magnetic principle much like your memory is stored in your computer today. The idea is the same but the method is the difference for life. this implies that proteins and water work in unison to form some new form of matter in every crevice of your body to store energy using Einstein’s energy mass equivalence relationship in some fashion.

## **How life rebounds from extinction**

It’s only at the precipice that we evolve, only on the brink do we change. EMF 2 shows you we may be on that brink. We are 50 years into the Earth’s sixth extinction event, in my opinion. I believe there is a combination of events that is bringing it upon us. The first and most important issue is that the massive non native EMF’s now in our “living zone” is blocking the Schumann resonance from being properly sensed by all living things. Secondly, modern humans are no longer connected to the Earth because of today’s culture. Thirdly, the Earth’s magnetic field is still strong but decreased in power according the US Geologic survey’s. Fourth, our food is no longer evolutionary, it is mostly manufactured and genetically altered. The magnetic field appears to have the ability to alter over time naturally, but in this era of mankind’s “technologic progress” the timing is bad because it is coinciding with the massive increase in environmental man made EMF’s. Artificial light is fifth major reason we are having major issues with the cell cycle and neolithic disease. This is another massive circadian disruptor of the light and dark cycle. This is best seen in diabetes and in epithelial cancers today. This extinction event is being made by our own hand. All 5 prior extinction events on Earth were followed by a cold climate change. There will be no cold climate

aftermath if we continue the path we are on. Why? Non native EMF dehydrates all life of water and therefore there can be no phase transitions of water to save us this time. Cold is the first process in disease reversal for the previous 5 extinction events. This is how those survivors made it through. Cold increase energy flows in solid state physics in case you were wondering.

The cold slowed their biochemistry down, allow for better electron flow in their bodies to replenish them, while the environment was in chaos and then got them through, to see a return to the normal Schumann resonance, light and dark signals to control the cell cycle once again. This is how life and time stop contracting normally. **Cold environments slows time by altering water chemistry in cells, by altering our endogenous clocks mechanism, to allow our mitochondria to first recover its charge, and then increase our electron flow to rebound and make time dilate for survival.** It is what I call the evolutionary rubber band of extinction events. It is designed to bounce back if you get out of nature's way. We are in the way this time around.

## **How might life began?**

We know life began on Earth in the ocean depths from fossil records. One the ocean floor of every ocean on Earth are hydrothermal vents leeching massive quantities of super heated inorganic alkaline chemicals that are called black smokers. Life abounds around each one. These findings stunned scientists in the 1970's and 80's because of how we thought life began back then in a primordial soup. We thought back then we came from a primordial soup that used fermentation to make ATP in simple life forms. It should not have, surprised them. It did because they ignored the work of Gilbert Ling totally, and the work of Peter Mitchell initially. This created a scenario where a half truth became a worse fate then a total fabrication of the truth. Mitchell's idea was outside

the current box and Ling's idea said there simple was no box.

Ling's idea was so radical that no one could accept it. His idea was born of electronic induction of proteins in intracellular water using the movement of electrons. His idea was based in semiconduction which was not even invented in the late 1950's. Computers still used glass tubes in those days.

Mithchell's idea was based upon proton gradients driven by charges in membranes and a membrane pump.

Peter Mitchell believed he solved the bioenergenics problem for life's ascent, in 1961 for biology but nobody believed his solution. ***They were smart to be skeptics, but they had no better ideas with which to challenge him with.*** Ling believed the interaction of water and proteins was tied to electronic induction. He believed that that this induction caused proteins to move electrons and protons around to make energy.

Ling's idea was firmly based in solid state physics. The rules governing solid state physics were still being minted by physics in the late 1950's. His idea was never even considered by biology. One physician did listen to Ling and invented the MRI machine based upon Ling's ideas in the 1970's. Here is where biology went off the tracks in a big way.

Mitchell on the other hand was a maverick too. He was an outsider in the field of bio-energenics, so when he came up with the idea of chemiosmotic coupling to make ATP, he was not taken seriously. In fact, he was ostracized often. He thought this way because he saw evidence for it, in all the primitive life forms on Earth, like Bacteria and Archaea kingdoms on the evolutionary tree. No one believed eukaryotes would use such a bizarre system to generate energy. Chemiosmotic coupling allows for a chemical reaction to drive and osmotic gradient of protons across a membrane. It allows us to collect protons on one side of a membrane to generate a charge.

Theirony of the story is that Gilbert Ling did take Mitchell's

work seriously and showed his idea of a pump on a membrane broke the Second Law of Thermodynamics by a wide margin. No one read Ling's paper on this, so the mistake was left to stand. You might be shocked to hear it is still standing in biology even today. This should have made Mitchell's skeptics day when Ling published it. But none of the skeptics could fathom how Ling found this out because they did not believe his ideas that proton gradients were due to charge separation in water. Too bad.....because Dr. Gilbert Ling was proven correct by two things. One, MRI was invented using Ling's work. Two, Gerald Pollack took Ling's ideas and proved beyond a shadow of a doubt the water has a fourth phase once it is charge separated. This can happen at a hydrothermal vent because water only need infra red heat to do ti. It does not need sunlight. It used the Earth Magentic core to generate the Infra red heat to accomplish life's first step.

The saddest part of the story: Biology gave Mitchell a Noble Prize in 1978 for being an original thinker.....not for being right. Gilbert Ling should have gotten several Nobel Prize's and all he has gotten is a long life of crushing defeats by biologic dogma.

**Non Geeks:** This means inorganic chemicals can react together and push against a gradient. All it takes is water and radiant energy to do it. The goal is to damn a ton of protons on one side of a membrane to drive the formation of ATP. This happens without any other energy input into life's thermodynamic organization.

Biologist had believed that fermentation was likely the way life made ATP in the beginning because that is how bacteria do it today. Mitchell had other ideas because fermentation had many unique challenges that would not favor it on the ocean floor. Moreover, the simplest way to make ATP is using a proton gradient and not a biochemical pathway that requires multiple enzymes to catalyze the reactions to make a few ATP. It was energy inefficient to do so. At life's origin, it

would have requires a lot of energy as Einstein predicted in his math.

Mitchell realized early, that this was the simplest answer life would have had in the beginning to make energy well. To drive an ATPase, all one needs was a chemical reaction to set up the proton gradient. He should have stopped there and realized all one needs to make a proton gradient is charge separation of water and not much else. This is where his original thinking stopped and his creative thinking took over.

Instead he made a mechanism to fit his theory. We are still paying for that mistake today as a species. Mitchell's theory would require no light or any other energy source at the black smoker. He knew from work on bacteria, that ATP can be made via the proton force alone, as the only source of energy.

Little did he know black smokers are loaded with radiant energy. Infra red energy does not need to begin with sunlight. It can begin inside a molten core that came from an exploding sun. That is really what happened on the ocean floor.

## **How did we get to DNA from there?**

DNA is a very complex molecule and it could not have just popped up into existence by happen stance because it codes for proteins. RNA however is a very simple protein and it is versatile and adaptable compared to DNA. In fact, this is how environmental changes today are coded for and what drives epigenetics. The problem for biology back then was, that to make DNA or RNA we needed proteins to exist first to get the genetic code. Proteins need DNA to evolve first, and DNA needs proteins to evolve first. It was a chicken or the egg puzzle. This problem may have been recently solved by Dr. Montagnier. In his solution, he may have also shown that Mitchell's Nobel Prize was given to him prematurely. He may have won it without proper experimental evidence proving that ATP or the cell membrane were primordial in forming the protoplast at the

ocean floor. We will get to that amazing story later in the series when I introduce you to Becker, Ling, and Pollack.

You heard about Dr. Montagnier's work in the video in EMF 1 but it was based upon many others ideas of scientists who were Mitchell's contemporaries. The work of the British Nobel laureates on cell membranes and chemiosmosis are detailed in Nick Lane's book's but the real story maybe buried in the Russian astronaut bone loss in EMF 2. Even today Russian Space officials and NASA remain puzzled at why humans lose bone even when the magnetic field of Earth is artificially implanted into their space capsule. That story too is coupled to the Nobel gaff of 1978.

**Biology Geeks:** Mitchell argued for decades that RNA had to be the first answer for life because it was far more simple than DNA chemically. Science showed it could be made in a test tube, found on comets, RNA replicated much like DNA, so it formed a replicating unit that natural selection could act upon it directly epigenetically. Moreover, it makes proteins directly, so it provides us a link between template and function. Unlike DNA, RNA is not inert chemically. It undergoes many conformational foldings and catalyzes chemical reactions much like enzymes do. We call them ribosomes. RNA does have some issues, however. Ribosomes are not versatile catalysts like enzymes are, and this is why many biochemists think that minerals maybe a better choice for sustaining life at its beginning. I do not buy that because minerals only catalyze reactions by their presence in a prosthetic group on a protein. The protein acts to improve biochemical efficiency, rather than determine the true nature of the biochemical reaction. At life's origin, it had to be simple. It happened at the bottom of the ocean where it was cold and dark with out light. From the hydrothermal vents there were huge amounts of electrons and protons spewed from the molten mantle below. The output of these vents were loaded with alkaline inorganic compounds that were **very chemically reduced**. (means lots of

electrons and protons) You might be shocked to know that acids block the formation of protons in water too. So does any type of salt.

Many biologists, even today, favor the old idea of the "primordial soup" for life's genesis, but I do not. Thermodynamically it makes zero sense. Replication of RNA requires that work has to be done, and that means energy would have been needed to make it. You can not make enough energy if fermentation was the first way life made energy, as these scientist believed for decades. Fermentation is not an efficient way to generate ATP nor energy to satisfy the Second Law of Thermodynamics.

If life used, Mitchell's chemiosmosis however, it would be quite plausible on the surface. Moreover, the requirement for energy would have been constant because RNA is not chemically stable. It is easily broken down in most environments and we know the environment at a hydrothermal vent is not very stable. Fermentation absolutely fails on these points. Even in my pre-med days, I had my doubts about their version of how life began because of the energy story. I felt uneasy that there was a problem thermodynamically. So biology remained stumped for years on where the energy came from, because they did not buy Mitchell's ideas of protons being driven inorganic chemical reactions. When we learned about the hydrothermal vents and the quantum coherence of water in the 70's and 80's, that problem was solved, because it provides an environment with an unending source of energy, rich in both protons and electrons, that could ultimately support RNA function.

The problem was Mitchell's mechanism was the wrong one. The protons came from charge separation in water chemistry exposed to infrared heat. And the source was unending as long as the Earth had a molten core. Those vents contain the richest sources of chemically reduced ejectant on this planet, even today. These variables were the precursors to the Pentose Phosphate Pathway.

# Why did dogma last so long?

So why did the idea of a primordial soup using fermentation exist for so long? I was taught up until the 1980's that this was our best idea of how life formed. The reason it persisted is because of an experiment results contained shocking data. Stanley Miller and Harold Urey passed electric currents into a gas mixture of what was believed to be present in the Earth atmosphere 4.5 billion years ago. They succeeded in making organic chemicals, like amino acids, from this experiment. Because they had an experimental design that made amino acids people just bought it, hook line and sinker. However, their ideas fell out of favor because some people questioned how we knew what gases were present 4.5 billion years ago without any data. What brought it back to life was, after the fact we learned in the late 20<sup>th</sup> century that organic material could be brought to Earth by comet and asteroid strikes. Geologically this made a ton more sense because we know from the geology history of earth 4.5 to 4 billion years ago our planet was target practice for millions of these hits from outer space and the outer solar system. Proof of it can be seen on any clear night just by looking up at our Moon. It is littered with remnant of these hits. Not only that, at one time the Moon was one of the asteroids that collided with Earth in our past. But I think there is even a more simple way to explain life's beginning. It began at the hydrothermal vent to create small organic proteins using the power of charge separated water in the ocean. As the chemicals filled ocean waters and entered the photic zone of the seas the electromagnetic force of the sun used its power to bind the organic matter made their to organize proteins in to more complex forms that eventually became life. This is how evolution emerged in my view. A model for this was given to you in Brain gut to when I discussed how virus where replicated by sunlight alone.

# Why the dogma made no intuitive sense

When I was in college, I was taught the original basic foundation of ATP production in bacteria was from fermentation. Since bacteria are the oldest life forms on our planet this caused many to believe that chemiosmosis could not be our primordial energy source because it was too complex. They were right to doubt him. They should have asked better questions because the answer was buried in the most abundant molecule on the surface of our planet, water.

So I looked at fermentation pathways closely and realized there was no way it could have been how life made ATP in the beginning. If fermentable items came from space, then the nutrients supply supporting it, should have run on empty after all the asteroid showers stopped hitting Earth 4 billion years ago! It failed on an evolutionary time line right there. Life would have died out, unless a process like photosynthesis could supply that energy source. Photosynthesis is a process that uses quantum physics to use water and sunlight to drive energy transfers to make carbohydrates for plants in 39 steps.

One major problem with this idea; photosynthesis was not evolved at this time yet. The traces for fossils evidence on Earth is 3.9 to 2.8 billion years old. Given the time discontinuity between the evolution of fermentation and photosynthesis (approximately 1 billion years), there was no way fermentation was primordial for ATP production. The key was water and infrared heat from the Thermal vents. Even today, no one seems to understand this. I plan on showing you just how this is done with future blogs.

This meant to me Mitchell *might be* correct that chemiosmosis, which was the primitive forerunner of oxidative phosphorylation seen in the modern mitochondria, had to be primordial for life's source of ATP. Or it might mean there was another way to generate electrons from water and heat that

we do not know about. ATP was clearly important, but there had to be more to the story, I thought. It turns out my intuition was correct.

The biology you and I were taught in high school had a major problem. If Mitchell was bat shit crazy, where did the energy source come from if there was no oxidative/phosphorylation? Could water alone provide the power of the original protoplast? Mitochondria require redox reactions so the reducing chemicals were provided at the vents in abundance. The oxidative chemicals would have been provided by the sun's oxidative powers of the ocean at its surface. Even today, Mitchell's version remains biologic dogma, but there are still many questions left open. What happened on MIR really is a reflection that Mitchell's ideas maybe partially correct but not the whole story. I knew Mitchell's was wrong because of this story I am painting for you. This is when I began to look at water closely. It was the key molecule that was always around in these vents.

Biology had no other energy source for life to make ATP, using their ideas. I realized there was no way the organic molecules on comets and asteroids could have made it 1 billion years to nourish primitive life forces. UV sunlight is highly oxidative because there was no ozone in the atmosphere to protect back then and photosynthesis is not dated to have evolved that long ago either. I knew the vents however had thermal infrared energy. I knew they were buried in miles of seawater. I knew these two factors were seminal to the solution of life. So I dug deeper.

Moreover, fermentation also was not simple as I was taught either. It was rather complex. People believed it was simple because of Pasteur writings. He called bacteria a "simple life form" in the late 1800's, and so fermentation was also labeled simple by biology. It was another bad idea that got propagated for over 100 years. Fermentation requires 12 enzymes and the biochemistry of the pathway is quite complex. Moreover, there

was no way this kind of pathway could have evolved to support RNA function without another energy source for reasons I mentioned above. We knew it could not have been photosynthesis either because it evolved much later, so it really left biology with oxidative phosphorylation using chemiosmosis as the best option for ATP at life's genesis. Biology bought this explanation. I did not. I thought we might need to keep the door open to other options.

Why did biology balk at Mitchell so long? They believed that this pathway of energy production required atmospheric oxygen to make it work as it does today. They seem to have forgotten that life began in the ocean where O<sub>2</sub> is not plentiful. Chemiosmosis also works quite well using iron, sulfates, and nitrates in the place of oxygen in many ancient bacteria we know about today. For example, the ancient cyanobacteria use iron as their oxygen in respiration reactions. **Here is another example of where a meme gets in the way of a truth.**

All bacteria, who use these as the end proton acceptors instead of oxygen in chemiosmosis, use a proton pump with a membrane to make ATP. This meant Mitchell had to be correct to some. He deemed correct by the biologic establishment and was awarded a Nobel Prize for it, albeit prematurely. I was taught in high school that photosynthesis evolved before oxidative phosphorylation. In 1931, Otto Warburg had argued as well that this was not likely. Biology dismissed him back then too. He also was also correct. What puzzled me about Mitchell's idea was the energy present in the system at life's beginning. The "sodium pump" was widely thought to be fueled by adenosine triphosphate (ATP) (the only possible source of energy for such a pump).

In the early 1950's, Dr. Gilbert Ling inactivated all energy systems in the cells, including ATP, by poisoning them with ouabain. In spite of the resulting lack of energy in any form, cells continued to maintain high level of potassium for many hours, with ions of sodium and potassium passing freely in and

out of the cells. Dr. Ling calculated that a pump operating under these conditions – even a 100% efficient pump (impossible) – would require from 15 to 30 times the energy available in the system. Thus, the “sodium pump” violated a basic law of physics – the Law of the conservation of Energy – by requiring more energy than was available in the system. This was the second time I realized two absolute laws of physics were wrong. I thought I needed to look deeper at the electron and proton current flow.

## How did eukaryotes form?

Biologists look at evolutionary trees to try to make sense of where life came from. They have a term called, **LUCA**, which stands for Last Universal Common Ancestor of all life. Whatever LUCA did, meant that is how the rest of life had to go. Bill Miller did experiments that showed LUCA could not have fermented in an evolutionary time span. Life has 3 domains: Archaea, Bacteria, and Eukaryotes. Eukaryotes are a combination of Archaea and Bacteria that occurred when a process of endosymbiosis happened. Endosymbiosis is when two prokaryotes fused to become one, where the engulfed bacteria became the forerunner of our modern day mitochondria. **It has never happened before or after this one time on our planet.** From this joining of two primitive life forms, all complex multicellular life came from it. In fact, we are products of this set of circumstances. This fusion event required lots of energy to happen.

This was a fusion event for life. I like to think about it like a nuclear explosion. Some amazing amount of energy had to occur to these two primitive forms to cause them to fuse. I believe the event was a coronal mass ejection from the Sun occurred before our atmosphere was protective as it is today from the sun's electromagnetic debris. This amount of energy would have been massive and would have dissipated to levels

these primitive cells could have tolerated by the oceans depths. The Schumann Resonance actually controls when these coronal mass ejections occur too. We will get to that too, soon enough.

Photosynthesis is found in cyanobacteria, algae, and plants. The last two use chloroplasts to make ATP. Archaea never use photosynthesis. This was a major clue to Bill Miller. If fermentation was the primordial path to ATP it should have been used in both forerunners, to the eukaryotes. Both Bacteria and Archaea ferment, but they use different enzymes to catalyze the steps in the pathway. This meant by definition LUCA could not ferment. This also meant that Mitchell's ideas of energy production might be correct, because chemiosmosis is present in both and identical. This implied LUCA also used chemiosmosis to some degree. I knew more energy was needed however based upon Einstein's laws and the Second Law of Thermodynamics.

The first cell of life, therefore, had to use protons to set up a gradient across a membrane, driven by electron flow. Both Bacteria and Archea do this. Moreover, both share an identical ATPase and respiratory chains too. Respiration is not complex. It was easy to form at the hydrothermal vents because of the amount of electrons, protons and reducing chemicals they constantly supplied.

But there was another part of the equation to think about, the long term coherent Schumann resonance effect and the **effect of water**. We all know the bioastrophysicists tell us **we need light, water, and magnetism** for life to exist as we know it. In 1974, Dr. Cole and Dr. Graf of New Orleans completed a theoretical analysis of the Pre Cambrian Earth's magnetic field that fit the model perfectly that I am sharing with you here.

They reasoned since the atmosphere was much larger back then, it must have pushed the ionosphere much further out into

space. Today this would be where we would see the Van Allen Belts. This meant that the Earth would have had an electromagnetic resonator (Larger Schumann) of two concentric spheres consisting of the upper and atmosphere and the surface. This implied that in the Pre Cambrian Era, the fluctuations of current in the Van Allen Belts would have generated huge currents in the ionosphere compared to today.

This would have provided a massive energy boost and it would have also would be coupled to large coronal mass ejections. Since the Earth's core is an excellent conductor, the ionosphere currents would have coupled to this energy producing an enormous and constant electrical discharge through the atmosphere and into the Earth.

Since the distance around the core was equal to 1 wavelength of EMF at 10 cycles per second throughout the resonant cavity, roughly 18,600 miles, the discharge would have pulsed at 10 Hz throughout the atmosphere and the surface of the planet dramatically increasing electron flow. This would have produced massive heat, UV radiation to oxidize the oceans, and created infrasound pressure waves. All these forms of energy would have increase the energy in the Earth's crust to generate massive chemical activity to foster the origin of life. Moreover, such a supercharged ionosphere would favored spiraling vectors in the electromagnetic field depending upon whether the reactions occurred in the Northern or Southern hemisphere. This difference would have been found in the formation of organic chemicals with an L or D iso-form.

**Amazing Truth Bomb:** If this sounds crazy to you, consider what is going on right now in the Great Red spot on Jupiter. This is precisely what is happening daily in this great electrical hurricane on Jupiter today. If this was correct, it would predict all life forms on Earth formed within the 10 Hz discharge, and all their descendants would also resonate at the same frequency. Moreover, they would show an extreme sensitivity to that frequency even if the original power

source was disconnected from it. **This is precisely what life shows today on Earth.**

**This is why the Schumann resonance is the gate keeper to EEG's in all animals. It also means it is the cipher to reset circadian cycles in all animals when they are cut off from from the normal magnetic fields on Earth.**

As the ionosphere gradually descended and disconnected from the Van Allen Belts, the ionosphere currents would have become too small to couple to the Earth's core. The atmospheric cavity would have been too small to resonate at the core's prescribed frequency. The plug would have been pulled on life's formation but all it needed was its initial jump start.

And this is how I believe it happened. Today's remnant Schumann resonant frequency is proof of that initial energy burst.

**Chemistry Geeks:** The toughest part of the story for Mitchell was where the membrane came from? His theory required a membrane. In 2002, Bill Martin and Mike Russell tackled the membrane issue directly, and found that both Bacteria and Archaea have lipid membranes, but how they were built is very different. Bacteria have a free fatty acid bound to hydrophilic head connected by an ester bond. Archaea have 5 carbon units called isoprenes (very similar to modern day CoEnQ10), joined together to form a polymer which has a very rigid membrane. The isoprene binds the hydrophilic head however by an ether bond. They both use glycerol phosphate for their "hydrophilic head" but one uses the "C" isoform and the other uses the "T" isoform. Because they use different isoforms, this implies they need different enzymes to build it. They were so different that Martin and Russell said neither one could have been used by LUCA. They believe that the original membrane of life was made by **inorganic chemical compounds** of iron sulfur chemicals. This was another big idea supporting life at the sea floor. These are precisely the chemicals that come out of hydrothermal vents, folks! One

other issue.....when water undergoes charge separation naturally by electronic induction, you do not need a membrane. Gilbert Ling said this too. No one listened. They should have.

## How did it all happen?

These men, and biology ignored Ling's work, went on to postulate that these inorganic chemicals to make bubbly membranes. These membranes were the first membranes that protons were pushed against to make ATP. From here the ATP was able to make the RNA, that life required. From RNA came amino acids, nucleotides and RNA itself. These men brought life beginnings back to the ocean floor. So they did some good. They just invented a mechanism to fit their theory.

They should have consider what Ling said to generate better ideas. The first living things on this planet were simple one cell Bacteria and Archaea. *The bacteria formed in the oceans depths where the alkalinity made things chemically reduced, and the Archaea likely formed in the surface seas where things were more oxidized by the sun. The same thing is true without a membrane if you use radiant energy to charge separate water.*

Here is where reduction and oxidation reactions of today's life, truly met for the first time. All microbes require the Sun's power, at some point in the story, to drive their own redox reactions. This is made possible because the oceans and atmosphere are out of chemical equilibrium with the Earth itself. This imbalance is kept constant by the oxidative power of the sun rays and thermal action of the molten core. The microbes on the ocean floor, where it was **cold and alkaline** would not have been able to drive their redox reactions without the relative oxidation of the oceans from above closer to the surface when the atmosphere was forming.

The reason their metabolism and replication was so slow was because it was freezing cold away from the vents and they were

entirely dependent on the slow" trickle down effect" of the oxidized materials from the surface microbes. The cold kept them in a state of suspended animation and allowed them to survive for millions of years without dividing. **This meant that life's primordial state was found in the cold and it was alive, but not yet awake. I said this long ago in Cold Thermogenesis 2, as a clue for you.**

In fact, in cold environments, sleep is heavily selected for in terms of how mammalian nervous systems are built by evolutionary design. Even in humans, their temperature drops when melatonin is released even today. Cold stimulus changes the behavior of all eutherian mammals. This is why mammals can sleep so long underground in sub zero conditions and still survive. They are replicating what happened at the oceans hydrothermal vents 4 billion years ago. Sleep is heavily selected for in cold environments for all mammals today.

Sleep is also tied to changes in water density of CSF that surrounds our nervous system. This fits with Ling's work.

Seemed to me this proton and electron separation issues was critical in figuring the puzzle of life out. It turns out.....it was. The key was deciding who was correct.

If we assume this might be true today, this explains why epigenetics has been found as the dominant player in how genetics really operates in biology. Why? Anything that promotes survival and reproductive fitness has to be passed to the next generations for reproductive success. This is evolution's main directive. I think evolution found that epigenetic modifications to be quite effective way to pass on environmental information to succeeding generations. So successful, that it became a backbone law of genomic functioning. Evolution follows fractal patterning. So it is also highly conserved in all species even today. Life, at its genesis was likely static, and to get the nutrients it needed, it used passive diffusion because of proximity. This made nutrient density scarce to life at its origin at all

times. To survive it had to overcome this impedance. This manner of nutrient collection is highly inefficient, but the supra-sensitivity of autophagy in cold made the process biologically plausible for great part of our evolutionary history.

It appears that evolution naturally adapted to improve access to nutrients and to do, so, it had to **evolve wakefulness** to obtain them. Yes, you read that correctly. To complete this, it yoked metabolism to sleep, early on in evolutionary biology so it could account best for nutrients and autophagic repair to lead to optimal survival. I believe the **use of timing** became an easy evolutionary solution because of the rhythm of the sun, the Schumann resonance of the Earth, and the freezing cold that these cells found them in could account for these cycles.

## Where Einstein meets life

This implies that for billions of years we have had massive amounts of Bacteria and Archaea floating in a state of life, but not truly alive. This is very similar to what we see in a brain dead humans or humans under a general anesthetic today. This meant we had massive amounts of bacterial byproducts collecting in the oceans. From the Sun, a large coronal mass ejection likely hit the oceans and caused a massive increase in photo electric energy, and this drove Bacteria and Archaea to join and fuse. This parallels what happens in a nuclear explosion to uranium and plutonium. The outcome there is many other elements are created in fallout. The outcome for this biologic energy fusion was the eukaryotic cell, that eventually became us. A eukaryotic cell is 100' to 1,000,000 times as large as either a Bacterial or an Archaeal cell. It also has a nucleus and a mitochondria that resembles a bacteria called a Rickettsia. The real reason complexity exploded after the Cambrian radiation 580 million years ago, most believe is that the eukaryotic cells obtained the

presence of an internal combustion engine to create large amounts of energy, called a mitochondria. I believe this was important, but not the most critical step for life to develop complexity.

Einstein said that anytime energy in a system is increased, its mass must also be changed. The eukaryotic cell is clearly quite different than Archaea or Bacteria, even today in size and complexity. Remember, time is also function of mass, as I pointed out in EMF-2. For life to become complex, it means one also has to accurately time all the reactions needed to sustain multicellular life. Controlling multiple organ systems at once to get perfect physiologic function is a critical aspect of chronobiology that modern medicine remains in the dark over. They have to become perfectly yoked to the cell cycle and metabolism to work in unison. This means that complexity requires an accurate endogenous clock. This is also a trait found in eukaryotic cells and very few Bacterial or Archaeal cells even today. **This all implies the redox potential is the key factor for life.**

Even today, Bacteria and Archaea remain exactly how they have been for the last 4 billion years, without much evolutionary change. Why? They have a primitive endogenous clock, because their environments does not allow them to yoke all three key timing mechanisms that life uses, namely, the Schumann resonance, light, and dark. They can not tell time as accurately as a eukaryote can because eukaryotes can exist in places where all three environmental signals exist. This gives time a multidimensional aspect, that primitive life form did not have so can not use. They are also limited geometrically for ATP production because their ATPase is found at the cell membrane and not in a folded inner mitochondrial membrane. So in comparison they are energy poor for complexity design. Since their environment limits their complexity, for them, it appears time stands still, or is severely prolonged.

This is why Bacteria and Archaea can live for long times in harsh environments everywhere on Earth. What was the real change for life? It was getting a Ferrari engine, called a mitochondria to make ATP efficiently, while becoming able to tell accurately tell time using Schumann resonance, light and dark, as the second minute and hour hand on a clock. If a complex cell is to yoke arrivals and deliveries of biochemical reactants, it must have a clock to tell things when to occur at proper intervals. This timing is wired directly into to the cell cycle for growth and found to be built into to their nervous systems as complexity increased.

## **The last link for life's origin**

How did life go from inorganic soup at the hydrothermal vents to RNA? This is a massive leap in biologic terms that has stumped biology for quite some time. Many biologist have argued that the life making inorganic particles would just diffuse away with currents at the vents on ocean floors. On the surface that seems true, but what if water itself, use quantum mechanics to encode for RNA using its own memory?

What if water was life's battery and did not need a membrane?

***What if water carried the memory of life's code from a previous asteroid hit? This idea was born from Ling's work, Montagnier, and the work of Becker on bone metabolism.***

**Perplexing Bomb:** What if water had the DNA or RNA blueprint encoded in its own EMF, such as the Schumann resonance? Do you think that sounds crazy like Mitchell's idea of chemiosmosis?

## **Are we EMF beings are our code?**

If the organism is taken to be electric, as the universe is electric, is the universe an organism? Ponder it, for a moment. Alfred North Whitehead, a British mathematician said it this was true. In his book, Science and the Modern World,

first published in 1926, he wrote on page 100, **“The concrete enduring entities are organisms, so that the plan of the whole influences the very characters of the various subordinate organisms which enter into it. In the case of an animal, the mental states enter into the plan of the total organism and thus modify the plans of the successive subordinate organisms until the ultimate smallest organisms, such as electrons, are reached. ”**

Whitehead's organisms included everything in nature, from the universe to galaxies, stars, planets, plants, animals, human beings, bacteria, right down to fundamental quantum particles; they are bundles of electromagnetic activities he called “vibratory organisms”. They became endowed at least with a kind of primal consciousness that experience their environment in acts of “prehensile unification”, and most important of all, evolve as the result of these experiences. His idea sounds very similar to epigenetics, to me.

There is substantial evidence that living things are fundamentally organized by electric fields and electromagnetic activities. Whitehead's concept of a “plan of the body” that modifies the motion of electrons within it anticipated the discovery of physiologist Harold Saxton Burr at Yale University, who began his work in the 1930s. Burr's book, *The Blueprint for Immortality*, first published in 1972, offers a grander vision for life as he described on book's back cover.

**“This is a breakthrough book – the first comprehensive account ever published of one of the most important scientific discoveries of this century. It reveals that all living things – from men to mice, from trees to seeds – are moulded and controlled by ‘electrodynamic fields’, which can be measured and mapped with standard modern volt-meters. These ‘fields of life’, or L-fields, are the basic blueprints of all life on this planet. Their discovery, therefore, is of immense significance to all of us.”**

Today, there is new evidence suggests that the L-field is generated by, and embodied in, the quantum-coherent liquid crystalline water that makes up 70-90% of organisms and cells and is essential for life.

Water forms quantum coherent domains at ordinary temperatures and pressures. Within organisms, coherent domains become stabilized as liquid crystalline water on the vast amount of membrane and macromolecular surfaces, effectively aligning the entire body electrically to form a single uniaxial crystal. This liquid crystalline water makes life possible by enabling proteins and nucleic acids to act as quantum molecular machines that transform and transfer energy at close to 100% efficiency.

It provides excitation energy to split water in photosynthesis, releasing oxygen for the teaming millions of air-breathing species that colonize the earth, at the same time generating electricity for intercommunication and the redox chemistry that powers the entire biosphere on our planet.

**All astrobiologists agree, that life as we know it, can not exist without water being present.**

Living water is the means, medium and message of life.....and we know for sure life began in the oceans. Now lets take a look at how that might have happened at life's orgin.

## **Does water have a memory for RNA/DNA?**

This brings us to the work of Dr. Montagnier. He is a Nobel Laureate known for upsetting the scientific applectart. Dr. Montagnier, now 79, is a well-known French virologist, and

still active. His 2008 Nobel Prize in medicine came for isolating the HIV virus. He founded, and leads, the World Foundation for AIDS Research and Prevention. He got most of his idea's from the counter-intuitive ideas of the quantum coherence of water inside of cells.

Within each cell is an electronic current which, as it flows, attracts paramagnetic ions (in this case, the hydrogen) in the water. This attraction causes the hydrogen to line up and point toward the current direction.

The result is a layer of polarized water around that electrical charge. Beyond it, in the cell, are additional layers of polarized water. No water floats freely. Thus, under normal conditions, all the water in the cell is controlled by the action of the direct current. This idea was founded in Becker's experiments on bone metabolism but not realized by any of the above researchers. I realized it right away because of my work in spine surgery and osteoporosis. Water cannot leave the cell and no other water can enter without permission. That permission is given to it by the biomagnetic quantum direct currents in perineural tissues in the human body. We will explore that later in the series.

The critical point is this organizing function only occurs when potassium is in the cell engaging water in quantum coherence. When potassium leaves the damaged cell, this water structure is lost and the cell begins swelling with water as sodium enters. When a cell swells molecular swelling occurs. This alters chemical reaction times and diffusion times.

**Amazing Finding Bomb for Life:** Dr. Montagnier did some experiments on the memory of water using only the Schumann resonance at a specific electromagnetic frequency of 7.83 Hz, and was able to reconstitute DNA when there was no DNA in the water sample to begin with it! No other frequency of the Schumann resonance was able to do this. This is also found in the video in EMF 1 blog.

If what he found is true, then we now know precisely, how life sprung from the black smokers on the ocean floor. It was the merger of the Schumann resonance with Mitchell's chemiosmotic coupling and water's quantum coherence that allowed life to reconstitute on the ocean floor. The local environment then determined how and life evolved from this point onward via natural selection.

Dr. Mitchell was also considered a "quack" for proposing his methodology of energy development in biology, and yet he too, was partially correct against all odds back then. ATP was a critical part of the system but it was not the total picture in my view. He won a Nobel Prize for it in 1978, but I do not think he deserved it because he offered no proof of the entire energy requirements. He totally missed the DC current and the quantum biologic effects of water. Is anyone seeing how all these guys, with out of the box ideas wind up with a Nobel prize yet? I believe this is why you must begin to think outside of everyone's box, to get to answers no one seems to have. People love to destroy the ideas you have just because it seems so outlandish, based upon current understanding, until you begin to string elements together that no one has thought to tie together before.

Physicists on Montagnier's team suggest, that DNA emits low-frequency electromagnetic waves which imprint the structure of the molecule onto the water. This structure, they claim, is preserved and amplified through quantum coherence effects, and because it mimics the shape of the original DNA, the enzymes in the PCR process mistake it for DNA itself, and somehow use it as a template to make DNA matching that which "sent" the signal. It appears it can do the same for RNA as well.

Full details of the experiments are not yet available in the published research, but the basic set-up has been published in **Nature** and is linked in the cites below. Two adjacent but physically separate test tubes were placed within a copper coil and subjected to a very weak extremely low frequency

electromagnetic field of 7.83 hertz, paralleling the Schumann resonance. The apparatus was isolated from Earth's natural magnetic field to stop it with interfering with the experiment. One tube contained a fragment of DNA around 100 bases long; the second tube contained pure water.

After 16 to 18 hours, both samples were independently subjected to the polymerase chain reaction (PCR), a method routinely used to amplify traces of DNA by using enzymes to make many copies of the original material. The gene fragment was apparently recovered from both tubes, even though one should have contained just water by itself.

DNA was only recovered if the original solution of DNA, whose concentration has not been revealed as yet, had been subjected to several dilution cycles before being placed in the magnetic field. In each cycle it was diluted 10-fold, and "ghost" DNA was only recovered after between seven and 12 dilutions of the original.

Many hardcore scientists really hate the use of dilution experimentation, because it gives credence to homeopathy in their mind. I fully expect this fact alone, will create a "meme" blocking this idea. What they do not realize, however, this is precisely what happens on the ocean floor at a black smoker! The hot water jet is constantly diluted by the current on the ocean floor 100{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6} of the time. There is massive dilution here, yet we still know that life is abundant around these black smokers when we look for it. Paradox or maybe a coincidence that an inquiring mind may want to consider? Here again observations of science should trump bad biologic meme's. Put on any Discovery or Science TV program about them, and see if it is not true for yourself. This is another example of science blocking itself because of their beliefs even when biology shows life exists at 750 degrees with nothing but inorganic chemicals coming from a oceanic volcanic vent.

# A word of caution about this data

**Molecular Biology Skeptic Geeks:** Whenever completing a PCR experiment like this, it's very, very important to rule out contamination, because it's incredibly easy to amplify contaminating bits of DNA. For example, it's very easy to amplify human DNA sequences if those sequences are found in the skin because skin flakes are virtually everywhere humans are and are amazingly good at finding their way onto the surfaces of Eppendorf tubes where PCR reactions are run. PCR can be incredibly sensitive, which is why it doesn't take much contaminating DNA at all to produce false positive amplifications of a sequence of interest, particularly when doing PCR with a lot of cycles or sequential PCR. That's because PCR does not discriminate between contaminating DNA and the DNA of interest. There is even a phenomenon known as primer dimer, in which somehow the two primers used to start the reaction can hook up at their ends and form a template to allow PCR amplification to proceed. This usually produces short sequences whose size is equal to approximately twice the length of the primers. Many are the PCR experiments that have been ruined by contamination—including some I did back in my pre-med days. **That's why negative controls are absolutely essential.**

When I reviewed the **Nature** articles, no mention was made about these controls so we will have to wait until the research is published. There is ample data on the liquid crystalline structure of water however to support his ideas. He seems to be implying that the nano-structures in the memory of water, cause or are results of, are inorganic chemistry operating on a quantum scale for biology and organic biochemistry. **Chemistry requires contact for action, not at a distance, otherwise a chemist calls this voodoo or pseudoscience.** The issue is here, we have a connection, albeit not one chemistry normally deals with in inorganic or organic molecules.

# Why the Schumann Resonance is the missing link for Biology

**Here we have a new mechanism, that no chemist or biology has thought before might be the contact needed to create life.** I believe, we now have reason to look at the Schumann resonance more significantly for biologic impacts. This message is very new for biology, but will become important for modern humans. I do not think modern medicine even knows what the Schumann resonance is, or how it affects human life today. Most astrobiologists believe that life needs water, light, and a magnetic field to foster life in our universe. This is why I told you in Cold Thermogenesis -1 they are so interested in Saturn's moon, Titan. It has all three present today. To prove how important a magnetic field is to life, all we have to do is look at the planet Mars. It has water at each pole that is frozen solid, and has plenty of sunlight from the sun like Earth. Yet, it is a dead zone for life, because it is missing a magnetic field. It has no Schumann resonance, detectable.

## What is the Schumann Resonance, again?

Schumann resonances were named after the German physicist Winfried Schumann who first discovered them in 1952. Radiation from the sun ionizes part of the earth's atmosphere and forms a conductive plasma layer, called the ionosphere. **The ionosphere surrounding our planet is positively charged relative to the earth's surface, which carries a negative charge.**

This creates an electrical tension within the space between the earth and ionosphere. Every second, there are about 1000 lightning storms worldwide, which help to excite the Schumann resonances. Schumann resonances occur because the earth's

conductive surface and the lower boundary of the conductive ionosphere are separated by a cavity of nonconducting air that is acting as a wave-guide. The resonant frequencies of the earth-ionosphere cavity are in the ultra-low frequency range (ULF) and extremely low frequency range (ELF). These are examples of naturally occurring EMF's, that life uses in chronobiology. It is encoded in our alpha waves of our brain, as I showed you in this series. **This is the EMF that is being blocked by modern manmade EMF's we all are enduring in our modern world.** I believe it is behind all neolithic disease today and is causing our 6<sup>th</sup> extinction as we read this. Why do we need to be concerned I may be correct? Mars has two of the three things life requires for life, but is missing one so it is a dead planet. We have all three but we are destroying the most critical piece of life's equation. That has to catch your attention at some point.

There are seven known Schumann resonances and all are tied to the geomagnetic environment on Earth. The lowest-frequency mode of the Schumann resonance is at a frequency of approximately 7.83, 14, 20, 26, 33, 39 and 45 Hz, with a daily variation of about  $\pm 0.5$  Hertz, which is caused by the daily increase and decreases in the ionization of the ionosphere because of variations in radiation from the sun. This has the effect of **reducing the height of the ionosphere at noon local time every day on this planet.** In the Southern hemisphere the effect is worse, because of the "ozone donut hole" in the atmosphere because the magnetic field is less strong there. This helps explain why melanoma incidence and prevalence is so much higher in Australia than anywhere else. More of the sun's EMF's are hitting the Earth because of the lack of the protective magnetic field to the solar winds.

Another factor that influences these Schumann frequencies is the solar activity during solar cycles, which last nine to 14 years on Earth. This activity includes the approximately 11-year sunspot cycles, solar, coronal mass ejections, and

geomagnetic storms that have caused massive blackouts on Earth, recently. This is why I believe a coronal mass ejection is the likely energenic event that cause endosymbiosis to occur. The normal solar wind contains mostly electrons and protons with energies usually between 1.5 and 10 keV. The energy delivered from one 2.5 billion years ago could have been 1000- 1,000,000 time more powerful than today.

This would have easily delivered massive energy to the deep oceans to cause this biologic fusion event.

The cavity is widely believed to be naturally excited by energy from lightning strikes, but there may be other sources of excitation that we are not aware of yet. This helps **transmit electrons** from the ionosphere **to the ground** and it can be transmitted to life forms directly connected to Earth. This is where the free electrons I mentioned in EMF -2 arise. The levels may be low in current, but they are constantly made by Earth and it appears the brain pays attention to them in the hypothalamus. This is why grounding or earthing naturally helps life that is living. I am not a fan of artificial means of earthing at all. Normal earthing activates the immune system and helps us to heal quickly. The Tour De France team has been using Earthing now for over 5 years as part of the training regime.

I believe it was a coronal mass ejection from the Sun or a massive volcanic eruption in the sea that released massive amounts of infrared energy, that caused the endosymbiosis of two prokaryotes to form a eukaryote that we mentioned above. Ultimately, life is tied to energy and water. We are products of that prokaryote fusion. Why do I believe this? Life acts to survive and change when energy goes up according to Einstein's equation,  $E = MC^2$ .  $C^2$  is a big deal for biology, and always has been. We just have not realized it yet. I think that is going to change. The missing factor in  $C^2$  is quantum super conduction in cells.

**Quantum Biology Geeks:** Quantum mechanics are indeed bizarre,

intuitively for the non science geek. In physics, but they appear to go beyond our beliefs in their real time effects on biologic systems. We are finding this out today in how our brain really works in general anesthesia and the formation of consciousness in complex life forms. But no one yet, (as far as I know) has managed to successfully transfer physical quantum actions on a macroscopic scale, for the incredibly long periods of time, that Dr. Montagnier implies exists because of his water memory experiments.

Do I believe his experiments or him? I do believe that quantum coherence and non locality can possibly cause quantum biologic effects. Today, I can not say axiomatically he is wrong. I think what I have learned about the human brain and how it uses quantum effects is astounding. It opens new doors for science and specifically for biology and medicine. The more I learn about water, light, and the electromagnetic force the more I am convinced I understand how life works.

Do I think we need more research labs to duplicate his work, yes I do. But if he is correct, we have the origin of life explained using the Schumann resonance. **I believe it is the mark of an educated mind to be able to entertain a thought without accepting the terms of the thought.**

We also know our nearest neighbor, Mars has two of the three things life needs to exist but it lost its magnetic field 3.8 billion years ago. It has light, water, but no magnetic field. It is now a dead planet because of it. I always like to keep an open mind to paradox and ambiguity, when science is completely befuddled. This explanation to me, is quite plausible. In fact, it is the best idea I have heard of in quite sometime.

## **What else is the Schumann Resonance**

## Linked with?

Schumann resonances have been used for research and monitoring of the lower ionosphere and can be used to track geomagnetic and ionospheric disturbances. A new field of interest, measuring earth's magnetic fields, is related to short-term earthquake prediction. Schumann resonances also have also gone beyond the boundaries of physics, into medicine, where it has raised interest in the interactions between planetary rhythms and human health and behavior for chronobiologists. Ironically, this is how I found out about the Schumann resonance when I was reading about the chronobiologic control of leptin and the hormones of the brain.

Although the existence of the Schumann resonances is an established scientific fact, their presence and how these important planetary electromagnetic standing waves act as a background frequency that can influence biological oscillators, such as the electrical systems in the heart and brain are not generally well known yet. I think that is going to change as we go forward.

When Schumann first published his research, the similarity of the 7.83-hertz earth resonance and the rhythms of human brainwaves was quickly realized. Herbert König, who became Schumann's successor at Munich University, later demonstrated a correlation between Schumann resonances and the alpha brain rhythms. These waves allow us to yoke circadian biology to our environment. Numerous studies conducted by the Halberg Chronobiology Center at the University of Minnesota and other scientific studies have since shown that there are important links between solar, Schumann and geomagnetic rhythms and a wide range of human and animal health and wellness indicators. Even historical events like war, social unrest, military events and acts of terrorism can be correlated with the solar cycles.

# The Earth's Magnetic Field

The Earth's magnetic field is one of the strongest variables known for life on our planet and lack of life on Mars. It varies with the sun's activity, the Earth, Sun and Moon's rotations, diurnal variations (day-night), geomagnetic pulsations, and probably other interplanetary influences we have yet to discover. The Earth has a strong internal magnetic field that appears to be generated by electrical currents in the liquid outer iron core that are driven by internal heat sources. This is called the dynamo process. In order to maintain the Earth's magnetic field against ohmic decay, the outer core must be convecting. The convection is likely some combination of thermal and compositional convection. The mantle controls the rate at which heat is extracted from the core. Ohmic decay would be expected to occur for the Earth's dipole field in 20,000 year increments. Its strength varies at the surface about from 0.035 – 0.070 microteslas. The magnetic field resembles that of a bar magnet or "dipole field" with an axis tilted about 11.5 degrees from the spin axis.

The Earth's magnetic field strength was measured by Carl Friedrich Gauss in 1835 and has been repeatedly measured since then, showing a relative decay of about  $10^{-5}$  over the last 150 years by the U.S. geologic surveys. This is not an arguable point. As time goes on, the magnetic field is weakened but it is being dramatically affected in ways we are unaware of due to the effects of manmade EMF's that alter man's ability to sense the magnetic field. This is what belies our human experience of massive epigenetic changes in neolithic diseases since 1900.

Animals, including birds, can detect Earth's magnetic field and use it to navigate during migration. Cows align their bodies north-south in response to the earth's magnetic field,

but they become confused when they are near high-voltage power lines because of the magnetic fields that surround them.

## Global Warming too?

Two types of poles must be distinguished. There are the magnetic poles and the geographic poles. The geographic North Pole is actually the magnetic South Pole, and vice versa. The locations of the magnetic poles are not static; they wander as much as 15 kilometers every year. The magnetic field is stronger in the Northern hemisphere than it is in the southern because the North Pole of Earth has the negative (electrons) dipole and the Southern Earth has the positive dipole of the magnet. Many believe this is the basis of the ozone donut hole and why the North pole is melting at a faster rate than the South pole today. Blaming global warming on greenhouse gases alone is not supported thermodynamically, because if it was the true cause, both poles should be melting at a similar rate, yet they are not.

The destruction of the Schumann resonance by manmade EMF's would predict an altered melting rate at each pole as we are seeing today. I think modern EMF's are destroying the Earth magnetic field slowly and steadily, without us realizing it.

**This destruction will eventually lead us to a Martian ending if we do not get the message soon enough.** It may seem unreal to some of you to connect some of these dots, but that is precisely what I have been doing for 7 years.

A number of important findings already have emerged for life already. For example, changes in the earth's magnetic field are associated with changes in brain and nervous system activity; performance of athletic, memory and other tasks; sensitivity in a wide range of extrasensory perception experiments; synthesis of nutrients in plants and algae; the number of reported traffic violations and accidents; mortality from heart attacks and strokes; and incidence of depression

and suicide. It's interesting to note that changes in geomagnetic conditions affect the rhythms of the heart more strongly than all the physiological functions studied so far.

We need to study the effect on the SCN. I believe this is where we find neolithic disease game changing science. If your endogenous clock is shot, you can not support human complexity and you lose biochemical timing required for this complexity. That is why your health is difficult to reclaim.

There is also evidence in some cases that people's brainwaves can synchronize with the rhythm of the electromagnetic waves generated in the earth's ionosphere. When people say they "feel" an impending earthquake or other planetary events, such as weather changes, it is possible that they may be reacting to the actual physical signals that occur in the earth's field prior to the event. So yes, your grandmother does know when it may rain, and here is why her intuition and biology meet.

## Summary

Skepticism is a two-edged sword in many respects. Skepticism in the core sciences is needed and warranted at all times. However, it has a way of grounding us to only what is known today. This is very true today in medicine and biology. We are at the point in many illnesses where we have no answers.

There we need to look beyond what we know, and anticipate new answers to these issues. We must be consciously aware of what we do not know. I think a more productive approach to this problem is advocating for an "adventurous skepticism". We need to advocate a mindset to seek and try something new, all the while knowing that statistical probability remains our enemy and are against us, in the off chance that one of our brainstorming sessions will open our mind into a new realm of understanding.

Exploration is, by definition, is a sojourn not mapped, and is initially unmappable.

Science often has to push the wall of the “knowledge” just to be shoving it forward. There are times when what we think we know holds us back and maybe things like this keep us aware of realizing just how unaware we are of what we may not know. Biology made sense out of the chaos of the Earth’s early environment 4 billion years ago. Anyone shooting down a new idea better have good scientific reasons to shoot it down before it disappears. **Right now, there are none in my view.** The origin of life has perplexed humans for eons. In that confusion many fables were made to fit the story of creation. This blog strings together many new findings we all might pay attention too. The world of quantum physics says some counterintuitive things in its own right and now that we are on the cusp of realizing that quantum mechanics touches biology in many ways we have never known all possibilities have to be considered.

## Organ Circadian Clocks

The complexity and ability of mammals tissues and genes to tell time properly with a day time-specific regulation of thousands of **clock-controlled genes** (CCGs) suggests that many regulatory mechanisms contribute to the transcriptional output of the circadian clock today. These CCG’s genes are what we call organ clocks in chronobiology. Each organ has its own clock, that has to be yoked to the the **SCN** for the biochemistry to work at the correct time with other organs in our physiology. If the **SCN** is off, then it affects the functioning of the organ molecular clocks as a result. This in turn, causes huge physiologic issues for humans. Slowed or defective methylation, type 2 diabetes, and autoimmune conditions are few such examples of diseases seen in phase shifted molecular timing.

Modern biology has no clue how important this is, yet. I do, and have for quite some time. In the paleosphere, we hear arguments for and against carbs for many issues way too much

in my view, and I believe it is because few are even aware that **CCG's** directly control the important mammalian genes in the liver called **HNF-3** (hepatic nuclear factors) which directly controls transcriptional **RNA** for glucose control and pharmacokinetics. This is also true for **FFA's** in the liver, as well. This is how an altered clock determines who can eat carbs and who can't. Your beliefs are futile when you don't understand what really is the master controller of metabolism. This controls for proper timing of insulin release at the correct times in digestion and when it should be made. This is why a "dawning phenomena" is a sign of an altered endogenous clock.

The same is true in the heart, circadian regulators affect **NKX2.5**, which controls for proper cardiac development in utero (if altered you have congenital heart defects which are rising today too) and you lose the ability to increase cardiac exercise capability. In skeletal muscle the same thing occurs on the myogenin gene. Myogenin directly controls, the exercise capability of skeletal muscle. It has nothing to do with your gym work. If your clock is off you can not increase your **VO2 max**. Even simple genes like the one that controls regulation of erythropoietin (Epo), which properly times RBC manufacturing in marrow, has multiple binding sites for circadian regulators on its gene. In fact, there is not a gene in our genome that is not affected by them directly.

When you understand that this is the case, it makes you realize just how important timing is a complex multicellular mammal.

**It is time you realize that the pulse of the Earth, the Schumann resonance, is coded for in your brain and it is linked to every gene in your body.** When it is not perceived or sensed correctly, it radically alters RNA transcription via circadian clock regulators and alters protein synthesis to lead to all types of neolithic diseases we face today. In my last cite, their large scale analysis of the CCG promoters

revealed the complexity and extensiveness of the **circadian regulation in mammals is massive**. Results of this study point to connections of the circadian clock to other functional systems including metabolism, endocrine regulation and pharmacokinetics of how biochemical reactions occur on time or out of time. Just tagging proteins for destinations from a ribosome are not enough for mammalian complexity to be understood. **Delivering them on time when other reactants are also present is required**. This is precisely why time is a function of mass in biology. This is where diseases like autism, autoimmunity, and diabetes, and cancer begin, and we can then understand best how to treat them from this new perspective. What we are advocating for today is built upon a paradigm, blind to the root cause of the problem. **Treatment success will not be the result, and in fact, our extinction maybe the end game.**

If you fail to pay attention to your endogenous clock, you die because your time shortens and you age faster. **Manmade EMF's do just that to your genes directly**. The Schumann resonance is our life pulse on this planet, and is coded for in your brain's neural wiring of its endogenous clock. It is, the one natural EMF you better protect well.

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## Cites

- [http://www.mpg.de/943613/S003\\_Flashback\\_060\\_061.pdf](http://www.mpg.de/943613/S003_Flashback_060_061.pdf)
- <http://www.britannica.com/EBchecked/topic/229754/geomagnetic-field>
- [Life Evolving, Christian de Duve \(book\)](#)
- <http://www.glcoherence.org/about-us/about.html> (how Schumann resonance affect life)
- <http://www.glcoherence.org/monitoring-system/about-system.html> (Schumann affects life)
- <http://blogs.scientificamerican.com/a-blog-around-the-cl>

ock/2012/02/27/circadian-clocks-in-microorganisms/

- Power, Sex, and Suicide, Nick Lane. 2005 (book)
- <http://link.springer.com/article/10.1007{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6}2Fs12539-009-0059-0>
- <http://www.nature.com/news/2010/101208/full/468743a.html>
- <http://link.springer.com/article/10.1007{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6}2Fs12539-009-0036-7>
- [http://www.i-sis.org.uk/Life\\_is\\_Water\\_Electric.php](http://www.i-sis.org.uk/Life_is_Water_Electric.php)
- Science and the Modern World, by Alfred North Whitehead 1926. (Book on electric life)
- The Blueprint for Immortality, by Harold Saxton Burr. 1972
- Benveniste, J., Jurgens, P., Aïssa, J. 1996. Digital recording/ transmission of the cholinergic signal. *Faseb Journal* 10, A1479.
- Benveniste, J., Guillonnet, D. 2003. Method, system and device for producing signals from a substance biological and/or chemical activity. US Patent N° 6 541, 978 B1.
- Cowan, M.L., Bruner, B.D., Huse, N., Dwyer, J.R., Chugh, B., Nibbering, E.T., Elsaesser, T., Miller, R.J. 2005. Ultrafast memory loss and energy redistribution in the hydrogen bond network of liquid H<sub>2</sub>O. *Nature* 434, 199–202. CrossRef
- David, J. 1998. Introduction to Magnetism and Magnetic Materials. CRC Press. 354.
- Del Giudice, E., Preparata, G., Vitiello, G. 1988. Water as a free electric dipole laser. *Physical Review Letters* 61, 1085–1088. CrossRef
- Grau, O., Kovacic, R., Griffais, R., Montagnier, L. 1993. Development of a selective and sensitive polymerase chain reaction assay for the detection of *Mycoplasma pirum*. *FEMS Microbiology Letters* 106, 327–334. CrossRef
- Ruan, C.Y., Lobastov, V.A., Vigliotti, F., Chen, S., Zewall, A.H. 2004. Ultrafast electron crystallography of

- interfacial water. *Science* 304, 80–84. CrossRef
- Tham, T.N., Ferris, S., Bahraoui, E., Canarelli, S., Montagnier, L., Blanchard, A. 1994. Molecular characterization of the P1-like adhesin gene from *Mycoplasma pirum*. *Journal of Bacteriology*, 781–788.
  - Tully, J.G., Whitcomb, R.G., Clark, H.F., Williamson, D.L. 1977. Pathogenic mycoplasmas: cultivation and vertebrate pathogenicity of a new spiroplasma. *Science* 195, 892–894. CrossRef
  - Wernet, P., Nordlund, D., Bergmann, U., Cavalleri, M., Odellius, M., Ogasawara, H., Näslund, L.A., Hirsch, T.K., Ojamäe, L., Glatzel, P., Pettersson, L.G., Nilsson, A. 2004. The structure of the first coordination shell in liquid water. *Science* 304, 995–999. CrossRef
  - <http://www.glcoherence.org/monitoring-system/commentaries.html>, July 7, 2009
  - Bozek K, Relógio A, Kielbasa SM, Heine M, Dame C, et al. (2009) Regulation of Clock-Controlled Genes in Mammals. *PLoS ONE* 4(3): e4882. doi:10.1371/journal.pone.0004882
  - <http://www.jbc.org/content/286/25/22414.full>
  - G.N. Ling: *Am.J.Phys.Med.* 34,89 (1955)
  - C.L. Walton: *Physiol.Chem.Phys.* 7,50 (1975)
  - *Am.J.Phys.Med.* 4,89 (1955)
  - *Int.Rev.Cytol.* 26,1 (1969).