BIORESONANCE OR ELECTROMAGNETIC CONCEPTS

We are going to further study the cycles of the Kallachakra. It is important to understand the atom level of energy fields and the affects upon our Bioresonance within our various human body systems.

The human body creates electromagnetic fields. It is the only way you can possibly exist as a coherent entity! You are an electric field — a giant electric field which holds your atoms together, and which uses other electric fields to talk to other bits of yourself.

Intro to Electromagnetic Waves

The Charged particles—such as electrons and protons—create electromagnetic fields when they move, and these fields transport the type of energy we call electromagnetic radiation, or light. Electromagnetic waves differ from mechanical waves in that they do not require a medium to propagate. This means that electromagnetic waves can travel not only through air and solid materials, but also through the vacuum of space.

All light is made of discrete packets of energy called photons. Photons carry momentum, have no mass, and travel at the speed of light. All light has both particle-like and wave-like properties. One of the physical properties of light is that it can be polarized. Polarization is a measurement of the electromagnetic field's alignment. Think of throwing a Frisbee at a picket fence. In one orientation (vertical) it will pass through, in another (horizontal) will be rejected. This is similar principle to sunglasses, which eliminate glare by absorbing the polarized portion of the light.

The terms light, electromagnetic waves, and radiation all refer to the same physical phenomenon: electromagnetic energy. This energy can be described by frequency, wavelength, or energy. Electromagnetic waves have crests and troughs similar to those of ocean waves. The distance between crests is the wavelength. The number of crests that pass a given point within one second is described as the frequency of the wave. One wave—or cycle—per second is called a Hertz (Hz), after Heinrich Hertz who established the existence of radio waves. A wave with two cycles that pass a point in one second has a frequency of 2 Hz. Moving along the spectrum from long to short wavelengths, energy increases as the wavelength shortens. Consider a jump rope with its ends being pulled up and down. More energy is needed to make the rope have more waves.

Light waves across the electromagnetic spectrum behave in similar ways. When a light wave encounters an object, they are either transmitted, reflected, absorbed, refracted, polarized, diffracted, or scattered depending on the composition of the object and the wavelength of the light.

Reflection is when incident light (incoming light) hits an object and bounces off. Very smooth surfaces such as mirrors reflect almost all incident light.

The color of an object is actually the wavelengths of the light reflected while all other wavelengths are absorbed. Color, in this case, refers to the different wavelengths of light in the visible light spectrum

perceived by our eyes. The physical and chemical composition of matter determines which wavelength (or color) is reflected.

Absorption occurs when photons from incident light hit atoms and molecules and cause them to vibrate. The more an object's molecules move and vibrate, the hotter it becomes. This heat is then emitted from the object as thermal energy.

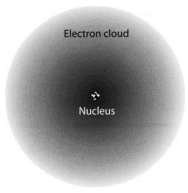
Some objects, such as darker colored objects, absorb more incident light energy than others. For example, black pavement absorbs most visible and UV energy and reflects very little, while a light-colored concrete sidewalk reflects more energy than it absorbs. Thus, the black pavement is hotter than the sidewalk on a hot summer day. Photons bounce around during this absorption process and lose bits of energy to numerous molecules along the way. This thermal energy then radiates in the form of longer wavelength infrared energy.

Diffraction is the bending and spreading of waves around an obstacle. It is most pronounced when a light wave strikes an object with a size comparable to its own wavelength. An instrument called a spectrometer uses diffraction to separate light into a range of wavelengths—a spectrum. In the case of visible light, the separation of wavelengths through diffraction results in a rainbow.

Scattering occurs when light bounces off an object in a variety of directions. The amount of scattering that takes place depends on the wavelength of the light and the size and structure of the object.

The sky appears blue because of this scattering behavior. Light at shorter wavelengths—blue and violet—is scattered by nitrogen and oxygen as it passes through the atmosphere. Longer wavelengths of light—red and yellow—transmit through the atmosphere. This scattering of light at shorter wavelengths illuminates the skies with light from the blue and violet end of the visible spectrum. Even though violet is scattered more than blue, the sky looks blue to us because our eyes are more sensitive to blue light.

Refraction is when light waves change direction as they pass from one medium to another. Light travels slower in air than in a vacuum, and even slower in water. As light travels into a different medium, the change in speed bends the light. Different wavelengths of light are slowed at different rates, which causes them to bend at different angles.



Our bodies are made up of cells, which are made up of atoms. And atoms are… well they're mostly empty space.

An atom is a centralized region of extreme density and positive charge (the nucleus), surrounded by a region of standing 'probability waves' which describe the wave function of the electron.

In other words, an atom is basically a 'fuzzy' ball of charges. Every atom has its own electric field, and when you put two atoms close together, they can mess around with the electric field of the other.

In some circumstances, this “messing around” is what leads to atomic bonding — the atoms and their electrons “find a way” to coexist in a way that minimizes their mutual energy, and they resist being pulled apart. This is what we interpret as an atomic bond.

But sometimes, it means they just bounce off each other. The two electron fields repel each other, and the atoms go flying apart.

Virtually every single process which is keeping you alive can be traced back to an electric field that some component of your body is creating.

For example: Imagine being at a baseball game, where a foul tip ball smashes you in the nose. Both your face and the ball are made of charged atoms or the fuzzy balls. There’s no concept of “solid” at this level — so why *should* the ball make contact with your face? The answer lies in the electric field. Every atom has its own electric field, and when you put two atoms close together, they can mess around with the electric field of the other. So, what you experience when the ball connects with your face is actually the electrons in the ball repelling those in your face. This repulsion obviously then causes a chain reaction with all the other atoms in your face, which are all mutually interacting with each other, and they all repel in unison from the ball (that’s why your face doesn’t atomize into trillions of atoms!)

Specialized sections of your body then generate electrical signals, which are fired along other specialized sections of your body, into a really specialized section of your body — which results in a cascade of electrical signals being transmitted through the entire unit. In other words — the sensors in your face send a message along the nerves into your brain, which you then process as pain. Everything you just experienced occurred because everything is surrounded by its own personal force field, and the insides of our bodies contain electrical generators, which they use to send signals through our body. Virtually every single process which is keeping you alive can be traced back to an electric field that some component of your body is creating.

Apply this very concept to our heart. Our heart beats before the brain forms. When the brain is dead, the heart continues to beat so long as it has oxygen. In fact, the heart has 40,000 neurons and the ability to process, learn, and remember. It also has its own emotions. The heart-brain actually sends more communication to the head-brain than the other way around.

With an electrical component about 60 times greater and an electromagnetic energy field 5000 times greater than the brain’s, the heart has a significant influence on the body down to the cellular level. The brain’s rhythms along with the respiratory and blood pressure rhythms entrain with the heart’s rhythm. This is the optimal state for human functioning.

So for instance, as the brain is able to be re-trained through neuroplasticity, so can the heart. In the same way, we build mental habits, we can develop new heart habits. Whatever the heart informs the brain, the brain responds accordingly. It takes changing what we have hard-wired in the communication exchange between the heart and the brain, and between the neurons in the heart, just like rewiring the communication between neurons in the brain.

If the heart feels chronic stress or anger, it is accustomed to communicating this to the brain. The brain triggers the body’s response in the form of stress hormones, constricted blood vessels, increased blood

pressure, chronic inflammation, and basically makes the heart work harder. Putting the heart through constant emotional distress disrupts the body's balance and this leads to physical stress and disease.

Let's take this a step further. Are we not sleeping well? Is our circadian rhythm being affected? As living organisms upon Earth, we have evolved within the natural electromagnetic fields which comprise atmospheric electricity, Schumann resonances and the geomagnetic field. Our individual circadian rhythm, which controls several physiological functions in our body, can be influenced by light, as well as by the earth's electromagnetic fields. Cyclic solar disturbances, including sunspots and seasonal weakening of the geomagnetic field, can affect human health, by disrupting the circadian rhythm and downstream physiological functions. Severe disruption of the circadian rhythm increases inflammation which can induce fatigue, fever and flu-like symptoms in a fraction of the population and worsen existing symptoms in old and diseased individuals, leading to periodic spikes of infectious and chronic diseases.

We have internal mechanisms that underly sensing of the earth's electromagnetic fields and involve entrainment, light-dependent radical pair formation in retina cryptochromes, and paramagnetic magnetite nanoparticles. Factors such as electromagnetic pollution from wireless devices and antennas, shielding by non-conductive materials used in shoes and buildings, and local geomagnetic anomalies affect sensing of the earth's electromagnetic fields by the human body and contribute to circadian rhythm disruption and disease development.

The circadian rhythm plays a critical role in synchronizing our body functions according to the 24-hour day and night cycle. Our circadian rhythm controls sleep-wake behavior, as well as, hormonal, metabolic, cardiovascular, neurological and immune functions. There are environmental cues such as light, the earth's electromagnetic fields, temperature, and food intake that represent the main natural phenomenon that entrain and influence the rhythmicity of the cycle. In the absence of environmental cues, the circadian rhythm continues to follow a free-running intrinsic period approximating 24 hours, but phase disruption and amplitude issues occur as the cycle is not reset and controlled properly. Disruption of the circadian rhythm affects the synchronization and amplitude of physiological functions and can occur following any activity that is not in synch with the cycle, including sleep deprivation, jet lag, work related stress, and eating at night. This affects a wide range of cellular functions (e.g., metabolism, immunity, cell proliferation) and contributes to inflammation and chronic diseases such as type 2 diabetes, obesity, infection, cardiovascular disease, and cancer. By inducing inflammation and impairing immune functions, a disrupted circadian rhythm increases mortality in response to respiratory tract infections such as influenza.

One of the possible mechanisms linking the geomagnetic field and entrainment of the circadian rhythm involves proteins called cryptochromes in the retina. In migrating birds, light induces the formation of free radical pairs in retinal cryptochromes and these radical pairs are thought to be sensitive to variations of the geomagnetic field and may act as a compass. Within the context of the circadian rhythm, the radical pair formed in the flavin adenine dinucleotide (FAD) of cryptochromes may act as an on/off switch that can induce an electron current to nearby tryptophan and tyrosine residues and regulate downstream signaling to clock proteins. Cryptochromes are also sensitive to the slow diurnal variation of the geomagnetic field and can lead to degradation of circadian rhythm proteins to reset a new circadian cycle and regulate about 40% of the genome. There is evidence that a similar mechanism involving radical pairs and cryptochromes may control the circadian rhythm in various organisms.

Other possible mechanisms involve magnetite nanoparticles which reside in the human brain, especially in the cerebellum and brainstem. Paramagnetic minerals have long been associated with increased plant

growth and health benefits in humans, possibly due to their ability to amplify the geomagnetic field. Thus, magnetite nanoparticles may influence specific organs, nerves and glands based on the time-varying geomagnetic field. Intracellular water may react to the enhanced magnetic field by forming exclusion zone water, a gel-like phase with a net negative charge that forms on hydrophilic surfaces such as proteins and cell membranes leading to cellular activation based on phase transition with bulk water.

This is a subject we could talk about for lifetimes and still not cover all of it. Why? Because we have 200 different types of "specialized" cells that have different structures, size, shapes, functions, and organelles. What do they all have in common….an energy field.

So, this leads us to where we are going…..Bioresonance. Bioresonance teaches us that every cell in our body resonates at a particular frequency which takes the form of electromagnetic fields. Groups of cells in an organ or system have unique multiple frequency patterns which form a complex frequency make-up for the whole body. Bioresonance is based on the idea that unhealthy cells or organs emit altered electromagnetic waves due to damage.

Example of resonance: only when one tuning fork is vibrating at the same natural frequency of a second object forces that second tuning fork into vibrational motion.

This will make us turn our attention to the cycles of planets and the influence they have upon our cycles. Each planet has its own resonance. Likewise, the planets move and take certain positions amongst themselves that will have an effect upon each other's resonance, that likewise have an effect upon our bioresonances. Our resonances will either experience more conflicts, or more creativity and activity due to the influence of those energy fields. We can further define the character of the planets and their influence through different states of the human psyche.

We can use the power of planets to change certain aspects of our lives. But even before we do this, we should bear in mind how they interact. It is very important to follow the principle of respect towards any force, especially that of planets and energies inside us. Understand that collaboration is the heart of universal existence.

We define Planets as having personalities, which are considered forces and energies. Once you get in touch with a force, it is important to understand that it is creative and full of potential. This force can reveal itself as creative and sometimes its revelation can be destructive. It is interpreted as levels of life and degrees of existence. Our psyche is quite limited, while life levels are very powerful. While interacting with planets, we harmonize their energy inside our body.

Take the Sun, for example. What is the Sun energy within human psyche? It is the ability to rejoice, to act and to be responsible. Once you lose joy and ability to act decisively, you get disconnected with the energy of the Sun. This is being out of balance with the Sun (or the destructive side) due to negative influences. When you reharmonize yourself with the sun, you feel joy and more positive. Or, what is the Moon power? it is the power of peace and ability to give love. When your life is devoid of these things, you

probably have lost connection with the Moon energy. So what we are talking about is planetary harmonics and neurological resonances acting upon us.

The fundamental frequencies of a planet are derived from the planet's astrophysical parameters such as diameter, circumference, rotational velocity, orbital period, perihelion/aphelion distances, orbital velocity, etc. These frequencies generally have very long wavelengths, thus they lie in the very low frequency (ELF) and ultra-low frequency (ULF) range. Planetary harmonics govern natural long-term biological growth patterns, monthly and yearly biological processes, and daily brain and psychophysiological function.

Astronomical parameters, such as the distance of a planet from the Sun or Earth, its diameter and circumference, to name a few, have harmonic resonances just like "time-related" parameters, like the orbital period of planet (its year); or its rotational period (its day). All of these parameters create a planet's complex "harmonic signature". That is why it makes little sense to say a planet resonates with one specific frequency. The harmonic signatures of all of the planets in our solar system, as well as a myriad of ever-changing resonances occurring between the planets, as well as those created by their ever-changing cycles with each other, produce our Solar System's Grand Evolutionary Symphony in which all life on Earth evolves. This is the "harmonic environment" in which every biological rhythm breathes and evolves.

Let's think of this differently….because of the entraining capacity of single electronically generated frequencies, if they are used for sustained periods, they can trigger and hold a person in any number of psycho-emotional states, either positive and negative or good/bad. For example, specific frequencies can trigger or accentuate any "condition of weakness". If a person has a thyroid condition and suppressed anger, certain frequencies may trigger this condition and enrage the person. If a person has a thymus (heart chakra) immune weakness and suppressed fear, sustained man-made frequencies can trigger and hold that person in extreme paranoia. (This type of entrainment already occurs due to the 50 and 60 Hertz electromagnetic fields people live in daily and the electronic devices they live with – including TV's and computers.) For this reason, and when using frequencies for healing purposes, specific frequencies (especially in coordinated color and sound), are generally used in sequences or progressions designed to bring a person completely through a healing crisis rather than simply triggering the condition, or worse yet, sustain it.