ELECTRICITY FOR Health

IN THE 21ST CENTURY



CAROLE PUNT

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Statement of Liability

The information provided is for educational purposes only. It is not intended as medical advice. Readers must use their own discretion in determining what is right and true for themselves.

This booklet is dedicated to all who take responsibility for their lives and their health.
I thank my loving family for their support.
Thank you to my daughter Lesley,
for her ability to listen with her heart -
as an editor and in life.

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Electricity for Health in the 21st Century

Unable to sleep on a hot, muggy summer night, I switched on the television. A movie, *Mary Shelley's Frankenstein,* had started. Professor Waldman was a medical scholar that had been censured for his rebellious ways—he had diverged from accepted academic research. Played by John Cleese, his face loomed on the screen as he explained to Victor Frankenstein, a medical student, played by Kenneth Branagh: "For thousands of years the Chinese have based their medical science on the belief that the human body is a chemical engine run by energy streams." He went on to explain how they insert: "… needles like these into the flesh at various key points to manipulate these electric streams." The enraptured Frankenstein marveled, "I see, so electricity is the key."



For centuries, the Chinese have known about and worked with the body's electrical nature from an intuitive basis. What, I wondered, has modern science discovered about the flow of electricity in the body? What evidence is there for an invisible river of electrons that provides life and health?

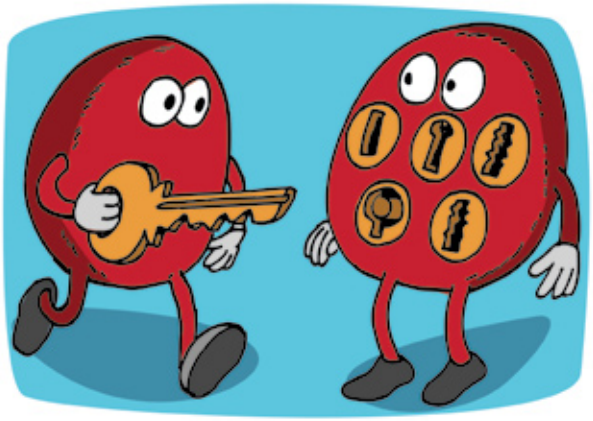
The Electrical and Electromagnetic Nature of the Body

What drives life is a little electrical current,
kept up by the sunshine. All the complexities of intermediary metabolism are but the
lacework around this basic fact.

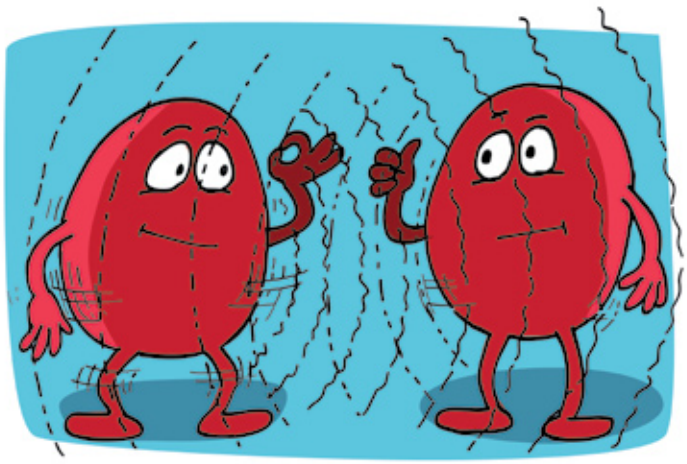
Albert Szent-Gyorgi

Despite the fact it is a fight for scientists to gain recognition and acceptance for their work in proving the electrical nature of the body, numerous patents have been filed, papers published, books written, and web pages developed to explain the subject. The research of the following scientists stood out for me. Each breaks new ground in better understanding how our bodies work to keep us alive and well.

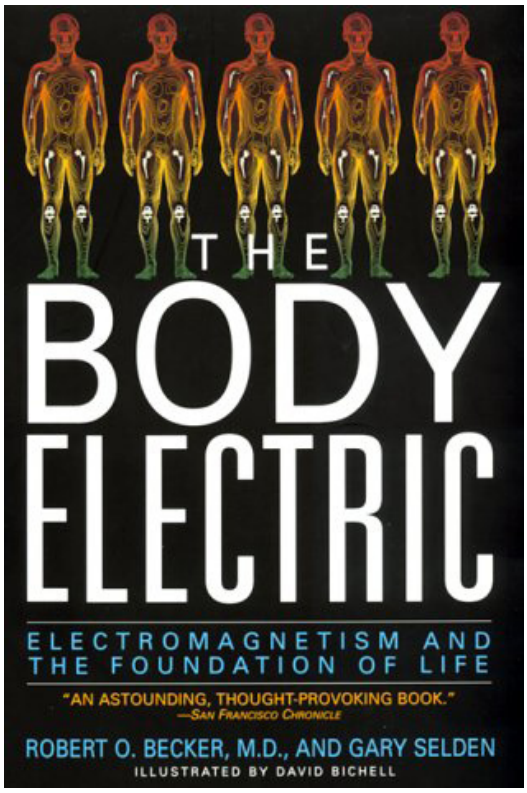
Jacques Benveniste, M.D., a French scientist states: "Life depends on signals exchanged among molecules."[1] These signals travel at speeds beyond our comprehension. As Benveniste points out, established medicine is based on the theory that molecules communicate only when a 'key' molecule finds the right 'keyhole' molecule. A key must be put in the right keyhole in the same way we unlock a door. Finding the right keyhole allows the molecule to pass along information or, in other words, create a chemical reaction. He had been a scientist for many years before he realized the absurdity of this theory—it suggests a random and cumbersome process that would be far too slow to account for the lightning speed of reactions



in the body. Benveniste's research is based on the fact that molecules vibrate—a fact known for decades. These vibrations are the tools of the trade—the communication system by which biological functions are controlled. The vibrations are electromagnetic frequencies that send signals. Water is one medium in the body through which high-speed transmission of messages between molecules is possible. "We can now understand," says Benveniste, "how millions of biological molecules can communicate at the speed of light." Identifying the specific electromagnetic frequency for different molecules allows modern science to diagnose and heal using those electromagnetic frequencies. A discovery that, to this day, is largely ignored by established medicine.



Electromagnetic frequencies generate electrical currents and electric currents produce electromagnetic fields. As a result, the terms 'electricity,' 'electrical current' and 'electromagnetic' are often used interchangeably.



Another leading scientist, Robert O. Becker, M.D., broke new ground with his research in healing using electricity. He started by proving the electrical nature of the nervous system and the brain. In *The Body Electric*, he states: "Our work on nerves and the brain was leading toward a whole new concept of life whose implications only gradually became apparent."[2] Then came his discovery that bone healing and growth were set

in motion by a tiny charge of electricity. Becker found electricity best described all life functions. Electricity is commonly conducted with the use of crystal structures. Crystal structures are a key to understanding the electrical nature of cells. Becker explained, "The electron microscope has shown us crystal-like structures of previously unsuspected complexity in all living cells, …"[3] In addition, he described another system hidden within the biological structures of the body for electrical transmission. The sheaths surrounding the nerves themselves are not merely insulation as described in established biology. They function as wires to conduct electricity that reaches "… into each area of the body to create a normal electrical environment around each cell, or a stimulatory one when healing growth is needed." Becker had cleared the way for the "Body Electric" as a new paradigm in medicine when he stated, "those embarrassing little oddities that the chemical-mechanistic theory could not explain are beginning to be understood …"

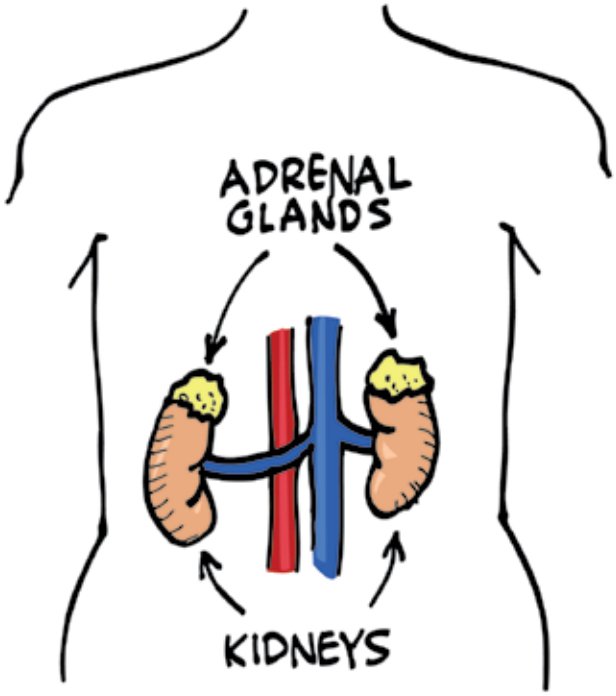


Modern medicine is still largely ignoring the research of Benveniste, Becker and other pioneers that have helped us to better understand how the human body functions and, more importantly, how to better help it heal. Franz Morrell, M.D., a German researcher, inventor and author, also proposed an electromagnetic system to explain how the body can transmit large amounts of information extremely fast. How much information? Morrell states: "In a single cell

the amount of information being transmitted per second is so great that it would take a hundred years to read if it were printed."[4]

Science & Vie, a French magazine reported more evidence for the electrical river in our bodies. Translated the article states: "White cells (leukocytes) kill bacteria and pathogenic fungus by electrocuting them."[5] White blood cells are a key immune system component. This discovery gained further attention when a letter, sent by the research team, was published in *Nature*, a UK science journal.[6]

The next researcher that stood out reminded me of what I was taught in high school science—that the exchange of sodium and potassium across the cell membrane creates a pump that is an essential function to sustain life. A physicist in Greece, Panos Pappas, Ph.D. reminds us what we are *not* taught. Pappas explains that the pump hypothesis is not complete as it does not explain how the amount of sodium differs from the amount of potassium being exchanged. What, then, is the missing ingredient? The missing ingredient is electricity! The rapids get rougher here as mainstream science does not accept transmutation—one element being changed or transmuted into another. Both a French and a Japanese scientist, Louis Kervran and George Ohsawa, proved that sodium can be transmuted into potassium with the addition of oxygen and … electrical energy.[7]



When describing the transmutation process, tracking how the body uses electricity, and how the body works to maintain a balance between sodium, potassium and other chemical reactions in the body, Pappas exclaimed, "This makes understandable the wisdom of positioning the

adrenal glands on the top of the kidneys."[8] It isn't necessary to understand the details of the reactions to appreciate his realization—that our Creator knew how to best design our bodies.

Let's pause to review why electricity is a key to how the body functions. Communication within is instantaneous. Electromagnetic signals are the only way to account for the astounding speed and number of transactions our body must conduct simultaneously. Our bodies are composed of the elements that readily conduct electricity: water, crystal structures and nerves. Research is proving that our immune system depends on electricity to zap pathogens. And, electricity explains how the body balances chemical reactions such as the crucial exchange between sodium and potassium.

Daniel L. Kirsch, Ph.D. and Fred N. Lerner, Ph.D., sum up for us: "Atoms are bonded electrically. Further in our rudimentary training we learned that there are voltage potentials across the membrane of all cells. They do not, however, speculate on the staggering significance of these facts."[9] Researchers with open minds who are willing to go beyond established thinking and theories are getting closer to understanding our Creator's grand design for how we function in the river of life.

The Body Uses Light and Sound

The saying is, as above so below. We have light and sound here because they already exist in the higher planes. …These are very important aspects of God, the Light and Sound.

Harold Klemp

Many religions agree—there is a life force that sustains us. It's called the Holy Spirit, Prana, the Qi or Chi, the ECK, the Force, and other names. Scriptures describe this forming-power as Light and Sound. Like many others, I enjoy the inspiration, upliftment and love that comes from experiencing this Light and Sound inwardly using contemplative techniques.[10] How does this Light and Sound manifest physically?



Let's start with Heinrich Hertz, a physicist, who discovered the "photoelectric effect" in the 1890s. This effect means that light interacts with matter to create electricity—when light strikes a substance, electrons are discharged. Later, renowned scientist Albert Einstein, proposed that we receive light as photons. The photon is both a particle and a wave that travels at the speed of light.

We absorb photons directly from sunlight and also from plants depending on their health or nutrient content. Photons from the sun are absorbed



not only through the eyes but also through the skin. Research confirms the existence and importance of the acupuncture points and meridians for conducting light to the body. And … the acupuncture points and meridians have also been proven to be more electrically conductive than surrounding tissue.[2, 11]

I was excited to learn that light produces electrical currents in the body. I found it even more intriguing to discover that the reverse is also true—our electrical energy assists our cells to generate photons. Our bodies emit light. Biophotons is the term used to describe light emitted by the body. It is our DNA that absorbs, stores and then re-emits light—it is the body's electrical transformer. It is the blueprint found in every cell that makes each of us unique. It stores the information needed to generate new cells that form our liver, our heart, or any part of the body we use.[12]

Fritz Popp, Ph.D., a German researcher, led the way in biological photon research. He described a photon as a process rather than a particle. It is an electromagnetic field that can be measured. His measurements illuminate how the millions of reactions within a cell each second can only be explained by the speed of light—neither thermal radiation nor chemical reactions can explain the speed it takes for the work our cells do. "Photons are the real regulators of our biological systems," he says.[13] One photon can trigger one million reactions in one second and the reaction rate increases with the number of photons available.

Healthy cells glow with the dance of biophotons. Biophotons, explains Popp, substitute for the sun during the hours when we're not exposed to it—they can deliver an equivalent intensity! As one researcher states: "We



are in a very literal sense light beings as ancient mystical teachings profess."[11]

"What about the body's use of sound?" I thought. "Remember the universe was created by sound. Very shortly the scientists will be saying this," Richard Gerber, M.D. reminded us in 1988 with the publication of *Vibrational Medicine*.[14] Sound absorbed through the ear or the skin also produces electricity. We think of sound and light as separate phenomena but they're simply the same electromagnetic energy—detectable at different frequencies and wavelengths. Light in frequencies above, below and within the visual spectrum is both absorbed and emitted by the body. So too is sound both absorbed and emitted from above, below, and within the audible range. "Small sophisticated tuning forks."[15] That's how one researcher described the DNA in a cell. The BBC News online posted an article describing how a musician and a biologist worked together to convert the electromagnetic DNA vibrations to audible sound. They discovered the sound of DNA makes beautiful music.[16]

Just as we emit light, we emit sound—to varying degrees depending on our health. If you apply the discipline and practices of the Qigong masters in China you have a high level of sound at your command. Research proves their discipline and practices result in sound signals from their hands one hundred times more powerful than the average person and one thousand times more powerful than those who are ill.[17] *The Book of Sound Therapy* reminded me again of our Creator's grand design in the bodies we use. "The human being is … likened to a very complex, unique, and finely-tuned musical instrument … the body

continually broadcasts the frequencies of physical, emotional, mental and spiritual life."[18] Research shows when missing sound frequencies are restored, the body heals. In *The Book of Sound Therapy*, the author also traces the value of chanting as having "therapeutic powers by establishing and maintaining the tuneful harmony between human and heavenly existence."

To recap, our body functions as a single instrument. Our cells rely on light and sound to play a healthy tune. The electromagnetic vibrations of light and sound create the electricity cells need to carry on their work and constantly replace themselves. DNA acts as the transformer—giving cells the electricity to play their part and, in turn, broadcast light and sound. That is the underlying basis for health. We rely on light and sound from our Creator, the sun, food and water.

Light and Sound Frequency Ranges

Light Range	Wavelength (nm)	Frequency (Hertz = Hz)
Red to Violet		
Visible light. Red has the longest wavelength in the visible light range with violet having the shortest wavelengths. The shortest wavelengths vibrate more frequently so have a higher frequency.	~750 to ~ 380 nm. Wavelengths of light are expressed in nanometers. Each nm = one billionth of a meter.	4.00×10^{14} to 7.12×10^{14} Hz. Hertz measures the cycles or frequency per second. Light has such high frequencies that it is easier to express the difference in light or color in terms of wavelength.
Near Infrared		
Beyond red where light is invisible. Longer wavelengths than red.	~750 to ~1400 nm.	Lower than 4.00×10^{14} Hz.
Ultraviolet		
Beyond violet where light is invisible. Shorter wavelengths than violet.	~315 to ~380 nm.	Higher than 7.12×10^{14} Hz.

Sound Range	Frequency (Hertz = Hz)
Audible Sound	20 - 20,000 Hz.
Thunder	20 - 40 Hz.
Middle C	256 Hz.
Conversation	200 - 400 Hz.
Mouse Squeak	3,000 Hz.
Ultrasound	Above 20,000 Hz.

Energy Medicine

Many scientists, who are on the frontier,
theorize and have demonstrated that we are an information system
and it's not entirely localized
in our body, that we are accessing information
from the field all the time.

Lynne McTaggart

Fields of information are control systems over
and above the molecular level or biochemical level. They are
systems that organize the body.

Rupert Sheldrake

Our bodies, I discovered, have an early-warning system for disease. Energy medicine recognizes that information is constantly exchanged between our physical bodies and a field of energy that surrounds us. This field of varying vibrations, structures and organizes the physical body. I now understand that chemical deficiencies, be they vitamins, minerals or hormones, show up at a later stage. The body's first signal that all is not well is vibrational or electromagnetic. This seemingly invisible vibrational field can, however, be detected and seen.



Energy fields of colored light emanating from the physical body were first made visible by a Russian couple, Semyon and Valentina Kirlian, in 1939. While repairing hospital equipment Semyon noticed electromagnetic

vibrations caught imprints of human energy on film. Working with his wife, Kirlian further developed the technique to capture the energy fields. The technique became known as Kirlian Photography.[19] In 1996, Dr. Konstantin Korotkov, another Russian researcher who had met Semyon Kirlian in his later years, developed a more advanced system—a camera with computer software—to visually present this energy or, "informational field" as he calls it, for diagnostic purposes.

In addition, Dr. Korotkov used his system to measure the energy fields of champion athletes, individuals involved in creative pursuits, and those with a spiritual calling. He discovered they displayed a more highly balanced energy field than usual. He concluded, "So this electrical process is not only health, it is not only well being, it is creativity, it is attitude to the world."[20]

Wolfgang Ludwig, a contemporary researcher in Germany, compares the energy field of the body to the seemingly solid physical body: "We have one billion more electronic particles than mass particles. Our body consists of a lot of biophotons and electromagnetic signals but only a very, very small part of material particles."[21]



The disease process starts when damaging frequencies or vibrations are stored in cells. These damaging waves may build up unnoticed for years as chemical changes do not appear until later. Bacteria, viruses and other pathogens take hold and the disease process gradually becomes visible. It took me many years to recognize that my unhealthy lifestyle—poor diet and lack of exercise, emotional and mental stress, and exposure to

environmental pollutants—were aging my body faster than necessary. I now realize this lifestyle was creating damaging frequencies that can be detected long before physical symptoms erupt.

Jimmy Scott, Ph.D., founder of a system called Health Kinesiology, helps define Energy Medicine. "We use energy in our English language in a lot of different ways. … The energy I am talking about … the best word for it is bioenergetic … the flow and function of energy within us and between us and the environment." He continues, "I see the bioenergy in the body as being the blueprint for the physical body."

In addition to use as an early warning system, Jimmy Scott points out that therapies can also be applied at the subtle energy level for profound effects physically, emotionally and mentally. He explains, "We can deal with phobias usually in a few minutes. But the academics are not interested in that … they won't even look at the new techniques because they don't understand what energy is all about."[22]

In *Energy Medicine*, Donna Eden describes how she works with seemingly empty space to help relieve suffering. She has worked on individuals with phantom limb pain after an appendage has been cut off. This pain is very real despite the fact a physical leg, arm or finger is missing. A war veteran whose foot and leg had been shot off was experiencing such excruciating pain in the missing limb he was losing his will to live. Eden started working on the space where his foot had been—massaging the subtle energy field that still existed. His pain gradually disappeared.[23]

Drugs are often the treatment of choice when disease is diagnosed. W. Langreder, another German researcher cautioned us, "They [drugs] act in the body by suppressing damaging waves from a sick organ …" Langreder further warned, "A chain of complaints follows which neither the patient nor the doctor connects with the earlier allopathic [drug] therapy—the seemingly quick healing …"[24] In other words, 'damaging waves' are created by the body's electrical response to stresses. These damaging waves are stored and build up until a physical symptom or illness erupts. If a drug suppresses these damaging waves rather than release them

by stimulating the body to heal itself, we start a chain reaction that eventually leads to more severe symptoms and illness.

Langreder also reminds us that the damaging waves "move first to the jawbones which steer them on to the teeth." Tooth decay is an early warning signal of disease.

To restore health, the flow of energy in and out of the body in the form of electromagnetic waves, vibrations, or oscillations—the electrical processes—must be re-established. This is not usually an instant process. Time and patience are necessary to coach the body back to electromagnetic equilibrium for health. There are several therapies that work to balance the energy body that in turn allows for mental, emotional and physical or chemical balance. Some of the better-known therapies are: acupressure, acupuncture, applied kinesiology, aromatherapy, chiropractic, color therapy, homeopathy, lymphology, massage, sound therapy, nutritional products and plant essences brimming with photons. Several state-of-the-art computerized devices are now available that both detect damaging waves on an energy level and apply appropriate energetic treatments to help restore balance.[25]

Energy medicine recognizes an early-warning system for disease. If imbalances in the vibrations of our energy field are corrected soon enough, we can restore health rather than experience disease.

History of Electro-Medicine

By 1884 it was estimated that 10 000 physicians in the USA were using electricity every day for therapeutic purposes …

James L. Oschman

History came alive for me when I read that electric fish were the earliest recorded form of electro-medicine. I wondered how many people over the ages had rejuvenated themselves accidentally and then deliberately by a run in with an electric eel. I'm sure such encounters could have been fatal as well. The ancient Roman physician, Scribonius Largus, in 46 AD, cured headache and gout by having patients stand on a wet electric torpedo fish.[26] Dr. Norman Shealy, the developer of Transcutaneous Electrical Nerve Stimulation (TENS) explains, "Intermittently the electric fish was used for a variety of illnesses until about 1745 when 'artificial' electricity began to replace the less controlled natural source."[27] By the 19th century electricity was used extensively in health spas and as part of medical treatments.



The use of electricity for health continued to thrive into the 20th century. I enjoy a dose of electricity as a result of this era every time

I visit a store on Main Street in Disneyland. Two free-standing devices from earlier in the century attract me with the headlines: "Electricity—The Silent Physician" and "Electricity is Life."

Researcher, Georges Lakhovsky, actually had hospital cooperation in the eastern United States for his work with electricity in the early part of the 20th century. He published a book, *The Secret of Life*, in 1935 to describe the variety of disease conditions that were cleared in humans, animals and plants with his Multiple Wave Oscillator. Lakhovsky also concluded the nature of the cell is electrical. The cell or the "essential organic unit in all living beings," he said, "is nothing but an electromagnetic resonator, capable of emitting and absorbing radiations of very high frequency."[28] As medical and pharmaceutical dominance of the health care system closed in, his research ended.



Many years later, Robert C. Beck, D.Sc., a distinguished physicist, brought Lakhovksy's Multiple Wave Oscillator to public attention. His design became known among those who continued to research electricity for health as the 'Beck antenna'. In a paper published in 1963, Beck reported: "Within this multiple-wave range of frequencies, every cell in the body can find its ONE resonant frequency and absorb energy at its own natural wavelength."[29]

Independent of Lakhovksy, Royal Raymond Rife, was having phenomenal success in the western U.S.—clearing cancer in California with a bio-electric device. Barry Lynes summarizes his story for us in *The Healing of Cancer*: "In association with the University of Southern

California, a number of clinics used Rife's technology to cure terminal cancer during the period 1934–1938. Some of the leading researchers in the country and leading physicians in Southern California participated."[30] On May 6, 1938 the *Evening Tribune* in San Diego featured an article by Newell Jones titled, "Dread Disease Germs Destroyed by Ray, Claim of S.D. Scientist." Despite a sub-title that heralded a new era: "Cancer Blow Seen After 18-Year Toil by Rife" the research came to a sudden end.[31] Lynes continues, "In 1938, the AMA [American Medical Association] … found out about the Rife cancer cure … the entire program was destroyed within six months. … Rife was hauled into court and the treatment was effectively quashed."

What gave the AMA such power? Why did research with electrical health devices have to go underground? In the U.S. up to the 1920's, medical training was available from a variety of schools offering differing specialties including the use of electricity. Under the guise of protecting the public, the "Flexner Report" prepared by Abraham Flexner of the Rockefeller Institute, was commissioned.[32] This report recommended commercial medical schools be closed and that university medical schools adopt a standard curriculum. The Flexner Report was financed by the same people who were investing in the fledgling pharmaceutical industry. It is not surprising, then, that the standardized curriculum did not include electro-medicine. Dominance of the surgical and pharmaceutical approach to health was soon established.[33]

Despite peer censure, leading scientists have continued to pursue electricity for health throughout the twentieth century. Björn Nordenström, a medical doctor in Sweden was among them. He used electricity for cancer patients. He gained a prestigious reputation as a former Chairman of the Nobel Assembly and the inventor of the needle biopsy. In 1983 he published a book titled *Biological Closed Electric Circuit Clinical, Experimental, and Theoretical Evidence for an Additional Circulatory System.* He discovered, "… all living systems contain numerous functioning electrical circuits. … These circuits exist in all

bodily functions and … determine the well being of the body."

Today, Russian and Eastern European scientists are considered the leaders in electro-medical research.[34] The "sputnik", an electronic pill that activates in the stomach is reported to have been the secret to keeping aging and ailing former Soviet leaders alive.[35] Information on the Internet states: "The capsule is part of a whole program of natural drugless treatment developed in Russia. … gives you a kind of super acupuncture treatment as it travels through your digestive system."[36] It can be used more than once. I've tried the capsule and the one draw back is retrieving the launch capsule once it is expelled with feces.

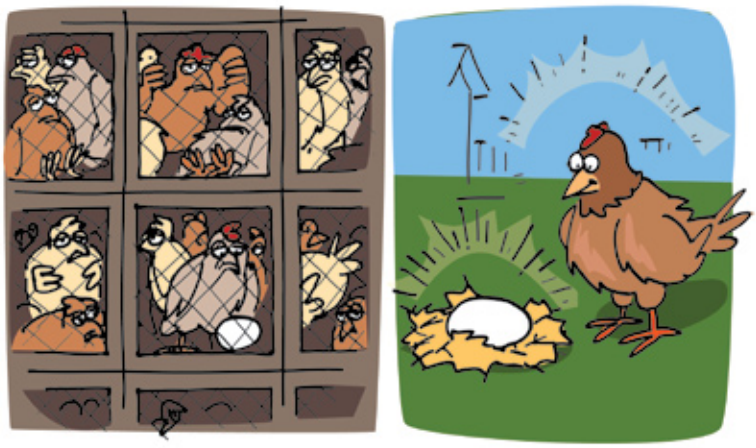
Electricity has an impressive record. It has been used for health for about twenty centuries—from Roman times to today. The use of Electro-Medicine is expanding. Electricity for health in the 21st century is becoming a treatment of choice.

Electromagnetic Health of Our Environment and Food

A wealth of electrons means an increase in happy well-being. … An electron-rich food intake which supplies us with the resonance system for the sun's energy, must once more achieve priority.

Johanna Budwig

Before examining bio-electric devices further, let's look at environmental influences and foods that are helpful or harmful to the body's electrical systems. Dr. Fritz Popp, father of biophoton research, developed a system to measure whether a food or substance is toxic or to what degree a substance is beneficial to the cells. The greater the capacity of the food to store light, the greater its value to our health. As an example, Popp used his testing method to compare eggs raised by two different methods.



Free-range eggs are considered superior because the chickens are allowed to live naturally—to wander and to feed on greens. The industry producing eggs for the mass market, on the other hand, keeps chickens caged and unable to move about. In his testing he did not find any difference in the chemical composition of the eggs—nutrients appeared to be equal. He did, however, find that the free-range eggs transmitted more light.[13] This means they provide a greater benefit to the body electrically. Ultimately, then, the free-range eggs provide more

chemical nourishment for the body as well.

Reporting on Dr. Patrick Flanagan's research in *Towards a New Alchemy*, Nick Begich tells how ingesting raw amino acids, the building blocks for protein, boosted the energy or electrical readings of the acupuncture points dramatically.[37] Other foods that boost the energy flow are fresh vegetables and fruit—especially organically grown. Raw foods are superior to cooked because of their photon energy. This has also been proven with Kirlian photography, another method to measure light emission.[38]

The late German researcher Hans Nieper, M.D., when working with Multiple Sclerosis patients found foods rich in beta-carotene helped relieve symptoms. He noticed, however, that beta-carotene supplements were not as effective as the raw foods. As a result, he speculated that the beta-carotene in raw food was more electrically active than the supplements.[39] With a dependence on processed foods and synthetic food supplements, it's easy to see how modern diets lead to electromagnetic starvation.

The water we drink should still have a high degree of electrical energy. Flanagan, among others, describes water to be the most electrically alive when its whirling flow has not been impeded and it retains a ready supply of naturally dissolved colloidal and ionic minerals. Flanagan also noted that emotional states cause our electrical readings to fluctuate widely. And, here are some of the environmental factors that interfere with the electrical activity of the body: synthetic clothing; indoor air from synthetic carpeting, drapes and upholstery; forced air heating and electric baseboard heating; cigarette smoke; aluminum and building materials that shield or distort the natural energy fields from the earth and the universe. Long-term exposure to heavy metals such as mercury interferes with the electricity of the cell as well.

Not all electricity, of course, is beneficial. Considerable evidence exists demonstrating that power lines, transformers and appliances—transmitting or using high voltage, 50 or 60 cycles per second, alternating current (AC)—emit harmful extra-low-frequency (ELF) waves. This type of electricity does not occur in nature.

Medical diagnostic systems such as X-rays can be damaging to health. X-rays are a potential hazard as they generate ionizing radiation. X-rays actually ionize molecules when they strike the body. These ionized molecules can then form mutations that may be toxic to the body. Diagnostic devices such as the electroencephalogram (EEG) to measure brain wave activity, the electrocardiogram (ECG) to monitor the heart, and magnetic resonance imaging (MRI) to detect tumors, have not proved harmful. They generate more electricity than the bio-electric devices used as therapies.

Electricity for Health

I am convinced that the therapy of the future will employ heat, light, electricity and other physical agents yet unknown.

Arsene D'Arsonval

Most bio-electric devices for health work to gently stimulate the natural electrical currents in the body to help generate healing.

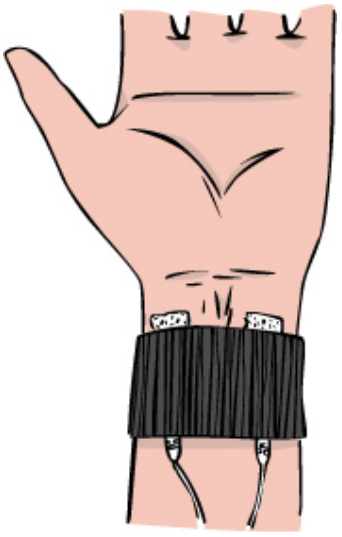
Dr. Robert O. Becker, truly a pioneer in electro-medicine, stated: "It is now evident that a wide variety of waveforms, pulse shapes, frequencies, and current densities will give considerable pain relief."[3] Three applications in particular have gained government approval. One is the TENS (Transcutaneous Electrical Nerve Stimulation) device used for sports injuries and pain relief. A second is Cranial Electrical Stimulation (CES) units. CES devices have proven effective as therapy for anxiety, depression, insomnia, and even addictions.[40] And thirdly, the use of pulsed magnetic fields is becoming widely accepted for healing. In addition to wide-spread use in Russia and Eastern Europe, research is starting to escalate in the UK and North America. An associate of Dr. Becker, C. Andrew Bassett, M.D., obtained FDA approval in the U.S. for the use of Pulsed Electro-Magnetic Frequencies (PEMF) for healing difficult bone fractures.[41] Devices called repetitive Trans Magnetic Stimulators (rTMS) are providing relief from migraine headaches, schizophrenia, epilepsy, obsessive-compulsive disorder and strokes. *Science News* is one of the magazines that has summarized several rTMS research projects and explains: "Unlike a direct electrical current, a magnetic field penetrates a skull easily and painlessly, as if it were a ghost passing through a wall." The magnetic field induces a current "that stimulates brain-cell activity."[42]

The field of 'bioelectromagnetic medicine' is growing. That's a mouthful

but it is the term modern pioneers are using to describe this medical field. An article in *Alternative Medicine* reports: "It's safer than drugs and more cost-effective for osteoarthritis… It eases symptoms of macular degeneration, cancer, multiple sclerosis, insomnia, and Parkinson's disease—conditions for which sufferers would welcome any new option."[43]

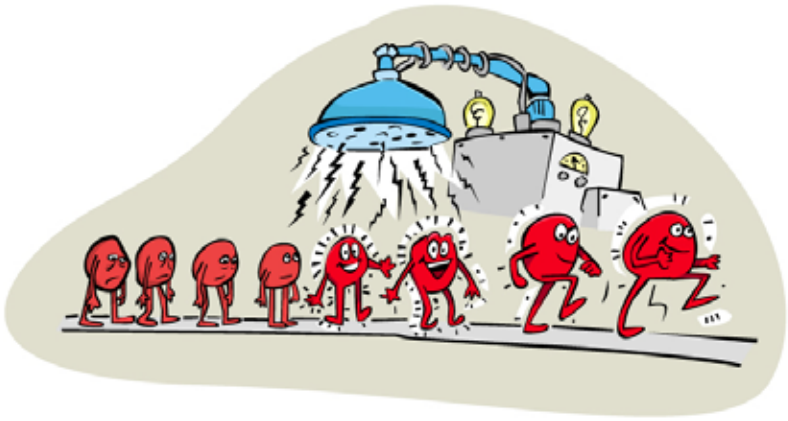


While research using electromagnetic, frequency, and microcurrent therapies is still limited because of the high cost of research as well as limited acceptance by the medical community, it has gained ground compared to the fate of at least two earlier researchers. I talked with Dr. Benjamin Lau in 1999, a medical researcher at Loma Linde University. He said that his research on sports injuries in the 1980's using a Pulsed Magnetic Field device was getting promising results. He could not, however, get funding to continue the research.[44] That was the fate of Dr. Robert O. Becker's research as well. He reported in *The Body Electric*, "The lab ceased to exist on New Year's Day 1981."[2]



An independent researcher, Dr. Hulda Clark, Ph.D., N.D., operated a clinic in Mexico before her passing in 2009. She wrote several books to make her clinical findings known directly to the public. Clark identified chemicals as hidden pollutants in processed foods, personal care and household products. These chemicals encourage the growth of intestinal parasites that lead to disease. Clark offered an herbal protocol and cleansing programs that included an electrical unit, the Zapper, to help eliminate parasites and disease. Dr. Clark said, "Zapping does not kill shielded organisms such as those that may be in the middle of your stomach or intestines. … So zapping is still not

perfect, but can bring such manifest relief that everyone should buy or make one."[45]



The late Robert (Bob) C. Beck, D.Sc. was also an independent researcher who funded his own projects—many related to health. He proved his genius while still in college with his invention of the flash bulb. Among his achievements as a physicist, were a magnetometer, a miniaturized SQUID (Superconducting Quantum Interference Device) that measured extremely low-level electromagnetic radiation and a handheld EEG (electroencephalogram) device to measure brain waves. As a result of his brain research, he developed the Brain Tuner, a CES (cranial electro stimulation) unit.

Outputs of Electro-Therapy Devices

Microcurrent Technology (Beck):	50 - 100 µA in blood.
Patent #5,188,738:	up to 100 µA.
Pacemaker:	100 µA.
Wound Healing Experiments:	200 - 1000 µA.
FDA Approved for Bone Growth:	10 µA DC.
CES Devices:	10 to 500 µA.
TENS Devices:	60 µA with shorter pulse.

Beck was respected by many of his peers. One colleague was reported to have said he should have been on the cover of *Time* magazine as the 'People's Scientist.' Bob was known to champion the public cause. He felt

we should be informed about emerging and often secret technologies—both harmful and beneficial.[46]

Beck was among a group of maverick scientists that are members of the US Psychotronics Association—an organization formed to bridge the esoteric and scientific worlds. Dr. Elizabeth Rauscher, a brilliant scientist and member of this group, revealed there are a considerable number of well-qualified researchers who are part of this sub-culture. They meet to share, question, and explore what conventional science does not yet understand or accept.[47]

One of the avenues of research that caught Beck's attention was that of Steven Kaali, M.D. and William Lyman, Ph.D. at Albert Einstein College of Medicine in New York. In 1993, they filed U.S. Patent Number 5,188,738 giving details of their research. In their laboratory, gentle levels of electricity proved "to render the bacteria, virus, parasites and/or fungus ineffective to infect or affect the normally healthy cells while maintaining the biological usefulness of the blood or other fluids."[48] On a CBC radio broadcast in Canada, Dr. Lyman explained the level of electric current was considered safe as it was about the same as pacemakers that have been used safely for many years.[49]

After discovering this patent, Beck applied his inventive genius to develop a non-invasive way to pulse microcurrents into the blood. Using his knowledge as a physicist, he designed a unit to overcome the natural resistance of the skin; to produce enough voltage to create the necessary microcurrents in the blood; to ensure there would not be undue heat; and to ensure the blood would not be ionized. The microcurrent unit places two electrodes over the arteries (pulse points) on the wrist for blood electrification. At these pulse points, the arteries come closer to the surface, hence the electricity is better able to reach the blood.

Later, realizing the lymph carries about 10 times the amount of viruses and bacteria as blood, he invented a direct current (DC) pulsed magnetic field unit to use on lymph nodes as well as other sites on the body. The pulsed magnetic field is geared to create microcurrents in lymph and

tissue. The level of microcurrents as stated in the Kaali, et. al. patent is 50 to 100 microamperes of current. Beck stated: "There are no known side effects since milliampere currents applied to skin are much lower than those in FDA approved TENS, CES and muscle stimulators which have been in safe daily use for many years."[50]

He brought the benefits of what came to be known as the Beck Protocol, directly to public attention by speaking at Natural Health Shows in the U.S. Beck, however, did not sell his units. Instead, for a small fee to cover printing costs, he provided a handout describing how to build the units. For those who are not technically proficient, he recommended purchasing units from SOTA Instruments Inc.[51]

In addition to the application of microcurrents and pulsed magnetic fields, Beck advocated the benefits of ionic colloidal silver and drinking freshly ozonated water for health. With the help of SOTA, his four-steps for health became known as "The Beck Protocol." Preliminary research and a wealth of testimonials provide evidence for the effectiveness of the Beck Protocol.[52]

During an interview in 1998 about his life and work, Beck summed up by saying, "Well, God has left a back door that cures and that back door seems to be electricity."[53]

While I love Bob's comment, I don't want to mislead anyone with the word 'cure.' This word, used within the Medical Model for health, gives credit to something outside the body that is perceived to end the disease process. Within the Natural Health Model it is understood that the body's natural ability to heal itself can be stimulated—such as with bio-electric therapies. Whether our bodies are working to heal us or not, however, depends on how we treat them over time.

How the Beck Protocol Helps

Any interventions that down-regulate the sympathetic nervous system [and] up-regulates the parasympathetic nervous system, has a beneficial effect on the body. … microcurrent has been able to sedate the sympathetic nervous system and activate the parasympathetic nervous system.

Dietrich Klinghardt

It was, at first, a surprise to learn that electricity would have a beneficial effect on the nervous system. On reflection, it was not so surprising that the nervous system would benefit when I realized that the low level of current, microcurrents, would be in harmony with the body's natural electrical system. As a result of fast-paced and more stressful lifestyles, the sympathetic branch of the nervous system, which is involved in all stress reactions in the body, functions in high gear nearly all the time. The sympathetic nervous system is involved in the stimulation of activities that prepare the body for action, such as increasing the heart rate, increasing the release of sugar from the liver into the blood—responses that serve to help us fight off, or retreat, from danger. In contrast, the parasympathetic branch of the nervous system is involved in all calming reactions. It is a key to healing functions in the body—activating tranquil functions such as stimulating the secretion of saliva or digestive enzymes into the stomach. It needs support to better allow the body to heal. A gentle flow of microcurrents can provide that support and in the process help balance the two branches of the nervous system.

That is one way the central step of the Beck Protocol, blood electrification or micropulsing, helps.

Dr. Klinghardt adds another way in which microcurrents help: "… all microcurrent that we looked at activate the activity of the white blood cells." Waking up white blood cells can make a big difference to our

health as "these cells are our friend and clean up the very cause of most illnesses."[54]

Speaking of white blood cells, two medical researchers in Switzerland, Jacques Schrenzel and Karl Heinz Krause, added to the evidence that our bodies hum to the tune of an electrical beat. They discovered that white blood cells actually zap pathogens—they use electricity. "White cells (leukocytes) kill bacteria and pathogenic fungi by electrocuting them."[55] Using microcurrents, as applied by the Beck Protocol, can help support the body's natural electrical system.

Bob Beck was excited by the discovery made by the Swiss researchers as white blood cells are a crucial part of our immune systems. "Looking at this totally as a physics or engineering problem," he concluded, "a few structured electrons can act as the equivalent of trillions of white cells and restore function to one's immune system."[53] Supporting the immune system—the system of defense that our bodies rely on for health—is one more way the Beck Protocol helps.

Let's pause here to review what we've discovered so far, about the ways microcurrents can help. Microcurrents can: 1) balance the nervous system, 2) activate white blood cells to better scavenge pathogens, 3) support the body's natural electrical system, 4) support the immune system.

Voltage is a measurement that has long been recognized as a way to describe the electrical potential of cells within our bodies. Back in the 1950s, Dr. Harold Saxon Burr discovered that healthy cells had a different voltage than diseased cells—more specifically than cancer cells.[56] A healthy cell works to maintain a negative (-) voltage within the cell. Cell voltages move considerably into the positive (+) voltage range as a cell weakens and becomes diseased.

Dr. Jerry Tennant researched cell voltages in order to restore his own health. For a cell to replace itself with a new healthy cell, the cell must have a high enough voltage. Dr. Tennant recognized that: "The human

body is controlled primarily by electronics (physics) not chemistry."[57] In *Healing with Voltage*, he describes how good nutrition, healthy lifestyle practices, and a microcurrent device each boost electron flow. Boosting electron flow restores cells to a healthier voltage—one more reason microcurrents help the body to heal.

Free radicals function electrically to clean up debris or toxins in the body. A free radical is an atom with an unpaired electron. Free radicals need to find another electron to gain stability. To achieve stability, they steal an electron from another atom. With unhealthy lifestyles and environmental pollutants, free radicals are formed in increasing amounts … resulting in damage to healthy cells. Antioxidants to the rescue. Antioxidants, for example vitamins C and E, donate electrons to satisfy free radicals. Antioxidants help keep the free radical process under control so healthy tissue is protected.

Tom Valone, a research scientist who specializes in electrotherapy says, "Free radicals are rampant throughout the body." He sees using electrotherapy as a means to provide the electrons needed to quench free radicals. Microcurrents, once again, come to the rescue … reducing wear and tear on the body by feeding electrons to free radicals.

If we are living a healthy lifestyle, our bodies are constantly detoxing—getting rid of wastes through the kidneys, the skin, the breath and the bowels. With a healthy body, the detoxing is gentle enough so we don't have reactions. Rick Santé, a natural health practitioner, explains:

> *When I first [heard about] blood electrification in 1995, I wanted to test it on a few people because on paper the concept looked very promising. … I started off with a few AIDS cases and a few cancer cases and people with hepatitis and some other chronic and degenerative illnesses and what I found is that as soon as they started using the blood electrification, they were getting an immediate detox effect. … So I knew that if the technology was creating a detox, that something was going on. There was an effect happening.*[59]

Speeding up detoxification told Rick Santé that blood electrification or microcurrents were working to help heal.

Santé used live-blood cell analysis to chart the progress of his patients.

> *I observed a dramatic reduction in the amount of microbes in people's plasma and serum that had been exposed to blood electrification—people that had very high bacteria levels, very high fungus and yeast levels, very high levels of parasites. After staying on the program for even short amounts of time, sometimes one week, two weeks, three weeks, you'd see a dramatic reduction in parasitic activity, in fungal development, in bacteria growth.*[59]

The keystone of the Beck Protocol is based on laboratory research at Albert Einstein College of Medicine showing that pathogen activity in a white blood cell solution was disabled by microcurrents. The fact that blood electrification was reducing pathogen activity in individuals who applied microcurrents using electrodes over the arteries on the wrist, confirms the validity of Bob Beck's design.



Two natural health practitioners in Germany, Thomas Blasig and Bea Langhammer, who use live-blood cell analysis also found that blood electrification shows amazing improvement to the blood. They followed up on the research of Dr. Alfons Weber who discovered that the red blood cells in cancer patients were often overloaded with parasites. Langhammer used a dark-field microscope to examine the blood of those who had been diagnosed with cancer—both before and after their clients used a variety of natural therapies. After their clients applied blood electrification, Langhammer discovered the microcurrents reduced the parasites from the red blood cells faster than any other therapy they used. In addition, they emphasized that their clients made lifestyle changes including a nutrient-rich diet with supplements.

Langhammer says, "The blood electrification I think is a very useful tool in natural healing because it helps the body to heal itself and it helps the body to get rid of the microbes … inactivate them and then help the immune system get rid of the parasites."[60]

Let's pause to review once again. Microcurrents can: 5) increase cell voltage, 6) satisfy free radicals, 7) increase detoxification, 8) reduce pathogens—bacteria, viruses, fungus, parasites.

Langhammer, the natural health practitioner in Germany, also noticed how red blood cells improved with the application of microcurrents. "So the way that blood electrification is working," she observed, "or I can see in the blood is that the red blood cells become healthier, the circulation is better for the patient, the red blood cell membrane potential is getting better." Microcurrents improve blood circulation.

Langhammer continues, "Patients say that they feel a lot more energy. They feel like the blood is getting cleaned by the blood electrification. They do have a good feeling with this therapy."[60]

An increase in energy is supported by research quoted in a patent for a microcurrent device. The research paper indicates that ATP (adenosine triphosphate) is increased. ATP is the molecule formed in the cell that provides the cell and the body with energy to function. The research quoted in U.S. Patent Number 5,133,352 for the treatment of Herpes I and II states: "Low voltage electrical current actually recharges the energy level of the cell which changes the biochemical working of the cell at micro levels. This has been shown in recent studies to increase ATP energy production by up to 500%."[61,62] Perhaps this is why individuals suffering from CFS (chronic fatigue syndrome) often report dramatic improvement in their energy level after blood electrification. Microcurrents act as a pick-me-up as energy is increased.

The patent also states that protein absorption into the cells increased between "30 and 40%" with the application of microcurrents. Protein is a nutrient our bodies use continuously, as it is crucial to keep our cells

in good repair. Increased absorption of protein is yet one more reason to help us understand why our energy is increased and why the ability of the body to heal itself improves.

Referring to blood electrification, natural health practitioner Dr. Jimmy Scott says over-all healing is accelerated. Dr. Scott has observed that "… the more important benefit is accelerated healing. Infections can come and go and they're gone, but healing is something we need to do all the time. … So, if we can accelerate that, augment that, help it along, then we get huge benefits that we couldn't get without that."[22] Microcurrents accelerate healing.

To review once again. Microcurrents can: 9) improve blood circulation, 10) boost energy, 11) increase protein absorption, 12) accelerate overall healing.

That's twelve ways that microcurrents, as applied by blood electrification, help to feed the river of electricity within and stimulate the body to heal itself.

The effectiveness of microcurrents also applies to a pulsed electromagnetic field (PEMF). Magnetic pulsing, as designed by Bob Beck, creates microcurrents in tissue. Of interest is the discovery of physicist Gary Wade that magnetic pulsing disarms pathogens in yet another way. His research indicates the pulsed magnetic field creates ultrasound frequencies in the cell membrane. These frequencies, he explains, disarm viruses and bacteria but are beneficial to the cell. The level of ultrasound produced is safe as it is one billionth of the ultrasound used in diagnostic medical equipment.[63,64]

Research on the use of pulsed electromagnetic fields also shows blood and lymph circulation is improved. As a result, the body benefits in many ways—reduced inflammation, reduced swelling, reduced stress, and pain relief which all contribute to accelerated healing.[34]

With the variety of ways the Beck Protocol may help, it is not surprising that some individuals overcome even serious illnesses. I like the way

Michael Hutchison put it in *Mega Brain Power* "… the electrical impulses themselves, if delivered in the proper form and at the proper intensity, must be like the purest nutrient."[65]

Twelve Ways Beck Units May Help Healing

* Helps balance the sympathetic and parasympathetic branches of the nervous system
* Activates white blood cells to better scavenge pathogens
* Supports the body's natural electrical system
* Supports the body's immune system
* Increases cell voltage
* Helps satisfy free radicals
* Increases detoxification
* Reduces pathogens—bacteria, viruses, fungus, parasites
* Improves blood circulation
* Helps boost energy
* Increases protein absorption
* Accelerates overall healing

The Electrical Nature of the Earth

My corn is green with red tassels
I am praying to the lightning to ripen my corn
I am praying to the thunder which
carries the lightning
Corn is sweet where lightning has fallen
I pray to the six-colored clouds

Ancient Pueblo Prayer

The electromagnetic energy of our earth is important to our health and well-being. Space shuttles have built-in electromagnetic fields to maintain the health of astronauts while they are away from earth. So too, our earth must be constantly nourished: "Without lightning all life on the planet would die," stated the late Eldon Byrd. As a medical engineer, Byrd had many interests. He explained: "Lightning is the mechanism by which the earth restores itself. … Earth is like a giant battery or capacitor."[64]



In fair weather, electrons are constantly being released from the earth's surface. Lightning is the mechanism that restores the earth's charge. The electrical energy of lightning, in turn, creates a chemical reaction to sustain life. Nitrogen in the atmosphere must be 'fixed' or converted to nitrogen oxides for use by plants. Back in 1936, it was estimated that one hundred million tons of nitrogen are fixed annually by lightning and carried to the earth's soil by the precipitation of rain, snow and hail.[65] Nitrogen plays a key role in the nourishment plants provide us.

As long ago as 1909, the electrical connection between plants and our Earth in the far north was discovered by a researcher in Finland and

reported in *Scientific American*: "The rapid growth of plants in the polar regions has hitherto been attributed to the continuous daylight of two or three months in summer, but this explanation must be abandoned. Prof. Lemstroem, of the University of Helsingfors, Finland, finds several reasons for believing that the cause of rapid growth in the Arctic is to be found in the electrical currents which flow between the earth and the atmosphere, and produce the phenomena of the aurora borealis. The pointed leaves of conifers and the barbs of ears of grain facilitate the transmission of these currents through those plants, and this function supplies a reason for the existence of these peculiarities."[66]

Electricity is essential to the life of our planet and our bodies. Byrd, among others, explained that the core of our earth behaves like a giant crystal that is a key source of electromagnetic energy. So too our cells contain crystalline structures to generate electromagnetic energy. Just as the water in the body has a major role in sustaining our electrical charge, so do the oceans of the planet have a major role in sustaining the earth's electrical charge.

A gradual decrease, however, in the earth's magnetic field has been documented. "…the strength of the earth's field has decreased a total of 50% during the last 500 years …" A Japanese scientist, after 20 years of research, has identified the effect of this weakening magnetic field on the human energy system and called it the "Magnetic Field Deficiency Syndrome."[67]

Today we are suffering from magnetic field deficiency. Our bodies are starving for gentle electrical stimulation.

Electricity for Health in the 21st Century

Disease is not an entity, but a fluctuating condition of the patient's body, a battle between the substance of disease and the natural self-healing tendency of the body.

Hippocrates

Let's return to the movie, Mary Shelley's Frankenstein, that started my quest. Has science verified the intuitive knowledge of ancient China—summed up with Frankenstein's realization: "I see, so electricity is the key."? The research of modern-day pioneers has revealed how both light and sound trigger our electrical circuitry. Our electrical reactions, in turn, control the chemistry—the hormones, vitamins, minerals and other nutrients that keep our bodies functioning.

Since Roman times we have evidence that electricity was readily accepted as therapy for better health. Much later, with the advent of modern pharmaceuticals, scientists researching and harnessing electromagnetic therapies had to brave the scorn of peers educated only in the chemical nature of the body.

What does our journey promise for health in this century? To keep our electrical circuitry vital, we need to bathe in our natural environment—to absorb sunlight and the electromagnetic waves from the beating of our Earth's heart. We can boost our health by choosing foods brimming with photons and reduce our exposure to environmental pollutants that sap our electromagnetic vitality.

In addition to breaking new ground to understand the nature and function of our bodies, maverick scientists are developing gentle electromagnetic therapies. The few devices we've touched on herald the promise to come … a cascade of choices … devices that work on a subtle,

unseen level, to help us heal from the stresses that bombard us.

Our planet appears to be working to rejuvenate itself. The dramatic increase in lightning strikes, earthquakes and changing weather patterns are considered part of the process of a planet working to rebalance itself. Given the right electrical nourishment, our body has the ability to restore itself without cataclysmic reactions. Despite the stresses and pollutants man must deal with today to maintain health, if we so choose, medicine for the 21st century can be gentler. It will work to stimulate the body's own electromagnetic healing forces.

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Units of Measurement

Distance

km = kilometre (one thousand metres or 1 x 10^3 metres)
nm = nanometre (one billionth of a metre or 1 x 10^{-9} metres)
m = metre

Electricity

Hz = Hertz (a measure of frequency in cycles per second)
kHz = KiloHertz (one thousand Hertz or 1 x 10^3 Hertz)
GHz = GigaHertz (one billion Hertz or 1 x 10^9 Hertz)
A = Ampere or Amp (the rate of electrical current)
μA = microAmpere (one millionth of an Amp or 1 x 10^{-6} Amps)
V = Volt (a unit of electromotive force)
mV = milliVolt (one thousandth of a Volt or 1 x 10^{-3} Volts)