

History and Research



The Institute of
Natural Health
Technologies

BIE

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C- 2007

The Evolution of BIE

According to the World Health Organization (WHO), 90% of all illness is directly related to stress. The American Medical Association has noted that stress was the basic cause of more than 60 percent of all human illness and disease. Every week, over 100 million North Americans suffer some kind of stress related symptoms for which they take medication. An astonishing one out of every three North Americans are affected by food or environmental sensitivities of one kind or another. Pharmaceutical companies are struggling to produce over-the-counter relief remedies effective enough to suppress associated symptoms. Yet, the rising number of allergy sufferers continues to climb. Antihistamines, inhalation corticosteroids, adrenergic bronchodilators, aminophylline, oxtriphylline and theophylline medications are useful in providing temporary relief of symptoms from Urticaria to Asthma. However, they often prove ineffective in aiding symptoms associated with non-immune system mediated reactions.

During the 20's and 30's, one of the early founding fathers of vibrational medicine, Dr. Royal Raymond Rife developed the "Rife microscope" as well as the "Rife Frequency Instrument". The Frequency Instrument produced specific frequencies of ultrasound that would destroy microbes. One of the reasons each specific microbe type is apparently susceptible to destruction by specific ultrasound frequency (mechanical shaking rate) is the existence of periodically spaced, often closed on themselves, and elastically coupled together protein clump structures in these microbes. These structures play a role in the functioning and life cycle of the microbe, and if they are destroyed, and or significantly damaged, the microbe cannot survive or propagate itself. These bonding regions are usually made up of mostly weak hydrogen bonds with occasional covalent chemical bonds. The bonding between clumps is weak and, if the oscillation amplitude from the ultrasound builds high enough, the bonds will rip apart and the structure will be destroyed.

Other notable pioneers in the field of vibrational medicine were Nikola Tesla. In the 1890's, Tesla noted curative effects on various conditions when using high frequency electrical oscillation circuits. Georges Lakhovsky, during the early to middle part of the last century produced various broad band multiple wave oscillator circuits that similarly to Tesla's circuits, produced broad-band (wide spectrum of frequencies) ultrasound in human tissue. Dr. Albert Abrams, also in the first part of last century, developed various electrical oscillation circuits that supplied electrodes connected to the human body with complex voltage oscillation patterns that produced broad band ultrasound in human tissue. One of the most notable persons was John Crane, an associate and business partner of Dr. Rife during the last twenty years of Rife's life. John Crane popularized the use of electrodes applying a voltage square wave to the human body. Crane's voltage square wave generator, when tuned to specific frequencies, was able to achieve many of the curative results as the "Rife Frequency Instrument". Since John Crane, others have come forward with essentially "spin-offs" on the voltage square wave applied to the skin by electrodes method. Some devices use high voltage surges applied to the body through inert gas discharge tubes.

DNA and RNA

The Central Dogma of Biology emphasizes the concept of “*genetic determinism*”, which states that life is controlled by genes (traditionally defined as “DNA segments that carry the information for building one protein chain”). It seems, though, according to various studies and observations, that this concept is not the basis of “everything we believe in” anymore. Lately, research showed that a cell’s life is controlled by the *physical and energetic environment* and not by its genes.

For so many years we believed that DNA was responsible not only for our physical characteristics, but for our emotions and behaviors, as well. This concept allows for a specific “predestination”, and people blamed everything that ever happened to them on their genetic inheritance, completely disregarding the role of the environment, the power of their own mind and the responsibility that they have regarding their own state of health, both physical and mental. There are new basic concepts of biology in that human beings are multi-cellular organisms that share basic behavioral patterns with their own cells. Each cell is an intelligent being that can survive on its own; they actively seek environments that support their survival and avoid those environments that are harmful. Single cells learn the traits of environments and are able to create cellular memories, which they pass on to their daughter cells.

Of course there are disorders, such as Huntington chorea or Cystic fibrosis that are due to a faulty gene. However, single gene disorders affect less than 2% of the population. Diabetes, High blood pressure and cancer, are they the result of our “genetic fate” only? Or can we be contributing something to bring them closer? It seems more and more appropriate to say that these diseases are not the result of a single gene, but of complex interactions among multiple genes and environmental factors.

A while ago it had been discovered that heredity is “encrypted” within structures of the nucleus called “chromosomes”. Chromosomes are essentially composed of DNA and proteins. DNA is a double stranded molecule and multiple single genes, segments that provide the blueprint for specific proteins, compose every strand. RNA is the other nucleic acid, a one stranded molecule. Its role is to “copy” the information necessary for building a protein chain off the DNA strand and carry it into the cell’s cytoplasm where a specific cellular organelle, called the “ribosome” is strategically situated, ready to accommodate the protein synthesis. Because the character of living organisms is defined by the nature of its proteins, it was very easy to assume that DNA - *which encodes the protein sequence in its structure*-is “the one” that firstly, determines an organism’s traits. For many years the DNA was considered “the commander” and the RNA was considered “the soldier” that carries out DNA’s commands. DNA resides within the nucleus of the cell. Given what we thought about DNA, “the spiral of life” and so on, it was just a small leap that we considered the nucleus “*the brain of the cell*”. Researchers have managed to isolate the nucleus of living cells (by a process called “enucleation”), fully expecting the cell to die. Surprisingly, most enucleated cell still managed to live for up to two or more months. As living entities, cells digest, metabolize nutrients, produce various substances, undergo cellular respiration,

eliminate waste and so on. Enucleated cells were perfectly capable of performing all these activities in the absence of the “brain”. The only aspect that enucleated cells cannot perform is, *cell division* and *synthesis of new proteins* necessary for the renewal and repairing of cellular organelles. The appropriate conclusion here is that the enucleated cells eventually die, not because of the death of the cell’s brain, but because they cannot reproduce.

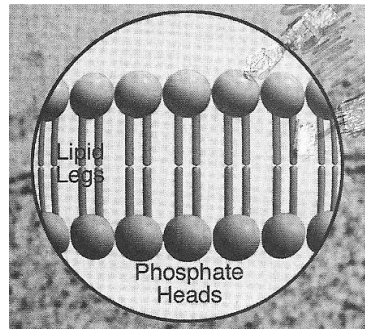
This is a new, revolutionary concept in modern biology, which means, “control above genetics”. Epigenetics is defined by the following concepts; first, DNA blueprints, passed down through genes are not set in stone at birth. Second, genes alone are not destiny. Finally, environmental influences, such as poor nutrition, stress, chemical imbalances, can modify the genes without changing their basic blueprint. These modifications can be passed on to future generations, which however, are referred to as bioenergetic miasms.

Regulatory Proteins

Within the chromosome, DNA forms the core and the proteins associated with it cover the DNA like a sleeve. These are called “*regulatory proteins*” and they uncover the DNA fragment that needs to be read according to environmental signals (environmental signals can change the electrical charges within the protein chain, which allows the protein to change shape, therefore uncovering the DNA fragment that needs to be read). Environmental signals control the activity of the regulatory proteins, which in turn uncover the DNA fragment needed for the copying of one gene, which in turn enlists the activity of RNA, which carries the information for creating a protein chain to the ribosomes (protein synthesis takes place here). The flow of information is not unidirectional, as stated by the Old- Central-Dogma, but bidirectional. In certain circumstances RNA can rewrite genes. The science of epigenetics made it clear that there are two mechanisms by which organisms pass on hereditary information; the *gene’s blueprint* and *the influence of the environment*.

The Cell Membrane

How is it possible for enucleated cells to still live, up until they need to reproduce? It is important to understand the biological mechanisms of the cell membrane, which are responsible for translating environmental signals into behavior. The cell membrane’s existence was confirmed in the 1950s. It is a double phospholipid layer that seems to possess a pseudo-intelligence knowing what substances enter inside the cell, and what substances are allowed to leave the cell, etc. According to the types of chemical bonds that hold atoms together, all known molecules can be classified as either polar or non-polar. *Polar* bonds among polar molecules have positive or negative charges, hence their polarity; these charges allow for attraction or detraction of other charged molecules. Polar molecules include water and substances that dissolve in water. *Non-polar* molecules have no positive or negative charges among their atoms. They include oils and substances that dissolve in oils.



In the above image, the round heads are the *phosphate* part of the cell membrane and the legs are the *lipid* portion of the cell membrane. The phosphate part is water seeking, and will always be exposed to a watery, *extracellular* fluid environment. The lipid/fat portion is positioned between the phosphate heads and is oil-seeking.

Integral Membrane Proteins (IMPs)

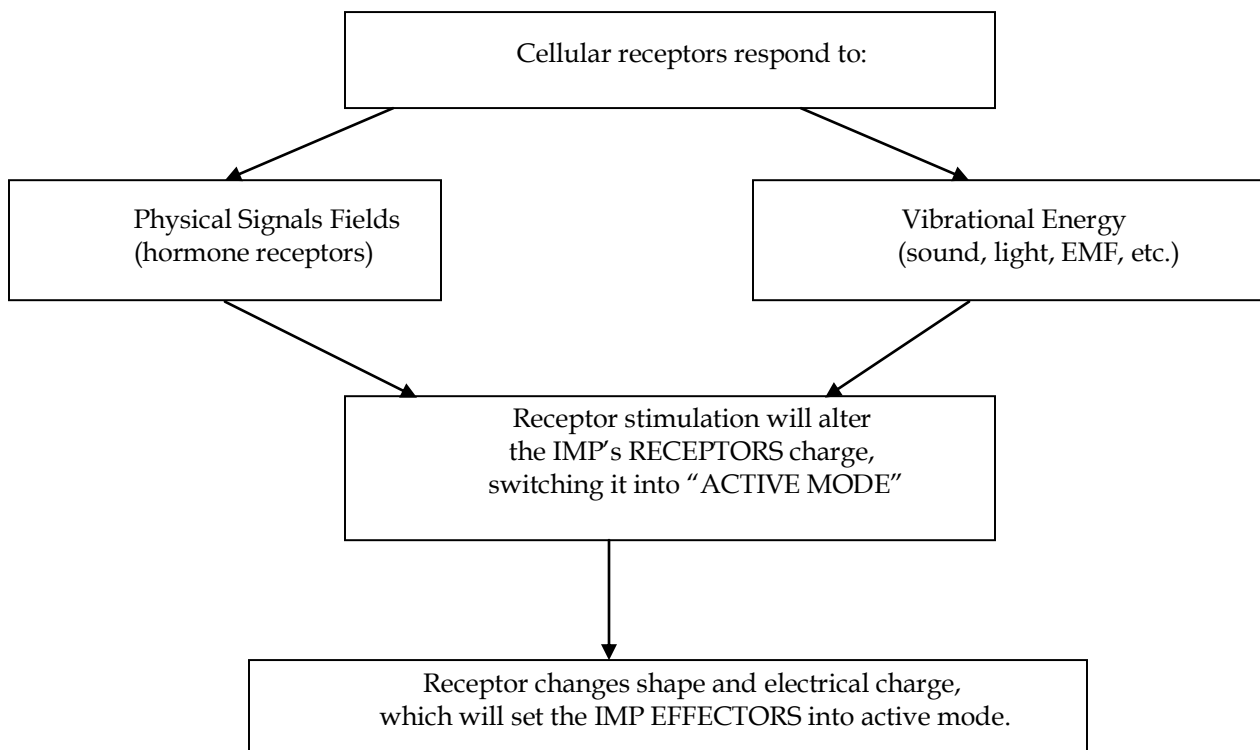
These proteins allow nutrients, waste materials and other forms of “information” to be transported across the cellular membrane. These specialized proteins allow only molecules necessary for the functioning of the cell into the cytoplasm. IMPs embed themselves into the lipid layer water-seeking, because they are polar, and they will imbed themselves into the phosphate heads of the membrane; some amino acids have a tendency to non-polarity, which makes them water-repelling/oil-seeking, and they will embed themselves into the lipid portion of the membrane.

There are two functional classes of IMPs. The first class is the *receptor proteins*. These are the membrane’s sense organs and are the equivalent of our eyes, nose, etc. They function as molecular “*nano-antennas*”, capable of responding to specific environmental signals. Some receptors extend inward from the membrane surface to monitor the internal cellular environment; others extend towards the surface of the cell, monitoring the external environment. Environmental signals change the electrical charge of a protein, which in turn allows the protein to switch into “active” mode. Some receptors respond to physical signals. In the human body, there are specific receptors for specific substances. The estrogen molecule for example, can bind only to estrogen receptors due to the electromagnetic charge change of the protein receptors, which allows the estrogen molecule to perfect lock-and-key fit into its own receptor protein. Receptor proteins “antennas” can also read vibrational energy fields, such as sound, light and radio frequencies. If an energy vibration in the environment resonates with the receptors’ antenna, it will alter the protein’s charge, allowing it to change its shape. This will then switch the protein into “active” mode. The fact that receptors can read energy fields, not only physical molecules, leads us into believing that biological behavior can be influenced by thoughts, which have their own energy vibration. As the receptor protein perceives changes in the environment and takes action by changing shape and therefore electrical charge, it will set the second type of IMP, the *effector proteins*, into active action. These proteins are responsible for changing the cellular behavior according to the information conveyed by the receptor proteins. Effector proteins can not work on their own; there is a new research field in Biology, called “signal transduction”

which attempts to explain the activity of IMPs. Effector proteins can be further sub-classified as *transport proteins*. Transport proteins channel proteins that shuttle information and molecules from one side of the membrane to the other. According to the signaling of receptor proteins, which perceive changes in the environment, the effector proteins' electrical charges change and they are able to change shape and create a channel running through the protein's core.

The Sodium-Potassium Pump

This pump is functioning thanks to the presence of a channel transport protein called "ATPase". A cell has more sodium ions outside of the cell and more potassium ions inside the cell while not performing any metabolic activities, however, the cell doesn't rest. ATPase throws more positive charges out then it lets inside the cell, and this happens a few hundred times per second. Due to this continuous exchange of sodium-potassium ions between the inside and outside of the cell, the cell membrane becomes electrically charged, which is called "membrane potential". This actually means positive on the outside of the cell and negative on the inside of the cell. Cytoskeletal proteins regulate the shape and movements of the cells and metabolic enzymes, which are proteins. These help to increase the speed of chemical reactions.



In conclusion thus far, the cell's operations are primarily molded by interaction with the environment. Secondly, the destroying of a cell's receptor proteins does not allow the cell to respond to stimuli in the environment, and the cell will die. Finally, to exhibit "intelligent" behavior, cells need the dual functioning in unison of the *receptor proteins* (awareness) and

effector proteins (action). Cells begin utilizing their outer membrane more effectively and by expanding the membrane surface, so more IMPs could be added. The cellular membrane actually behaves like a fluid crystal. Due to its intense electrical activity, the membrane is considered an electrical superconductor via the numerous gates and channels to allow for membrane transport. This has a remarkable resemblance to a computer chip, which definition is: “a crystal semiconductor with gates and channels”

Experiments proved that a cell is programmable, and the programmer lies outside the cell, which in fact, is the environment itself. Biological behavior and gene activity are dynamically linked to information from the environment, which is then downloaded into the cell. In fact, the nucleus seems to be a “memory disk” containing DNA programs that encode the production of proteins. Data from the environment is inputted due to the receptor proteins (the cell’s “keyboard”) that stimulate effector proteins to act upon the genes to command the production of new proteins. This is an enlightening aspect. Contrary to what we thought so far, we are not victims of genetics, but “drivers of our own biology”. We can edit the data we enter in our own internal computers. Every electromagnetic frequency, food or drink consumed, thought or emotion will affect our cells either negatively or positively. This breakthrough is fundamental in all healing because it recognizes that when we change our actions, environment, perception or beliefs we send totally different messages to our cells, resulting in a reprogramming of their expression.

Cellular Programming – Acquiring Homeostatic Imbalance

Proteins are malleable chains of building blocks called “amino acids”. Proteins are practically involved in all physiological processes. The flexible links between amino acids allow the protein to bend, fold and adopt a variety of shapes, which, in turn, allow proteins to perform a variety of tasks. They fit together, according to their shape, and this fitting of various protein molecules allows us to perform our normal metabolic processes. There are a couple factors that determine a proteins’ shape: the sequence of amino acids in the protein chain, and the interaction of electromagnetic charges among the linked amino acids. This particular aspect is due to the fact that most amino acids have positive and negative charges, like magnets; the same charges cause the molecules to repel each other, whereas opposite charges allow molecules to attract each other; therefore a protein chain will bend and fold according to the rotation of the amino acids which try to balance the forces generated by the positive and negative charges. The shape (conformation) of a protein molecule ultimately reflects a balanced state among its electrical charges. When the shape of a protein is altered, then it cannot fit with its counterpart and the physiologic function that involved the activity of that particular protein will be affected. If environmental factors such as interference from an electromagnetic field generated by *cell phones, computers etc.*, or stimuli from *mental or physical stress* intervene, the protein chain will adapt its shape to the new electrical charges rendering the cells vulnerable to the discordant frequencies. ***These frequencies are known as stressors.***

Let’s take for example, an individual undergoing a state of stress, during a mobile phone call, while eating an apple. In a normal situation, after the apple has been digested and then assimilated, the energy of the apple would be perceived as “apple”, and further utilized by the

body. However, during the stressful state, the discordant mobile phone frequency can alter the conformation of the amino acid chain, therefore altering the cell's perception of the apple's frequency. This would ultimately result in a rejection of the apple itself due to mistaken identity- consequently, a homeostatic imbalance is born.

Homeostasis

My colleague Silvana Fazzolari and I have been working with various aspects of Dr. Royal Raymond Rife's and the others work for some ten years now. Several years ago, we were introduced to method that involved a tapping procedure to various acupressure points on the back torso to remove help clients find a therapeutic feeling of wellness. This was to allow the body's energy to flow freely, releasing discordant blockages of energy. However, this method was only partially effective in helping anyone feel better.

This leads us to a brief introduction to a renowned science called acupuncture. A popular explanation offered for the discovery of acupuncture is the story of a warrior wounded by an arrow; the arrow was removed and the wound healed and then it was observed that a disease in an unrelated part of the body was also cured. The story may be apocryphal, but it is evident that, over the years, observant physicians between the puncture points and the disease they cured worked out a cause and effect relationship, and thus ultimately a whole series of points was charted. It was also realized that neither the size nor the depth of the puncture was important but rather the exact location (i.e. the acupuncture point).

Connecting together points with similar therapeutic properties formed the channels or meridians. It is through these bio-energetic meridians that the brain and nervous system receive information about the state and functioning of the body as a whole. Modern electro magnetic imaging technology and radioactive tracer isotopes have confirmed the presence of these pathways.

Acupuncture in China has a known history spread over some 5000 years. In the earliest times, stone needles were used. Later, needles made of bone and bamboo were developed. The use of metal needles had evolved by the time of the compilation of the Huang Di Nei Jing. Acupuncture, redirects the flow of chi and restores balance. It regulates Qi, (the body's vital life energy) nourishes organs and tissues, and calms the mind. It is a very effective world-renowned method in the treatment of pain disorders. Acupuncture is effective in clearing blockages in energy within the body's meridians', however, energy blockages also occur within our cells and can't always be cleared with acupuncture alone.

Based on Dr. Rife's research, my colleague and I found that each type of ion gate on our cell membranes has it's own specific vibration rate which makes it "leaky" (open up). This has profound implications in that, messenger compounds sent to control ion type flow through the cell membrane determine much of a cell's activity. It is believed that we are able to influence frequencies within the cells (not the biological cells themselves) with a specific use and sequencing of frequency exposure. Our patented unit, the GSR-120, directs energy to acupuncture points carrying the frequency of a stressor enabling the body to recognize the stressor. The result is a "neutralization" of the stressor's frequency". Once the procedure is complete, the body no longer seems to regard the stressor as a threat when exposed to it,

therefore ceasing to produce any further adverse reactions. **In postulation, we aren't treating a medical condition or disease, we are simply helping the body's cells to balance themselves in order to allow for stressor recognition and then the healing process can commence.** We predicate that a body can achieve a level of homeostasis, provided that it can recognize all its own stressors. This method used to assist in this is referred to as BIE, the embodiment of biofeedback. The idea that electrical blockages within cells can be eliminated according to Chinese acupuncture is subjective by nature in that there are no absolutes in science. All sciences are based upon a theory. Both the theory of relativity and the atomic theory for example, are, as predicated, a theory. No one has ever seen an atom, however we believe in the atom mainly because the theoretical conclusions are always consistent.

During the early stages of research, we reintroduced energetic frequencies onto acupuncture points on various people one at a time. Gradually, while considering the state of health of the individual, we began to increase the number of stressor frequencies. The results were astonishing. In as few as one to four separate sessions, hundreds of individuals claimed they felt a deeper sense of peace and wellness, and felt they had achieved a homeostatic state. **The BIE process was never intended to treat or cure medical conditions or diseases, nor is it intended to manipulate the body to accept toxic substances that shouldn't be present in the body. Once discordant frequencies (stressors) are recognized, the body can then differentiate between good and bad, harmful substances or non harmful substances, and deal with each one accordingly.**

Every material in the Universe, that is an association of atoms or molecules will radiate its own energetic signature. All organisms (including human) communicate and read their environment by evaluating its energy fields and communicating with them, creating the patterns of interference presented above. When two given sources of energy are placed together, they will either attract or detract according to their polarities. The energies between the body and a given substance must resonate, otherwise a reaction will occur.

This is precisely how the utilization process works within the body. Foods, for example, consist of vitamins and minerals. It has been proposed that some vitamins and minerals contain a negative charge while others contain a positive charge. Likewise, the cells of various organs consist of negative charges, while others consist of a positive charge. During the assimilation process in the gastro-intestinal tract, digested food molecules circulate within the bloodstream. As positively charged particles pass negatively charged cells within the body, they immediately attract and are utilized. Conversely, negatively charged particles attract to positively charged tissue cells. If the body fails to recognize or "resonate" with any given substance, it is rejected. This rejection of these particles may- or may not instigate an immune response. Although many unorthodox studies explain intolerance as a reaction to a given substance, (usually harmless) without an immune response, our view suggests that Intolerance is merely the body's rejection of an unrecognizable substance resulting in abnormality/pathology. The term *Allergy* is defined by medical science as "an abnormal reaction to a substance that is usually considered harmless resulting in an immune system response" The origin of the term "allergy" is Greek meaning "altered reactivity".

When the body encounters harmful foreign invaders such as bacteria, viruses, toxins and parasites, it naturally will attack and destroy these invading pathogens. However, harmless substances such as pollens, dusts, grasses, animal dander, molds, foods etc. are mistaken for harmful invaders and rejected by the body by means of the immune system or other metabolic processes.

There are many aspects to the cause of homeostatic imbalance. Over the last 100 years, our world has undergone drastic changes. The biggest changes in the *food industry* have been the refining of food, the use of food additives, artificial fertilizers, pesticides, herbicides, the increased consumption of animal products and the over consumption of certain foods. For example, the most common food allergies in North America are dairy, wheat, soy, corn, eggs, peanuts, tree nuts, shellfish, fish, oranges, strawberries, yeast and gluten. These foods are over consumed and as a result, may create the premises for pathological changes within the body. Similarly, although rice allergy is rare in North America, it is the most common grain allergy in Japan where rice is consumed in large quantities on a daily basis. We also have a rapidly growing number of atmospheric pollutants, food additives, prescription medications and acid rain. Even excess hormones are being consumed in our drinking water due to birth control hormones being excreted in urine that returns to the water purification plants. Xeno-estrogens are rapidly being absorbed into our bodies due to the use of cosmetics causing hormone imbalances. Consequently, overexposures to these substances produce a build up of “discordant energies” and toxins within the cells that will create homeostatic imbalance (which we will discuss later).

We are all familiar with rechargeable batteries and how, when placed in a charger, they acquire and store energy. When the battery is at full charge, it is incapable of drawing any more current. This is the battery’s charge “capacity”. Once the battery is removed from the charger, it will gradually lose its charge until eventually it is void of any energy. Cells are congruent to trillions of tiny batteries that comprise the human body. The more exposure we have to a given substance, be it food, electromagnetic fields such as radiations or geopathic stressors, negative thought processes, pollens, danders, chemicals, etc. the more of that substance’s energy will saturate our cells. *These are referred to as stressors*. When the cells have reached their full capacity or tolerance to any given stressor, (we refer to this as *cellular saturation*), any further charge from the same source is rejected, thus provoking an adverse reaction somewhere within the body, either through an immune inflammatory response or a non-immune system response. Although modern medicine has developed effective methods of reducing inflammation from mast cell/IgE immunoglobulin complexes, non-immune responses are often disregarded. Unfortunately for those of us that are affected by stressors, approximately 95% of stressors fall into the non-immune response category.

In order to fully comprehend the new aspects of homeostatic imbalance, one must lay aside the rigid, unequivocal teachings of conventional science. For a very long time, researchers have focused their attention on the physical, material aspect of physics and biology only. Everything was catalogued in classes and classifications and it was understood that the health state depends on physical presence or absence of various substances/markers, known as “the reductionist model”. Researchers have continuously ignored the role that energy plays in matters of health and disease. Quantum scientists recognize that matter is energy.

They also believe that cells have their own energy signature, communicate with one another, and share energy fields.

Electromagnetic Fields (EMF)

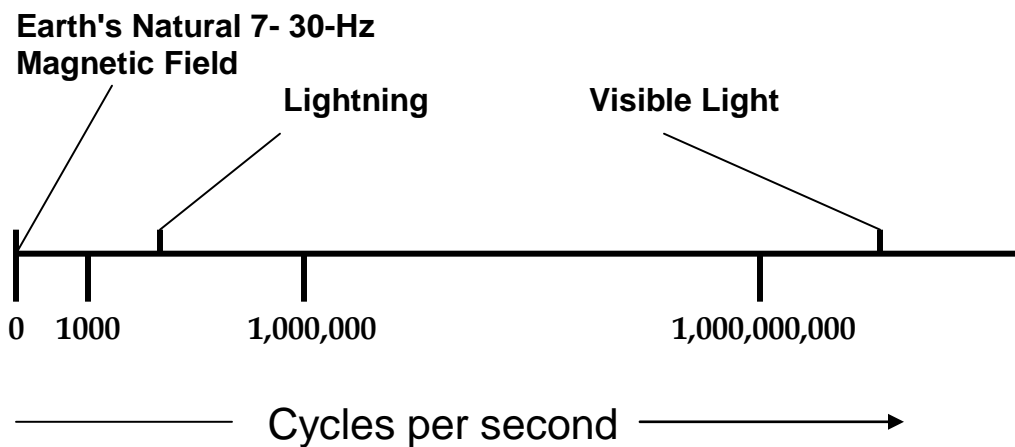
Over the past 500 years, science has given us more and more power to control our lives and destinies. However, researchers now tell us that the complex environment in which we live does, indeed contain immense, unforeseen forces—the forces of electromagnetism that affect all living things. These again are referred to as “stressors” on the body. The knowledge has come to light only during the last 30 years. Our modern world as we know it, began a little over one hundred years ago, when Thomas Edison first demonstrated his electric lamp. By 1882 he had set up the first central generating station, at Pearl Street in New York City, which provided about one-sixth of a square mile of downtown Manhattan with electric power for lights. Edison’s system transmitted low voltage DC current and was limited to short distance transmission.

About the same time, Nikola Tesla invented and developed the alternating current (AC) system, which was capable of transmitting far greater amounts of power over much longer distances. By 1894, Tesla generators at Niagara Falls were supplying the city of Buffalo with electric power; four years later, an AC transmission line was operating at 30,000 volts between Santa Ana and Los Angeles, a distance of seventy-five miles. Tesla’s AC system is now the most commonly used around the world. It operates at either 50 or 60 cycles per second (50 Hz to 60 Hz), frequencies that are not present in the normal electromagnetic spectrum of the earth.

By the late 1920’s, commercial radio transmissions had become almost commonplace, and electrical power of up to 220,000 volts was being transmitted over hundreds of miles by means of Tesla’s AC method. Although the triumph of technology has led to the betterment of society, our use of energy for power and communication has radically changed the total electromagnetic field of the Earth. Before 1900, the Earth’s electromagnetic field was composed simply of the field and its associated micropulsations, visible light, and random discharges of lightning. Today, we bathe in a sea of energy that is almost totally man made. This change, from the natural electrical and magnetic environment evolved to the electromagnetic jungle that now surrounds us, has profound implications for energy medicine. If we sense and derive information from the natural geomagnetic field, it is possible that this unnatural field is producing biological effects that may be harmful. Over the past fifty years, we have more than duplicated the changes in frequency and strength of the micropulsations that may have been associated with past animal species die-outs.

The growth of electric power and communication systems was slow at first, however, since World War II it has been increasing at between 5 and 10 percent each year. In addition, new technologies have appeared. Commercial telephone and television satellite transmitters and relays blanket the Earth from 25,000 miles out in space. Military satellites cruise by every point on Earth once an hour, and from their altitude of only 250 miles, they bounce radar beams off its surface to produce images for later “downloading” over their home countries. Global positioning satellites are now being used more and more – all to supply us on with an

easy way of living. New TV and FM stations come on the air weekly. The industry has placed in the hands of the public such gadgets as citizen-band radios and cellular telephones. Engineer propose giant solar-power stations in space which would relay the electrical energy to Earth by means of enormously powerful microwave beams. Electrical-power transmission lines are operating at millions of volts and thousands of amperes of current. Military services of every country use every part of the electromagnetic spectrum for communications and surveillance, and the use of electromagnetic energy as an antipersonnel weapon is being studied. We have almost reached a state in which the entire electromagnetic spectrum has been filled up with man-made frequencies. Our electric power systems operate at fifty or sixty times per second, just above the highest naturally occurring frequency of 30 Hz. Our microwave beams operate at billions of times per second and are getting ever closer to the trillion-cycle frequencies of light.



The explosive growth in our use of electrical power has occurred with few questions being asked about the safety of living things exposed to these abnormal fields. It was imply assumed that the laws of physics guaranteed that there could be no interaction between unseen fields and living things. When questions of safety arose, the questioner was placed in a position seeming to be irrationally against progress. However, the reasons that questions of safety arose was that despite the theories, biological effects were noticed.

Harmful Biological Effects of EMF

In 1928, the General Electric plant in Schenectady, New York, was building an experimental radio transmitter that was to use the highest frequency possible at that time, about 27 MHz. The workers there began to feel vaguely ill, and Dr. Helen Hosmer of Albany Medical College was called in to investigate. She found that the worker's body temperatures increased by as much as two degrees Fahrenheit following an exposure to the radio field in just fifteen minutes. In her report, she advised caution in exposing humans to such fields before an investigation had been done.

However, the general medical community looked at this phenomenon in a different light. At that time fever was considered to be a "good" reaction to infection and injury. The possibility

of artificially inducing fever, or heating localized parts of the body, by this method was attractive. Within two years, radio-wave therapeutic devices (diathermy) were in use and were claimed to be valuable for the treatment for a wide variety of conditions. The only undesirable side effects noticed with radiotherapy were those associated with fever, such as sweating, weakness, nausea, and dizziness. To this day the development of technology has increased to the level in which we have witnessed countless cases of electromagnetic related side effects. In 1985, Dr. Ruey Lin of Maryland Department of Health reported on an epidemiological study of people whose occupations would expose them to higher levels of electromagnetic radiation than would be experienced by the general public. He found that a significant number of the exposed group developed brain cancer.

Shortly after Lin's report was published, doctors Margaret Spitz and Christine Cole of the M.D. Anderson Hospital in Houston, Texas, reported that "children of fathers employed in occupations with electromagnetic-field exposure were at slightly increased risk" of developing brain cancer before the age of two. While these experiments were being studied, Dr. Robert O'Becker, independent research scientist and author of *The Body Electric* and *Cross Currents*, started a study in his own lab to look for potential effects from chronic exposure to 60-Hz cycle power fields. He exposed rats continuously to a 60-Hz electric field for three generations, and he determined the infant mortality rate and average body weight of the offspring from each generation. He found obvious, significant differences between experimental and control animals in each generation, with the exposed animals having the higher infant mortality rates and lower birth weights than the unexposed controls. Remarkably, these results were identical to those found in rat populations that were continuously exposed to "stress". In his book *Cross Currents*, Dr. Robert O'Becker explains how electrical current circulates within the human body, and, how long term exposure to specific frequencies that are destructive in nature, can lead to disease if not addressed.

During this time, Dr. F. Stephen Perry, who worked for the British National Health Service as a family-practice physician in a relatively rural area in England, observed that his patients that lived near electric-power lines appeared to have higher incidence of mental disturbances and suicide.

In the meantime, Dr. Nancy Wertheimer, epidemiologist at the University of Colorado, made a startling discovery: 60-Hz electromagnetic fields from power-lines (not the high voltage lines, but the connecting lines that are strung on poles from street to street), with strengths of only 3 milligauss, (3 thousandths of a gauss) were statistically and significantly related to childhood cancers. Wertheimer published her data in 1979. Both her paper and Dr. Robert O'Becker's two papers were immediately subjected to bitter criticism, on the basis that they simply could not be true; there was no physical link possible between such weak 60-Hz fields and living organisms.

Dr. William Rae, a former surgeon from Texas, discovered he had a sensitivity to electromagnetic fields while working in a modern operating room. As medicine became a technology, the operating room became home to more and more electrical devices. By eliminating other sources, Dr. Rae determined that his "allergic" and neurological symptoms were caused by the electromagnetic fields in the operating room. He subsequently

discovered he was not alone in his hypersensitivity, and there was a growing population of patients with the same condition. Rae eventually established a clinic to deal with EMF sensitivities. His Environmental Health Centre in Dallas, Texas, is probably the best-equipped clinic of its kind in the country. The patients are tested by exposure to a spectrum of EMF fields in such a fashion that they are unaware it is being done. In most patients, a consistent sensitivity to certain specific frequencies can be found and qualified through objective measures of the activity of the autonomic nervous system. In this way, Rae proved that the electromagnetic-hypersensitivity is a real clinical entity. People with this syndrome have a number of characteristics and symptoms in common:

- Flu-like symptoms – nausea, dizziness and headache
- Fatigue, confusion, depression and even grossly abnormal behavior
- An inability to concentrate
- Vision difficulties
- Reddening to exposed skin
- Allergy to sunlight
- Hypersensitivities to chemical smells
- Decreased memory
- Sleep disturbances
- Convulsions

Since then, hundreds of similar studies involving 60-Hz electromagnetic fields, cell phone and microwave towers have been under investigation, all linking them to the effects for many of today's health related epidemics. In summary, regardless of their frequencies, all man-made EMFs, produce the same biological effects. These effects, which deviate from normal functions and are actually or potentially more harmful, are the following:

- Effects on growing cells, such as increases in the rate of cancer-cell division
- Increases in incidences of certain cancers
- Developmental abnormalities in embryos
- Alterations in neurochemicals, resulting in behavioral abnormalities such as suicide
- Alterations in biological cycles
- Stress responses in exposed animals that, if prolonged, lead to declines in immune system efficiency
- Alterations in learning ability
- Allergy or Sensitivities

Epilogue

All cells are capable of receiving a countless number of frequencies that are stored within the cytoplasm of each cell, which itself, consists of H₂O. Hydrogen and Oxygen hold the electromagnetic charges, and the cellular memory is then processed within the DNA of each cell. Vital life energy (Bio-energy) fills every cell within the human body, which controls all metabolic processes, including biochemical changes that occur within the cells. It controls the utilization of nutritional substances, and the functioning of all body systems including the immune system.

We predicate that during periods of stress, be it physical or *mental* stress, this increases the cell's state of vulnerability to discordant frequencies (stressors). For example, electro magnetic fields such as mobile phones, microwaves, computers, household wiring etc., can enter cells through the Integral membrane proteins in the cell membrane and store in the cytoplasm, altering the cell's homeostasis. Cells are most vulnerable during periods of stress: the greater the stress, the greater the incidence of acquiring homeostatic imbalance. By recognizing discordant frequencies within cells, the body is more capable of achieving homeostasis. Every disease state and pathogen has its associated harmonic and disharmonic frequencies. Generally speaking, harmonic frequencies maintain health (homeostasis); promote growth and healing, while disharmonic frequencies produce illness and death (homeostatic imbalance).

New research introduces a radical understanding of cell science. New biology concepts reveal that human beings control their genome rather than being controlled by it. It is now recognized that environmental frequencies and more specifically, our perception or interpretation of the environment, directly controls the activity of our genes. This new paradigm of "bio-electrical interaction" has given us a better understanding of how the human body uses energy to heal itself and regulate its activities. It has also enabled science to reevaluate previously discarded medical therapies and to explore new ones based on this interaction.

During the 1990s, three Nobel Prize winners in medicine in the field of advanced medical research revealed that the primary function of DNA lies not in protein synthesis, as widely believed, but in electromagnetic energy reception and transmission. Less than three percent of DNA's function is in protein formulation; more than ninety percent of the DNA functions in the realm of bioelectric signaling. One might say that electromagnetism is fundamentally responsible for all life, and everything in the physical universe. It is also in the spiritual force or energy that gives rise to all matter.

The cell is a machine driven by energy. It can thus be approached by studying matter, or by studying energy. In every culture and in every medical tradition before ours, healing was accomplished by moving energy.

----Albert Szent-Gyorgyi
Nobel Laureate in Medicine

The Founders



Robert Tomilson DNM, R.H.N. R.Ac. is co-founder of The Institute of Natural Health Technologies (INHT) and co-founder of BIE. Instigated by a multiplicity of health challenges he faced, he began his research in the field magnetic therapy in 1980. His complete recovery provoked a study in a wide array of natural therapies in later years. Robert's research into Immunology, Electromagnetism and Biophysics has given him insight into the root causes of homeostatic imbalance and disease, precisely, a disruption in bioenergetic fields resulting in pathology or abnormality. Robert is a Doctor of Natural Medicine, and his studies include: Quantum physics, Biophysics, Acupuncture, Traditional Chinese Medicine,

Biofeedback analysis and Nutrition. He lectures as keynote speaker throughout Canada and the United States on homeostatic imbalance due to electromagnetic fields (EMF). Robert teaches at the Institute of Natural Health Technologies and operates a successful natural health practice in the Greater Toronto area. He is a member of the Canadian Academy of Natural Nutritional Practitioners.



Silvana Fazzolari DNM, R.H.N. R.Ac. is co-founder of the INHT and co-founder of BIE. Her most valuable contribution to the INHT has been research and development. She has captured the attention of many through her television appearances and keynote public speaking engagements. Her 20 years experience in the food industry has allowed her to gain wonderful insights and knowledge in the areas of nutrition and food intolerances. Silvana's expertise in the areas of psychoneuroimmunology, neuro/cellular repatterning, cognitive therapy and counseling has enabled her to unveil many of the hidden root causes that are in direct relation to many imbalances. Deep-seated emotional

trauma has a profound effect on our physical well being, namely, sensitivities. Silvana has been fortunate to have studied directly under Art Martin, D.D.,M.A., expert in the field of neuro/cellular repatterning and author of seven books. She has a Doctorate in Natural Medicine and is now working towards her internship as a Cognitive Therapy Councilor under the direction of Dr. K. Bhatt, author of "How To Improve Your Marriage in 90 Days". Silvana has taught at the Canadian School Of Natural Nutrition of which she graduated with honors.

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