

What Is the Nature and Cause of Life?

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Abstract. Many biologists believe that life originated from inorganic matter by natural chemical, thermodynamic, and electrodynamic processes. An examination of experiments, like the Miller-Urey experiment, reveals a number of critical problems with this approach. The development of the experimental Life Energy Meter based on displacement current measurements of longitudinal electrodynamic vibrations in organic molecules indicates that experimentally observed life energy correlates well with the longitudinal vibrations in organic molecules. Thus the electrodynamic force appears to be the source of all life as well as deserving of acclamation as the universal force.

Introduction. In previous work [1] an improved version of electrostatics was derived from a more perfect union of the axiomatic and empirical scientific methods. This version of electrostatics was able to explain in a natural way both radiation and radiation reaction which the relativistic version of Maxwell's equations cannot explain. It also explained that "relativistic effects" were really due to electrical feedback effects on finite size structures such as atoms and elementary particles. In addition it also explained that quantum effects in atoms, nuclei and elementary particles were due to finite-size structures that act like antenna that can both send and receive specific frequencies.

Then an analysis of multipole effects in electrostatics led to the discovery that the force between charge monopoles and vibrating neutral electric dipoles is the cause of the force of inertia. This was further confirmed by its being able to explain the unusual gyroscope experiments of Eric Laithwaite. Also it allowed the first definition of inertial mass.

A similar analysis of the electrodynamic force between multipoles consisting of vibrating neutral electric dipoles led to the discovery of the cause of the force of gravity. This was further confirmed by its being able to explain the quantization of gravity as expressed by the modern version of Bode's Law discovered by Stanley Dermott. Also it allowed the first definition of gravitational mass. Furthermore, this electrodynamic force of gravity is able to explain the higher than expected velocities of the outer arms of spiral galaxies that Einstein's General Relativity Theory and Newton's Universal Law of Gravitation could not explain without inventing "dark matter". It also explained the Cosmic Background Radiation without requiring a "big bang". Finally it explained Hubble's Redshift Law as being due to the decay of gravity and eliminated the need to invent "dark energy".

Recently NIST published its complete set of high precision atomic and nuclear data. [2] This data combined with the concept of conservation of energy enabled one to see that the nuclear data was no longer compatible with the existence of neutrons inside the nucleus, only electrons and protons, because the binding energy of the neutron is missing from all nuclear data. Also an analysis of the nuclear data shows the existence of only a $1/R^2$ dependent force within the nucleus to 8 significant figures. Thus only electrodynamic forces exist in the nucleus and there is no evidence for the short-ranged strong and weak interaction forces which are $1/R^3$ to $1/R^5$ type forces.

As a result of these investigations, the improved electrodynamic force above was declared to be the universal force following the rules that Isaac Newton gave in his book **Mathematical Principles of Natural Philosophy**. [3] The improved electrodynamic force has explained all the other forces in nature that are required by the high precision atomic and nuclear data. It has explained additional data that previous versions of these forces were unable to explain.

The question to be addressed in this paper is “What is the nature and cause of life?” Is life a chemically based phenomenon, or thermodynamic based, or is it electrodynamically based? To answer this question, we must examine some of the basic experiments on the origin of life.

Miller-Urey Experiment. In biology the current theory of life describes the origin of life from inorganic matter or molecules by a process called abiogenesis. According to this approach, organic molecules form by natural chemical processes. Replication of organic molecules is assumed to occur by spontaneous generation of chemicals. Thermodynamic processes are assumed to spontaneously cause metabolic processes. Many of the steps to bring about life from inorganic matter are unproven. The Miller-Urey experiment was one of the first significant attempts to investigate the process.

By the 1950's scientists had become interested in discovering the evolutionary origin of life. The scientific community was attempting to determine the kind of environment that would be needed on the earth to allow life to begin in the form of organic molecules. In 1953 Stanley L. Miller and Harold C. Urey, at the University of Chicago conducted one of the first significant scientific investigations into the origin of life. [4]

Miller selected molecules which he believed to represent the major components of the early Earth's atmosphere and put them into a closed system depicted below

The gases used were methane (CH_4), ammonia (NH_3), hydrogen (H_2), and water (H_2O). A continuous electric spark was run in the system to simulate lightning storms which they believed to be common on the early earth. An analysis of the molecules produced by the sparks was done by chromatography. It was soon discovered that the sparks not only produced various molecules, but they also destroyed them. So a collecting trap was added to the apparatus to prevent their destruction and to allow them to accumulate.

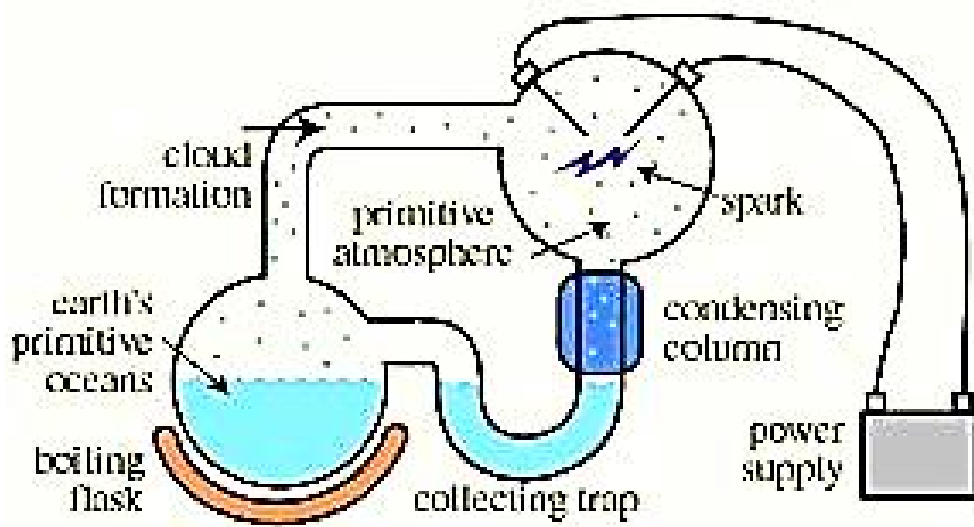


Figure 1
Miller-Urey Experiment Apparatus

After a weeklong run of the experiment, Miller and Urey observed that as much as 10-15% of the carbon from the methane atmosphere was now in the form of organic compounds. Two percent of the carbon had formed some amino acids which are the building blocks for making proteins.

Perhaps the most significant aspects of Miller and Urey's experiment was that it showed that organic compounds, such as amino acids which are essential to cellular life, could be made under certain conditions that some scientists believed to be present on the early earth. This finding inspired a multitude of further experiments.

In 1961 Juan Oro found that amino acids could be made from hydrogen cyanide (HCN) and ammonia in a water solution.[5] His experiment produced a large amount of the nucleotide base adenine. This was significant, because adenine is one of the four bases in RNA and DNA. It is also a component of adenosine triphosphate, or ATP, which is a major energy releasing molecule in cells. Later experiments by others showed that the other RNA and DNA bases could be obtained through simulated prebiotic chemistry with a reducing atmosphere.

These experimental discoveries created quite a stir within the scientific community. Scientists became very optimistic that the questions about the origin of life would be solved within a few decades. However, this has not been the case. Further investigations into life's origins have shown that the answer is not so simple.

An examination of the oldest rocks on the earth has revealed that the early earth's atmosphere did not contain predominantly reductant molecules. Oxygen was present causing an oxidizing effect. This tended to prevent the production of key organic molecules on the early earth.

Pharmaceutical companies tried to use the processes above to manufacture certain organic compounds in the laboratory to give to patients. According to spectrographic analysis they did make the desired organic molecules, but when they gave it to patients they got an unexpected adverse reaction. Further analysis revealed that when organic molecules are made in this manner both right-handed and left-handed organic molecules are made in roughly equal amounts. However, in nature these molecules do not occur in both symmetries. It appears that living organisms want only a left-handed or a right-handed type of molecule for each known organic molecule. Pharmaceutical companies eventually learned how to separate out the undesirable and unusable organic molecules of the wrong symmetry. However, there is no known process on the early earth that could perform this complicated function.

The situation has become more complicated by the discovery of life energy by Wilhelm Reich. Reich called this energy Orgone energy. A 30 minute documentary video on Reich is available on the internet. [6]

In 1948 Wilhelm Reich [7] wrote about an energy concentration device that he called an Orgone Accumulator. He claimed that this previously unknown Orgone energy caused a local rise in temperature within the accumulator. He also mentioned a second method of measuring this energy using a high voltage oscillating electric field connected unipolarly to a series of metal plates. A light bulb connected to these plates illuminated when living things were brought near or were placed on the upper test plate. See video on the internet. [8]

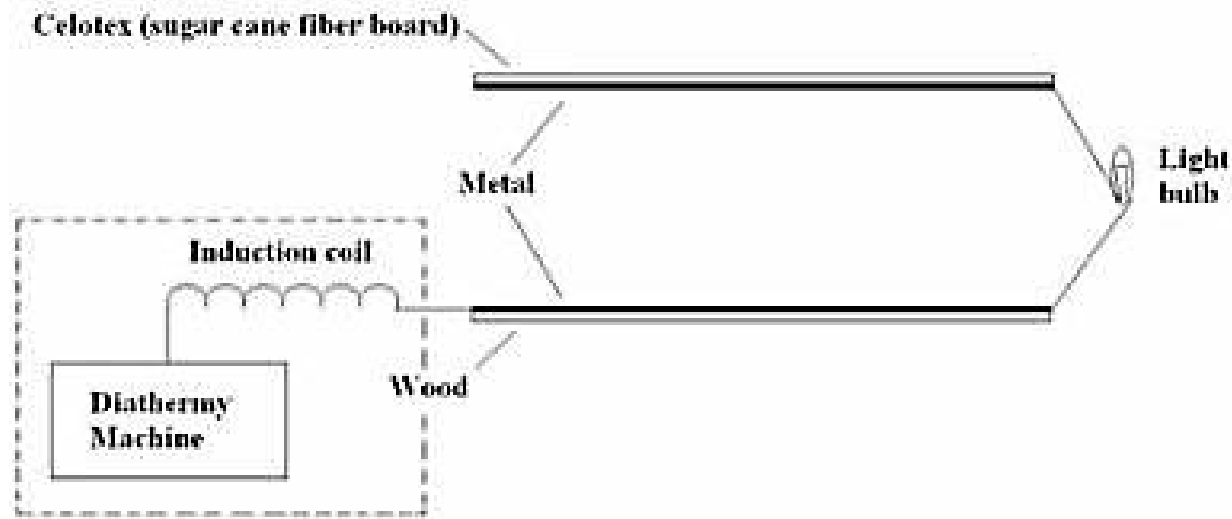


Figure 2
Reich Life Energy Meter

Reich observed that a fresh fish placed on the test plate yielded a high illumination of the bulb. The longer the fish remained on the plate after death the weaker the illumination was.

After several years of experimentation, a company named Heliognosis developed this method of life energy measurement into a compact electronic instrument. This unique device detects a new type of energy field known by several names including Orgone, life energy, Chi, and

electromagnetic longitudinal field energy. Within this instrument a low frequency “displacement current” is connected unipolarly to a sensor which may be a vacuum tube or an insulated metal plate. The “displacement current” field fills the space surrounding the sensor and returns information about the extent of absorption of the field and displays this as a deflection of the meter. Living things absorb more of this field energy than non-living things. The strength of the excitation field is proportional to the surface area that the plate makes with the surrounding space. Metal objects brought near the sensor will cause the reading to increase. Water also absorbs the field energy strongly. Tests with other energy fields have shown that the instrument is insensitive to normal magnetic, electrostatic, transverse electromagnetic and nuclear energies. See the picture of the fourth generation of this instrument below. A video showing how to use the Life Energy Meter is available on the internet. [8]



Figure 3
Experimental Life Energy Meter Model LM4

Some simple experiments have been performed to show that the readings of the life energy meter correspond to life energy in plants and bacteria. First a leaf from the impatiens plant was cut from the stem and placed in a tight fitting zip-lock bag. The air was removed from the bag before weighing. The initial weight of the leaf was 0.3 grams. The bag with the leaf inside was taped to the small plate of the meter so that it was centered. The leaf could then be placed

directly over the plate and then removed to one side for zeroing the meter by lifting one side of the masking tape. Measurements of the energy of the leaf were made once a day with zeroing before and after to confirm the accuracy of the reading. All measurements were made on the x10 range and all other objects were kept at least 16 inches away from the meter.

The leaf was intensely green and vibrant when it was picked. It remained flat during the experiment, but the color faded slightly over nine days to a dark olive green. Over the nine days the taut appearance of the leaf tissue became flaccid and slightly wrinkled. The leaf's dimensions remained the same at 4" long and 1 1/8" wide and its weight remained constant. The readings of the energy diminished each day as shown in the graph below. A video of this experiment is available on the internet. [9]

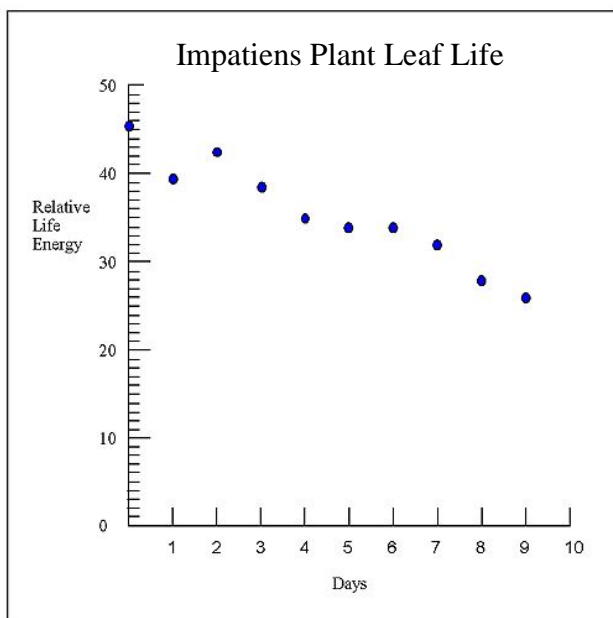


Figure 4
Decay of Impatiens Plant Leaf Life Energy

A second experiment measured life energy in a yeast culture. For this experiment two test tube solutions were prepared, each containing exactly 10 ml of Luso water. The life energy meter calibration adjustment was carefully rotated until both the reference and sample electrode read exactly 0% on the x100 range. Then to the sample tube was added 0.8 g of Lantic white granulated sugar. The meter now read 9% for the sample test tube. Next 0.2 g of Fleischmann's Baker's yeast was added to the sample tube. The life energy meter now read 12%. Immediately the timer started that was hooked up to the meter and a computer.

The yeast initially sank to the bottom of the test tube. Then cloudiness began to form and became distinct after 13 minutes. After 20 minutes, bubbling began from the bottom of the solution. The room temperature was 19.5 degrees C. When the yeast culture had been growing for 33 minutes, it was observed that the culture was rising to the top of the solution, and gas foam developed. At this point the readings on the meter, that had been increasing gradually,

began to climb more rapidly. Periodically the meter was switched to the reference test tube with pure water to make sure that the instrument was still calibrated. If the reference electrode had deviated away from zero, the Life Energy Meter was adjusted to keep the readings accurate.

From 40 minutes onward the surface culture continued to grow to a thickness of 7 mm between 94 and 135 minutes. After 135 minutes, the evolution of gas and the rate of culture growth dropped rapidly with the collapse of the surface culture. The deposit of yeast at the bottom of the tube was now much smaller. Bubbling continued from the bottom, but at a much slower rate. The culture's activity became insignificant after 325 minutes with only occasional bubbles rising from the bottom. A plot of the Life Energy Meter data over time is shown below as recorded on the computer.

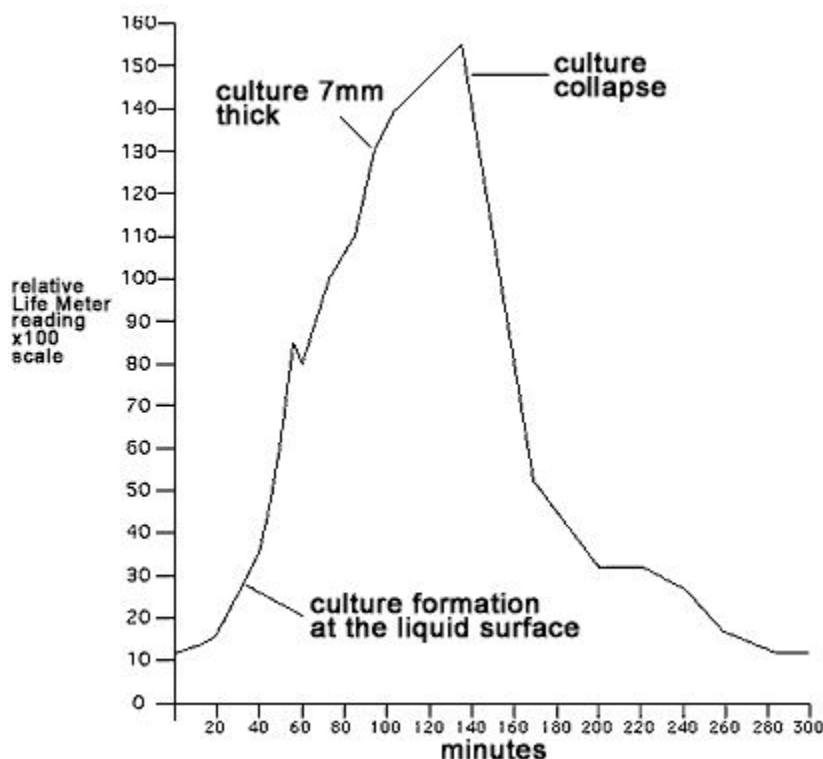


Figure 5
Plot of Life Energy Meter Data Over Time for Yeast Culture

The visual observations of the yeast culture growth and decline matched perfectly with the data recorded by the Life Energy Meter. During their life cycle the cells accumulated energy, and then released it to the environment. It seems apparent the displacement currents produced by absorption of the displacement fields can monitor the life energy increase and decrease over the yeast cell's life cycle. This experiment can be seen on the internet. [10]

Acupuncture points can be detected using a stainless steel probe attached to the Life Energy Meter. The experiment can be seen on the internet. [11]

Another interesting experiment can be done with the impatiens plant. The Life Energy Meter is attached to a particular leaf on one side of the plant and a reading made. Then a person touches a

leaf on the other side of the plant, and the meter reading on the attached leaf goes up. This shows that the displacement field can pass through the plant to the person causing a larger meter reading. A video of this is on the internet. [12]

The readings of the Life Energy Meter are dependent on volume or weight. A large plate of 320 square inches was connected by a lead wire to the top red connector of the Life energy Meter. The switch on the top of the meter was moved to the “large” setting. The large plate was insulated from the ground using a 0.75 inch thick piece of Styrofoam. On the top of the internal metal plate is a 1/64” thick vinyl sheet. The range switch was set to x100 and then an 11 year old boy was asked to stand on the plate assembly. The zero control was adjusted to read 50% for the child. Next a woman 44 years old who was still having her periods was asked to stand on the plate and have her reading taken. Then a 51 year old man was asked to stand on the plate to have his reading taken. Finally, three plastic containers were filled with tap water and placed on the plate and measured. The results are shown in the Table below. If one corrects the data to taken into account the smaller weight of the 11 year old child, note that the reading is the same as for the woman still having periods. The older man appears to have lower life energy associated with growing older or perhaps some health issues.’

Life Energy of People by Weight and Age

Subject	Reading(x100)	Weight	Correction for weight
Child 11 yrs	50	90 lbs	$50 \times 162/90 = 90$
Female 44 yrs	90	162 lbs	
Male 51 yrs	78	162 lbs	
Water	6	160 lbs	

Another interesting experiment shows that the body’s life energy field can structure water. Sealed vials of type 1 purified water were altered by people holding their hands over the vial for 10 seconds. Then big changes were found in the before and after measurements on the water using a turbidity meter. This new discovery, made at The World Research Center, shows that humans have a special energy field that can structure and energize water. A video showing the measurements is available on the internet. [13]

Conclusions. The evolutionary origin of life based on spontaneous chemical, thermodynamic, and electrical processes as represented in the Miller-Urey experiment had a number of problems that made it seem impossible as follows:

1. An unrealistic trap had to be used to prevent the electrical spark from destroying the organic molecules that it produced.
2. The organic molecules produced were not of the correct chiral type, i.e. all of left-handed symmetry or right-handed symmetry.
3. The organic molecules produced were not “alive” with longitudinal vibrations but dead.

4. There is no geological evidence that the reducing methane-ammonia atmosphere used ever existed on the earth.
5. The solution of organic molecules produced in the ocean was too dilute to make large organic polymers.
6. No meaningful information such as gene structure can be produced by this random process.

The Life Energy Meter experiments seem to indicate that the universal force which is electrodynamic in nature is the source of all life. No electric spark or other naturally occurring process seems to be able to initiate the longitudinal electrodynamic vibrations in organic molecules. This seems to be in agreement with the biological axiom that “only life begets life”.

In this approach the role of food is to provide the cells with the longitudinal radiation which they are giving off continually and additional living organic molecules of the correct symmetry to participate in the generation of new organic molecules and the delivery of chemical energy.

The Life Energy Meter experiments seem to confirm the idea of a universal electrodynamic force. This idea is also consistent with the Bible that indicates that when God created Adam from the dust of the ground with all the proper organic molecules and cell structures, Adam was still not alive. God had to breathe into him the breath of life. [14] The Bible also indicates that God acts and exerts his power in an electrodynamic manner. [15] Thus there appears to be a consistency in idea that the universal force is the origin of life that only comes from God, because the Bible indicates that God exerts his power and authority by means of the universal electrodynamic force. It also agrees with the fingerprints that God left as evidence that He was the creator. [16]

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