

# **DISCOVERY OF THE BIOFIELD**

## **A Different Type of Magnetism?**

(Unpublished, 1981)

The Chinese use the term ch'i or Ki to describe the energy which circulates along acupuncture meridians and provides the essential life force for the body. In the 1940's Wilhelm Reich built what he called orgone accumulators which collected an energy from space. Orgone was considered to be the vital energy of all living organisms and could be supplied to people who were ill, by using Reich's accumulators. It's easy enough to build an accumulator, and I made several, but didn't find the results consistent and objectively measurable. Reich's devices and discoveries stimulated a lot of research which is continuing today.

Psychics who claim to see the human aura have always tantalized researchers to detect it with the latest and most sensitive instruments. However, measurements made with sensitive ultraviolet light detectors, electrostatic or radio wave detectors have found almost nothing except the typical infrared or heat radiation given off by a warm body.

Applying high voltage and low current to the body and taking photographs produces colored photographs. Called Kirilian photography, after the Russian who developed it, it has some validity, though it's difficult to produce measurable effects from the color photographs. So, significant aspects may not have been noticed.

On a cool, dry day the body can pick up electric charge, especially if synthetic clothing is worn, and this charge will spark to a metal surface as it is touched, or spark to another person, if that person has less charge. This comes and goes with the weather; the body does not generate an electric charge which can be detected beyond the skin.

There are small electric currents and voltages generated within the body which can be measured by placing electrodes directly on the skin or placing probes within the brain or heart. Brain waves are only about 10 millionths of a volt and the largest muscle electrical signal is

generated by the heart--one quarter of one thousandth of a volt. Other muscles produce voltages of only a few millionths of a volt.

Some people have written that the body has a magnetic aura. Although this has a tiny bit of truth, it is misleading and confusing. While it's correct that any moving electric charge generates a magnetic field, such fields are only a fraction of the strength of the electric fields. In order to make magnetic fields apparent, coils of wire with many turns must be used. And the current must flow in only one way. Blood flows out and back and has no net electrical charge, so it doesn't generate any external field, although a very small magnetic field is generated when nerve impulses propagate as they move in only one direction. To detect the tiny electrical signal produced by the heart muscle requires amplification of about 1,000 times and electrodes must be placed directly on the body. The magnetic field generated by that tiny signal requires amplification a thousand times more, or a million times altogether. In other words, the magnetic field generated by the heart is only about one thousandth of the electric field. No compass would ever show such a small field. If the body had an appreciable magnetic aura, compasses would not work properly and people would have been forced to rely on the sun and stars for navigation. -

## **The SQUID**

Within the last decade, a very sensitive instrument has been developed which can detect the very small magnetic fields around the heart and brain, where busy neural activity also makes a tiny net magnetic field. The instrument used to detect these fields is called a SQUID, an acronym for superconducting quantum interference device. The SQUID usually is operated in special magnetically shielded rooms. The SQUID itself, in early models, had to be cooled to liquid helium temperatures to reduce internal electrical noise. The measured magnetic fields from the head and heart are less than one millionth of a gauss (term used for magnetic field strength). While data from the SQUID is now providing information, to say that the body has a magnetic aura is like saying the body has a gravitational aura. We don't walk around attracting objects to our bodies such as paper clips and rusty nails, by our magnetic fields. However, just because people

don't have any appreciable magnetic field, does not mean that they are not affected by small magnetic fields.

## Animal Magnetism

There is another type of field around the body which is not electric nor magnetic and is very much larger than either of them. It is indirectly related to magnetism, and lacking a suitable term, people have often chosen to use the term "magnetic" to describe it. Mesmer apparently was one of the first people to connect this field with magnetism.

Mesmer believed there was a fluid-like energy around the human body which was highly charged in healthy people, and weak or nearly absent in ill people. He recognized that this force was somehow related to magnetism, and he thought that magnets could conduct it. He called this force "Animal Magnetism" to differentiate it from ordinary iron magnetism. He found that he could produce "magnetic-like" effects in his patients by stroking the space around them with magnets or his hands. His formulation was similar to what Reich later called orgone energy.

## Detecting the Biofield

In 1978, the author discovered a simple device which can detect and measure a force around the body which may be what Mesmer called animal magnetism. This shows up as a spin or rotational force on a frame which is suspended over a person's head. *Figure 1* shows one form of the device used for this purpose. Although a pyramid frame was initially used, the force has no connection with so-called pyramid energy. The author was investigating the possible existence of pyramid energy when this other effect was accidentally discovered.

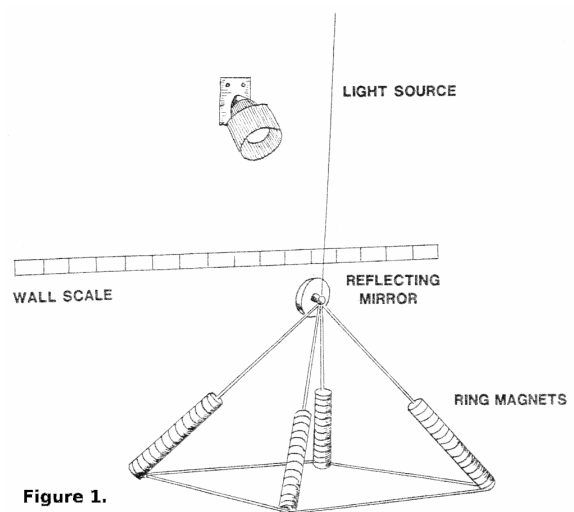


Figure 1.

The frame can be of any material; wood, plastic, or metal, and any shape. It is suspended by a nylon filament (fishing line leader). No

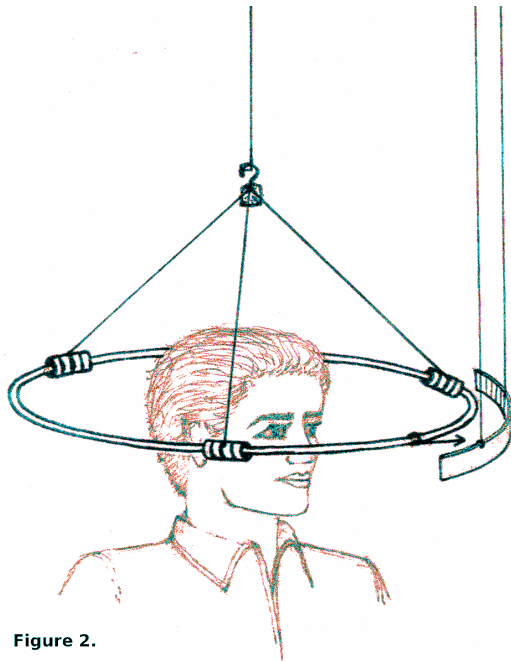


Figure 2.

components are critical. When a person sits under a hanging frame, it will rotate a few degrees. To measure the degree of rotation, a mirror is glued on the nylon filament. A wall mounted spotlight will produce a reflected spot on an adjacent wall where a scale serves to provide accurate measurement of movement of the spot. A lady's compact mirror which slightly focuses the spot of light works better than a flat mirror. In the apparatus shown in *Figure 1*, ring magnets were placed such that their North poles point towards the apex.

*Figure 2* shows a different version of the device which uses a hanging scale. Other versions of the device have included a spiral helix fashioned from quarter inch copper tubing, three sided pyramidal forms, large rings, and pyramids hanging inside a bottle (*Figure 3*).

Devices have been made and tested with more, less, or no magnets. In general, the more magnets the more movement, but Biofield Meters still rotate even when there are no magnets on them. The instruments are stable, and rarely move when no one is near them. Over one thousand observations have been made.

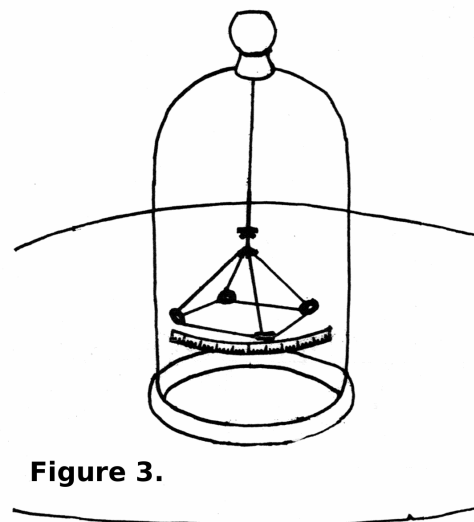


Figure 3.

Instruments suspended in bottles demonstrate that air currents and thermal currents could not be involved in their movement. Units placed in bottles or glass cases are caused to move by placing one's hands at the sides of the case. Electrical shielding or electrical

grounding of the operator made no difference, however soft iron wrapped around a bottle stopped the effect.

To test whether heat could be producing rotation of the larger frames, several observations were made using a hundred watt light bulb, a lighted candle, and a heat pack. No movement of the frames was observed when these heat sources were placed inside the frames. To insure that air currents produced by breathing were not affecting the movement, the breath was held as long as possible in a number of tests. The Biofield meter always moved within five to fifteen seconds, so that factor too can be ruled out. Besides, the many observations made with units in sealed glass jars have repeatedly demonstrated that movement takes place when no air currents and only minimal heat transfer could be present. Devices in bottles have been observed to move at distances up to 12 feet from the observer during times of large magnetic storms.

Since the body's intrinsic magnetic field measured in shielded rooms is about one billionth of a gauss, this biofield could not be an ordinary magnetic field. The author has simply called it the Biofield, a contracting of biological energy field. Tesla, a contemporary of Edison and inventor of the alternating current motor and many other instruments, was reported to have spoken about a "higher octave" of magnetism which had not been recognized by traditional science.

Whatever we choose to call it; the aura, animal magnetism, orgone energy, prana, spin force, ch'i, or the biofield, this energy is quite large; over 100 million times as large as the body's magnetic field! If it were magnetic, the biofield would be equivalent to several hundred gauss.

Well, then, what is the biofield? It appears to be a genuine new force in science. It manifests as a physical force clearly observed on all types of biological matter. As of this time (1989) it appears to be a force which produces movement at right angles around the human body. It does not push or pull like gravity or electrostatic forces. It appears to be in the form of a circular or spiral force around the body. The origin of the force is not electrical, magnetic, heat, or gravitational. It is much too large to be produced by these forces. It needs a name. The author has chosen to call it simply the biofield, and to call the

instruments which serve to detect it, biofield meters. Descriptive equations will follow upon the development of additional and more refined instrumentation and further experimentation. New discoveries can probably be made by any reader of this book willing to construct or purchase a biofield meter and make careful observations.

After several months of observations it was discovered that the amount of the initial rotational deflection of the Biofield meter varied in association with the geomagnetic field. *Figures 4 and 5* show deflections of the meter over a 40-day period (daily measurements) and a 3 day period (measurements made at 3 hour intervals). The dashed line shows measurements made with the Biofield meter and the solid line shows data on Earth's magnetic activity provided by the National Bureau of Standards in Boulder, Colorado. At times of higher geomagnetic activity, the biofield also showed higher activity.

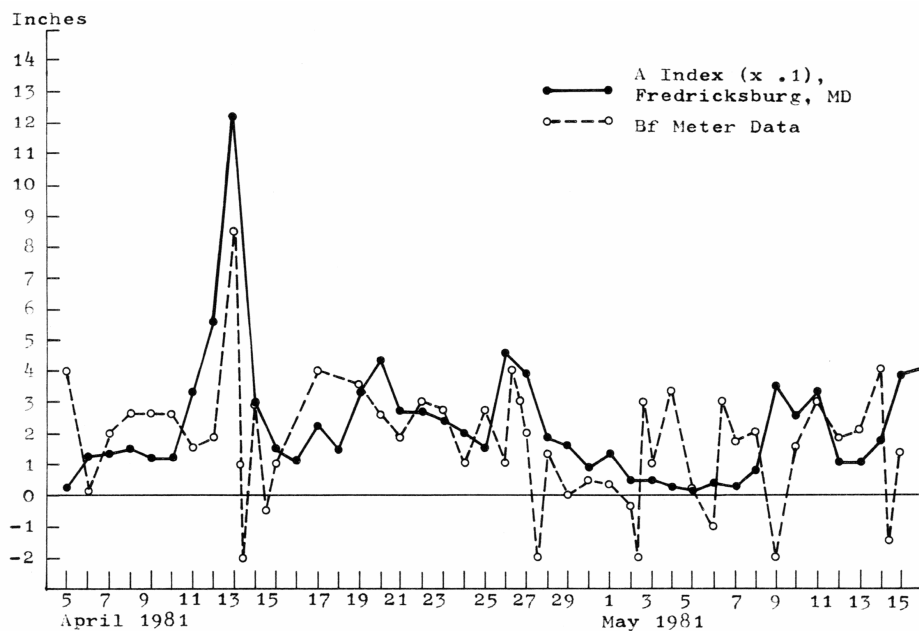


Figure 4. Geomagnetic Index (A) and Biofield Meter Deflections

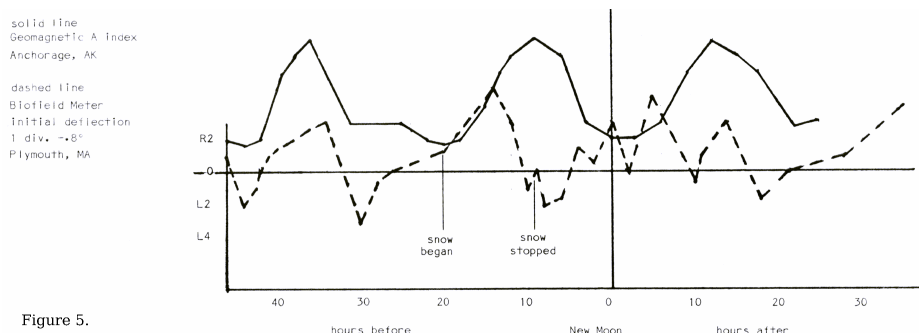


Figure 5.

The second figure shows a similar relationship for the three hour variations. There is a clear connection between the two measures, although it's not appropriate to do statistical correlations since there is definitely a component to the biofield data which varies with the emotional state or vitality of the person. When one meditates or is ill, their biofield is of lesser amplitude. When one is excited, either angry or happy, their field is larger.

Usually the direction of the initial rotation of the frame is to the right as seen from within the frame, or clockwise as seen from above the person. At times of new or full moon or when there are large disturbances in Earth's magnetic field the biofield often shows a change in the initial direction of rotation. Measurements of the biofield were made nearly every day.

Examination of the data for a two year period showed that *85%* of the time of a new or full moon (within 36 hours), the biofield showed a reversal in direction of a few hours. Such a reversal could have happened during the other *15%* of the times but escaped the author's notice if it happened to occur between observation times. Measurements made over a seven year period on various forms of biofield meters showed consistent connections between their movements and solar/geomagnetic activity. This was so, even for those forms of the biofield meters which did not have magnets placed on them. It seems that the geomagnetic activity is the largest component of biofield activity.

The author detected biofields around a watermelon, a grapefruit, and several plants. Presumably all living organisms have such fields. The first device was called a Bio metre and was developed by Dr. Hippolyte Baraduc of France – a copper needle suspended horizontally by a thread from the center. A literature search uncovered reference to an article by Dr. Charles Ross published in the 1922 medical journal *Lancet*. He described an instrument which was set in motion by the proximity of the human body or by vision. In recent years a German scientist, W. Peschka, appears to have discovered a similar effect. These men did not obtain numerical data on the amplitude of the field

or notice its connection with the geomagnetic field.

Dr. Frank Brown was a pioneer in the study of interactions between magnetism and living organisms (see references). He visited the author's laboratory in 1983 and observed the biofield meter with great interest. Among the 50 reprints of scientific papers he left as a gift were several studies on bean seeds, magnetism, and spin. He found that when bean seeds were placed near one another there was an interaction between them which could not be explained. The effect was observed by carefully measuring the amount of water which the beans absorbed.

Dr. Brown thought the interaction was due to magnetism because it was still present when electrostatic shielding was in place, but nearly disappeared when magnetic shielding was used. Although he believed the bean seeds had a magnetic field, he did not have the instrumentation to measure it. In fact, even if a magnetic field around a bean seed could be detected by ultra-sensitive SQUID apparatus, it would probably be far too small to account for the observed effects. It seems more likely that the interaction between the bean seeds was due to the presence of a biofield or spin force. The biofield around living organisms appears to be thousands of times larger than the magnetic field.

That the biofield was involved, is supported by Dr. Brown's observation of a connection between rotation and bean seed interaction. He found that the beans interacted more strongly when they were rotated counterclockwise than when they were rotated clockwise. (the biofield is usually observed as a clockwise force as seen from above.)

In another series of experiments he placed rotating magnets near the bean seeds and observed an interaction with the bean seeds. Brown and his associates also found interactions between geomagnetic activity and rotation of worms and other small life forms.

Brown also reported on the research of R. I. Jones, who reported in 1960 that plant growth could be altered by uniform daily rotation. Clockwise rotation depressed growth. No one has been able to explain



Jones' findings, but the presence of a spin force around all plants might be a factor.

Taken together, the findings of Brown, Jones, the author, and other researchers all point to connections between living organisms, spin, and geomagnetic activity. All living organisms seem to be in resonance with Earth's dynamic magnetic field. Earth's magnetic field is in turn a function of solar activity and the positions of the Moon, and at least some of the planets.

### **Research Possibilities for the Biofield**

Since the spin force has been observed around plants, a grapefruit and a watermelon, presumably it is present around all living things. Therefore it would be possible to suspend a biofield meter around a plant and continuously monitor the rotation. If no magnets were used on the biofield meter, there should be no magnetic perturbations and the movement of the meter might accurately reflect the geomagnetic activity, whereas in the case of human subjects, emotional states and vitality factors are more variable. Such an apparatus could be set up in a draft free environment, a Faraday cage, or a magnetically shielded room.'

To make measurements of a human's field in a magnetically shielded room would be an excellent way to determine how much of the biofield was generated by the human and how much induced by geomagnetic activity.

Biofield instruments in bottles have been taken to the pyramids of Egypt, the Grand Canyon, the ruins of Palenque, the mountains and the seashore. Inside the great pyramid, there was no detectable biofield. On top of the pyramid, movement was as usual. Differences were observed at other locations as well. In general the amplitude of initial rotation is less near the coast. Since the geomagnetic field strength varies minute by minute, thorough observations on place differences need to be made using standard instruments and simultaneous observation. Some careful experimental procedures would be necessary to make such tests.

Some other questions for research are:

Does the strength of the biofield vary with altitude? Would it diminish in deep mines? Can it be detected in a steady, high flying aircraft? How much mass can actually be caused to move by this force? The heaviest device the author used weighed about 9 pounds. However this weight was not being lifted, only rotated, so very little physical force was actually required.

How do the biofields of individuals interact or combine? If a large ring is suspended over one person and a measure made, then will two people crowded under the ring increase the amplitude of initial rotation by a factor of two?

Suppose a biofield meter is hung in the center of an empty room and people quietly come in and stand around it. If the mirror system is used, a spot of light can be reflected from the mirror on the bio field meter to a distant wall providing a very sensitive indicator of rotation. If people surround the instrument, moving slowly, towards it, how close do they have to come before it rotates? Or will it rotate at all? How many people will be required to observe such a rotation?

How far does this force field extend around the body? How much interaction is there with the force fields of other humans? Of plants? Of animals? Although the field strength can vary from moment to moment, depending on the activity of Earth's magnetic field and on the emotional state of the human at a given moment, if these are reasonably constant, how rapidly does it diminish? Gravitational, electrostatic, and magnetic forces have been found to diminish with the square of the distance. Does this force follow the same formula? There are so many parameters to uncover! It's as if we were back in the 1800's when electricity and magnetism were first discovered--an experimenter's paradise.

A most important question is: what is the direction of this force? Is it truly a spin force? The formal and informal experiments and observations I made extending over many years suggest that it is a spin force, but that could be disproved by another type of experiment. The devices I built never seemed to move in another manner except rotation, but that may be because less energy is required to spin the rings or frames than move them in any other way. When a 30 ft. Long

suspension line was used, spinning still occurred--not swinging. The pyramids hung in bottles rotated when hands were placed at the sides. Is there a spin force between one's hands? This is a puzzle...

Ralph Stone, founder of Polarity Therapy, has illustrations showing a spin field around the body. One person who meditates reported to me that she experienced a spinning sensation during a meditation. Perhaps there really are whoosh birds after all! If this force were a spin force it would fit with other patterns found in nature. Laurence Badgley has found that a spiral vortex field appears around sites of injury on the body, which shows interaction with magnetic fields.

If the force were in a spin form, it would imply that if we could place a small test object in space around a human, that object would start to rotate around the person. This experiment could not be done on Earth, but perhaps it could be done in space. If so, the spin force, or life force, is similar to magnetism, for magnetism is a spin force located in the space around a wire carrying an electric current.

Whereas magnetic forces only act on other magnets, this life force or biofield force apparently acts on all matter. Copper, iron, aluminum, plastic, and wood have been tried, but quantitative comparative measurements have not been made. If a material were found which did not show the effect it would be a very important discovery.

## **Generalization of the Spin Force**

Spin forces are not unique to living systems--they are omnipresent in the universe. Spin or angular momentum is associated with most sub atomic particles such as electrons, protons, neutrons, etc. Apparently every body in the universe spins! Interstellar molecules spin. Stars, planets, satellites, even entire galaxies and clusters of galaxies all are known to spin. One astronomer maintains that the whole universe spins! A German scientist, Dr. D. Ashcoff, has invented an instrument known as a spin-tester for the cells of the body. The discovery of the biofield meter shows the existence of a spin force around the human body and other living organisms. Perhaps

it is time to assume that spin be taken as a fundamental force in its own right along with gravity, electricity, and magnetism. Spin, connects gravity and magnetism, for it is a more general type of magnetism and at the same time it complements gravity. Spin forces, if they exist around suns and planets, would help to organize solar systems and satellite systems. The existence of spin as a force would account for why the universe has not come together in clumps, for spin forces operate at right angles to gravity forces.

The fastest spinning Pulsar was recently discovered (proof not yet definite) at the core of a supernova which was observed in the Southern Hemisphere two years ago. This fast spinning Pulsar was apparently formed as part of the supernova process and would be expected to start out spinning slowly and gradually increase in spin as more matter was drawn to the center. But its measured spin rate is almost 2,000 times per second, upsetting traditional theories. How this enormous object could spin so rapidly, apparently so soon after birth, is an unsolved mystery. However it does lend additional support to the notion that spin should be considered a fundamental force present around all matter.

Assuming the existence of spin force as a force in its own right also would bring one aspect of aliveness into the equations of physics, something that is long overdue. Spin forces might be called "form forces" or "organizing forces", for they help form complex living organisms, which abound with spirals, helixes, and circles over and over again in myriads of different ways from double helices in DNA and RNA to Whirling Dervishes.

If we consider that spin be taken as a fundamental force along with gravity, electricity, magnetism and the two nuclear forces, Table 1 (next page) can be constructed. (Actually the more precise scientific term for spin is "torque", the product of force multiplied by distance from the center of the body, human, plant, animal, planet or star.)

As previously mentioned, there are also two other forces now assumed to exist. Called the strong and weak nuclear forces, they operate within atomic nuclei to help keep nuclear particles from dispersing due to electrical forces.

More research on the biofield is urgently needed, and it's impossible for one person to do it, so it is the author's hope that many readers

will take up the exciting challenge and enjoy the fun of exploring a whole new field.

Table 1.

### THE FORCES OF THE UNIVERSE

FORCE	LEVEL OF OPERATION	EFFECTS
Gravitic	Operates between all matter.	Pulls matter together.
Electric	Only manifests between charged particles.	Pushes or pulls.
Magnetic	Manifests when charged particles move.	Pushes or pulls at right angles to the direction of motion. Only sensed by other charged particles. Causes charged particles to move in circles, spirals, or helixes.
Strong & Weak Nuclear	Operates within nucleus of atoms.	Keeps the nuclear particles together.
<b>Spin</b>	<b>Present around all bodies – Much larger around living organisms.</b>	<b>Causes all bodies to spin around one another. Counteracts gravity. Produces complex forms or structures.</b>

