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**ANSWERS TO ASSERTIONS  
SEPARATE BIOLOGICAL EFFECTS OF OPPOSITE  
MAGNETIC POLE FIELDS**

**Evidence from peer reviewed science literature  
Evidence from non-peer reviewed science literature, value  
confirmed**

**DEFINITION OF MAGNETIC POLARITY  
Compass needle geographic definition**

**vs**

**Electromagnetic definition**

**VALUES AND LIMITATIONS OF BOTH MAGNETIC  
POLES**

**By**

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**The following is in response to requests  
for a review of specific assertions.**

**ASSERTIONS:**

This is used to designate the assertions that are made for which a review has been requested. This presentation focuses on the issues raised by assertions and purposely does not identify the persons making the assertions.

**W.H. PHILPOTT'S ANSWERS TO THE ABOVE  
ASSERTIONS & ANSWERS**

Assertion:

“There is no proven benefits to the idea that putting a north, south or alternating sides of a magnet toward the body is better. The benefits of magnets are derived from the Hall effect. Magnetic fields can influence the speed of blood flow by dilating blood vessels which will increase circulation and accelerate the healing process.”

Assertion:

Positive and negative magnetic fields are also misleading and inaccurate terms that originated with the British Admiralty's efforts to improve the compass. They had created a freely flowing magnetic needle mounted over a card containing markings to indicate graduations in direction based on the orientation of the needle when it points

to the geographic north pole. The end of the needle that points north was called the north, or positive pole of the magnet. Actually, it should have been called, north-seeking pole which would have meant that it was actually negative rather than positive. By the time this error was recognized, the terminology had become so ingrained that it was too late to correct it.”

Assertion:

“Various claims are made by different manufacturers with respect to the superiority of their product design or the benefits of applying either pole or both poles to the body. However, there is absolutely no clinical evidence that these magnetic fields produce any biological effects that are superior, safer or even different.”

Assertion:

“The terms positive and negative applies only to electric poles and not to magnetic poles.”

**W.H. PHILPOTT'S ANSWER TO THE  
ABOVE ASSERTIONS**

The magnetometer is an accepted scientific instrument which is used to identify the magnetic poles in terms of positive and negative. This scientific instrument identifies magnetic poles as positive and negative whether we are examining a static field magnet, the magnetic poles of the earth or the magnetic poles formed at the poles of a direct current circuit. A direct electric current circuit forms magnetic poles at each electric pole. A negative DC circuit electric pole forms a negative magnetic field. A positive DC circuit electric pole forms a positive magnetic field. This is why a magnetometer can be used to identify the separate magnetic poles of a static field magnet, the separate magnetic poles of the earth or the separate electromagnetic poles of a DC circuit. The present day use of magnetic positive and magnetic negative bears no relationship to the British Admiralty's use that they may have made of the terms positive and negative as applied to magnetic poles of the earth determined by a compass needle. The history that I have been able to find about the discovery that the navigators had incorrectly named the poles does not make any reference to any consideration that the British Admiralty made on the subject of magnetic positive and magnetic negative.

William Gilbert in 1600, in the classic book on magnetism entitled, “De Magnete,” described the fact that the compass needle that points towards the north pole of the earth is indeed a south pole rather than a north pole (1). Through the years, others have followed suit in making correction of the original misnaming of magnetic polarity. Despite these corrections, the traditional way of naming poles is still either north or north-seeking, or south or south-seeking. B. Beleney (2) describes the traditional way of naming magnetic poles as being incorrect and therefore producing “semantic confusion”. His solution to this is to use the electrical definition of positive and negative. This is justified because there is always a magnetic field created at each electric pole and that magnetic field justifiably has the same sign as the electric pole. This correct way of naming the poles is particularly satisfying to the physician who deals with the human body which has a direct current circuit. Therefore by naming the poles according to the electrical definition, there is no kind of interpretation needed. The magnetometer is a scientific instrument used to identify either the electric poles of a D.C. circuit or magnetic poles of a D.C. static field permanent magnet in terms of electromagnetic positive and negative.

The question is: is there scientific justification for naming the poles of a direct current circuit (which of course always has a magnetic field) and the poles of a DC static field magnet as positive and negative? A magnetometer tells us they are one and the same. A gauss meter tells us they are one and the same. Biological responses tells us they are one and the same. The physicist, B. Beleney, states the problem and solution in the following quotes from the *New*

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*Encyclopaedia Britannica*, (1986), (Vol 18), pp 274, 275: "Attractive forces appear when poles of opposite signs are close together; repulsive forces are found when poles of the same sign are close together. Briefly, like poles repel and opposite poles attract. This result gives rise to some semantic confusion in the nomenclature for magnetic poles. The north pole of a compass needle is the pole that points toward, (that is, is attracted by) the north magnetic pole of the earth. It is more accurately known as the north-seeking pole. By analogy with electrical charges, the terms positive and negative magnetic poles can be used rather than north and south poles. These may sometimes be designated by the symbols +qm and -qm respectfully, in which the subscript "m" denotes magnetic. Thus, poles of the same sign repel one another and poles of the opposite sign attract one another."

Thus, we see on good, peer reviewed, scientific authority that the electromagnetic definition of positive and negative is even recommended as being applied to static field magnetic poles. There is an advantage in doing this since we are treating the human body and the human body functions on a direct current circuit formed from magnetic fields with the neurons of the brain and spinal cord being positive poled in relationship to the extensions of the neurons which are negative poled. This makes it easy to understand the significance of the work of Robert O. Becker, M.D., in which he instrumentally demonstrated the presence of a positive magnetic field measured electromagnetically at a site of injury and the negative magnetic field as being present of necessity during the healing process(3). This fact also clearly defines the separateness of the biological response to the positive and negative magnetic fields whether created by a direct current circuit or being supplied from a static magnetic field. The biological response are one and the same for the magnetic field produced by electric + or - and static magnetic +qm or -qm because the magnetic field from these separate sources are one and the same. The biological responses are the same whether the magnetic field is from a DC circuit or a DC static field magnet. The biological responses to separate positive and negative magnetic fields are opposite.

It is understood that the use of positive and negative applied to static field magnetism applies to the understanding of the relationship between a DC electric circuit that produces magnetic fields and bears no relationship to any consideration that was ever made about the field as indicated by a compass needle as being called positive and negative by the British Admiralty. The assertion is made that the British Admiralty made a mistake in calling the needle that pointed to the north pole of the earth as being positive when actually it should have been called negative. The fact is that if you relate positive and negative as it is currently being used relative to positive and negative electric poles, then the statement made about the British Admiralty wrongly naming the poles is in error. The magnetic compass needle polarity pointing to the north pole of the earth is truly electromagnetic positive and not electromagnetic negative therefore, this statement made in this book simply states it wrong. Anyone that tries to use this information and think that this is referring to the same positive and negative fields as currently used that relates to electromagnetism would be confused because this is named wrong. This incorrect assertion merely adds to the semantic confusion that already exists in naming the poles incorrectly in the first place.

What about the assertion that there is no clinical evidence of biological response difference of the opposite poles? There is abundance of evidence that there is a difference in the biological response to the two poles. There is separate and opposite biological response to the separate and opposite magnetic poles. If there was not published data on this subject in the peer review literature, a person could be correct in saying there is no published data in the peer review literature justifying the opinion that there is a separate opposite bio-

logical response to the separate opposite magnetic poles. However, this is not the case. There is published documentation in peer review literature that there is a separate and opposite biological response difference to the magnetic poles (4). This article documents that a positive (north-seeking) magnetic field encourages the growth of cancer cells and that a negative (south-seeking) magnetic field inhibits the growth of cancer cells. Thus, we see there is documentation in the peer review medical literature stating an opposite effect to the opposite magnetic fields. There are several other peer reviewed articles, also.

This documented magnetic fact in peer review literature now justifies the abundance of recorded evidence of the separate and opposite biological response to magnetic fields. Robert Becker published work in his books, *Cross Currents* and *Body Electric* cannot be considered peer review literature. He very definitely understood and documented the separateness of the two poles. The positive (north-seeking) magnetic pole is a stress field and becomes the signal of injury. A negative (south-seeking) magnetic pole is an anti-stress field and is present during healing and it has to be maintained negative (south-seeking) or healing does not occur. There are other evidences that he well understood separateness of the two poles. He refers to sun flares disordering mental function in those that are so predisposed to a disordered mental function. Sun flares are known to be a positive (north-seeking) magnetic field. The admission of psychiatric patients to mental institutions coincided with sun flares. Also, the disturbed days as observed in mental institutions coincides also with the positive (north-seeking) magnetic field sun flares. In terms of a negative (south-seeking) magnetic field, he knew of its neuronal calming affect and was able to produce magnetic general anesthesia in salamanders by using a negative (south-seeking) magnetic field on the back of the head. Thus the peer reviewed journal simply reinforces the observations by Becker of the oppositeness of the two poles

#### **SCIENTIFIC PEER REVIEWED LITERATURE EVIDENCE OF SEPARATE AND OPPOSITE BIOLOGICAL RESPONSES TO SEPARATE AND OPPOSITE MAGNETIC FIELDS**

Instrument evidence of separate magnetic fields:

A magnetometer (5) is an accepted scientific instrument that identifies magnetic poles of static field magnets as positive and negative. Furthermore, a magnetometer identifies the magnetic poles produced at the opposite electromagnetic poles of a DC circuit as being positive and negative. The magnetometer identifies the north pole of the earth as negative and the south pole of the earth as positive. The gauss meter agrees with the magnetometer. The gauss meter also identifies magnetic polarity as positive and negative. Thus, it is seen that to understand these accepted scientific instruments used to identify magnetic poles there is a need to understand magnetic poles in terms of electromagnetic positive and negative.

It is universally accepted that a negative (south-seeking) static magnetic field spins electrons counterclockwise and the positive (north-seeking) static magnetic field spins electrons clockwise. Thus, again there is the identification of opposite response to separate and opposite magnetic fields.

#### **WHAT EVIDENCE IS THERE THAT BIOLOGICAL RESPONSES TO OPPOSITE MAGNETIC FIELDS ARE OPPOSITE?**

The following is from peer review scientific literature giving evidence of opposite biological responses to opposite magnetic pole fields.

1) A positive (north-seeking) magnetic fields encourages cancer growth while a static negative (south-seeking) magnetic field discourages cancer growth (4).

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2) The negative electromagnetic field of a DC circuit evokes a biological alkaline pH response of 10 while the positive electromagnetic field of a DC circuit evokes a biological acid pH response of 2 (6).

The biological response of a pH of 2 at the positive electromagnetic pole of a DC circuit and a pH of 10 at the electromagnetic negative pole of a DC circuit has been confirmed by G. D. O'Clock, Ph.D. (7).

3) A positive (north-seeking) static magnetic field blocks melatonin production by the pineal gland and a negative (south-seeking) static magnetic field stimulates production of melatonin by the pineal gland (8).

**PRIVATELY PUBLISHED, NOT PEER REVIEWED PUBLICATIONS THAT HAVE BEEN CONFIRMED BY THE ABOVE PEER REVIEW PUBLICATIONS**

1) The physicist, Albert Roy Davis spent 60+ years detailing in animals the opposite biological response to opposite static magnetic fields. He found the biological response to a static positive (north-seeking) magnetic field is acidification while the biological response to a static negative (south-seeking) magnetic field is alkalization. This agrees with the peer reviewed literature (9).

2) Robert O. Becker, M.D., demonstrated the opposite biological response to opposite static magnetic fields. The static positive (north-seeking) magnetic field is stressful and signals biological injury and neuronal excitation. The static negative (south-seeking) magnetic field is anti-stressful and necessary for biological healing and neuronal control of excitation. Mental patients subject to psychosis are excited by the positive (north-seeking) magnetic field sun flares frequently producing hospitalization and also confirmed by the "bad" days in mental institutions. On the other hand, neuronal excitement can be controlled by the negative (south-seeking) magnetic field and was used by him to produce general anesthesia in his salamanders (3).

The privately published non-peer reviewed research records of Albert Roy Davis and Robert O. Becker have been confirmed by peer reviewed published data. Thus, there is confirmed evidence of the separate and opposite biological response to the separate and opposite static magnetic fields.

The physicist, Albert Roy Davis (9) spent sixty years documenting the separate and oppositeness of magnetic fields. He first observed this separateness and oppositeness in relationship to the behavior of earthworms. He documented the evidence that the biological response to a static negative (south-seeking) magnetic field is that of alkalization and oxygenation. It is this evidence that attracted me to examine the biological response to magnetic fields. I found Albert Roy Davis' work to be reliable. I reproduced exactly what he said about alkalization plus oxygenation with a negative (south-seeking) magnetic field and acidification plus lack of oxygen with a positive (north-seeking) magnetic field. It is on the basis of a negative (south-seeking) magnetic field producing alkaline-hyperoxia that maladaptive symptoms can be relieved. I have demonstrated that symptoms such as responses to food reactions, chemicals or inhalants was acidifying and reducing in oxygen and could simply be relieved by alkalization and oxygenation. I originally used baking soda and the breathing of oxygen to relieve the symptoms. I found that a negative (south-seeking) magnetic field provided even more reliable value than baking soda and the breathing of oxygen. Now that we have documented peer review journal articles that have documented the separateness of the biological responses to the separate magnetic poles, we can understand and accept the evidence that both Albert Roy Davis and Robert O Becker have provided us in their documented evidence of the biological response separateness of the

opposite magnetic poles. You cannot treat degenerative diseases such as cancer with a static positive (north-seeking) magnetic pole field of a static field magnet. It only makes it worse. Treating with a static negative (south-seeking) magnetic pole field and the alkaline-hyperoxia that is produced by this biological response to a negative (south-seeking) magnetic pole can and does reverse cancer and a lot of other symptoms that relate to chronic degenerative diseases.

The only way a positive (north-seeking) magnetic field can be used to kill cancer is with a DC current electrolysis in which a cellular destructive pH of 2.0 is produced. A positive (north-seeking) static magnetic field from a static field magnet produces an acid medium below the normal 7.4 and into a pH of below 7.0, but not a pH of 2.0. The acidic medium produced by a positive (north-seeking) static magnetic field is in the pH range that supports cancer cellular replication, microorganism replication and fermentation. Fermentation is acid-hypoxic dependent.

**VALUES AND LIMITATIONS OF A POSITIVE (NORTH-SEEKING) MAGNETIC FIELD**

All magnets that are on the market have therapeutic value. The testimonials stated by those who combined positive (north-seeking) and negative (south-seeking) magnetic poles or a positive (north-seeking) magnetic pole are believable. I am certainly not making any statement that these magnets using both poles or a positive (north-seeking) magnetic pole as long as the gauss strength is low enough, does not relieve pain. Of course, they relieve pain. The negative (south-seeking) magnetic pole by itself relieves pain no matter how high you go on the gauss strength. The positive (north-seeking) magnetic pole will relieve pain as long as you are low enough on your gauss strength in order for the body to counter the response with a counter-irritant reflex response. The use of the two poles side by side is also effective in relieving pain as long as you are low enough in your magnetic gauss field so that the counter-irritant reflex response can work. Not that there is any claim being made that these magnets have no value, it is the limitations that is the concern. Not the initial value. I doubt if anyone is making false statements about their claim of pain relief.

If the magnetic gauss strength is low enough, the body will respond with a correction which is symptom relieving. The problem with this is that the body quits making a counter stress response of providing a negative (south-seeking) magnetic field as a correction of the positive (north-seeking) or mixed poles that have been applied. This is about eight weeks in duration. There is documented evidence that this occurs by none other than Dr. Nakagawa (10), the inventor of magnetic beds. This evidence is recorded in his article published in Japanese Medical Journal by the title of *Magnetic Deficiency Syndrome*. This doctor, due to a faulty experiment, concluded that the biological response to opposite magnetic poles is the same. The biological response to the separate magnetic poles are the same if the gauss strength is low enough. However, you can be exposed to the negative (south-seeking) magnetic field without any limitation in duration because it is not a stress field. Dr. Nakagawa's experiment failed to test this. If you are exposed to the positive (north-seeking) magnetic field or the mixed field as his experiment was doing, there is a time limitation because the counter-irritant reflex fatigues and quits functioning. He calls this adaptation. He says this develops in about eight weeks.

Another limitation of a low gauss positive (north-seeking) magnetic field or a low gauss positive-negative mixed magnetic field is that of vasodilatation. It is oxygenation that is needed, not vasodilatation. To assume that the only way extra oxygen can get to the affected area is by vasodilatation is incorrect. Oxygenation occurs when the area is alkalized with the negative (south-seeking) magnetic field which activates the bicarbonate buffer system making it

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possible for the oxidoreductase enzymes to function. Oxidoreductase enzymes are alkaline dependent so first of all there has to be alkalization. Then an activation of the enzymes. A negative (south-seeking) magnetic field serves both purposes. It activates alkalization and activates the oxidoreductase enzymes in an alkaline medium. This releases oxygen from its bound state in free radicals, peroxides, acids, alcohols, and aldehydes. Vasodilatation limits the usefulness of either a positive (north-seeking) magnetic field or a positive (north-seeking) combined with a negative (south-seeking) magnetic field. When an acute injury, such as a bruise, an insect sting or other injury occurs, vasodilatation automatically occurs because the area becomes acidic. Blood becomes stagnated in this area because of the edema that the acidity produces. It is true that extra oxygen is needed but in this acute edematous injury blood cannot flow into the area and it is met with the acidity of the area which ties up the oxygen as it tries to get into the area.

When a negative (south-seeking) magnetic field only is placed over the area, the acidity rapidly leaves. Oxygen is released from its bound state in these inflammatory substances and now you have alkaline-hyperoxia and the edema goes down rapidly and the area, even though it could be turning dark, now becomes pink and there is no need for the extra blood to flow because there is an abundance of oxygen and alkalinity. Therefore, one of the serious limitations of using a positive (north-seeking) magnetic field or a combined positive-negative magnetic field is the problem created by vasodilatation. Those using these methods say to put ice on this and wait a few hours for the cold to help clear the area of its edema and then use the magnets. Using a negative (south-seeking) magnetic field works immediately on this acute injury. It works just as well in a sub-acute or chronic injury state whereas the positive (north-seeking) magnetic field or the combined positive-negative magnetic field can only be used in the sub-acute or chronic state. There is absolutely no advantage in using the positive (north-seeking) magnetic field or a combined positive-negative magnetic field over that of a negative (south-seeking) magnetic field only.

There is something that can fool a person into thinking that a positive (north-seeking) magnetic field or mixed positive-negative magnetic field is superior to a negative (south-seeking) magnetic field and that is that the stress of a positive (north-seeking) magnetic field or the presence of a positive (north-seeking) magnetic field in the mixed positive-negative magnetic field is that of evoking self-made narcotics (endorphins). This provides for a quick relief of pain. Whereas using a negative (south-seeking) magnetic field, instead of relief immediately such as within a minute, the relief would occur within 5-10 minutes. The narcotic relief is simply a different way of relieving pain from that of a correction of physiology such as alkalization and oxygenation that a negative (south-seeking) magnetic field produces. To evoke a narcotic is itself a disadvantage because a person can become fooled by frequently using this to relieve pain when they actually become addicted to their self-evoked narcotics. It is very important not to use the positive (north-seeking) magnetic field or the positive-negative combined fields on the head because to do so will evoke endorphins which produces a sense of euphoria and also an altered judgement and when frequently used leads to addiction. There are documented cases of addiction to a positive (north-seeking) magnetic field.

Another limitation of using a positive (north-seeking) magnetic field or a positive-negative combined magnetic field is that of the inability to treat the heart. The heart is a very sensitive organ and is most sensitive to stress. A positive (north-seeking) magnetic field is a stress field and will speed up the heart. In a normal person it will usually speed it up ten points. Whereas a negative (south-seeking) magnetic field is an anti-stress field and will characteristically, in a

normal person, slow the heart down by ten points. For those who have a predisposition to cardiac pains, sense of heaviness, disordered frequency such as skipped beats or tachycardia, a positive (north-seeking) magnetic field or a combined positive-negative magnetic field can precipitate symptoms. An example is a woman who called me stating that she placed a magnetic pad that is used for pain over her heart. Her heart started racing. She went to the doctor and he put her in the hospital. Inquiring as to what magnet she used, it was a pad that has both positive (north-seeking) and negative (south-seeking) magnetic fields, side-by-side. A pad such as is used by some for pain. These pads used for pain are not suitable to use over the heart or the brain. These are simply limitations of that type of application whereas, a negative (south-seeking) magnetic field is useful for relieving pain in the heart, correcting the rhythm of the heart, and cleaning out arteriosclerosis of the heart. A negative (south-seeking) magnetic field is useful when applied to the head for the relief of anxiety, depression, and major psychotic symptoms such as delusions and hallucinations, and also for the control of seizures. A negative (south-seeking) magnetic field is also observed to have a measurable control over various types of movement disorders.

Another limitation is the documentation in the peer review literature that the pineal gland's response to a positive (north-seeking) magnetic field is to prevent the production of melatonin whereas, the response to a negative (south-seeking) magnetic field is to produce melatonin (8). This article is another evidence from the peer review articles of the separateness of the magnetic poles. The electromagnetic terms positive and negative applied to static magnetic fields is a peer review recommendation.

The bottom line is that the assertions that there is no evidence of a biological response difference to the two poles is simply not justified in view of the several peer review articles stating the separateness of the biological response to the separate poles. There is abundance of evidence from non-peer review objective-observed published information stating the separateness of the biological response to the separate poles. Now that we have peer review published confirming evidence, then this non-peer review published evidence is applicable. My documentation to the separateness to the two poles has not been peer review published, however, it consistently agrees with that which has been peer review published by D. Semm, Arthur Trappier, B. Nordestrom, and G. D. O'CLOCK, as well as the non-peer review documentations made by Albert Roy Davis, and Robert O Becker.

#### Conclusions

1) The naming of the magnetic poles using the electromagnetic definition of positive and negative rather than the geographic definition of north-seeking (north) or south-seeking (south) is recommended by the physicist, B. Belaney (2).

2) Separate opposite biological responses to separate and opposite biological magnetic fields are documented by peer reviewed journals and reinforced by non-peer reviewed privately published objective observations made by both physicists and physicians.

3) The low gauss strength positive (north-seeking) magnetic field or low gauss strength combined positive (north-seeking) and negative (south-seeking) magnetic field, although therapeutically useful, have limitations not present when using a negative (south-seeking) magnetic field only with either low gauss strength or high gauss strength.

4) The limitations of a positive (north-seeking) magnetic field or a combined positive (north-seeking) and negative (south-seeking) magnetic field application are such as:

(1) Production of acid-hypoxia which encourages microorganism replication and cancer cell replication.

(2) Fatiguing of the counter irritant response at about eight

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(3) Magnetic addiction produced by evoking self-made narcotics (endorphins). This addiction is caused by the frequent use of a positive (north-seeking) magnetic field or mixed positive-negative magnetic field. Magnetic addiction produces the same biological deteriorating effects as any other addiction.

(4) Disordered heart function due to the stress of the positive magnetic field.

(5) The evoking of vasodilatation which makes this unsuited for treating acute injuries where vasodilatation and edema has already developed.

(6) An inability to treat chronic diseases due to the evoking of acid-hypoxia by the positive (north-seeking) magnetic field.

(7) The positive (north-seeking) magnetic field interference with melatonin production by the pineal gland.

(8) EEG readings prove the positive (north-seeking) magnetic field is a stress field and that the negative (south-seeking) magnetic field is an anti-stress field.

The bottom line is that a positive (north-seeking) magnetic field or a positive-negative magnetic field has no advantage over a negative (south-seeking) magnetic field only in terms of treating pain or treating insomnia.

A negative (south-seeking) magnetic field has the advantage of being able to treat acute disorders where there is swelling, edema and vasodilatation. There is one situation in which only a positive (north-seeking) magnetic field can be used for its value. This useful single value of a positive (north-seeking) magnetic field is that of stimulating neuronal excitement and reinstating neuronal function after the neuronal inhibition such as occurs during the acute exacerbating phase of multiple sclerosis. After the acute edematous phase has subsided, placing a positive (north-seeking) magnetic field on the spine for brief practice sessions can materially aid in retraining motor function. This same value is present after some accident where swelling has occurred which would inhibit neuronal function. There is such a thing as the neuronal extinction of disuse. When any disorder blocks the response of neurones, they lose their function. That neuronal function can be re-established by the use of the positive (north-seeking) magnetic field accompanied with exercises that will re-establish the function of the neurones.

#### **PROOF OF THE BIOLOGICAL RESPONSE OPPOSITENESS OF DC ELECTRIC POLES AS WELL AS THE ASSOCIATED MAGNETIC POLES WITH THE ELECTRIC POLES.**

An electrolyte solution which contains minerals such as calcium, magnesium, sodium and so forth that can form alkali with a pH of 10 at the negative electromagnetic pole and an acid pH of 2 at the positive electromagnetic pole. There are several electrolysis instruments which separate the alkali water from the acid water. The alkali water can have a pH of 10 and the acid water a pH of 2. The alkali water is for drinking and the acid water is used for its sterilizing value. This is used as an antiseptic in some hospitals in Japan.

W.E.W. Nordestrom's (6) use of electrolysis follows the rules of electrolysis in an electrolytic solution. The human body fluids are a suitable electrolytic solution and form a cellular non-injurious alkali pH of 10 at the negative electrode and a cellular injurious caustic acid with a pH of 2 at the positive electrode. Of course, this cellular toxic pH of 2 kills cancer cells as well as microorganisms and normal human cells.

#### **STATIC MAGNETIC FIELD APPLICATIONS FROM DC STATIC FIELD MAGNETS THAT PARALLEL ELECTROLYSIS**

The biological response to a positive static magnetic field is acidification below that of a normal physiological pH of 7.4 and even

below 7, but not a cellular caustic pH of 2. The biological response to a negative magnetic field is alkalization. This maintains normal alkalization without any rise in pH that is injurious.

An acid pH of 2 will kill all biological cells including cancer cells. An acid pH below the physiological alkaline state of 7.4 is ideal for cancer cells and microorganisms to replicate. In an acid medium, human cells resort to making ATP by fermentation that requires an acid pH with reduced or absent oxygen.

From the standpoint of the presentation on movement disorders, it is important to understand the significance of an acid pH state interfering with cellular function and especially the cells in the sub-cortical nuclei. There is a direct relationship between the degree of acidity and its duration and cell deterioration. This damage can be referred collectively to inflammatory stress resulting from free radicals and the resulting chain of inflammatory substance such as peroxides, acids, alcohols and aldehydes. How these inflammatory substances develop in the human body is a very important subject and is a central theme of this presentation on movement disorders. Human cells enzymatically make their ATP by oxidation-reduction (oxidative phosphorylation) which processes is alkaline and oxygen dependent. Human cells in an emergency make ATP by fermentation which is acid dependent and oxygen reduced or absent dependent. This process of fermentation occurs when acidity develops. Prolonged muscle action is an example in which the ATP made by oxidative phosphorylation is used up and in order to sustain life the cells resort to ATP made by fermentation. Cellular fermentation function occurs due to acidity and also fermentation has by-products of acidity. Oxidoreductase enzymes that make ATP by oxidative phosphorylation and also process the end-products of free radical formation from oxidative phosphorylation are alkaline dependent and in a state of acidity cannot process the inflammatory end products of oxidative phosphorylation. These facts highlight how important acidity is in cellular disorganization and degeneration in producing degenerative diseases including the development of movement disorders based on injury to subcortical basal ganglions focal neuronal injuries.

With a near-sighted focus on which nucleus groups produce which symptoms that are family based, which are or seem to be genetic, what name these disorders are or should be called or what we should name the varied types of movements we should not fail to see that acidity (acid-hypoxia) plays a significant role in all of these movement disorders and therefore replacement of the acid-hypoxia with alkaline-hyperoxia is central to any useful treatment of movement disorders.

Information that a static magnetic field biologically replaces acid-hypoxia with alkaline-hyperoxia is of vital significance in the therapy of movement disorders. A magnetic field from a static field magnet can be so placed and the gauss strength made sufficient to penetrate through the skull and brain and reach any part of the brain including the basal ganglia. A negative (south-seeking) magnetic field has a biological response of alkaline-hyperoxia. Thus, magnets is capable of maintaining optimum alkaline-hyperoxia for optimum brain function and thus prevent the degeneration that occurs from acid-hypoxia. Even after injury has occurred, it can do much to reverse this injury.

There is another biological response fact about a static negative magnetic field that makes magnet therapy useful. That is, that a static negative (south-seeking) magnetic field is capable of controlling neuronal excitation. Anxiety, depression, obsessive-compulsiveness, phobias, delusions, hallucinations, and perceptual disorders all involve an undue and inappropriate neuronal excitation. A negative (south-seeking) magnetic field can effectively control the excessive and inappropriate excitation and thus becomes a major method of

**Medical data is for informational purposes only. You should always consult your family physician, or one of our referral physicians.** relieving the symptoms. Movement disorders also represent undue neuronal excitation and for the same reason a static negative (south-seeking) magnetic field is appropriate to aid in controlling these motor movements. Seizures represent an undue neuronal excitation and can be controlled by a negative (south-seeking) magnetic field. For a biologically normal person, a negative (south-seeking) magnetic field of sufficient strength and proper placement around the head encourages sleep. A sufficiently high gauss strength negative (south-seeking) magnetic field with proper placement on the head, produces magnetic general anesthesia. The higher the gauss strength, the more the control over neuronal excitation. I have proved this with EEG tracings. The reverse is true concerning the positive (north-seeking) magnetic field. The higher the gauss strength, the greater the excitation which can become sufficient to produce a seizure or at least encourage the evoking of a seizure in a person biologically predisposed to have seizures. I have proved this with EEG tracings. I have successfully controlled a spectrum of neurotic symptoms, psychotic symptoms, seizures, and to a measurable degree, also movement disorders using a negative (south-seeking) magnetic field.

#### **SINGULAR BIOLOGICAL RESPONSE TO SINGULAR MAGNETIC POLE FIELDS**

There is a classic traditional mechanical magnetic model from which there is a predicted two magnetic pole effect from a single magnetic pole field. In this model, the magnetic field radiates out from the singular magnetic pole of a magnet and turns back to join the opposite pole. The traditional assumption is that when the magnetic field changes direction going backward towards the magnetic field on the other side (other pole) of the magnet that this change of direction is the opposite magnetic pole.

I have prepared magnetic fields honoring this assumption that there is of necessity both magnetic poles on the same side of the flat surfaced plate-type magnet with poles on opposite sides of the flat surface. I have compared this with the assumption that there is a single magnetic field on opposite sides of a magnet. I have not demonstrated by biological responses including brain wave (EEG) responses that there are two opposite magnetic fields on one side of the magnet. Consistently, I have observed a single magnetic pole biological and EEG response to single magnetic fields of flat surfaced magnets with poles on opposite sides of the flat surface.

There is another non-traditional magnetic mechanical model that states that the magnetic poles change at the equator by rotating 180 degrees (mirror image). Obviously, in the case of the earth, the magnetic fields change at the equator producing a northern hemisphere of a negative (south-seeking) magnetic field and a southern hemisphere of a positive (north-seeking) magnetic field. This model indicates that the magnetic field radiating up from the negative (south-seeking) magnetic field of the magnet as well as the magnetic field that buckles back to the opposite side of the magnet are both a negative (south-seeking) magnetic field and only become the opposite magnetic pole field when it enters the half-way point of the magnet (equator).

Even though a static magnetic field does not move, it still is an energy field by virtue of the fact that electrons are moved by the static magnetic field. The negative (south-seeking) static magnetic field rotates (spins) electrons in that field counterclockwise. A positive (north-seeking) static magnetic field rotates (spins) electrons in that field clockwise. The movement of electrons in a static magnetic field is called the AHARONOV-BOHN electromagnetic potential. This has also been confirmed by AKAIRA TONOMURA. This change in rotation between the positive (north-seeking) and negative (south-seeking) magnetic fields occurs at the equator of the magnets and not at the point where the magnetic field turns back toward the opposite magnetic field. This magnetic mechanical model agrees with the clinical

response evidence of the magnetic field being a full individual field on each side of the magnet.

The magnetic field remains the same pole whether directly above the magnet or the magnetic field that is turning back toward the opposite side. If it did become the opposite pole when it turned back, it would then not proceed to the opposite side. This is true since the same poles repel. Therefore, it has to remain the negative (south-seeking) pole that buckles back toward the positive (north-seeking) magnetic field. This being true, the pole cannot change until it reaches the equator in the magnet between the two poles. An example is that in the case of the earth's magnetic field. The south pole (+) goes toward the north pole (-) and changes polarity at the earth's equator.

#### **THE DEFINITION OF MAGNETIC POLARITY AS USED IN HUMAN PHYSIOLOGY**

A magnetometer is used to identify positive (+) and negative (-) magnetic poles. A magnetometer is a scientific instrument which identifies magnetic polarity in terms of electromagnetic polarity which is positive (+) and negative (-) rather than the geographic compass needle identification of north ( north-seeking) and south ( south-seeking) . When using a compass to identify magnetic poles, a north seeking compass needle identifies a negative magnetic field of a static field permanent magnet. The north seeking needle of a compass is magnetic positive and therefore points to (seeks) the magnetic negative north pole of the earth and also the magnetic negative magnetic field of a static field permanent magnet. The south seeking needle of a compass is magnetic negative and therefore points to ( seeks) the magnetic positive south pole of the earth and also the positive magnetic field of a static field permanent magnet.

Static field permanent magnets can properly be characterized as DC magnets because they are magnetized by a direct electric circuit current in which the positive electric pole produces a positive magnetic field and the negative magnetic pole produces a negative magnetic field. Those magnetically charging magnets from a DC electric current understand this relationship. Robert O. Becker, M.D. prefers to use the term DC magnets as applied to static field permanent magnets.

In 1600, William Gilbert (DE MAGNETE) was the first to point out that the navigator oriented himself with the compass needle pointing toward north which he called north, when in fact, the compass needle pointed north is a south magnetic field. That is, a north-seeking (south) and not the true geographic north.

Several scientists throughout the years have identified this error in naming the magnetic poles. This error in identifying poles still persists as tradition.

The physicist, B. Belaney (*New Encyclopedia Britannica* 1986. Vol VIII, pages 274-275) again identified this geographic error in identifying magnetic poles and termed it "semantic confusion." To avoid this semantic confusion, he recommended using the electrical polarity definition of positive (+) and negative (-) as applicable to magnetic poles in which a positive electric pole (+) is also a positive magnetic pole (+qM) and a negative electric pole (-) is also a negative magnetic pole (-qM). "M" stands for magnetism.

The body is an electromagnetic organism with a direct current (DC ) central nervous system in which the brain with its neuronal bodies is a positive magnetic field and, also produces a positive electric field. The extensions from the neuronal bodies are a negative magnetic field and also produces a negative electric field. The human body does not have a storage battery from which electricity flows or an electric dynamo from which electricity flows. Rather, by a mechanism comparable to a magnita, the human body turns it's magnetic fields into DC electric current. It is also true that each cell of the body has a positive and negative magnetic field in its DNA. Since the human body functions on a DC electromagnetic circuit, it is espe-

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cially appropriate to use the positive (+) and negative (-) identification of magnetic polarity when relating magnetism to the human body. The human body does not have a north and south poled field, but rather has positive and negative magnetic fields from which electricity is produced. A geographic definition of magnetic polarity is not applicable to human physiology whereas, an electromagnetic definition of magnetic polarity is essential. If and when the geographic definition of polarity is used, it still requires a translation into usable terminology for application to human physiology.

For the above reasons the definitions of positive (+) and negative (-) magnetic fields are used when applying magnetics to human physiology. The traditional compass needle oriented naming of magnet poles is included in brackets as negative ( south-seeking) and positive ( north-seeking).

There is a need to understand the navigational error in identifying the magnetic poles as well as the parallel identification in identifying DC electric current poles and DC static field permanent magnet poles made from the DC current. To those who have examined for and identified the distinctly opposite biological responses to opposite magnetic pole fields, the separate identification of the magnetic poles is an important must. To those not experienced in the knowledge of separate biological responses to opposite magnetic poles, the magnetic pole identification is not significant. Knowledge of the separate biological responses to opposite magnetic poles and the gauss levels needed for these responses is what is making biophysics become a predictable science parallel to the predictable industrial application of magnetics.

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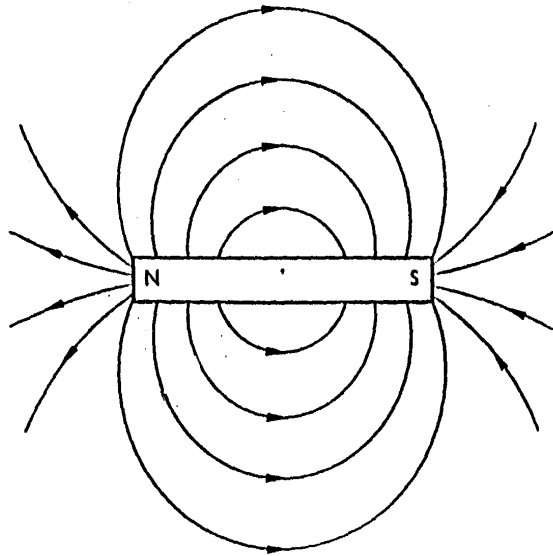
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DAVIS, A.R. and RAWLS, W. Magnetism and Its Effect on the Living System. Acres USA, Kansas City, MO 1976

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The original magnetic lines of force model did not allow for separate biological responses to separate positive and negative magnetic fields.

Magnetic lines of force



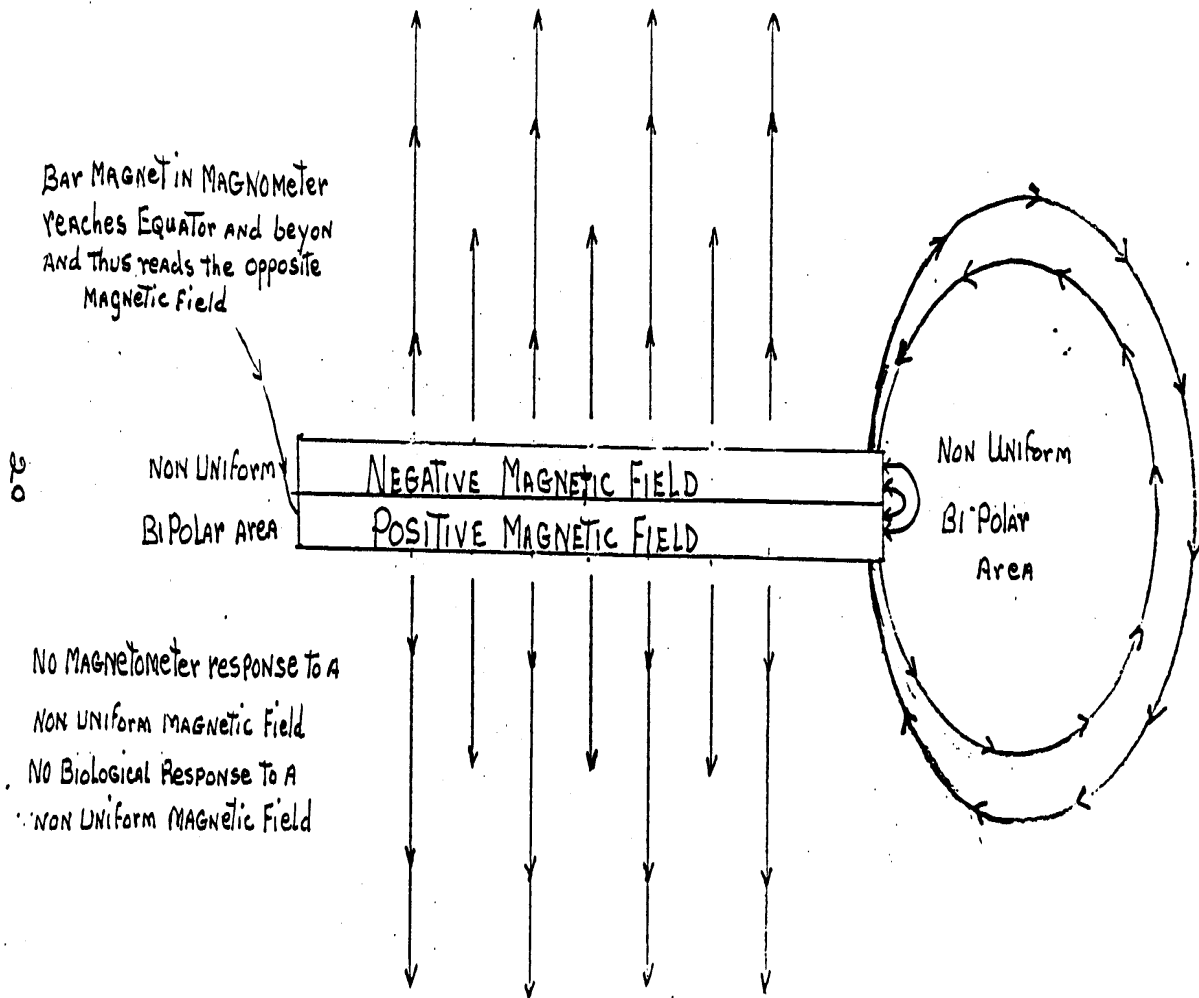
"Despite the fact that magnetic lines of force have no material existence, it is often convenient to picture them in literal fashion and to use them to explain the behavior of objects within a magnetic field. (In doing so, we are using a "model" - that is, a representation of the universe which is not real, but which aids thinking. Scientists use many models that are extremely helpful. The danger is that there is always the temptation to assume, carelessly, that the models are real, so they may be carried beyond their scope of validity. There may also arise an unconscious resistance to any changes required by increasing knowledge that cannot be made to fit the model.)"

Reference: *Understanding Physics*, Asimov, Isaac. Barnes and Noble Books, 1993. Vol II, Light, Magnetism and Electricity. Pages 152 and 154.



### UPDATED MODEL MAGNETIC LINES OF FORCE

UNIFORM UNIPole  
NEGATIVE MAGNETIC Field  
MAGNETometer AND GAUSSmeter  
Response of A NEGATIVE MAGNETIC Field



UNIFORM UNIPole  
POSITIVE MAGNETIC Field  
MAGNETometer AND GAUSSmeter  
Response to A POSITIVE MAGNETIC Field

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### **Magnetic Free Energy**

#### **The Secret of Magnetic Therapy**

Biological life exists in a sea of free electrons (electrostatic field). Enzymes harness these free electrons as an energy source for the joining of enzymes to substrate (catalysis). The movement of electrons between enzyme and substrate produces a magnetic field. It is ultimately the magnetic field attraction that magnetically joins enzyme and substrate. Thus the free energy source of free electrons is more than electric, it is also electro-magnetic. Classically, in the presentation of enzyme catalysis, the magnetic aspect is not identified as being present. Ignoring the magnetic component of free energy during enzyme catalysis is an error since magnetic free energy from a static magnetic field can be harnessed to product enzyme catalysis. Thus there need not be dependence on the constant electron free energy since a static magnetic field can also supply free energy by activation of electrons. This magnetic free energy from a static magnetic field is the secret of magnetic therapy. The higher the gauss strength of the magnetic field the more efficient the enzyme catalysis. This fact changes the energy activation of enzymes from a constant energy activation of static electric field electrons producing a so-called "spontaneous" response to that of a maneuverable, variable, measurable and predictable enzyme catalysis. This is based on the static magnetic field moving free electrons.

The activation of enzymes in biological systems is temperature and pH dependent. Variations of temperature and pH from physiological normal influence the efficiency of the enzymes catalysis. Most human metabolic enzymes are alkaline dependant. The oxidoreductase enzymes necessary for human function are alkaline dependant. Oxidoreductase enzyme catalysis occurring from free electrons produces a negative magnetic field. Thus a static negative magnetic field from an external source such as a static field magnet can increase the efficiency of the oxidoreductase enzyme catalysis. Varying the static magnetic field gauss strength determines the efficiency of the enzyme function.

A static negative magnetic field activates the mineral bicarbonates by attaching to these paramagnetic bicarbonates. Thus, a static negative magnetic field alkalizes and provides for the alkalization necessary for oxidoreductase enzyme function. At the same time a static negative magnetic field energizes oxidoreductase enzyme catalysis. Four of these oxidoreductase enzymes are necessary for the production of adenosinetriphosphate (ATP). At the same time as ATP is produced, oxidation remnant magnetism is produced. Oxidation remnant magnetism is a negative magnetic field.

This self-made negative magnetic field, oxidation remnant magnetism, is used to maintain alkalinity and for enzyme catalysis. There are ATP dependant enzymes which are, at the same time, also negative magnetic field dependant. Oxidoreductase enzymes have the assignment of processing the end products of oxidation, which are superoxide free radicals and their end products (peroxides, oxyacids, alcohols and aldehydes) and environmental toxins such as acids, alcohols, aldehydes, petrochemicals and toxic heavy metals.

All heavy metals in solvent form are electro-positive and therefore produce free radicals and complex with tissues. In the presence of a static negative magnetic field the electro-positivity of heavy metals is reversed; free radicals are processed to water and molecular oxygen and heavy metal complexing with tissues is prevented and reversed.

Enzyme catalysis is the energy movement making life energy available as well as the detoxification of toxins that would destroy biological life. Research discovery of the nutrients compromising enzymes is providing a necessary component of understanding how to make and maintain life energy.

The electro-magnetic component of non-nutritional free energy

has been largely ignored or simply regarded as a nonvariable 'spontaneous' free energy enzyme activating system. In fact external magnetic fields provide a free energy activating source for enzyme catalysis, both for the production of life energy and its necessary defense against life destroying toxins. This use of an external magnetic source of free energy is magnetic therapy.