# MAGNETIC MECHANICS

# Quantum Magnetic Mechanics

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The text written within the next 81 pages is a first step for understanding magnetism from a mechanical perspective. This first edition of Magnetic Mechanics is for anyone wanting to build onto the idea that someday soon it will be beneficial to collect electrical energy silently using permanent magnetic fields. This is not an entirely new concept however it seems that fuel prices are going up every day, and in fact today April 17, 2011 gasoline is \$6.00 American Dollars per Gallon in Hana Hawaii. It seems wise that we as civilized people should learn to again count on ourselves as individual gatherers of food and electrical energy.

We could advance our abilities as people and communities, to be self-supporting, using methods that free us from the energy needs that are now crushing us as civilizations.

**Quantum Magnetic Mechanics** 

Dale G. Basgall

#### Chapter 1. Introduction to Possibilities

Theoretical Quantum Physics is the science that uses materialist science and observes things of matter objectively as well as subjectively. Things and objects are not clearly defined in quantum measurement and they are simply possibilities. Those possibilities lead to more possibilities that are observed by our consciousness and exist as choices as well as possible potential for consciousness to choose from. It seems to be apparent that the human brain is a reflection of its own environment. Nothing exists in a materialist world or the quantum world prior to human consciousness; IT TAKES CONSCIOUSNESS TO MAKE A BRAIN AND A BRAIN TO MAKE CONSCIOUSNESS. Quantum mechanics is pointing out the inadequacy of a materialistic society and predicting a probability of change in our lives through <u>subtle energy</u>\*.

In quantum magnetic mechanics there is a possibility that permanent magnets will be cut into a shape that allows for a specific positioning of permanent magnetic fields that will enable them to interact together and produce magnetic <u>oscillation\*</u>. In this statement of possibilities regarding the magnetic fields interacting together and how they can be used to affect change by the oscillation speed changes of a <u>dipolar field\*</u>, we find how our observations within the EM physics in nature, runs in parallel with the science of Quantum Mechanics and our consciousness.

There are possibilities that past information written and read upon regarding permanent magnetic fields and or gravitational fields is limiting possibilities of mechanical advancements within the fields of Magnetism, Gravity, and our Consciousness. It is possible that these are the three fundamental forces of creation and therefore remain mysterious to us as humans.

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A permanent magnet for example is not actually a "<u>permanent\*</u>" object, and becomes subjective when viewed in quantum measurement. This permanent magnet is an object of matter so we can be objective when observing it with a materialistic viewpoint of consciousness.

Materialistic viewpoint example: The geometrically shaped object called a "permanent magnet" is objectively viewed and reduced to particles producing waves. Realizing from this observation is apparent that many sub atomic particles of mass had to be assembled into a form of elements and further enriched into a combination of invisible polarized boundaries (magnetic field) on the micro sub atomic perspective, and into the ferromagnetic mass of objectivity on the macro perspective.

Objectively viewed, the paramagnetic mass of the magnet is not a magnet until it is forcefully permeated by polarized magnetic fields that come from oscillating electrical fields that saturate a mass of copper windings. It takes magnetic force fields to create a "*permanent magnet\**" within a ferromagnetic mass.

Subjectively viewed, there is no magnet and in reality from any perspective nothing is permanent under current definition. So now we are starting out with two basic contradictions. Objects are not magnets and things are affected by the dynamics of elemental particles flowing, leading to the observable effects of magnetic fields.

These invisible fields in motion that have been defined as magnetism are stored particles in motion and further reduced into <u>waves</u>\*, and have been caused by the <u>dipolarity</u>\* of an electrical field. This electrical field is also invisible and the two fields convert one field to another in a mechanics called <u>electromagnetism</u>\*.

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#### Chapter 2. Removing Limitations by Removing Old Definitions and Old Words

Past words that have been used to describe material objects become limitations of the conscious brain to choose from. The human brain associates past <u>definitions\*</u> to those old words quickly through association of past experience. This allows choice but limits choice based on past experience. Our brains want to swiftly evaluate and choose from past experiences, not choosing to clearly observe a situation or an interpretation of matter, from an observation perspective that limit's choices available for the human brain to choose from.

#### **EXAMPLE:**

A car starter not starting the car when viewed from the observation point of a non-mechanically inclined car owner who has made a conscious choice, that the object was actually a car starter that prevented the car engine from starting, leaves very little choice for the brain of the car owner to choose as to what that object of mass really is that has caused the engine not to start. Could that car owner view the starter subjectively as well as objectively? Yes could be the answer if the human brain had no limitations of past definitions that could be removed from the observation point of the car owner, prior to that person doing the actual task of getting the engine started.

Quantum magnetic mechanics considers the possibility of advanced and more accurately detailed definitions imposed on new words created to be used within any art form. Those advanced definitions detail finitely a specific viewpoint in companion with the conventional definitions of old used words that do not clearly define a sub atomic event of observation in the present moment. In the case of the car starter as viewed by the owner and operator of the car, the starter does not work. In the view of the mechanic it is a possibility that other situations exist that could cause the engine flywheel not to rotate the engine in the car. There are many possibilities that exist that would prevent the starter from rotating the engine of the car and so on.

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After accepting this science of quantum mechanics one should eventually understand that observation points within a dimensional space of observing, do not rely on an element of time to choose from, simply a positioning within physically dimensional spaces are how things are viewed.

The example could then be viewed as the car engine crankshaft is not being rotated therefore the engine in the car does not have the opportunity to start. One choice now would be to observe the elements of the starting system positioned on the car. When the electrical system is viewed in its physical position bolted onto a car, it now becomes a multiple choice within the observers' consciousness, as to what is the actual situation causing the car engine no to start. We are no longer bound to the generic word "starter" a very limiting choice, one in fact. Now we will open up possibilities making the situation easier by observing subjectively with many more choices that give us a better opportunity to get it right quicker using less internal human resources to solve this situation.

A starter is usually an electric motor with an output shaft that rotates when electricity is applied to an armature and a set of field coils. There is a gear rotated also when the shaft of the motor rotates. This shaft is centrally located within the x axis of a cylindrical shaped electromagnetic array comprised of metal and copper windings called the armature. The field coils and the armature are electromagnets and or permanent magnets. The gear rotates as the armature and shaft rotate, these two objects have the possibility of rotating only after the *potential\** of electricity is applied to the field coils and armature to produce dipolarity of a magnetic domain field and rotating the shaft that causes the meshing of the rotated gear into the car engine flywheel gear. The gear on the flywheel is releasably connected to the engine crankshaft and rotates the crankshaft of the engine which in turn starts the engine.

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Prior to the choice of removing the physical starter from the engine of the car and finding it not to be the cause of failure, one must exercise other possibilities or variables available within their consciousness or risk expending more valuable energy within themselves on that situation.

#### **Chapter 3. Positioning Observation Points**

A GOOD TEST EXAMPLE FOR POSITIONING INTO AN OBSERVATION POINT; Have three or more people setting together within a ten foot radius within a room that has windows spaced around the room so each person can see outside. Ask each person in the room to look outside through a specific window which all others are also looking through, and ask those observers to view an object that each person can visually see from where they are setting at. Ask each person individually the question, could you describe what you feel you have observed and tell me in words what was outside.

Each detailed description in words from each individual could possibly reflect a view outside that is described differently by each individual with only certain objects that are described in a similar way by all of the observers.

Therefore past definitions learned by experience are what each observer places as a word to describe the vision in their minds as to what they interpreted themselves to be observing at their individual point within the physical position they were in at the time of observation. Time is not a consideration separate from physical positioning unless observing from the past or into the future. In the quantum world the smallest unknown particle is a position of magnetic polarity charge. The rate at which these magnetic charges shift positions also changes a magnetic charge into a frictional charge causing what we currently accept as energy.

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When things and objects are observed subjectively in a specific physical position they are not limited by definitions in time from the past experiences recited verbally by other observers, it becomes possible for us to determine quicker what we choose that objects really are, and accomplish solutions to situational positions of matter with efficient success within our lives.

My observations through experimentation have led me to become aware that magnetic fields have been vaguely described at best, and are not represented completely or accurately. Those past views are now placed in the cubical in my mind as to not cloud my real time observations regarding permanent magnetic fields, gravity, and consciousness. Past views become observational limitations and ego's choice when we make choices consciously, regarding things we interpret as possibilities that are observed within a space and position.

The field patterns I have observed by gauss measurements on a vector coordinate graph, lead me to accept that there are elements indeed flowing within an infinite pattern that together make the magnetic field observable, and that the ferromagnetic mass itself is a storage device.

We need to visualize and grasp the possibility that someday someone will come up with a method to oscillate a magnetic field by simply positioning precisely cut permanent magnets within a specific precise geometric shape that form a precise lattice pattern, giving us the possibility to generate commonly accepted electricity with no observable moving parts. The possibility of this happening is obvious and leads this mechanic author into promoting practical advancements within the art of permanent magnetism.

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#### THEORY OF MAGNETIC DOMAIN

THIS THEORY PROPOSES A POSSIBILITY OF ADVANCEMENTS WITHIN THE ART OF TRANSLATING PERMANENT MAGNETIC FIELDS INTO OSCILLATING ELECTRICAL FIELDS. THE WORK ENERGY POTENTIAL OF PERMANENT MAGNETIC DOMAIN FIELDS CAN BE TRANSLATED INTO ELECTRICITY BY PRECISELY POSITIONING THE INVISIBLE MAGNETIC FIELDS. IN A GEOMETRY THAT ALLOWS THE CASCADING OF THE ELEMENTS FLOWING WITHIN THE INFINITE PATTERN CONDUITS AND WITHIN THE MAGNETIC MASS AND DOMAIN FIELDS AND AMPLIFIES THE OSCILLATION OF MAGNETIC DOMAIN, TO A POINT THE ELEMENTS COMBINE POTENTIAL ELECTRICAL CHARGE AND FLOW.

"There will be a time soon, when others have married machines together that will become efficient under today's observed efficiency standards and utilized, to accumulate and store energy intended to be used in a common family household that will allow each individual and family, the opportunity to produce their own energy needs that will support a more comfortable living environment", and furthermore, "most likely produce a specific waveform, indicating a position of our species within quantum space." Dale G Basgall 2010.

Through the years of working with electromagnetic devices it has amazed me, the power in a magnetic field that can be made observable when a small electrical potential (voltage) is applied to a coil of copper wire. Also that the magnetism can be directly converted back into electricity is simply an inverted process. As in a conventional electric motor the electromagnetism that is caused by voltage is also observable in a permanent magnet and called permanent magnetism, and that observation should evidentially lead almost anyone to a conclusion that there is some way of using permanent magnets as an energy potential.

"It appears through observation that we as a whole and complete civilization as a species and as humans are into a position of choices that deal with survival for ourselves and as a whole. We need as many thinkers as there possibly are today, and we need to establish a non-local consciousness that will enable us to bring more choices into light." Dale G. Basgall 2011

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#### **Chapter 4. PERMANENT MAGNETISM (PM)**

Permanent Magnetism seems to be a result observed from molecular alignment in a metal, this alignment is perceived to be made up of a series of really small conjectured particles named dipole's, and further interacting together within an orderly cascaded matrix with symmetrically mirrored properties, and referred to as lattice structures. These lattice structures become apparent in other crystalline structures also. These said diploe's that form the lattice structures connect somehow flexibly, and interact as multiples when cascaded in a series fashion within a ferromagnetic metal, and make the effects of the magnetic field physically observable by interaction with other objects of mass and paramagnetic properties.

It appears by all presenting and observed facts that there is some type of useable power or force in a magnet that could be utilized as a potential of some type, and further could be used in place of a fuel of some type. This apparent useable power has been observed and interpreted by many other people. Past attempts of many individuals using this observed force to gain what is perceived as a perpetual motion device, is somewhat of an indication of that observation. Many other mechanics, inventors and seasoned scientists, are attempting to achieve motion using permanent magnets and gaining <u>over-unity</u>\* of an electro mechanical device for electrical power generating.

A fact to note is that; the dipole is very small but can be observed to exist. The geometric shape they have been described to have could possibly be observed by an individual observer. Many scientists have written about these dipoles, and have described that they are spherical, maintain a probability of structured matrix(s), but again there are no pictures to be observed in fact.

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#### Chapter 5. Observations of a Magnetic Field

What is known and can be observed are the results of a magnetic property, this can be referred to as a magnetic field, affecting and interacting with other mass. The magnetic field is observable in fact, and the magnetic field is a property resulting from a flow of elements through invisible mentally conjectured tubes and creating a magnetic turbulence surrounding the outer circumference of these tubes. These tubes are boundary guide tubes *like a conduit*, and carry hysteresis of charged elements within the conduit boundaries, and have been observed by others. The permanent magnet itself could be considered a battery or a pump with an array of cells connected together in series and acting as capacity and potential. This series connection interaction is evident as the volume (quantity) and strength (pressure) of the magnetic field is increased as the said dipole's cascade and align into lattice arrays and further interact together as "a single permanent magnet" (dipole).

These elements that are flowing within the boundaries of the magnetic field(s) form an anchoring area with attributes of fluid like properties, inasmuch "<u>the</u> <u>elements\*</u>" that flow within the gravitational boundaries of the imaginary vertices of the conduit(s) exert their effects proportionally among "<u>the particles\*</u>" forming other electrically conductive elements. These conductive elements become multiples and react onto exposed mass area of the physically opposing conductive elements.

Remember that; These flowing elements within the conduit boundaries also exhibit pneumatic like properties whereas they can be observed to compress and maintain buoyancy within the magnetic field. Magnetic fields exhibit the properties of liquid, air, and electricity.

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Chapter 6. Practical Mechanical Observations of Magnetic Field Strength

One of the first considerations is the actual mechanical effects that a magnetic field produces on other mass. In this instance we will reflect on the potential work capabilities of the modern high grade rare earth permanent magnet.

Using the Gauss measurement a normal compass will start to indicate direction at around 3 gauss and at 3.5 gauss the compass pointer will indicate a direction and will rotate slightly with the compass housing as it is rotated in the clockwise or counterclockwise direction. At 4 gauss the pointer is locked solid onto the magnetic field, if the direction indicator point is indicating North on the compass the indicator pointer is actually pointing to the magnetic south of the magnetosphere of the earth. At 4 gauss when the compass housing is rotated in either direction the needle remains locked onto the magnetic field.

You can severely damage and or ruin a compass by subjecting it to magnetic fields that have more than 5 gauss. Also remember that; when the compass indicates north you are heading into the south magnetic pole of the Earth. North on the compass and North on a map are the same but they are not the magnetic north and south poles of the Earth.

Using a medium sized finish nail and holding it firmly between two of your fingers, at 50 gauss the nail wants to go to the magnetic pole surface and at around 80 gauss it is difficult to keep it from sticking onto the magnet surface.

A metal such as iron or steel is attracted to either the north or the south pole of a permanent magnetic field that it is close to. Magnetic fields affect mass and do not work like fluid power or pneumatics that amplifies power (potential) by surface area exposure.

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Experiments have shown clearly that when a specific surface area of a metal is exposed to 100 gauss in either polarity, the force in inch pounds (in. lbs.) does not increase as the surface area of the metal that is directly facing the magnetic pole is increased. Remember that; As the mass is increased onto the object metal, the observed force of attraction to the magnet also increases. A magnetic property can only become observable after it causes a reaction to an object within the immediate physical area that the magnetic field extends onto and is the magnetic domain for that dipole.

"There are many conclusions regarding magnetic domains which are encompassed magnetic fields. There is available force within a permanent magnet that can provide sufficient field strength and extension to be used for the silent generation of electricity." Dale G. Basgall 2011

Chapter 7. PM Magnetizing Field Strength Energy Requirements and the Resulting Magnet Energy.

To fully saturate a ferromagnetic mass into a magnet, the mass must be exposed to a "magnetizing field" of sufficient amplitude (strength), for a time long enough to orient and align all of the dipole(s) within the ferromagnetic mass into orderly lattice structures, that align symmetrically within the ferromagnetic material.

This magnetizing field in origin becomes evident after the flow of electrical current (volume), is allowed to saturate (flow thru and into) a circular winding of copper wire, which creates a magnetic field proportional in strength to the applied voltage and current saturating the electromagnet, (electromagnetic induction) producing the magnetizing field. The stored energy in a magnet is referred to as the magnet performance or "magnetic energy product", and is a result of expended electrical energy that was used to create the magnetizing field that surrounds the ferromagnetic mass area and created a "magnetic field" within the ferromagnetic mass. This resulting magnetic field is typically measured in units of mega gaussoersteds (MGOe). The prefix "mega" means million, so a Mega Gauss Oersted is a million Gauss-Oersteds.

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One MGOe is approximately equal to 7957.747155 J/m3. Magnets have surface fields and field intensities in thousands of Gauss and thousands of Oersteds, respectively. When multiplied, you get millions of Gauss-Oersteds.

Oersted (abbreviated as Oe) is a unit of measurement for a quantity of electrical energy used to produce an electromagnetic field, strong enough to fully saturate a ferromagnetic mass. The magnetizing field is also known as H-field in the CGS system of unit measurement. The magnetizing field volume is measured in Oersteds within the CGS system of measurement. In the SI system of measurement, Ampere-turns per meter is used for H-field definition.

The oersted is closely related to the gauss defined within the CGS unit of magnetic field pressure. The gauss, abbreviated as G, is the CGS unit of measurement of a magnetic field B (which is also known as the "magnetic flux density", or the "magnetic induction"), One gauss is defined as one Maxwell per square centimeter; it equals  $1 \times 10-4$  tesla (1 Tesla = 10,000 Gauss). In a vacuum, if the required magnetizing field strength is 1 Oe, then the magnetic field pressure is 1G. Iron Boron ferromagnetic mass (Nd-Fe-B) typically requires 30,000+ Oersteds but may require over 40,000+ Oersteds on some grades. Bonded Nd-Fe-B or Neo Form requires 35,000+ Oersteds.

Magnetic flux pressure (abbreviated B) is measured in Gauss. The unit of measurement for B-field is the gauss. In the SI system of measurement the Tesla is used for B-field strength. The magnetic energy product of a magnet is the product of H-field multiplied by B-field, just as electrical power in Watts is the product of Volts multiplied by Amperes.

REMEMBER THAT; A MAGNETIZING FIELD IS A MAGNETIZING FIELD THAT CAN BE EMITTED FROM A PERMANENT MAGNET OR AN ELECTROMAGNET. IN EITHER CONDITION, BOTH REQUIRED ELECTRICAL FIELD OSCILLATION TO CAUSE A PERMANENT "MAGNET" TO BECOME A POTENTIAL MAGNETIZING FIELD.

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#### Chapter 8.The Magnetic Field and its Symbiotic Relationship to an Electrical Field

Magnets exert forces and torques on each other through the magnetic fields they create. Electric currents and moving electrical charges produce magnetic fields. Even the magnetic field of a magnetic material can be modeled as being due to moving electrical charges. Magnetic fields also exert forces on moving electrical charges.

A magnetic field is a field of force produced by a changing electrical field causing a magnetic object or particle, and is detected by the force it exerts on other magnetic materials and moving electric charges. The magnetic field at any given point is specified by both a direction and a magnitude (or strength); AS SUCHIT IS A VECTOR FIELD. Vector fields are often used to model, for example, the speed and direction of a moving fluid throughout space, or the strength and direction of some force, such as the magnetic or *gravitational force\**, as it changes from point to point.

The complex mathematics underlying the magnetic field of an object is usually illustrated using two dimensional visual assimilations of a vectored wave, which is caused from a sub atomic event happening in all dimensions simultaneously and further expanding within the physical vacuum.

Vector test points and gauss readings are graphed and can be illustrated by a two dimensional vector field diagram. Nonetheless, certain physical phenomena such as the alignment of iron filings within a magnetic domain produce lines in a similar pattern to the imaginary magnetic vector field lines assembled into a two dimension assimilation of the entire magnetic domain as viewed by an observer.

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Remember that; A magnetic domain consists of two separate poles\* and that they are separated equatorially as the earths two fields are also magnetically separated at the equator. The flow patterns within the flux density of the magnetic field form an infinite pattern within the mass, like a bow, and extend outward from a pole and form a distinct and observable shape that looks real similar to the top of a regular muffin or cupcake. The only symmetry of the magnetic field seems to be a mirrored symmetry of individual somewhat hemispherically shaped field patterns.

The magnetic fields within a magnet can be described using two separate fields, which can be both called a magnetic field: a magnetic B field and a magnetic H field. Energy is needed to create a magnetic field. This energy can be reclaimed when the field is destroyed and, therefore, can be considered as being "stored" in the magnetic field. The value of this energy depends on the values of both B and H. An electric field is a field created by an electrical charge, and such fields are intimately related to magnetic fields, remember that; A CHANGING MAGNETIC FIELD GENERATES AN ELECTRIC FIELD AND A CHANGING ELECTRIC FIELD PRODUCES A MAGNETIC FIELD.

In view of special relativity, electric and magnetic fields are two interrelated aspects of a single object, called the electromagnetic field. A pure electric field in one reference frame is observed as a combination of both an electric field, and a magnetic field in a moving reference frame. In quantum physics, this electromagnetic field is understood to be caused by virtual photons.

Because oersteds (Oe) are used to measure magnetizing field strength, they are also related to magneto motive force (mmf), current in a single-winding wire-loop: Magneto motive force (MMF) (SI Unit: Ampere) is any physical force that produces magnetic flux. In this context, the word "force" is used in a general sense of "work potential", and is comparable to, but distinct from mechanical force measured in newtons.

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The acronym MMF came about because in magnetic circuits it plays a role that can be compared to the role electromotive force (EMF) plays in electric circuits. The ampere (A) represents a steady direct electric current flowing through a single-turn loop of electrically conducting material in a vacuum. The ampere is a measure of the amount of electric charge passing a point per unit time. Around  $6.241 \times 10$ -electrons passing a given point each second constitutes one ampere.

#### Chapter 9. Factors of Ferromagnetic Mass Dictating Polarity Alignment When Magnetizing

The pole density on any magnet is limited by the energy needed to magnetize it, its anisotropy, and its geometry. If a magnet is anisotropic, it needs to be radially oriented to accept the magnetization pattern. If it is isotropic, it can be oriented in almost any configuration. Remember that; <u>AS THE POLE DENSITY INCREASES, THE DEPTH OF SATURATION AND REACH OF THE EXTERNAL MAGNETIC FIELD DECREASES.</u>

As the pole density increases in gauss on the permanent magnet, so will the energy requirements to magnetize it. As a direct result, materials such as bonded and fully dense Nd-Fe-B, requiring higher magnetizing forces, are usually more limited than Ceramics on available pole densities.

Specialty magnetizers and fixtures have been designed which are capable of magnetizing a 1.0" diameter fully dense NdFeB magnet with over 240 poles. Unfortunately the magnetization process is very laborious and time consuming making high volumes of such products impractical. Further, as stated above such high pole densities limit the reach of the magnetic field.

Anisotropy is the property of being directionally dependent, as opposed to isotropy, which implies identical properties in all directions. It can be defined as a difference, when measured along different axes, in a material's physical property (absorbance, refractive index, density, etc.)

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An example of anisotropy is the light coming through a polarizer. An example of an anisotropic material is wood, which is easier to split along the grain than against it. It is important to REMEMBER THAT AS THE POLE DENSITY INCREASES, THE DEPTH OF SATURATION AND REACH OF THE EXTERNAL FIELD DECREASES.

MAGNETIC FLUX LINES DO NOT MIX INTO OTHER FLUX LINES WHEN THEY CROSS EACH OTHER, so magnets in repulsion develop radial vectors whose intensity increases as the magnets approach each other, *like a compression spring*, and to the extent that when the amplitude of the radial component of flux density exceeds coercivity of the magnetic domains. There will be changes to the properties of the magnet, due to reorientation of these domains.

Magnetizing individual high energy magnets within a DC solenoid requires a massive energy pulse; multipole magnetization is akin to attempting to saturate a magnet with the reduced axial field density on axis outside of the coil. Multipole magnetization on a continuous surface is achieved by injecting a high intensity magnetic field into the surface, as there are no salient poles to work with. While the magnetizing vectors may be parallel to the orientation direction in the polar areas, all flux must transition between poles beneath the magnet surface. Here the magnetizing vector is normal to orientation, the resistance to magnetization is about double and *induction*\* is less.

Because it is not possible to surround individual poles with conductors, a steel fixture with wound polar extensions must be used to direct the magnetizing field to the part. This positions the magnetizing windings in a less favorable, more distant position, and drives the steel fixture well into saturation were it creates losses that must be overcome with additional energy input.

The magnetizing field in the fixture must also transition between adjacent poles. This takes place in an unwound section of the steel fixture, where flux loss to leakage is unrestricted, and these losses must also be compensated for with more energy input.

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The space available between poles limits the conductor size and number of turns in the coil so, although the energy required is greater, the coil design inherently delivers less, and the coil heats up more quickly. Heating reduces the mechanical strength of the conductor while the intense magnetic field exerts great tensile stress in the conductor, so at some point the conductor will be torn apart.

#### Chapter 10. Neodymium Iron Boron (Nd-Fe-B)

Sintered neodymium-iron-boron (Nd-Fe-B) magnets are the most powerful commercialized permanent magnets available today, with maximum energy product ranging from 26 MGOe to 52 MGOe. Nd-Fe-B is the third generation of permanent magnet development. It has a combination of very high remanence and coercivity, and comes with a wide range of grades, sizes and shapes. With its excellent magnetic characteristics, abundant raw material and relatively low prices, Nd-Fe-B offers more flexibility in the designing of new, lower cost and more compact devices using permanent magnets for operation.

A powder metallurgy process is used in producing sintered Nd-Fe-B magnets. Although sintered Nd-Fe-B is mechanically stronger than Sm-Co magnets and less brittle than other magnets, it should not be used as structural component. Selection of Nd-Fe-B is limited by temperature due to its irreversible loss and moderately high reversible temperature coefficient of Br and Hci. The maximum application temperature is 200 °C for high coercivity grades.

Nd-Fe-B magnets are more prone to oxidation than any other magnet alloys. If Nd-Fe-B magnet is to be exposed to humidity, chemically aggressive media such as acids, alkaline solutions salts and harmful gases, coating is recommended. It is not recommended in a hydrogen atmosphere.

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Chapter 11. Electrodynamics

The resulting mechanics dealing with transitions between oscillating magnetic states into the form transitioning into electricity and back again to oscillating magnetic fields is called electrodynamics.

As a permanent magnet (dipole) is passed quickly through a winding of copper wire (coil) it produces a potential normally measured in (volts) that can be observed with an oscilloscope. An oscilloscope will measure and display high voltage readings at a very fast rate as compared to a digital volt ohm meter (DVOM) which is an accumulative measuring device and does not have the ability to indicate high voltage spikes in short periods of a second.

To make electricity observable and present in particle form you take a magnet and physically pass it through a coil of insulated copper wire, and you produce an effect of magnetic oscillation and a removal of a magnetic field, or the collapse of it as it physically passes into and then away from the coil. A phenomenon according to today's definitions becomes evident, upon the collapse of the polarized field of the permanent magnet that had been exposed to and then removed from the copper wire coil and the affect creates the observation of electricity within the copper mass.

This observation of electricity produces an impulse within the atmosphere of the physical vacuum and travels theoretically forever in space and time. So it is the appearance and disappearance of a polarized magnetic field (oscillation) that causes frictional charges of electricity to be caged and accumulated as potential (voltage). This static electricity is caused after an oscillating dipole effects quantum fluxuations onto an element of copper.

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Inversely when you put potential (volts) into the same coil of copper wire you create a dipole (magnet) through the induction of electricity into the coil.

When the electricity (potential volts) is removed the magnetic field produced by the voltage saturating the coil collapses and creates a back emf (electromotive force, volts) in a direct relationship of rotations of copper wire within the coil of wire that creates an EM (electromagnetic) wave. This back emf travels in the opposite direction that the saturating electricity flows.

Remember that; Nothing known to man on any level is known to shield or repel the motion of an EM wave. It is not considered radiation as in Alpha or Gamma radiation or radio frequency interference; It is electro Magnetic Radiation and people assume lead will protect them from natural magnetic radiation and the electromagnetically induced EM wave such as in oscillators after their induction of electrical potential into the coil of copper wire. A lead plate and other objects of mass can shield you somewhat, from the radioactive fallout of a nuclear event or x radiation. It will not prevent the penetration of EM waves nor shield them from penetrating through you.

THERE IS VERY LITTLE INFORMATION REGARDING THE LONG TERM EFFECTS OF HUMAN EXPOSURE TO A FREQUENCY OF AN EM WAVE. VERY LITTLE INFORMATION HAS BEEN RECORDED OR DOCUMENTED AS TO THE EFFECTS OF EMR (ELECTROMAGNETIC RADIATION) OR RFI (RADIO FREQUENCY INTERFERENCE) ON PEOPLE AND OR ANIMALS. THOSE WAVES PRODUCED BY MAN ARE ALSO AN EM WAVE CREATED BY THE COLLAPSE OF THE MAGNETIC FIELD. SO AS PEOPLE, IT SEEMS WE ARE CREATURES OF FREQUENCY, PHYSICALLY AFFECTED BY THE CONSTANT EXPOSURE TO MULTIPLE EM PULSES, THERE IS NOWHERE ON EARTH AND OR IN SPACE THAT CAN SHIELD YOU FROM THESE EM WAVES.

#### Chapter 12. The simplicity of collecting electrical potential (volts).

After a pole of a magnet is passed through a copper winding of wire, a spark happens, one pass of the magnet one spark. One pass per second for one minute will net sixty sparks per minute, 360 sparks for six minutes or, 3600sparks per hour. Each spark carries a charge potential in a specific direction within the electrical conduit. When the magnet pole North passes through the coil it produces a spark that flows within its conduit in a specific direction.

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As the pole South passes through the coil it produces a spark in an opposite direction, this is called electrostatic charge and in combination resulting AC electricity.

When individual electrical charges from Alternating Current (AC) electricity, are separated they are called direct current (DC) negative, positive. In order for us to store useable electricity it needs to be in the direct current state. AC electricity needs to be used as it is generated and DC electricity can be stored in a conventional DC battery.

A BATTERY IS A DC STORAGE DEVICE AND PROVIDES DIRECT CURRENT, A STEADY FLOW OF ELECTRONS. ACCORDING TO THE PAST TEACHINGS AND DEFINITIONS IN ELECTRICITY/ELECTRONICS, THE COLLECTION OF ELECTRONS

COMBINES INTO A CAPACITANCE WHICH IS VOLUME CURRENTLY KNOWN AS CURRENT, CURRENT FLOW IS THE FLOW OF ELECTRONS WITHIN A CONDUCTIVE CONDUIT. THESE ELECTRONS ARE CONJECTURED AS PARTICLES WITH AN UNKNOWN GEOMETRY AT THIS TIME HOWEVER DEFINED AS NEGATIVELY CHARGED.

The duality between electricity and magnetism provides a degree of freedom for magnetic circuit design that is not easily achievable with permanent magnets: FIELD MAGNITUDE ADJUSTABILITY. Unlike their permanent magnet counterparts which require mechanical means for field adjustments, electromagnetic field magnitudes can be altered by simply adjusting input power characteristics; MORE SPECIFICALLY, THE INPUT CURRENT. This current, multiplied by the number of windings in the circuit, provide the magneto-motive force (MMF) needed to establish a magnetic field in space. By utilizing advanced numerical analysis techniques, we can adjust geometries and materials to optimize electromagnetic designs and minimize MMF requirements.

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#### Chapter 13. Electro Magnets (electron/electric/electronics/electricity)

In general, electromagnets are classified into two categories: **DC** (**DIRECT-CURRENT**) AND **AC** (**ALTERNATING-CURRENT**). The simplest electromagnetic configuration is called an "aircore". These units typically consist of either freestanding copper windings, or copper windings mounted on non-magnetic, non-conductive media.

The relatively low inductance of electromagnets constructed in this configuration makes them well suited for applications requiring low magnetic field strengths and high frequency inputs. Consequently, "air-core" electromagnets are typically used for AC or high field pulsed-current systems. DC electromagnets can be used for high voltage pulsed magnetization fields where high power magnetic field strengths are required.

The standard model of physics currently considered as a constant, shows electrons within orbital paths around central elements made up of particles. It is accepted that this "system" of particles is driven by electrical field differences that translate into a potential magnetic field.

An electric solenoid is simply copper wire windings that are wound with one single wire of copper. When electricity is applied to each end of the wire used to wind around the hollow center, *like a hollow tube*, a magnetic field is produced containing both north and south polarity or the dipole. Electric refers to a type of motive force prime mover that associates a name to a device, *like an electric refrigerator*.

Electronics is based on the flow of the electron at low levels of potential (voltage) in comparison to the electric devices that produce "work". Work is the product of consuming potential in companion simultaneously with effort. Remember that;

Voltage in an electronic circuit is potential that makes it possible to achieve a force, and that

Current is a rating of volume that makes it possible to continue with the potential, and usually always based on an element of time. The collected potential has a volume and it is contained in a Battery which is a DC current storage device.

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Dale G. Basgall

Electricity is based on the oscillation of potential into an electromagnetic situation that consumes volume. The electric devices using electricity usually produce work. Electronic devices usually are used to control electric devices and simply make it possible for electric devices to turn on or off.

Remember that; An electric device uses the flow of electricity and consumes larger volumes of current than an electronic device that uses the flow of electrons at a low potential. Also that an electric device is AC and an electronic device is DC. In either AC or DC the flow of current volume is known as Ampere. One horsepower will produce approximately 746 watts and it also requires approximately 746 watts to produce one horsepower.

Chapter 14. Working physical properties of the "magnetic field"

One of the first considerations is the actual mechanical effects that a magnetic field produces on other mass. In this instance we will reflect on the potential work that could be done by using magnetic fields.

We are contemplating the usage of a permanent magnet to oscillate its poles, and generate enough electricity to run a led (light emitting diode) light. It may be more beneficial to construct a useable practical device that operates free of visually moving parts, and accumulates sufficient potential that will operate a household?

It is normally understood through past definition of the permanent magnet that there is a north (N) and a south (S) pole. We could call the poles a one (1) and the other a zero (0), an in (I) or an out (O), an up (U) or a down (D) and so on. The point is that the pole faces of the magnet have been labeled in the past as one force of attraction north the + gauss pole, and the other unlike force of attraction south, the - gauss pole.

The metal that paramagnetic mass is comprised of makes the mass somewhat attracted to the magnetic field forces. Paramagnetic materials have a small positive *susceptibility\** to magnetic fields.

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Dale G. Basgall

These materials are slightly attracted by a magnetic field and the material does not retain the magnetic properties when the external field is removed. Paramagnetic materials include magnesium, molybdenum, lithium, and tantalum.

Ferromagnetic materials become magnetized when the magnetic dipole(s) within the material are aligned. This can be done by placing the material in a strong external magnetic field (magnetizing field), or by passing electrical current through the material. Some or all of the dipole(s) can become aligned. The more dipole(s) that are aligned, the stronger the magnetic field is within the material. When all of the dipole(s) are aligned, the material is said to be magnetically saturated. When a material is magnetically saturated, no additional amount of external magnetization force will cause an increase in its internal level of magnetization.

The observation of a force becomes apparent when a permanent magnet (ferromagnetic mass) and its field extensions contact another field of (paramagnetic) material and also another unlike pole of charged ferromagnetic mass.

The Gauss measuring system for magnetic B field strength can be viewed as substantially identical to pressure per square inch in a hydraulic system (fluid power). The Gauss-Oersteds measuring system for magnetic H field volume can be viewed as substantially identical to gallons contained in a hydraulic system.

Remember that; It takes electricity conducting into an air core coil of copper windings to create a magnetic field with sufficient magnetic pressure for a sufficient amount in time, that fully saturates the ferromagnetic mass and the end result a permanent magnet. The amount in electricity power volume watts that were required to make that object metal a magnet is H field.

Using the Gauss measurement a normal compass will start to indicate direction at around 3 gauss and at 3.5 gauss the compass pointer will indicate a direction and will rotate slightly with compass housing rotation in the clockwise or counterclockwise direction.

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At 4 gauss the pointer is locked solid onto the magnetic field, if the direction indicator point is indicating North on the compass the indicator pointer is actually pointing to the magnetic south of the magnetosphere of the earth. At 4 gauss when the compass housing is rotated in either direction the needle remains locked onto the magnetic field.

You can severely damage and or ruin a compass by subjecting it to magnetic fields that have more than 5 gauss. Also remember that; when the compass indicates north you are heading into the south magnetic pole of the Earth. North on the compass and North on a map are the same but they are not the magnetic north and south poles of the Earth.

Using a medium sized finish nail and holding it firmly between two of your fingers, at 50 gauss the nail wants to go to the magnetic pole surface and at around 80 gauss it is difficult to keep it from sticking onto the magnet surface.

A metal such as iron or steel is attracted to either the north or the south pole of a permanent magnetic field that it is close to. Magnetic fields affect mass and do not work like fluid power or pneumatics that amplifies power (potential) by surface area exposure.

Experiments have shown clearly that when a specific surface area of a metal is exposed to 100 gauss in either polarity, the pulling force in inch pounds (in. lbs.) does not increase as the surface area of the metal that is within the magnetic domain is expanded or reduced to, without changing the mass volume of the object metal. Remember that; As the mass volume is increased on the object metal the observed force of attraction to the magnetic also increases. Magnetic fields within a magnetic domain of object metal can be used to bias one another.

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Experiments have also shown that an <u>object metal</u>\* exposed to a magnetic field and within the magnetic domain of a dipole object metal, creates a monopole effect within and surrounding the object metal when exposed to "<u>a pole</u>\*".

An example would be to use a specific mass of object metal and subject it to one face of a magnetic field (North) and in alignment with the magnetic field dipole object metals crystalline lattice structures. This would net a + gauss measurement on a conventional gauss meter. At a specific gauss of + which would be equal and proportional to distance apart "a differential" of another opposing north pole at the opposite end of the object metal and does bias completely to zero gauss where the monopoles attach. This biasing effect is important to creating pressure differences within the magnetic domains of dipoles.

Remember that; BIASING CAN EFFECTIVELY OVERCOME PRESSURE DIFFERENTIALS OF TWO OPPOSING LIKE FORCES OF FLOW FROM CONDUCTING ELEMENTS, AND THEREFORE ONLY BECOME OBSERVABLE AFTER THE FLOW OF ELEMENTS IS RESTRICTED WITHIN A CONTAINED SYSTEM. THE CONDUCTION OF ELEMENTS CREATES THE FLOW OF THE ELEMENTS. MONOPOLES ARE THE FLOWING ELEMENTS WITHIN THE CONDUITS OF MAGNETIC DOMAIN.

#### Chapter 15. The non-magnetic field surrounding object metal.

Object metal is considered to have the ability to be manipulated within a magnetic domain, and is not permanently saturated with aligned magnetic dipoles. Object metal is a magnetic field conduit but is not a magnet.

This metal is often overlooked; it is critical for the observation of flowing elements within a magnetic domain. It would be very difficult to observe a magnetic field without object metal, and impossible to understand that magnetism exists without being able to observe the after effects of the exposure of object metal, to a magnetic domain. Object metal reacts physically with magnetism.

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Remember that; The total mass volume of a specific object metal is the potential magnetic exchange flow rate in which the elements flow within a magnetic domain. A dipole equally distributes and re aligns after the dipole is separated or segregated physically from the total magnetic mass of the dipole object metal. Mass of the magnetic object metal proportionally affects the gauss potential of that dipole. Object metal becomes the conduit for the flow of elements to continue within a magnetic domain.

Example experiment; Chose an object metal like a small block of steel or a common metal nut made of steel. Take two separate permanent magnets (dipoles) and position the polarized faces (poles) so that a resistance and compressibility force is observed and you now have found two poles alike on two separate dipoles surfaces. Keep the two apart far enough so one does not affect the other and position the object metal nut half way between the two polarized surfaces. Have someone else hold the object metal and slide one magnet closer to the nut so that a pulling force is felt by both people. Now start to slide the opposing magnet closer to the nut until the nut is no longer attracted to either magnet.

NOTE: You should conclude that if a magnet is considered a dipole having two poles, and each having their own effect on object metal, then; a pole is a singular component of a magnetic domain, the monopole effect. As the two matched component poles resist one another, a zero gauss point is observed and therefore the flowing elements bias one another.

Important to understand is that biasing compensates for pressure differentials within a physical flow system. Although waves also can bias one another, it seems observable that the flowing elements within a magnetic domain are particle elements flowing.

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Object metal is as important as the permanently magnetized object metal and equally responsible for a magnetic domain to become useful. Object metal can be used as the conduit of magnetism and the loss rate in potential also changes when the object metal is changed to another type.

Experiments have shown that; an object metal has the ability to flow magnetism with observable gauss losses as the linear length is increased of the object metal.

Example experiment; Use a permanent magnet and pick up a piece of object metal that the magnet will barely hold, just enough weight that gravity will almost break it lose from the magnet surface. Remove it from the pole face and get another piece of object metal about an inch long and stick it to the face of the permanent magnet. Now pick up the first piece of object metal and stick it onto the opposite end of the second piece of object metal that is stuck to one pole face of the permanent magnet.

NOTE: You should conclude that object metal has the ability to flow magnetism, and that there must be some type of field also present within and surrounding the object metal.

Object metal can be any form or any compound of substances that have the potential to transport magnetic polarity thru a matrix of cascaded lattice structures. Object metal requires a magnetizing force in potential gauss to transport gauss to another location. Some residual magnetism at low levels can be detected within a mass structure of object metal after the magnetizing field is removed from the non-magnetized field of the object metal.

Dipole object metal can be any form or compound of substances that have the potential to become a permanent magnet after being exposed to a strong magnetic field. A strong magnetic field can be a potential magnetizing field.

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A magnetic domain contains several components; a north pole and a south pole, a physical area enclosed within a magnetic domain containing flowing elements of magnetism north face and flowing elements of magnetism south face. Four distinct ventricular shaped infinite patterns of turbulent flow monopoles appear as vectored coordinates of multi effective levels of gauss within the mechanically effective scope of the magnetic domain.

The magnetic domain is the magnetic field volume in area. The north magnetic pole under today's understanding leads one to assume that the magnetic north is a direction associated thing. Also the south magnetic pole is also a direction associated thing. With that understanding we could possibly call a pole a monopole affected area, all north pole or all south pole.

Within the text of the past paragraphs is written and generally grasped a conclusion that magnetism is obvious and that the actual flowing element within the magnetic domain is a particle. This particle is essentially like any other particle with one exception, it cannot be physically seen by humans or with any known instrumentation as of today that I am aware of. This author is relatively sure that through harmonizing waves of magnetic domain will create resonance and make zero point observable.

Remember that; a Permanent Magnet can be compared with a DC Battery, the volume of mass elements combined in either situation objectively viewed are containers of volume. Both have conduits that allow a flow of elements inward and outward of the volumetric containers. Object metal is the conduit for magnetism flow, and wires are the conduit for the flow of electricity. In either physical situation both are stored, and that is precisely the point, stored energy.

Electro Magnets, electrical devices, AC electricity all are on demand products and require large volumes of fuel on demand. This is a very vulnerable situation in any case of on demand products. Edison was really concerned with the DC flow of electrons and permanent magnetism.

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#### Chapter 16. Physically Observable Attributes of Fluid Dynamics (hydraulics)

Fluid dynamics (hydraulics) is the flow of fluids, fluid is utilized to contact a moveable surface while contained physically within a solid/sealed container. Fluid needs some type of containment method like a bucket, a tube, a hose and so on. The flow of "the fluid" is what causes motion of the moveable component. The pressure of the fluid within the sealed container or tube is simply a result of a restriction to the flow of the fluid being forced into the sealed container, and that maximum pressure is determined by the physical capabilities of the hydraulic system. Fluids are assumed as non-compressible, which is significant for the operation of an apparatus using fluid flow dynamics to move objects.

Remember that; <u>A HYDRAULIC PUMP IS A FLUID PUMP</u>, <u>AND PRODUCES SUCTION AT THE INLET AND FLUID FLOW FROM THE OUTLET</u>. PRESSURE IS EVIDENT IN THE CONDUIT ONLY AFTER A RESTRICTION TO THE FLOW OF THE FLUID WITHIN THE CONDUIT SYSTEM. THE FLOW OF FLUID IN VOLUME IS CALLED GALLONS PER MINUTE (GPM),

The restriction producing work in the hydraulic field is called the working load. It is the work that produces the load and the load restricts motion of either a pump, which rotates or a cylinder which reciprocates. The pump is a rotational flow device at the prime mover (engine or motor) as is the motor at the work load. A cylinder assembly is an actuator device at the work load, it reciprocates.

Fluids are contained and flow through conduits called tubing or hoses. Tubing is rigid and is usually made from high grade steel alloys; it can safely contain high pressure fluid. Hoses are flexible and also can contain high pressure fluid. Steel tubing can be used to dissipate heat from a hydraulic system.

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Remember that; in a mechanical scope viewpoint the flow of fluids is called hydraulics. These fluids are the flowing elements within the hydraulic system and are mechanically accepted in general as non-compressible. It is the resistance to the flow of these elements which causes a potential in pounds per square inch (psi) to become evident at any point within the conduit system. Pressure within the conduit system is only a result from a load being applied to the system.

Remember that; It takes one horsepower to pump one gallon of fluid per minute at 1500psi backpressure, and inversely 1GPM@1500psi to produce one horsepower. It takes two horsepower to pump one gallon of fluid per minute at 3000psi backpressure and so on.

The applied mechanical potential in horsepower torque (force) at the prime mover can be increased proportionally by the reduction of elemental flow of fluid in the hydraulic system. The mechanical resistance to that flow of fluid or air within either system generated by the load at the load work actuator restricts the actuator, and reduces the flow of elements proportionally as the backpressure in psi rises within the hydraulic system. This is a direct relationship of mechanical horsepower input (prime mover) and the potential horsepower torque output onto the moveable surface of the load actuator. The work area in square inches of the moveable surface used in the work load actuator can be increased in surface area and is a force multiplier to the original input potential of flow and backpressure from the prime mover.

An example of hydraulic power amplification; in the mechanical science of hydraulics when we input one horsepower to rotate a hydraulic pump, it requires the power potential to rotate the shaft of the pump as long as "the work" is required. So we have one horsepower potential for the prime mover rotating a hydraulic pump and having a potential of pumping one gallon of fluid per minute at 1500psi backpressure. We have a work load requirement of moving eight tons. To amplify the lifting capacity from 1500psi as the potential force to moving eight tons of work load, we simply expose the fluid to a 10.7"diameter disk like object that is moveable within a sealed container, the hydraulic actuator.

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NOTE: We ended up from a one horsepower potential lifting 1500lbs of load vertically one foot in one minute, to a potential of lifting 16000lbs by simply trading off speed for potential. This is simply done by increasing the load actuator moveable surface area (10.7sq.in.x1500psi =16,050lbs).

Remember that; the dynamics of fluid make it possible to amplify the potential force of a set value from a mechanical prime mover to a higher horsepower torque value at the load actuator. The formula is pressure in psi times the exposed surface area in square inches, and that displacement within a hydraulic actuator is the bore diameter in inches times the length of travel of the moveable surface that extends from and retracts into the hollow cylinder of the load actuator. This is called the capacity of a cylinder and the measurement is in Gallons.

Chapter 17. Physically Observable Attributes of Air Dynamics (pneumatics)

Air dynamics (pneumatics) is the flow of gasses, gas or air is utilized to contact a moveable surface while contained within a solid/sealed container. The physical elements of air are compressible. When a restriction to flow in a pneumatic system prevents the leakage of air or gas into the atmosphere; the pressure in psi (per square inch) becomes evident at a slower rate within the containment system and conduit as it is being compressed. The observable pressure of elements within the physical containment system for the elements will continue to rise in pressure (backpressure) until the physical stress capabilities of the weakest component within the system are exceeded.

In the case of a pneumatic flow of elements this flow is called cubic feet per minute (CFM). Both elemental flows of pneumatic and hydraulic mechanics are compared to one another at dynamic flow observation points, from a total physical frame of reference.

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#### Chapter 18. The Relationship of Hydraulics & Pneumatics

In either system the goal will be "something will be moved" by the "<u>system\*</u>" and "work" will be accomplished. The term "system" defines the source of movement of the elements and is known as the <u>prime mover\*</u> of that system and that perpetuates the flow of an element, and further reacting against a solid surface of another moveable object called resistance. A system requires a <u>closed loop\*</u> that allows the flowing elements to be used and then returned again for re use within the system. This is accomplished by the usage of conduits that flow elements to other mechanical components that further distribute the potential flow of elements to the work load.

In either situation hydraulics or pneumatics, a pump is used for the prime mover. A pump is a three dimensional mechanical device that causes the flow of fluid or the gas air, "the elements" within the "systems". Common within both system(s) pump(s) are exposed surfaces stationarily attached to a rotate-able object commonly referred to as a flywheel rotor, like a disk/cylinder shaped object of mass. The exposed surfaces attached to a rotor in motion react individually onto the fluid and force movement of the fluid in a direction proportional to the rotational speed of the flywheel rotor.

This flow of elements GPM in hydraulics or CFM in pneumatics is contained in either a hose or a pipe, and as the flow of elements is allowed to flow into and thru the pipe or hose conduits, it is restricted at the outlet end of the conduit system at the work load actuator that allows pressure or potential to build in the conduit system. This buildup pressure (*backpressure\**) contained within the conduit system can be regulated to a backpressure (potential) required to do the work. At the point of physical transition from pressure of an element to the work actuator, creates a pressure drop (deltaP) which creates heat energy at the point of pressure drop as a byproduct. The elements are then directed through conduits and return back to the container of elements.

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There are for example methods that "work" an element in free space. The water wheel uses the flow of water which is hydraulics, and develops its potential by the effect of gravity and reacts on an open surface that can be calculated in a square inch area further valued as the capacity. One pound of water dropped onto a surface equally would net the multiple of the two, surface area in square inches of exposed moveable surface multiplied by pressure per square inch from the dropping water which would be the potential distance the water would drop from.

The physical observation of these two flowing elements of hydraulics and pneumatics, are identical in the formulation of potential (pressure) and exposed moveable surface area. The sum would equal a maximum calculated force potential applied over a block measured in time, and we will use the minute. To continue the motion on the moveable surface for one minute it takes a volume of element flow, this is termed gallons per minute (GPM).

#### Chapter 19. Priority to the Author at this Point of Observation

One of my priorities is to try to understand better why we as a technically advanced civilization, have not found a way to use stored magnetic energy without having to generate electricity first. Magnetic energy is in fact observable and storable. Edison was on the right path and it is well known that others on the right path are looked upon as being wrong in the present time to others, unless others can see the importance for themselves.

It seems things like that always have to become painful to a lot of people before the light goes on for the majority of people. In this case an understanding needs to first be realized. Mankind as a species has been manipulated by those in the know that have stolen what was left behind through the centuries of time. There are in fact many technologically advanced machines of the past that were "left behind" that were working, until destruction and time had its effects on them. These holders of this information have held it to the utmost security.

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My quest in writing this text is to example the information I have personally observed from experiments and situations through the past years of my concerned interests of permanent magnetism. They include the fields of communication with others without words, the magnetic power of electromagnets and permanent magnets, mysteries of water, crystals, frequency and human vibrations that affect everything in creation.

It appears to me in the present that we; are able to move our bodies because we have actuators (muscles) that are bi-directional and produce two different chemicals from four separate nodes of a system. Two nodes are for actuation and two nodes are a backup reproducing system. An em output from the brain causes a muscle to produce a chemical at the muscle and contract, the backup system then sends the remanence of the em signal back to the brain stating results in position change of the actuator muscle. Another signal from a retraction node produces another chemical within the muscle actuator and it retracts.

The equipment we produce in manufacturing to serve a purpose in humanity is designed from viewing a human attempting and or doing a difficult task. In the hydraulic system we use a pump, the heart pumps our fluid (blood) and there are also flow conduits called arteries, and return conduits called veins. Also our brains are said to produce em particles producing waves to cause motion to various actuators throughout our bodies. This is the electronics portion of a machine, the electronic signal output from an <u>oscillator</u>\* to an actuator then to a sensor or transducer and back to the oscillator as an input relative to positioning.

The consistency in all of these systems is profound and leads this author to firmly become aware that we have been created in origin but have evolved into advanced thinkers and doers. In our advancements through evolution, lessons have been observed and accepted. Advancements in technology become apparently skewed when observing from civilized timelines. Therefore a quest now exists to better understand the working particle elements within a magnetic domain.

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Dale G. Basgall

#### Chapter 20. Polarization an Essential Ingredient

Electricity seems to be containable magnetism and something we have been able to use for quite some time. Electricity is also an element that can be contained after polarization, this is known as rectification. Electricity flows within contained conduits called "electrical wiring". This wiring is coated with an insulator so when you touch the wire (conductor) it insulates you from the conductor inside the insulator material, if this material is not present "you" will become a conductor, and so on.

Oscillating magnetism and electricity are flowing physical elements like fluid and gas/air. When compared between the two elemental flows of fluid and gas the advantages of using the flow of electricity over the other forms of fluid and air dynamics is that; electricity doesn't smell as bad when it leaks from conduit paths (wiring) as oil or gas would. When electricity leaks it does not leak an oil or compressed gas. Electricity is not containable in a tank with a specific volume as in the hydraulics or the pneumatics; it is stored in a DC battery. The conduit paths are relatively smaller within the electrical systems circuits than compared with the hydraulic or the pneumatic systems conduit paths that would accomplish relatively the same "work".

Electricity is an elemental flow of the product of an oscillating particle and antiparticle (dipole) causing an oscillating magnetic field.

An oscillating electrical field changes into the oscillating magnetic field and requires a pump to cause flow. This pump has to be mechanically rotated to create the oscillating magnetic field that in turn is used to re-create the oscillating electrical field. This oscillating electrical field can be conducted through the conduit paths of copper wire, gold wire, steel wire, and so on.

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A difference is created by the oscillating magnetic field whereas the difference is the unbalanced dipole "<u>effective polarity</u>\*" causing the electron which is negatively charged to travel toward the more positive dipole. The speed of this oscillation of a dipole is affected by a rotational electrical field that runs a helical path perpendicular to a helical magnetic path relationship. I call this the quad helix cross and where they meet together creates a super acceleration factor. The speed of a dipoles oscillation determines the amplitude of the polarity projected onto other objects of mass.

It is said that the electron is flowing through the conductor in a direction, the direction is said to be a charge element that flows within the conduit through attraction.

Weather the electron is or is not as it is described to be in current physics, the math works when calculating current draw. In fact this current draw is said to be the flow of electrons in current physics. A critical fact is that electricity needs to be polarized prior to using it within a closed loop system that is comparable with other physical forms of elemental flow as in hydraulics and pneumatics.

This polarization is known as <u>rectification</u>\* in the electronics field. The electrical field compared with the magnetic field is like asking which came first, the chicken, or the egg. Assuming that; electricity was evident here and existed as one of the elements upon creation of the earth, and then we ask the question "how did the electrical field oscillate" to create a magnetic field, "how did the oscillating electrical field create a rotating magnetic field producing an invisible wave"? "Do we live in a closed loop system"?

Assuming now the opposite; that a magnetic domain existed as one of the elements of creation, and then we ask the question "how did the magnetic field waves oscillate to produce an electrical field"? "How did the electrical field become observable"?

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Dale G. Basgall

Once this polarization of electricity has divided up or has been rectified, it is called DC electricity. All electricity becomes evident as AC first, this is due to the nature of collecting electrically charged elements commonly referred to as "<u>electrical</u> <u>power generation\*</u>".

A dipole has two distinct physically observable hemispherical parts that are divided perfectly equal within the mass object metal through a center equator that physicist call a null area but I call it the "<u>zero point position</u>\*. At this point there is zero gauss observable and that is where the particle and anti-particle adjoin thru attraction to one another. A dipole that has two separate surfaces one of like and the other unlike magnetic attractions and has two distinct observable properties.

An in and an out is all there exists in polarization; it is a directionally dependent flow pattern that runs consistent with the dynamics of mechanical physics. We have a direction with DC electricity just as we also observe the hydraulic system pump that rectifies the flow of fluid into a specific direction. A pump capable of producing flow of an element in two directions is called a bi-directional pump. A check valve in a hydraulic system is a device that allows fluid to flow in one direction thru its conduit and not allowed to flow backwards into the pumping system. A diode in electricity does the same thing with the flow of electrons. The electron is flowing thru the diode in a specific direction and is not allowed to return back thru the diode gate to the source of the electron flow.

A magnet that has a magnetic domain has two distinct poles each having its own distinct polarization, a north and a south field. The north field emitted from the north produces positive gauss for a pressure potential and the south field from the south pole produces a negative gauss for a pressure potential.

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When either polarity field is passed thru a hollow conduit within the center x axis of a coil of copper wire, it produces a spark of electricity called static electricity and is (what I view as a collection of quantum charge which is a frictional charge) known as electrostatic in current physics.

This electrostatic electricity can be rectified using two diodes that divide the electrostatic potential voltage into DC current having a positive (+) end and a negative (-) end. At this point in electrical power the DC current is known as storable within a cell.

There are many advantages in using DC electrical current and some are; you can generate the DC current whenever it is convenient for you and store it within a DC battery to use it later when needed, (AC electricity is used on demand and cannot be stored in large volumes). DC current is not known as an electrical hazard to human beings, (AC electricity is known to shock humans). DC lighting seems to be easier on your eyes; (AC lighting oscillates at 60 Hz meaning it is quickly turned on and off making it look like it's really on solidly).

What this means is that we can have cleaner energy with less <u>electrical noise\*</u> within our free space, and that would be better for us. We could generate it at our own homes with our own physical energy and not have the worry about when the electricity goes out, and then your food spoils due to lack of cooling. Each person that needs electricity could produce it and use it more efficiently at home, than any power company can.

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Chapter 21. Views & Comments Regarding Permanent Magnetism Compiled From Other Scientist Mechanics

The following chapter has been compiled to example some writings and works from other mechanics working on Permanent Magnet devices, that have attempted to develop mechanical innovations that perform work or create electrical energy by the usage of stored magnetic energy.

I. Remarks by Mr. Howard Johnson (NOTE) The following text has been copied from existing documents with statements made by Howard Johnson.

Today when energy is so expensive, it is not hard to drum up interest for most any avenue that offers a breath of hope or a way of escape, but this was not necessarily so in 1942. We were somewhat satisfied and convinced that we had the main sources of energy in view. So it took a pure act of faith to try to develop a new unnamed source.

It took faith to spend time on it. It took faith to spend money on it. And it took faith to consider facing the opposition later when I made my work known and faced all the status quo people. So, in 1942 using the Bohr model of the atom, and knowing that unpaired electron spins created a permanent magnet dipole, I kept wondering why we couldn't use these fields to drive something. I was sure that the magnetic effect of the spins was similar enough to the field of a current in a wire to do the same thing. I had no knowledge of electron spins stopping and knew no method that I could exert to stop them, so I decided to try to work out a method to use them.

At the same time there were no good hard magnetic materials that I knew of, materials that could be opposed with strong magnetic fields and not be demagnetized enough to damage them. Not only that, they would not give the thrust that I desired.

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Having a chemical background, I thought it would be nice to use the best magnetic materials I could find in combination with an interstitial material that was highly diamagnetic to force the electron spin to stay in place.

The U.S. Navy later made such a compound using bismuth and good magnetic materials, but the internal coercive forces were so great that this strong magnet would fall apart if not encased in glass. It was also expensive. So I kept checking magnetic materials while I worked on designs that I thought should be implemented. It was a quiet, sometimes lonely job over the years, for I didn't share my plans with my associates. My self-imposed security would not permit it, and I knew of few people who would be interested anyway.

In the fifties, as ceramic magnets became better and harder, and long-field metal magnets appeared on the scene, I began to freeze some designs, and to have magnets custom made to fit them. It was about this time that I mentioned the fact that just as I believed electron spins made permanent magnets; I also believed that they were responsible for the 60° angles in the structure of snowflakes giving the six-spoke wheel, the six-sided spokes, etc. The dean of the school where I was teaching said, "Maybe so" and asked me if I knew that snowflakes were mentioned in the Bible as being important. I told him, "No, I didn't know that," but I looked it up. It said: "Hast thou entered into the treasures of the snow? Or hast thou seen the treasures of the hail? Which I have reserved against the time of trouble, against the day of battle and war."

My comment was, "Well, maybe this is more important than I thought." So I went ahead and worked on it another ten years. I went to the Library of Congress and looked up snowflakes. I found a wonderful book there by Dr. Bentley of New Hampshire. He has spent many years making these studies, and he had learned a lot, as well as turning out one of the world's most beautiful books.

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He had found that snowflakes have gas pockets oriented on 60° angles and that the gas has a higher percentage of oxygen than air. That's one reason why snow water rusts so well. This higher concentration of oxygen also interested me because oxygen is more attracted to a magnetic field than other gases.

Finally, using the best ceramic magnets I could find and the best metal magnets, I worked out a scheme for a linear motor. The stator would be laid out as if it were unwound from around a motor. The parts of the armature would ride just above the stator and have the same beveled angular orientations I have just mentioned.

Dies were made for the curved armature magnets, and an order was placed for these shapes, despite the objections of magnet manufacturers who said it was a bad design. They didn't know what it was for, but they were sure it was a bad design. They wanted to make horseshoe magnets.

They even begged me to content myself with half an order. I did not agree --- and once again you have that little matter of faith; faith to try to implement a new theory; faith to spend your own limited funds when you have a family and other financial responsibilities staring you in the face; faith to buck the recognized authorities and manufacturers in the field; faith to believe that your work is good and that someday, despite all the hazards, you will apply for and receive patent rights in your own country and perhaps throughout the rest of the world; and finally, faith that you can resist being smashed into dust by industrial giants and/or being robbed by others who know only how to steal.

Believe it or not, my first motor assembly showed about two pounds of thrust. The little toy car on which I fastened the armature magnets for support ran in both directions over the stator, showing that the focusing and timing of the interactions was not too bad.

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This was the first light at the end of a rather dark tunnel I had been traveling for many years. I breathed a real sign of relief as my young son played with this "new toy," and was able to operate it as easily as I could.

After much testing of linear and circular designs, and looking for an attorney for years suited to securing a patent on the new theoretical work, I was led to Dunkan Beaman of Beaman & Beamon in Jackson, Michigan. It took some time to prepare the patent. The attorney built some models himself to check certain parameters. Finally, we entered the case in the patent office expecting a lot of opposition. We were correct. We got it. But again, faith saved the day as we battled for many years to gain a rather complete victory.

Now the work requires different kinds of faith: faith in those who have taken cut licenses and; faith to continue the research to replace scarce materials in the magnets; and faith that this work will continue to progress and that it will eventually fulfill its goal.

For a number of reasons, the permanent magnet motor has not received much consideration. In fact, nothing too radical has been done since Faraday took some very crude materials and showed the world that it was possible to make a motor. This work of his largely influenced the thinking of Clerk Maxwell and others who followed.

Today, the two greatest obstacles to using a permanent magnet motor are, first, the belief that it violates the conservation of energy law; and, secondly, that the magnetic fields of attraction and repulsion decrease according to the inverse square law when the air gap is increased.

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In fact, both contentions are quite wrong because they are based on wrong considerations. The permanent magnet is a long time energy source. This has been shown for many years in the rating of magnets as high or low energy sources for many applications over long usage. A loudspeaker composed entirely of electromagnets would be unreal in size and energy consumption. Yet, despite examples of this type, many hesitate to apply the same principles to motors and extend them even further by using permanent magnets for both the stator and armature.

The elements of all electric and permanent magnet motors are similar. A field imbalance must be created, the fields must be focused and timed, and magnetic leakage must be controlled. In the wound motor, brushes and contact rings give the timing, the size and shape of the wound fields and poles gives the focusing, and the motor case and kind of iron used help to limit the leakage.

In our permanent magnet motors the timing is built into the motors by the size, shape, and spacing of the magnets in the stator and armature. The focusing is controlled by the shape of the magnets, pole length, and the width of the air gap. This air gap, through which magnets oppose and attract each other, is a rare phenomenon. Usually when a magnetic air gap is increased, the field decreases inversely as the square.

When the air gap of the permanent magnet motor is increased, a curious but definite change takes place. There is a large decrease in the reading at south pole of the armature and an increase in the reading at the north pole. Thus, a Hall-effect sensing probe will give a higher gauss reading at the north pole and a decreasing count at the south pole. This helps explain why the thrust is better with a larger air gap than a smaller one. The attracting field is minimized and will not produce a locking force, while the repulsion of the crescent magnet is great enough to generate a thrust vector component that will drive the armature.

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As I tried to explain in the patent, I believe that the permanent magnet is the first room temperature super conductor. In fact, I believe that super conductors are simply large wound magnets. The current in a super conductor is not initiated by a strong emf, such as a battery, but is instead actually induced into existence by a magnetic field. Then, in order to determine how much current may be flowing in the super conductor coil, we measure its magnetic field. This appears to be something like going out the door and coming back in the window.

Another rather unique feature of super conductors is the fact that their magnetic lines of force experience a change in direction. No longer do these lines flow at right angles to the conductor, but they now exist parallel to the conductor. Theoretically, the heavy conductor currents exist in the fine filaments of niobium within each small wire of niobium tin from which such super conductors are made. Isn't it interesting that the finer the wire the less the resistance until eventually there is no resistance at all? End

The main question to be answered here and now is this: Does the Johnson permanent magnet motor work?

Is Johnson a bona fide researcher, or merely a "garage mechanic" mad inventor? As the following brief summary suggests, the inventor's credentials appear to be impeccable. Following seven years of college and university training, Johnson worked on atomic energy projects at Oak Ridge, did magnetics research for Burroughs company, and served as scientific consultant to Lukens Steel. He has participated in the development of medical electrical products, including injection devices.

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For the military he invented a ceramic muffler that makes a portable motor generator silent at 50 feet; this has been in production for the past 18 years. His contributions to the motor industry include: a hysteresis brake; non-locking brake materials for anti- skid application, new methods of curing brake linings; and a method of dissolving asbestos fibers. He has also worked on silencers for small motors, a super charger, and has perfected a 92-pole no-brush generator to go in the wheel of Lincoln automobiles as a skid control; that last item reduced the cost to one-eighth of the cost of an earlier design by utilizing metal-filled plastics for the armature and field. In all, Johnson is connected with more than 30 patents in the fields of chemistry and physics.

US Patent # 5,402,021 Magnetic Propulsion System Howard R. Johnson (March 28, 1995)

**ABSTRACT** - A magnetic propulsion system including a plurality of specifically arranged permanent magnets and a magnetic vehicle propelled thereby along a path defined by the permanent magnets. The magnetic vehicle which is to be propelled includes a rigidly attached armature comprising several curved magnets.

The propulsion system further includes two parallel walls of permanent magnets arranged so as to define the lateral sides of a vehicle path. Preferably, the walls are identical to one another except that the polarities of the magnets which define one wall are opposite from the polarities of the corresponding magnets in the opposite wall. A first wall, for example, includes a series of generally rectangular magnets, each magnet arranged with a North-to-South axis pointing longitudinally down the wall in the intended direction of vehicle travel. Each of the rectangular magnets is separated from the next successive rectangular magnet by a thinner magnet, which thinner magnet is arranged with its North-to-South axis pointing laterally toward the opposite wall and therefore perpendicular with respect to the North-to-South axis of the rectangular magnet.

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The opposite (or second) wall includes the same general arrangement of magnets, except that the North-to-South axis for each of the generally rectangular magnets is in a direction opposite from the direction of vehicle travel and the North-to-South axis of the thinner magnets points away from the first wall. In addition, the propulsion system includes several spin accelerators.

The following portions of a lab report and testing was performed separately and by the request of Thomas E. Bearden on the Howard Johnson US Patent # 5,402,021 Magnetic Propulsion System

LAB MEMORANDUM	 CTEC, Inc.
Date: November, 1999	

SUBJECT: Characterization of Howard Johnson's Magnetic Gate

- 1. Introduction: At the request of Mr. Howard Johnson (address omitted), CTEC, Inc. has endeavored to test one of Mr. Johnson's magnetic gates in order to determine the net force developed by such a gate and to document our test procedures and results. The tests were conducted at various times over the last 6 months, taking longer than expected due the non-availability of test personnel, the ordering and subsequent delay of delivery of the necessary force meter, and the development of a workable test procedure. With these problems solved the testing has been completed and the results are described below.
- 2. Objectives: the intent of this document is to describe the item that was tested, the test preparation and procedures, the data collected and the results obtained. Our conclusions are stated, and the test results are summarized.
- 4. Results: the testing process as described above yielded a net cumulative gain of 7.8993 lb.-inches (TOTALS row, Column I, Table 1), taking into account the negative forces present at the entry and exit areas of the magnetic gate, as well as the positive forces exerted on the magnet-car.

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A graphic of these effects is shown in Figure 4, which is a plot of the "Average Force on Car" (lbs.) [Column H, Table 1] versus the "Distance into Gate (inches)" [Column B, Table 1]. If the net gain of 7.8993 lb.-inches is divided by the distance-into-gate interval of 0.5 inches, a net force of "15.7986 lbs." is obtained. This agrees with the arithmetic sum of Column H, Table 1, which was "15.7986 lbs.".

In Figure 4 the plot shows three distinct areas of interest from left to right, namely the entry portion (negative force), the gate portion (positive force) and the exit portion (negative force). By taking the data in Column H of Table 1 and summing the average forces corresponding to these respective portions, the following chart results:

Area of Interest	Force Cumulative (lbs.)
Entry	-8.3196
Gate	34.3030
Exit	-10.1848
TOTAL	15.7986

Conclusions: it is significant to remember that there are no external inputs to the HJMG1, and all magnets used to construct the gate and the magnet-car are of the permanent type. It is apparent that a net cumulative gain of 7.8993 lb.-inches (or nearly 8 lb.-inches) is produced by the interactions between the magnetic gate and the magnet-car.

In terms of pure force produced by the magnetic gate, a net cumulative force of 15.7986 lbs. is generated, i.e. nearly16lbs. The individual forces of course are much smaller, varying between minus 1.0118 and plus 1.4254 lbs.

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Reference is made to Figure 4, which is a plot of the "Average Force on Car" (lbs.) versus the "Distance into Gate (inches). It is clear that the negative forces are only generated outside the gate magnets at both ends of the gate in the areas that have been identified as the "entry" and "exit" portions of the gate. Furthermore, it is noted that the positive forces are generated by the gate's center portion, where the gate magnets line both sides of the track. These conditions suggest that if the gate magnets were extended to form a complete circle (either in the vertical or horizontal plane), the negative forces might be eliminated or at least attenuated to a lower level.

Ideally, the elimination of the negative forces would suggest that a permanent magnet motor would be feasible, unless additional compensatory phenomena are encountered. Investigation of the further phenomenology of circular track configurations is recommended.

Respectfully submitted: Approved:

Kenneth D. Moore Thomas E. Bearden

Kenneth D. Moore Thomas E. Bearden

Test Engineer, CTEC, Inc. President and CEO, CTEC, Inc.

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# Tom Bearden: Chasing the Wild Dragon

Howard Johnson is also a respected colleague, whom I very much admire. Howard has continued to work quietly and patiently upon his patented permanent magnet motor, including patenting various magnetic gates, etc. that are necessary to make such a motor work in a rotary configuration. Howard employs a two-particle theory of magnetism; i.e., each magnetic flux line is envisioned as having a particle traveling from the north pole to the south pole, and also a particle traveling from the south pole to the north pole. The particles are spinning; the forward-time particle spins in one direction, and the antiparticle spins in the other direction. Howard then slightly separates the two particle flows. In other words, Johnson splits the flux lines themselves, into two different pieces.

When so separated, the component lines are now curls, so their paths curve. The paths of the two "curl particles" are different; one curls in one direction and the other curls in the opposite direction. Further, a predominance of one form of curl particle gives a "time-forward" aspect, while a predominance of the other form of curl particle gives a "time-reversed" aspect. Johnson is thus able to employ a deeper kind of magnetism than the textbooks presently contain. He demonstrates that a "spin-altered" magnetic assembly exhibiting (to a compass or other such detector) a north polarity can attract another unaltered magnetic assembly exhibiting a north polarity. In short, he can make a north pole attract a north pole. We will give you further insight into Johnson's two-particle theory in a future article. We will also explain how and why the physicists missed that antiparticle in the magnetic field's flux lines, and thereby failed to advance the theory of magnetism to a deeper level. Make no mistake; one day when the new theory is done, Johnson may well be awarded a Nobel Prize for his epochal discovery of a deeper structure of magnetism.

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I personally saw and closely examined one demonstration of a rotary Johnson permanent magnet motor some years ago, and toyed with it for about one hour. It would definitely self- rotate as long as you wished to permit it to turn. It was not a powerful device at all, but just a small laboratory "proof of principle" prototype. It had cost Johnson an enormous amount of time, labor, and optimization to get the critical adjustment required of his two magnet assemblies. But the device had no power source other than the permanent magnet assemblies themselves. Johnson's nonlinear rotor and stator magnets interacted with each other in a manner to break local symmetry. So his machine was an open system and therefore a permissible overunity device; it was not a perpetuum mobile.

As I have pointed out repeatedly in the past, photons also carry time, not just energy. We have previously shown the process and the photon interaction mechanism that creates the flow of time itself; we will discuss this mechanism in the future. So when Johnson separates the particles and antiparticles, not only does he partially separate them according to spin, but he also alters the local character of time flow during which the resulting magnetic field forces must appear. In other words, he accomplishes a partial separation of time-forward and time-reversed polar interactions. A south pole is just a time-reversed magnetic north pole, in the first place! So a north pole of a bar magnet that is slightly time reversed on one side will partially act on that side just like a south pole. On the other side it will continue to act like a normal north pole. By partially time-reversing (phase conjugating) one side of the north magnetic pole piece, Johnson makes that side look and act like a south pole. That way Howard is able to create two north poles, one on a stator and the other on a rotor, and time-reverse part of one face of the stator's north magnetic pole-piece. Therefore when the proper sides of the stator and rotor north poles are facing, they attract each other, contrary to the conventional textbook. The two poles then repel each other normally as soon as the north rotor poles passes the north stator pole. Hence Johnson can make a surrounding north pole stator assembly "draw in" an approaching north pole rotor assembly, and then kick it on out the other side, because he has broken the local magnetic symmetry.

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In short, Johnson's magnetic gate can provide a legitimate component of unidirectional magnetic thrust, which means that he can indeed make a rotary permanent motor. Simply put, this "partially separating the spin particles," and thereby partially phase conjugating one face of a magnet, is what Johnson calls a "gate," and this is the patented secret by which his magnet assemblies can be made self-powering. The entire process is still very meticulous, and assembly and adjustments are extremely critical. With Johnson's blessings we hope to shed more light on this subject in coming articles. End

Bearden has extended his views on electromagnetism to encompass the effect electromagnetic fields have on biological cells. He has stated that, as a result of his theories, "inexpensive, quick, non-debilitating, cures can be developed for most major dread diseases, including cancer, arteriosclerosis, and AIDS". This assertion is based on his description of diseases and the body's state as being not phenomena, but rather epiphenomena. Bearden labels the source of these manifestations "energy precursors" and states that they are the root causes of symptoms manifested. Bearden has also made claims regarding Electromagnetic Warfare, involving something called a Quantum Potential Weapon, which he claims can "broadcast" destructive disease-triggering waves upon an enemy from a distance. Bearden insists that such weapons were the cause for the momentary outbreak of "flesh-eating disease", as he believes streptococcal infection is a symptom of electromagnetic radiation. He does not cite any published medical literature in these claims.

Bearden suggests that many of these advanced technologies are known by a few governments and clandestine organizations. These theories are a central theme in many of his books, particularly Aids: Biological Warfare, Fer de Lance, and Oblivion: America at the Brink

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In spite of the difficulties and delays in bringing the MEG to market, Bearden maintains that a number of free energy technologies have been available for well over a century, yet have been actively suppressed by government and private interests.

He has repeatedly expressed his belief that the key to over-unity systems was present in the original form of Maxwell's Equations, and this potential was realized by Nikola Tesla; however, he claims that parts of the equations were deliberately suppressed in their vectorization by Heaviside and Lorentz in the late 19th century. Bearden claims this was orchestrated by industrialist J.P. Morgan, in order to protect his oil interests.

He claims that a "nuclear power plant consortium" has worked to "ruthlessly suppress" Cold Fusion, and further that this consortium "is almost certainly to blame for the murder of Gene Mallove, the main proponent and activist for cold fusion.

He has hypothesized that the death of Arie M. DeGeus in Charlotte, North Carolina might have been a murder carried out to suppress his development of a "self-powering battery".

As discussed earlier, he believes that the Japanese have been covering up an overunity version of the Wankel rotary engine.

He believes that Russia developed a weapon in the 1960s which uses "time-polarized EM waves" to disrupt the normal flow of time, and used this in Afghanistan in the 1980s.

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Bearden believes that the Chernobyl disaster "was almost certainly caused by an accidental catastrophic failure of a large TR Woodpecker transmitter about 30 kilometers away", where the device in question generated "giant electro gravitational standing waves". He claims the official story of the meltdown was fabricated by the Soviets after the fact.

Bearden has claimed that Russia used various other technologies in the 1980s to cause the destruction of the Challenger space shuttle and induce "several large earthquakes".

He believes the Japanese Yakuza used this technology to trigger the 2004 Indian Ocean earthquake, and the resulting tsunami, which killed approximately 200,000 people, and that the Yakuza is also plotting to trigger the Yellowstone Super volcano, which would kill the majority of the US population.

Bearden has maintained that scalar electromagnetic waves can be used to create the high and low-pressure zones and influence the weather. He claims that the Russian KGB, in collaboration with the Japanese Yakuza and Aum Shinrikyo cult, has been secretly influencing the weather since 1990, and explicitly blames the Yakuza for Hurricane Katrina.

Tom Bearden helped design the Motionless electromagnetic generator (MEG), a proposed device which is most notable for claims of over-unity operation, a feat which would violate the second law of thermodynamics (see below). Allegedly, the device can sustain its operation in addition to powering a load without application of external electrical power, by extraction of vacuum energy from the immediate environment. However this has never been actually demonstrated in a controlled setting. The device strongly resembles a standard transformer, but contrary to these a permanent magnet is included in the design, and the associated circuitry shifts the operation point of the magnetic core, or to put it differently, switches the direction of the majority of the magnetic flux path. The MEG is alternatively pulsed to provide induced output current pulses.

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The United States patent office (USPTO) granted U.S. Patent 6,362,718 to Bearden and four other inventors: Stephen L. Patrick, James C. Hayes, James L. Kenny, and Kenneth D. Moore. However, the patent application makes no direct claims regarding the MEG as a power source, and includes nothing about over unity operation or vacuum energy.

In 2001, Bearden predicted that the first commercial products based on the MEG would be "rolling off the production lines in about one year"; however, to date there are no commercial products based on this device, nor have there been any public demonstrations of the technology. Bearden admits he has no working prototype, claiming in 2005 his 'last working demonstrator was promptly destroyed' by a 'contracting party, Lutec Australia are making and selling these machines worldwide now. Genesis Motorcycles (Japan) run a motorbike on the principal. Cyclone Magnetic Engines seem close to production and the Orion Project are working on them. The process has been proven by 2 Nobel Prize winners and also by independent scientists (will add more in minute. Also in 2005, he stated it would take \$11 to \$12 million to develop the MEG into a commercial product. No independent tests of the device have supported Bearden's claims.

George Westinghouse, Jr. (October 6, 1846 – March 12, 1914) was an American entrepreneur and engineer who invented the railway air brake and was a pioneer of the electrical industry. Westinghouse was one of Thomas Edison's main rivals in the early implementation of the American electricity system. Westinghouse's system, which used alternating current based on the extensive research by Nikola Tesla, ultimately prevailed over Edison's insistence on direct current. In 1911, he received the AIEE's Edison Medal "For meritorious achievement in connection with the development of the alternating current system."

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Historian Paul Israel has characterized Edison as a "freethinker". Edison was heavily influenced by Thomas Paine's The Age of Reason. Edison defended Paine's "scientific deism", saying, "He has been called an atheist, but atheist he was not. Paine believed in a supreme intelligence, as representing the idea which other men often express by the name of deity.

In an October 2, 1910, interview in the New York Times Magazine, Edison stated:

"Nature is what we know. We do not know the gods of religions. And nature is not kind, or merciful, or loving. If God made me — the fabled God of the three qualities of which I spoke: mercy, kindness, love — He also made the fish I catch and eat. And where do His mercy, kindness, and love for that fish come in? No; nature made us — nature did it all — not the gods of the religions."

Edison was called an atheist for those remarks, and although he did not allow himself to be drawn into the controversy publicly, he clarified himself in a private letter: "You have misunderstood the whole article, because you jumped to the conclusion that it denies the existence of God. There is no such denial, what you call God I call Nature, the Supreme intelligence that rules matter. All the article states is that it is doubtful in my opinion if our intelligence or soul or whatever one may call it lives hereafter as an entity or disperses back again from whence it came, scattered amongst the cells of which we are made."

Nonviolence was the key to Edison's moral views, and when asked to serve as a naval consultant for World War I, he specified he would work only on defensive weapons and later noted, "I am proud of the fact that I never invented weapons to kill." Edison's philosophy of nonviolence extended to animals as well, about which he stated: "Nonviolence leads to the highest ethics, which is the goal of all evolution. Until we stop harming all other living beings, we are still savages."

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However, he is also notorious for having electrocuted a number of dogs in 1888, both by direct and alternating current, in an attempt to argue that the former (which he had a vested business interest in promoting) was safer than the latter (favored by his rival George Westinghouse).

Edison's success in promoting DC current as less lethal also led to AC current being used in the electric chair adopted by New York in 1889 as a supposedly humane execution method; because Westinghouse was angered by the decision, he funded the Eighth Amendment-based appeals for inmates set to die in the electric chair, ultimately resulting in Edison providing the generators which powered early electrocutions and testifying successfully on behalf of the state that electrocution was a painless method of execution.

Quote-"It is going to depend upon the public to get the fuel cell in the country," he said. "It has been people, not companies or governments that have gotten the fuel cell this far along. If enough people want this, they will get it into the country. People are just tired of being ripped off." The late Stanley Meyer -End quote.

Meyer has demonstrated his fuel cell device before Professor Michael Laughton, Dean of Engineering at Mary College, London, Admiral Sir Anthony Griffin, a former controller of the British Navy, and Dr Keith Hindley, a UK research chemist. According to the witnesses, the most startling aspect of the Meyer cell was that it remained cold, even after hours of gas production as his system appeared to operate on mere milliamperes, rather than the amperes that conventional electrolysis would require.

#### The witnesses also stated:

"After hours of discussion between ourselves, we concluded that Stan Meyer did appear to have discovered an entirely new method for splitting water which showed few of the characteristics of classical electrolysis."

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Confirmation that his devices actually do work come from his collection of granted US patents on various parts of the WFC system. Since they were granted under Section 101 by the US Patent Office, the hardware involved in the patents has been examined experimentally by US Patent Office experts and their seconded experts and all the claims have been established.

Tom mentioned that there are a few critical things that anyone who wants to successfully build a working HJ PMM needs to know, some of which are probably obvious to the more experienced builders:

- 1) the most critical element is the precise machining of the magnets. Joe Q. Public, with his diamond saw, cutting his own magnets by hand has little chance of succeeding in shaping the magnets to the aerospace-critical specs that are the minimum necessary, much less duplicating that feat several times for each necessary part.
- 2) Alignment of the parts is highly important too. One slight misalignment and the motor will not run continuously.
- 3) All magnets aren't the same. This application requires expensive, extremely high quality magnets. Howard, in order to get them cheaper, was buying them in \$50K lots from China, where high quality and a lower price can be had.

I also spoke with a gentleman named Gary Hanson who had been in touch with Howard years ago when Gary was trying to build Howard's motor. Howard told him, as I think most researchers on this know now, that the motor \*can\* be built directly from the patent but that there needs to be 5 or 6 armatures and not just the one that is shown as an illustration in the patent.

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Chapter 22. Words of awareness from other scientists

# IMPLICATION: A NATIONAL POWER SYSTEM HEADED FOR DISASTER.

- Electrical professors and departments adamantly refuse to update their model.
- The National Academy of Sciences, National Science Foundation, National Laboratories, Department of Energy, and our universities still have not grasped the source of the energy that powers every electrical power system, circuit, and device.
- Electrical power engineers falsely assume that, except for the solar cell taking its energy from conventional solar radiation, one cannot build an electrical analogy to a windmill powered by "free EM energy winds" in space or vacuum.
- Every EM field and potential is already a steady state "EM energy wind" system, established and maintained by the asymmetry of the associated source charges.
- Every charge is already a "vacuum energy wind" system directly analogous to a special "solar cell". The charge's steady energy flow output is freely powered by virtual energy continuously furnished by its active vacuum environment. Every charge proves that such systems are not only possible but also ubiquitous. It is the scientific dogma that is flawed, not nature.
- Energy is not conserved by accounting for mass systems and observable energy alone, but by accounting for mass systems, observable energy, the active vacuum, and the virtual energy exchanges between active vacuum and mass systems.

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- As Noblest Lee put it: "Since no observables imply symmetry, any discovery of asymmetry must imply some observable. The experiment of Wu, Ambler, Hayward, Hoppes and Hudson... established the asymmetry between the positive and negative signs of electricity."
- Lee also briefly considered some basic ideas for directly engineering the vacuum. Ironically, Lee himself apparently did not see the source charge solution and its revolutionary implications to power systems and power engineering.
- The power company uses the energy content in fossil and nuclear fuels to crank the shaft of the generator. This forcibly separates the opposite charges in the generator and its external circuit, forming a source dipolarity. By its asymmetry of opposite charges, every dipole in that dipolarity then continuously extracts EM energy directly from its local vacuum, and pours it out to form the associated field and potential energy available in the circuit to power the loads and losses.
- In the standard closed current loop system, half the energy collected from the vacuum by the external circuit is used only to drive the spent charges through ground return back to the generator and through the back emf of its source dipole. This forcibly scatters the separated opposite charges and destroys the dipolarity, quenching the free extraction of EM energy from the local vacuum.
- The other half of the collected energy in the external circuit is dissipated in the losses and loads of the external circuit itself. So less energy is used to power the load than is used to destroy the source dipolarity.
- To get more energy from the vacuum, it is necessary to again restore the source dipolarity in the generator and external circuit. To force the opposite charges back apart, at least as much shaft energy must be input to the generator again, that was used to destroy its dipolarity.

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- Hence greater mechanical energy must continually be input to the shaft of the generator than is dissipated in the loads. The standard closed current loop circuit guarantees COP < 1.0 operation. The only reason for this insane operation is because the circuit is built specifically to require it and self-enforce it. Nature does not require it.
- Thus our power engineers only build power systems that destroy their "free extraction of vacuum energy" process faster than they use some of the vacuum-furnished energy to power their loads. We must pay to continually crank the generator shaft to restore the dipole that the circuit is designed to continually destroy.
- We pay the power company to deliberately engage in a giant wrestling match inside its generators and lose. This is the real reason for the increasing energy crisis.
- Hence the giant pollution of the biosphere continues unnecessarily, the power meter stays on our homes and offices unnecessarily, and the gas meter stays on the gas pump unnecessarily. But the energy cartels continue to reap a bonanza around the globe.
- There is not now—and there never has been—a single electrical engineering department, professor, or textbook that knows and teaches what really powers an electrical circuit.
- Neither the scientific community—the National Academy of Sciences, National Science Foundation, etc.—nor the Department of Energy has a single funded and determined program to understand how to better utilize the free-flowing vacuum energy already powering all circuits and power systems. None of them even realizes what powers the grid system.

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None of them realizes that up to a trillion times as much Heaviside energy flow is unaccounted and wasted, as the energy flow is accounted and utilized. The proof that any EM field or potential is a set of longitudinal EM wave energy flows is given by Whittaker.

- Jackson at least adds that the Poynting vector is arbitrary and a curled energy flow component could be added. But he also states it would "have no physical significance". That latter statement is true only in a flat space-time condition and only when the "assumed unit point charge" at each point in space is static rather than self-resonating. The Bohren experiment {22a} produces COP = 18, and indeed the entire field of "negative resonance absorption of the medium" violates Jackson's assumption. However, scientists in the "negative resonance absorption" area of optics do not discuss COP>1.0, but only discuss the change in reaction cross section.
- The seriously flawed advice of our scientific community to our government's energy decision makers is that "more of the same energy means" is what is required. Were it is not so tragic to humanity and to the biosphere; it would be a cosmic joke.
- With only that flawed scientific advice available to him, President Bush is struggling to (i) allow updating old polluting power plants without additional pollution controls, (ii) allow drilling wherever oil and gas are to be found, (iii) massively increase the grid transmission lines and the number of power plants feeding it, (iv) go for fuel cells as an intended answer to the transport problem, and (v) consider building additional nuclear power plants. He has been offered no other viable choice.

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- Coal is probably going to become the immediate power fuel of choice. Recently some 65% of our oil needs were filled by foreign sources. Most of that comes from unstable regions of the world. The clear danger of foreign-induced U.S. economic disaster is obvious.
- Meanwhile, the grid is "splintered"; its "control" is highly disorganized and also splintered (often depending on "courtesy call" from one separated part to another). Parts often compete against each other, there is no central regulating and enforcement authority, maintenance and reliability have been scavenged, etc. As a massive system of potentially clashing servomechanisms, almost everything in the handbook for servomechanism control theory is violated by the present grid. The grid is highly unstable, terribly vulnerable, and its main "protection" is abrupt shutdown of power plants, refineries, etc. to try to prevent their damage. Even the clocks throughout the system are not all synchronized.
- Together with an aging grid with one of the poorest servomechanism control systems imaginable, the August 14, 2003 severe blackout in New York, Ohio, and Canada—and others in England, Spain, and Italy— are just the beginning.
- The recall of the governor of California for the energy disaster is also just the beginning, as an angered citizenry holds its political leaders accountable for bureaucratic bungling, splintering of control and responsibility, corporate profiteering, lack of liability controls and enforcement, etc.

We need not ask for whom the warning bell tolls. It tolls for us, and it warns of an eventual great grid disaster, potential economic collapse of the U.S., and perhaps potential economic collapse worldwide. It also warns of the increasing spawning of energy wars and terrorism, in addition to ever increasing poisoning of our biosphere, strangling of species, induction of diseases, and global warming.

**Quantum Magnetic Mechanics** 

Dale G. Basgall

**Chapter 23. Clear Understandings & Perpetual Motion** 

#### "Clearly understood, nothing is impossible" Dale G. Basgall 2010

Weather any of the previous text read upon is true regarding the claims from the different scientists or not, there are no machines available to the public that can be purchased that would allow each individual to generate their own electricity, that have been built upon the previous technology commented on. Therefore several clear understandings need to be addressed factually, logically, eloquently, and perceptually that will put human beings into the next substantial advancement in permanent magnetic field oscillation for mankind.

This advancement will allow each individual to purchase a device that generates electrical current for individual consumption using the technology of vibrating fields of permanent magnetism and electromagnetism in a way that de-amplifies potential into amplified volume.

Perpetual motion is generally used to describe the hypothetical continuous operation of a mechanism without the introduction of energy from an external source (known as perpetual motion of the first kind), or the hypothetical operation of a mechanism that would convert heat directly into work (known as perpetual motion of the second kind).

The laws of thermodynamics show that perpetual motion devices cannot exist. Nevertheless, the lure of perpetual motion has always attracted inventors, and despite the universal scientific view that they are impossible, many people still try to build perpetual motion machines. The most commonly contemplated type of perpetual motion machine is a mechanical system which (supposedly) sustains motion indefinitely, despite losing energy to friction and air resistance.

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This violates the first law of thermodynamics (conservation of energy). A second type of perpetual motion machine is one which produces work by extracting heat from a lower temperature source, thereby cooling them down further, and converting the heat energy into mechanical work. Such machines do not violate the conservation of energy principle, but are forbidden by the second law of thermodynamics.

Since the term perpetual motion has acquired a stigma, a number of other terms are used by current enthusiasts of this technology, such as over-unity devices (referring to devices with energy efficiency greater than 1.0), free energy technology, etc.

The term "perpetual motion\*" is usually not employed as a description of natural frictionless moving systems, such as the quantum motions of electrons in atoms, the movement of light in vacuum, and other similar phenomena that involves motion without the input of energy. Devices which generate useful energy from "perpetual" external sources, such as ocean current turbines and Cox's timepiece, are also generally considered not to be true "perpetual motion devices", as they are actually drawing in renewable energy from external sources.

Perpetual motion violates either the first law of thermodynamics, the second law of thermodynamics, or both. The first law of thermodynamics is essentially a statement of the conservation of energy.

The second law can be phrased in several different ways, the most intuitive of which is that heat flows spontaneously from hotter to colder places; the most well-known statement is that entropy tends to increase, or at the least stay the same; another statement is that no heat engine (an engine which produces work while moving heat between two separate places) can be more efficient than a Carnot heat engine. As a special case of this, any machine operating in a closed cycle cannot transform thermal energy to work in a region of constant temperature.

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Machines which are claimed not to violate either of the two laws of thermodynamics but rather to generate energy from unconventional sources are sometimes referred to as perpetual motion machines, although they are generally considered not to meet the standard criteria for the name. By way of example, clocks and other low-power machines, such as Cox's timepiece, have been designed to run on the differences in barometric pressure or temperature between night and day. Such a machine has a source of energy, albeit one which is not readily apparent so that it seems to run on nothing.

Chapter 24.	<b>Background</b>	of	Perpet	ual I	Motion	machines

It is customary to classify supposed perpetual motion machines according to which law of thermodynamics they purport to violate:

A perpetual motion machine of the first kind produces energy from nothing, giving the user unlimited 'free' energy. It thus violates the law of conservation of energy:

A perpetual motion machine of the second kind is a machine which spontaneously converts thermal energy into mechanical work. When the thermal energy is equivalent to the work done, this does not violate the law of conservation of energy. However it does violate the more subtle second law of thermodynamics. Such a machine is different from real heat engines (such as car engines), which always involve a transfer of heat from a hotter reservoir to a colder one, the latter being warmed up in the process. The signature of a perpetual motion machine of the second kind is that there is only one heat reservoir involved, which is being spontaneously cooled without involving a transfer of heat to a cooler reservoir. This conversion of heat into useful work, without any side effect, is impossible, according to the second law of thermodynamics.

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In contrast, for example, an automobile engine is not a perpetual motion machine because it works on the basis of the temperature difference between the fuel burning in the cylinder and the cooler environment outside.

In order for it to function, some of the chemical energy released as heat when the fuel burns must not be converted to work, but must be exhausted to the cooler reservoir of the environment by the exhaust gas and the radiator. As explained by statistical mechanics, there are far more states in which heat distribution is close to thermodynamic equilibrium than states in which heat is concentrated in small regions, so temperatures will tend to even out over time, reducing the amount of free energy available for conversion to mechanical energy.

A more obscure category is a perpetual motion machine of the third kind, usually (but not always) defined as one that completely eliminates friction and other dissipative forces, to maintain motion forever (due to its mass inertia). Third in this case refers solely to the position in the above classification scheme, not the third law of thermodynamics. Although it is impossible to make such a machine, as dissipation can never be 100% eliminated in a mechanical system, it is nevertheless possible to get very close to this ideal. Even if such a machine could be built, it would not serve as a source of energy but merely a perpetual energy storage device. A frictionless flywheel, for example, would eventually slow down and stop if its kinetic energy were tapped for useful work, and we would get no more energy out than the amount that was initially put in to spin up the flywheel.

It is widely understood that the laws of physics are incomplete. Outside of pure mathematics, stating that things are absolutely impossible is considered unscientific by many. Nevertheless, the term is commonly used to describe those things which absolutely cannot occur within the context of our current formulation of physical laws.

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The conservation laws are particularly robust. Noether's theorem states that any conservation law can be derived from a corresponding continuous symmetry.

In other words, so long as the laws of physics (not simply the current understanding of them, but the actual laws, which may still be undiscovered) and the various physical constants remain invariant over time — so long as the laws of the universe are fixed — then the conservation laws must be true, in the sense that they follow from the presupposition using mathematical logic.

To put it the other way around: if perpetual motion or "over unity" machines were possible, then most of what we believe to be true about physics, mathematics, or both would have to be false.

We can investigate whether the laws of physics are invariant over time: using telescopes we can examine the universe in the distant past; the fact that stars even exist and are, to the limits of our measurements, identical to stars today, is a direct visual demonstration that physics was similar in the past. Combining different measurements such as spectroscopy, direct measurement of the speed of light in the past and similar measurements demonstrates that physics appears to have remained substantially the same, if not identical, for all of observable history spanning billions of years.

The principles of thermodynamics are so well established, both theoretically and experimentally, that proposals for perpetual motion machines are universally met with disbelief on the part of physicists. Any proposed perpetual motion design offers a potentially instructive challenge to physicists: one is almost completely certain that it can't work, so one must explain how it fails to work. The difficulty (and the value) of such an exercise depends on the subtlety of the proposal; the best ones tend to arise from physicists' own thought experiments and often shed light upon certain aspects of physics.

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The law that entropy always increases, holds, I think, the supreme position among the laws of Nature. If someone points out to you that your pet theory of the universe is in disagreement with Maxwell's equations — then so much the worse for Maxwell's equations. If it is found to be contradicted by observation — well, these experimentalists do bungle things sometimes. But if your theory is found to be against the second law of thermodynamics I can give you no hope; there is nothing for it but to collapse in deepest humiliation. — Sir Arthur Stanley Eddington, the Nature of the Physical World (1927)

Serious work in theoretical physics often involves thought experiments that test the boundaries of understanding of physical laws. Some such thought experiments involve apparent perpetual motion machines, and insight may be had from understanding why they either don't work or work in a way that does not violate the laws of physics.

Maxwell's demon: A thought experiment which led to physicists considering the interaction between entropy and information.

Feynman's "Brownian ratchet": A "perpetual motion" machine which extracts work from thermal fluctuations and appears to run forever but really only runs as long as the environment is warmer than the ratchet.

Self-perpetuating cosmic inflation: Andrei Linde has proposed that during the theoretical period of cosmic inflation in the early universe, quantum fluctuations in energy could be magnified by the very inflationary process, preventing the global cooling trend from ever being fully consummated. This would violate both the first and second laws of thermodynamics; indeed, it may constitute the origin of a lowentropy past that gets the second law going in the first place. However, a machine to harness this principle would have several serious flaws.

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It would need to use unimaginable amounts of energy (on at least a Planck scale); it might have consequences cataclysmic to the area around it for an unknown distance (there is no prior natural limit to the scale of the damage); and at least the majority of and possibly all the energy it generated would be in a newly-created universe which might be inaccessibly far away along a wormhole.

Some common ideas recur repeatedly in perpetual motion machine designs. Many ideas that continue to appear today were stated as early as 1670 by John Wilkins, Bishop of Chester and an official of the Royal Society. He outlined three potential sources of power for a perpetual motion machine, "Chemical Extractions", "Magnetical Virtues" and "the Natural Affect of Gravity".

The seemingly mysterious ability of magnets to influence motion at a distance without any apparent energy source has long appealed to inventors. One of the earliest examples of a system using magnets was proposed by Wilkins and has been widely copied since: it consists of a ramp with a magnet at the top, which pulled a metal ball up the ramp.

Near the magnet was a small hole that was supposed to allow the ball to drop under the ramp and return to the bottom, where a flap allowed it to return to the top again. The device simply could not work: any magnet strong enough to pull the ball up the ramp would necessarily be too powerful to allow it to drop through the hole. Faced with this problem, more modern versions typically use a series of ramps and magnets, positioned so the ball is to be handed off from one magnet to another as it moves. The problem remains the same.

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Gravity also acts at a distance, without an apparent energy source. But to get energy out of a gravitational field (for instance, by dropping a heavy object, producing kinetic energy as it falls) you have to put energy in (for instance, by lifting the object up), and some energy is always dissipated in the process. A typical application of gravity in a perpetual motion machine is Bhaskara's wheel in the 12th century, whose key idea is itself a recurring theme, often called the overbalanced wheel.

Moving weights are attached to a wheel in such a way that they fall to a position further from the wheel's center for one half of the wheel's rotation, and closer to the center for the other half. Since weights further from the center apply a greater torque, the result is (or would be, if such a device worked) that the wheel rotates forever. The moving weights may be hammers on pivoted arms, or rolling balls, or mercury in tubes; the principle is the same.

Yet another theoretical machine involves a frictionless environment for motion. This involves the use of diamagnetic or electromagnet levitation to float an object. This is done in a vacuum to eliminate air friction and friction from an axle. The levitated object is then free to rotate around its center of gravity without interference. However, this machine has no practical purpose because the rotated object cannot do any work as work requires the levitated object to cause motion in other objects, bringing friction into the problem.

To extract work from heat, thus producing a perpetual motion machine of the second kind, the most common approach (dating back at least to Maxwell's demon) is unidirectionality. Only molecules moving fast enough and in the right direction are allowed through the demon's trap door. In a Brownian ratchet, forces tending to turn the ratchet one way and are able to do so while forces in the other direction aren't. A diode in a heat bath allows currents through in one direction and not the other.

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These schemes typically fail in two ways: either maintaining the unidirectionality costs energy (Maxwell's demon needs light to look at all those particles and see what they're doing), or the unidirectionality is an illusion, and occasional big violations make up for the frequent small non-violations (the Brownian ratchet will be subject to internal Brownian forces and therefore will sometimes turn the wrong way).

In 8th century Bavaria appeared the "magic wheel", was a wheel spinning on its axle powered by some lodestones. The wheel was supposed to rotate forever, but ultimately the friction stopped it after a long time.

Indian mathematician-astronomer, Bhāskara II, described an early perpetual motion machine, dated back to 1150. He described a wheel that he claimed would run forever.

Villard de Honnecourt in 1235 described, in a 33 page manuscript, a perpetual motion machine of the first kind. His idea was based on the changing torque of a series of weights attached with hinges to the rim of a wheel. While ascending they would hang close to the wheel and have little torque, but they would topple after reaching the top and drag the wheel down on descent due to their greater torque during the swing. His device spawned a variety of imitators who continued to refine the basic design.

Following the example of Villard, Peter of Maricourt designs another machine: a magnetic globe which, if it were mounted without friction parallel to the celestial axis, would rotate once a day. It would serve as an automatic armillary sphere.

In 1607 Cornelius Drebbel in "Wonder-vondt van de eeuwighe bewegingh" dedicated a Perpetuum motion machine to James I of England. It was described by Heinrich Hiesserle von Chodaw in 1621.

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Robert Boyle's self-flowing flask appears to fill itself through siphon action. This is not possible in reality: a siphon requires its "output" to be lower than the "input".

Blaise Pascal introduced a primitive form of roulette and the roulette wheel in the 17th century in his search for a perpetual motion machine.

In 1775 the Royal Academy of Sciences in Paris issued the statement that the Academy "will no longer accept or deal with proposals concerning perpetual motion". Johann Bessler (also known as Orffyreus) created a series of claimed perpetual motion machines in the 18th century. In the 19th century, the invention of perpetual motion machines became an obsession for many scientists. Many machines were designed based on electricity, but none of them lived up to their promises. Another early prospector in this field was John Gamgee. Gamgee developed the Zeromotor, a perpetual motion machine of the second kind.

Devising these machines is a favorite pastime of many eccentrics, who often come up with elaborate machines in the style of Rube Goldberg or Heath Robinson. These designs may appear to work on paper at first glance. Usually, though, various flaws or obfuscated external power sources have been incorporated into the machine. Such activity has made them useless in the practice of "invention".

As the term "perpetual energy" increasingly became associated with fraud in the late 19th century, inventors have generally come to avoid using it. One common alternative term used is "over-unity," even though it has essentially the same meaning. Today devices described as perpetual motion devices claim to operate by extracting "zero point energy" or some other source of external energy.

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Modern demonstrations of such machines sometimes involve using a small battery (called an exciter) to spin a flywheel which then turns a generator to (briefly) illuminate a common mains-powered type of light bulb; this is a straightforward conversion between potential and kinetic energy.

"One day man will connect his apparatus to the very wheelwork of the universe [...] and the very forces that motivate the planets in their orbits and cause them to rotate will rotate his own machinery." Nikola Tesla

Proposals for such inoperable machines have become so common that the United States Patent and Trademark Office (USPTO) has made an official policy of refusing to grant patents for perpetual motion machines without a working model. The USPTO Manual of Patent Examining Practice states:

With the exception of cases involving perpetual motion, a model is not ordinarily required by the Office to demonstrate the operability of a device. If operability of a device is questioned, the applicant must establish it to the satisfaction of the examiner, but he or she may choose his or her own way of so doing.

And, further, that: A rejection of a patent application on the ground of lack of utility includes the more specific grounds of inoperativeness, involving perpetual motion. A rejection under 35 U.S.C. 101 for lack of utility should not be based on grounds that the invention is frivolous, fraudulent or against public policy.

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The filing of a patent is a clerical task, and the USPTO won't refuse filings for perpetual motion machines; the patent will be filed and then most probably rejected by the patent examiner, after he has done a formal examination. Even if the patent is granted, it doesn't mean that the invention actually works, it just means that the examiner thinks that it works, or that he couldn't figure out why it wouldn't work.

The importance to me as an inventor is that writing a patent formalizes the recipe precisely to replicate any device that a patent is written upon so someone else can duplicate it and use the apparatus. It does not mean the inventor is trying to suppress its usage, he or she that invents a device can publish an article that allows anyone free usage.

A patent and its application is vitally important to accurately communicate to anyone wanting the information to replicate the product of the art form the invention falls into and that the patent has been written upon. It "does not" restrict anyone from using the information and it is "vitally" important to file a patent because the information becomes available to anyone worldwide and is not restricted by media advertisements and other generated articles that may deviate from the original recipe from the designer of the product . In other words it "keeps the product clean" and unadulterated.

The USPTO maintains a collection of Perpetual Motion Gimmicks as Digest 9 in Class 74. The USPTO has granted a few patents for motors that are claimed to run without net energy input. Some of these are:

Hartman; Emil T., U.S. Patent 4,215,330 "Permanent magnet propulsion system", December 20, 1977 (this device is related to the Simple Magnetic Overunity Toy).

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Baker, Daniel, U.S. Patent 4,074,153 "Magnetic propulsion device", February 14, 1978

Johnson, Howard R., U.S. Patent 4,151,431 "Permanent magnet motor", April 24, 1979.

Flynn; Charles J., U.S. Patent 6,246,561 "Methods for controlling the path of magnetic flux from a permanent magnet and devices incorporating the same", July 31, 1998.

Flynn, Joe, U.S. Patent 6,246,561 "Methods for controlling the path of magnetic flux from a permanent magnet and devices incorporating the same", June 12, 2001.

Patrick, et al., U.S. Patent 6,362,718 "motionless electromagnetic generator", March 26, 2002.

Gates; Glenn A., U.S. Patent 6,523,646 "spring driven apparatus", February 23, 2003 "Energy is stored in the springs and power is generated by way of the various forces which cause the springs to wind and unwind."

Green, Willie A., U.S. Patent 6,526,925 "piston driven rotary engine", March 4, 2003 "Fluid driven device utilizing a leveraged system with minimal displacement".

Goldenblum, Halm, U.S. Patent 6,962,052 "energy generation mechanism, device and system", November 8, 2005 "A chamber with a partition which lets gas molecules flow one way and not the other. The pressure which builds up on one side of the partition is used to drive a generator."

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McQueen; Jesse, U.S. Patent 7,095,126 "internal energy generating power source", August 22, 2006 "An external power source such as a battery is used to initially supply power to start an alternator and generator. Once the system has started it is not necessary for the battery to supply power to the system. The battery can then be disconnected. The alternator and electric motor work in combination to generate electrical power." Examiners: Schuberg, Darren; Mohandesi, Iraj A.

Haisch, et al. U.S. Patent 7,379,286 "quantum vacuum energy extraction", May 27, 2008 "[...] when converting energy from the electromagnetic quantum vacuum available at any point in the universe to usable energy in the form of heat, electricity, mechanical energy or other forms of power. [...] When atoms enter into suitable micro Casimir cavities a decrease in the orbital energies of electrons in atoms will thus occur. Such energy will be captured in the claimed devices. Upon emergence form such micro Casimir cavities the atoms will be re-energized by the ambient electromagnetic quantum vacuum. [...] process is also consistent with the conservation of energy in that all usable energy does come at the expense of the energy content of the electromagnetic quantum vacuum."

In 1979, Joseph Newman filed a US Patent application for his "energy machine" which unambiguously claimed over-unity operation, where power output exceeded power input; the source of energy was claimed to be the atoms of the machine's copper conductor. The Patent Office rejected the application after the National Bureau of Standards measured the electrical input to be greater than the electrical output. Newman challenged the decision in court and lost.

Other patent offices around the world, such as the United Kingdom Patent Office, have similar practices. Section 4.05 of the UKPO Manual of Patent Practice states: Processes or articles alleged to operate in a manner which is clearly contrary to well-established physical laws, such as perpetual motion machines, are regarded as not having industrial application. Examples of decisions by the UK Patent Office to refuse patent applications for perpetual motion machines include:

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Decision BL O/044/06, John Frederick Willmott's application no. 0502841 Decision BL O/150/06, Ezra Shimshi's application no. 0417271

The European Patent Classification (ECLA) has classes including patent applications on perpetual motion systems: ECLA classes "F03B17/04: Alleged perpetua mobilia ..." and "F03B17/00B:... machines or engines (with closed loop circulation or similar: ...Installations wherein the liquid circulates in a closed loop; Alleged perpetua mobilia of this or similar kind ..."

Motionless Electromagnetic Generator, a device that supposedly taps vacuum energy.

Perepiteia, a device that claims to utilize back EMF.

Stanley Meyer's water fuel cell is a device that purportedly powered a car by converting water into hydrogen and harnessing the energy of hydrogen combustion (which, in turn, emits water vapor that can be refueled to the car).

## **Apparent perpetual motion machines**

Even though they fully respect the laws of thermodynamics, there are a few conceptual or real devices that appear to be in "perpetual motion." Closer analysis reveals that they actually "consume" some sort of natural resource or latent energy, such as the phase changes of water or other fluids or small natural temperature gradients. In general, extracting large amounts of work using these devices is difficult to impossible.

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# **Examples of such devices include:**

The drinking bird toy functions using small ambient temperature gradients and evaporation.

A capillarity based water pump functions using small ambient temperature gradients and vapor pressure differences.

A Crookes radiometer consists of a partial vacuum glass container with a lightweight propeller moved by (light-induced) temperature gradients. This device is picking up minimal amounts of energy from the natural electromagnetic radiation around it, such as a solar powered motor.

The Atmos clock uses changes in the vapor pressure of ethyl chloride with temperature to wind the clock spring.

A device powered by radioactive decay from an isotope with a relatively long halflife; such a device could plausibly operate for hundreds or thousands of years.

In flywheel energy storage, "modern flywheels can have a zero-load rundown time measurable in years." Once spun up, objects in the vacuum of space—stars, black holes, planets, moons, spin-stabilized satellites, etc.—continue spinning almost indefinitely with no further energy input.

In certain quantum-mechanical systems (such as super fluidity and superconductivity), dissipation-free "motion" is possible.

Because perpetual motion claims have been around for some time, conspiracy theories are often invoked to explain the lack of acceptance and/or availability of such technology.

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#### Chapter 24. A Mechanics Perspective

It appears that even though many brilliant scientists and inventors have written about this art of quantum magnetism and developed apparatus to show results of their efforts and beliefs. Nothing is observable as a result other than their information to promote the art and their self-proclaimed observations.

All of these people actually believed that a permanent magnetic field could be used somehow to do work or make electricity. I also believe this however I also have no working models in fact.

Concluding that; "the next substantial advancement for humanity will be an individual electrical power generating system for each person that is small and silent with no observable moving parts and capable of generating the electrical power needs of a common household." Dale G. Basgall 2011

From the mechanical point of view it becomes a logical deduction of what it cannot be. The wheel has been used over and over by almost all the mechanics that have attempted using permanent magnets in a perpetual way. These men and women of the past were as brilliant as the men and women of today and they failed to produce any working models of the permanent magnetic motor. Even the permanent magnetic track system does not work after it is extended several feet.

These men and women of today experimenting with permanent magnetic wheels and tracks find themselves back to the same unfriendly scenario; of working on a really needed device and project using permanent magnets as the source of the prime mover, and facing the physics that has lasted through millions of years.

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There is a possibility that with the newly designed machine tools of today like for instance the EDM cutter, a very strong permanent magnet can be cut into a precise geometric shape allowing that magnet to be precisely positioned in an apparatus causing momentum. Many possibilities exercised, but again a dead end street for results of an available product to help mankind in getting through its energy crunch.

In fact, a permanent magnet requires electrical energy to produce the magnet. Even if someone could figure how to use permanent magnets to produce perpetual motion, there will still be the issue of using the differential pressure of several magnetic fields interacting together as one. It becomes an issue of electrical power in and potential work out and someone has to generate the electricity in the first step to making a magnetic field.

What I have found in all my research to date is that no one has the answers and most scientists, mathematicians, and physicists aren't able to comprehend what the right questions are to be answered to obtain this zero point. There is a long list of individuals with many diplomas and titles writing and claiming they know the answers about zero point energy. If this was true that someone actually knows how to produce energy from quantum space that is new and beneficial to mankind, they would. The fact is that so much information that has not worked or even at minimum come to light in a small model leads this mechanic to speculate, why not.

Does everything have to be just right to make anything happen? Scientists figured out some parts of the atom and then built a bomb out of it. So what is this "*Holy Grail*\*" that many wealthy people are hunting for today and have hunted for since recorded history? What do the majority of people need for survival today?

Money to purchase available energy; gas for the gasoline powered engines, electricity for the electric devices and fuel for heating is where most of our working time is spent to achieve our individual lifestyle.

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Mechanically speaking it is difficult to advance a mechanical art that requires invisible fields to interact as one in a conventional mechanical application. Practicality is the essential ingredient, how practical will it be to use two or more invisible forces of permanent magnetism when no one to this date has the fields completely explained. The magnetic forces must interact together in a harmonious relationship with perfection in positioning as an absolute necessity for function.

The positioning will intersect invisible vector points within a magnetic domain and that another magnetic domain in conjunction with the other magnetic domains will begin oscillation after a specific vibration wave becomes evident. Almost like a concerto of music like a vibration and reverberation of invisible magnetic domains.

This new device will reverberate and cause oscillation in a cascaded fashion like an amplifier of invisible magnetic domains. Large amounts of collected potential energy will flow from the virtual vacuum of space like grain shaken from the plant into a screen. This will be done without the observation of any physically moving mechanical parts. The device will be called Reverbatron One.

That leaves a few questions to be answered first regarding the device contemplated: What will be the key vibrational frequency of the catalyst wave that will start the magnetic domains oscillating? What geometric shape will appear when the physical elements of magnetic domain are correctly positioned to interact together, causing the flow of energy? What will the geometric shape of the precisely cut dipole end up being? What types of material or elements will be present in the physical container of the Reverbatron One device? What will the container of the elements comprising Reverbatron One appear to be, like a cube? What colors will become visible as the Reverbatron One is functioning as a zero point energy collection device?

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TRN: 4732/4988

Target: Reverbatron One/characteristics/attributes/as it is functioning.

Monday, April 18, 2011 @ 2:59 AM

Dale G. Basgall

AV: Zero point energy collector, future.

PI: A little tired, feeling good.

AI: I feel apprehensive...

End Session: 4/18/2011 3:22 AM