

Vol. 4, No. 3

OCTOBER 1996

FULCRUM

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*The Science Journal of
The University Of Science And Philosophy*



FULCRUM

Volume 4, Number 3

October 1996

Fulcrum focuses on the science of creation as revealed to Walter Russell. Dr. Russell, artist/philosopher/illuminate, spent 35 years describing the Creator's multidimensional creation process to scientists and lay persons. Known as the Russell Cosmogony and published in several different written editions, the concepts revealed to Dr. Russell during his 39 day illumination in 1921 describe our multidimensional Universe as an extension of the One substance of God. More specifically all matter is described as Light. The Light of Thinking Mind spirally winds in centripetal vortex motion the One substance into the many forms we witness. Mind also unwinds through centrifugal vortex motion all manifest form into the formless zero from which it appeared.

The Russell Cosmogony can be found in its most mature form in *A New Concept Of The Universe, Atomic Suicide?, The Home Study Course, and The Secret Of Light*. His earlier descriptions can be found in *The Universal One and The Russell Genero - Radiative Concept*.

Fulcrum is now a tertiary and greatly expanded forum in which scholars and students can interact to exchange insights and perspectives on the interpretation and application of the principles of the Russell Cosmogony. *Fulcrum* is engaged in extending the understanding of the Russell Cosmogony as it applies to all of our civilization's institutions that this teaching might continue to grow and act as a mighty seed to assist the birth of a peaceful and sustainable culture.

As the editor I intend to publish articles by creative thinkers, artists and inventors that can help demonstrate the Russell's principles and make a difference in the direction of our world today- right now! Understanding the whole cycle vision of Universe as given by the Russell's and application of our understanding by students and scholars is essential for this work to complete its mission for the world. Without this demonstration humanity will continue on in its present beliefs in a Universe dying a heat death, where energy only runs downhill, where there is not enough life support let alone luxury or excess abundance to go around, where God is vengeful and thus so are we, where health is found in magic bullets, and everything is moving to greater and greater disorder- where entropy reigns supreme and unchallenged.

Our present science and technology, economic, social,

psychological, medical, philosophical, political and religious systems are patterned on entropic beliefs and foster entropic thinking and actions.

I will publish:

1) A dialogue with you on the Russell Cosmogony and literature. I invite questions from readers which may be published in each issue and answers given by you the readers or by me that will follow in the next issue. The responses may or may not be definitive. I intend to be clear, although clarity may take time to unfold. Our shared insights may or may not reach similar conclusions. My intent is that by sharing questions and answers, by sharing our perspectives and insights we will stimulate each others thinking and teach each other in the process. I invite you to participate. Have no fear, ask questions and give responses no matter what level of understanding and experience with this work you perceive yourself as having. We all come from, have access to and have our present being in the same source, the same source and being that the Russell's had.

2) Research and articles relevant to the Russell Cosmogony or that have meaning for humanity's need at this moment. What are your insights from this work? Do you know of other scientists, illuminates, or common people that have published works that have meaning for our common needs now? How do you see our institutions (science, art, religion, commerce, agriculture, education, medicine, and our human relations) from your understanding of the Russell work? I am eager to review your treatments and demonstrations of the Russell concepts for possible publication.

3) Articles on current or past experiments in the field of science and technology especially as it relates to non-polluting sustainable energy production and transportation, agriculture, medicine, economics, education, art, parapsychology, psychology, religion and metaphysics.

4) Articles on any application of the Russell work that might make a positive difference in humanity's future.

5) Patent papers on free energy inventions and articles about them.

I am pleased to present this issue of *Fulcrum* to you and look forward to your input and feedback.

Dr. Timothy A Pender, Editor

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Dialogue: Questions

Question One

This question has three parts to it. First how does the Russell's work consider health and disease? Second, how could the Russell Cosmogony address the origins of cancer (the epidemic of our times) and its possible eradication? Third, do the Russell concepts support alternative methods of healing and what is known as modern medicine at the same time, parts of both, one or the other or neither?

Question Two

Lloyd Zirbes gives an equation $G = m(v \text{ squared})$ that he says expresses the grand unification theory. Does it, and if so can we extend it so that this equation expresses what science calls light, EM waves, sound waves and heat waves so that we can mathematically express that say sound is heat is light is EM phenomena is gravity? In other words is there an extended form of this equation that expresses all of these phenomena as equivalent? Is there a geometrical expression for this?

Question Three

Is there an equation that we can create that expresses the equivalency of all of the 18 dimensions of matter that Walter Russell gave us? If so what is it? Is there a geometrical expression for this?

Question Four

Millenium Twain's letter claims that there is no need for an equivalency principle between gravity and inertia, that there is no gravity, only inertia. His ideas to me appear to be equivalent to Russells' except he wishes to discard gravity. Can this be done and if so why? And secondly, is everything in the cosmos made from laterally balanced electric fields and longitudinally balanced magnetic fields? What would Russell say about this and is there a way to "prove" it.

Some of the featured articles for next issue

A system of Geometry suitable for an oral tradition? By Andrew P. Nicolas of the U.K.

Scalar magnetic cooling in plants and vortex generators of water. By Robert S. Cafarelli

Dialogue: Responses to Previous Questions

Question One

Can the observed difference in drop times between energized or magnetized weights versus their nonenergized/nonmagnetized counterparts be explained by the Russell Cosmogony?

Question Two

Is there some design suggested by these observations and our possible insight from the Russell Cosmogony for application towards technology in any way, ie: transportation devices, improving any existing technology that utilizes falling weights etc.?

Question Three

As Josef Hasslberger questions, is the observed effect a consequence of motion or is it connected with acceleration?

Larry Tiegs is the only individual to attempt to answer these questions. His answers follow my comments and I will attempt to provide some answers while elaborating on Larry's response.

I agree with Larry that all phenomena can be explained in terms of the Russell Cosmogony and also don't know if I can explain it but will attempt it as well.

I think Larry's answer is correct except that the curved pressure zones that the magnetic and electric fields produce around the weights produce their drag effect mostly on the surrounding "gravity/ether" field to slow the fall rather than on the air, even though they must produce some slight drag on the air as well. The air drag I believe is insignificant while the gravity/ether drag is significantly causing what has been observed.

In Russell's thinking gravity is the effect of motion or the motion of the ether flow towards the center of a system as the push (what is normally named pull) of gravity and it is also the effect of the motion of the ether (basic substance or only thing there is) away from the center of a system. Both of these directions of motion Russell calls Gravity and they are also both stated to be electrical; and he uses the word push for both inward compressive and outward expansive directions and never wants to call the vacuum that always occurs with any push or compression a pull. In other words what science calls electric flow towards the center and magnetic flow away from the center Russell calls both electric and both as Gravity and describes both directions of motion as a push.

It appears to me that any motion is either accelerating or decelerating, and inertial mass and gravitational mass are the same thing.

Larry's suggestion that the energized/magnetized masses be weighed on a pin point scales I think is good and should be tried. If the weight differs then it may be possible to pump up the mass in such a way that it will interact with the planets' Gravity to rise rather than fall. This might be done like a surf board riding a gravity wave.

There are some additional observations that I will add to this discussion in the form of comments on an old *Popular Science* article that Toby Grotz gave me and two papers given me by Lloyd Zirbes some years ago that I feel pertain to the drop tests. Zirbes' papers are published as featured articles. Lloyd refolded a few years ago after spending his life energy attempting to bring in the new non-polluting technologies so necessary at this time to save our planet.

Popular Science June 1944 had an article titled *Magic with Magnetism* describing the work of Prof. Felix Ehrenhaft the former director of the Physical Institute at the University of Vienna who was then carrying on his work at the Zeiss optical company in New York City.

Prof. Ehrenhaft's work revealed that when two iron pole pieces were in acidulated water that they produced hydrogen gas through normally understood chemical reactions but when the iron poles were magnetized they produced oxygen as well and more of it at the north pole of the magnet than at the south pole. Science then and maybe still now does not recognize how this can happen. His explanation was that the magnetic lines of force were a current just as electricity is a current and they separated the oxygen and hydrogen as electricity does it. He more or less made an equivalency of EM.

Professor Ehrenhaft's thinking is in agreement with and proves Russell's ideas in that both magnetic and electric fields to Russell are motion and both he called electric effects. The permanent magnets used in the experiments were found to lose magnetism much to the dismay of the manufacturers. Ehrenhaft decided this was because they were doing the work like electricity does of separating the water into its constituent parts: oxygen and hydrogen.

When the magnetic current is switched on the hydrogen bubbles that were rising from both pole pieces under ordinary chemical reaction change behavior, some stop in their tracks and reverse direction going to the other pole and even downward. If copper particles are added to the water they rotate in the same plane as the hydrogen bubbles but in the opposite direction and if the magnetic current is switched then the particles all switch directions too. Also, if iron particles are in the air gap between the poles and in an homogenous field they will always go to either the north or south pole and they will switch directions if the field is switched, thus proving that the magnetized particles have an excess or deficiency of north or south charge. He calls these particles magnetic ions. This is a demonstration of Russell's contention that there are no single charged particles, and that every magnet as well as every mass has some degree of dual charge or has polarity. In other words the iron particles were not just north or south polarity but a predominance of one or the other and thus were compelled to go to the appropriate pole.

Prof. Ehrenhaft believed that a magnetic current had a rotating electric charge which was demonstrated in the copper particles rotating opposite to the hydrogen bubbles, just as an electric current has a rotating magnetic charge.

In essence Ehrenhaft demonstrated Russell's contention that all particles are dual charged and that magnetic fields are accompanied by electric fields and vice versa. Russell simply called both electric and further said they both were Gravity effects.

Lloyd Zirbes' articles bring other observations to Don Kelly's gravity drop tests that should make us question further the whole question of gravity and Galileo's law about the equivalent speed of falling objects.

Zirbes tests reveal that different masses fall with different rates of speed even if they are not magnetically or electrically charged. How can this be? Zirbes has an explanation in his article. Is it enough of an explanation?

By Russell's Cosmogony all elements are magnetically and electrically charged. When we add an electric charge to or magnetize a mass we are "pumping up" the atoms in the mass that are already charged to a now higher rate, but all masses are already charged electrically and magnetically.

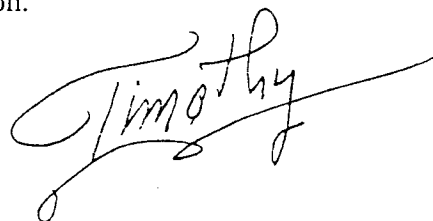
So, by Larry Tiegs explanation we can see how differing masses will have differing "electric/magnetic wings" that will interact with the electric/magnetic vortex wings of this planet and thus differing drop times. And, further, as Don Kelly's tests have shown, if we pump up these masses with additional electric/magnetic fields we will increase the strength of the wings that exist around every mass and influence the drop time.

The interaction between the electric/magnetic (Gravity) wings of the mass and the electric/magnetic (Gravity) wings of the planet are what cause the significant difference in drop times and there is some likely insignificant difference in the interaction of these wings with the surrounding air as well.

I believe the definitive answer to question three is that the observed effect is a consequence of motion in an accelerating mode rather than a decelerating mode. It has to be one or the other mode as any motion is one or the other.

I encourage Don Kelly to investigate the drop times of different elements such as carbon and iron, as Lloyd Zirbes has demonstrated them to be different. This puts another twist to the investigation.

Dr. T.A. Binder, editor



July 26, 1996

Question #1

Yes, all natural phenomena should be able to be explained in terms of the Russell Cosmogony. The question is, can this writer explain it? I don't know?

A simple answer seems to be: two chickens that weigh the same will drop at different rates if one keeps its wings spread open and the other doesn't.

The "wings" of the energized weight are its surrounding curved pressure zones/pressure walls referred to as magnetic lines of force. These many, many equipotential shells, which I can only guess would each offer boundary layer drag to an air flow, in essence, creating a wing to slow down descent.

The vertical mount magnet dropped the slowest because the full face of both sides of its "magnetic field" were exposed to the fall, i.e., two wings.

The flat mount fell relatively faster because only one poorly aligned wing was exposed to air resistance to slow the fall.

This observed effect seems to be a consequence of motion only, not acceleration. (Question #3)

It is also possible the energized iron with its large centrifugal radiative field is 'lightened' and less out of balance than the inert sample. After all, the streams of energy flows within each shell do create somewhat of a self contained balanced motion. But when weighed on a flat scale, its field distorted or voided, it would weigh the same as the inert sample. If the energized sample were weighed while balanced on the point of a pin, so as not to distort the wave field, it might weigh less than the inert sample, thus contributing to a slower decent.

It is important to be clear that weight is not a fixed property of matter as Russell explains in *The Secret of Light* beginning on page 181. Weight and electrical potential are a measure of imbalance. Weight and electrical potential, being one and the same, both indicate the desire of any mass which is out of balance to find balance. Dense objects fall toward the earth's dense core to find balance while the same object expanded into a gas rises toward the heavens to find its balance. Therefore, "weight should be measured dually as temperature is."

Question #2 Applications? Nothing comes to mind.

Additional comments:

A few years ago I personally experienced levitation while

sitting on a chair at the focal point of a resonant sound system a friend was developing. Totally absorbed in the music, after about 10 minutes my left leg just rose. I thought, "Gee, that's strange," and pushed it down. It popped back up again. In a few minutes, again totally immersed in the sound, the right leg pops up, both legs floating, my feet maybe one to two inches off the floor. I also felt absolutely no pressure on the chair yet seemed to be seated. This state continued about 20 minutes, though I was totally unaware of time or my body. When the music was turned off the legs dropped and I again felt the chair.

I think maybe it's like if you have a trunk load of birds and can get them all flying there won't be any weight. Energizing gyroscopic atoms with electricity or sound, maybe speeds up their spin until they become weightless.

To create levitation you need a resonant space field, an enclosed or defined space, so all implosive reactions meet, concentrate and increase density at the center of the field. In essence, creating a new center of gravity, in balance within itself and weightless in relation to the earth. Nature uses a cubic wave field to produce its spherical suns and planets which float weightlessly in their orbits.

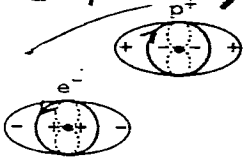
To demonstrate levitation would prove to science the connection between electricity / sound and gravity and anti-gravity, question #1 from *Fulcrum*, Jan. 96. Perhaps the conclusive proof would be to have an Eastern Master walk on water.

Referring to question #3 of the January *Fulcrum*, the 'thread-like stream' issuing from an aluminum electrode seems to be the eye of the hurricane, the *still shaft of gravity* which centers all vortexes, simply made visible for a distance by its closeness to the source. Being the fulcrum and source of the borrowed vortex power, it is polarless, therefore, unaffected by magnets or an electrostatically charged ball. It also doesn't have thrust, any more than the axle on which your car's wheels rotate. If the electrode could be contained within a closed wave field, there would be a suction around the still eye back toward the electrode, completing the rhythmic balance interchange of all motion in this two way universe of seeming opposites. For all there is in this seemingly infinitely complex universe is rings of light spinning around still gravity shafts.

Larry Ties?

Letters to the Editor

1 copy for Fulcrum!



Plasmatronics, Intl Post Office Box E

Menlo Park CA 94026 USA, tele 415-851-9099

22 February 1996

Charles Yost,

I enjoyed reading your article "Electrostatic Force Flow Visualization" from the current issue of the **Electric Spacecraft Journal**. It's been several years since I've spent significant time at a lab workbench, and expect it will be one or two more before I get Plasmatronics set up right -- hence I don't yet feel I'm qualified to comment on the nature of your electric wind thread experiment.

My new paper, on the death of quantum mechanics, is mostly complete I think -- but I have set it aside from boredom, and am hard at work on an addendum to my Superluminal Velocity goldstrike. In it I am reviewing the incompletely-defined concepts of electric permittivity (epsilon), magnetic permeability (mu), capacitance, and inductance -- and showing how the **unlimited and variable** speed of light (C) is a function of frequency! This is particularly fun work, not only because no one has ever looked at it before, but also because it is **the** most famous (known by everyone) false paradigm of covert physics! Not to degrade construction of a real physical (vortex) model of hydrogen or the atom -- which no one has ever done before either -- it's just that the red herring of quantum mechanics is too deep, black and obscure for most people (including me) to empathize with.

I like the way you cut to the crux of our problem of the nature and structure of the electron:

"It is my belief that the concept of a free electron; that is, the concept of a discrete, free-floating, tiny object (electron) used to explain electrical phenomena and atomic models, is basically false."

"A negative charge never exists without its opposite polarity, the positive charge."

"My views are speculative and more favorable to the concepts of vortex entities and a 'medium', classically known as the aether."

All of these problems, however, are resolved by my discovery of the nonlinear, continuous, wave (aka inertial vortex) topology of light and charge. When you throw out the lies of the uncertainty principle, 'point' charges, and linear nature -- you are left with a universal electromagnetic ocean with waves as big as any galaxy (or universe) or tinier (without limit) than any proton or gamma ray.

revised
The only correction I have made to my proof of metric relativity, from two years ago, is to discard the concept of gravity. Vortex waves (light) and particles (electron & proton) and everything in the cosmos is made from laterally-balanced electric fields, and longitudinally-balanced magnetic fields. No need for an equivalence principle (between gravity and inertia). **There is no gravity**, only inertia, in all realms! And inertia is just another name for the universal ElectroMagnetic vortex of angular and linear motion -- spin and propagation!

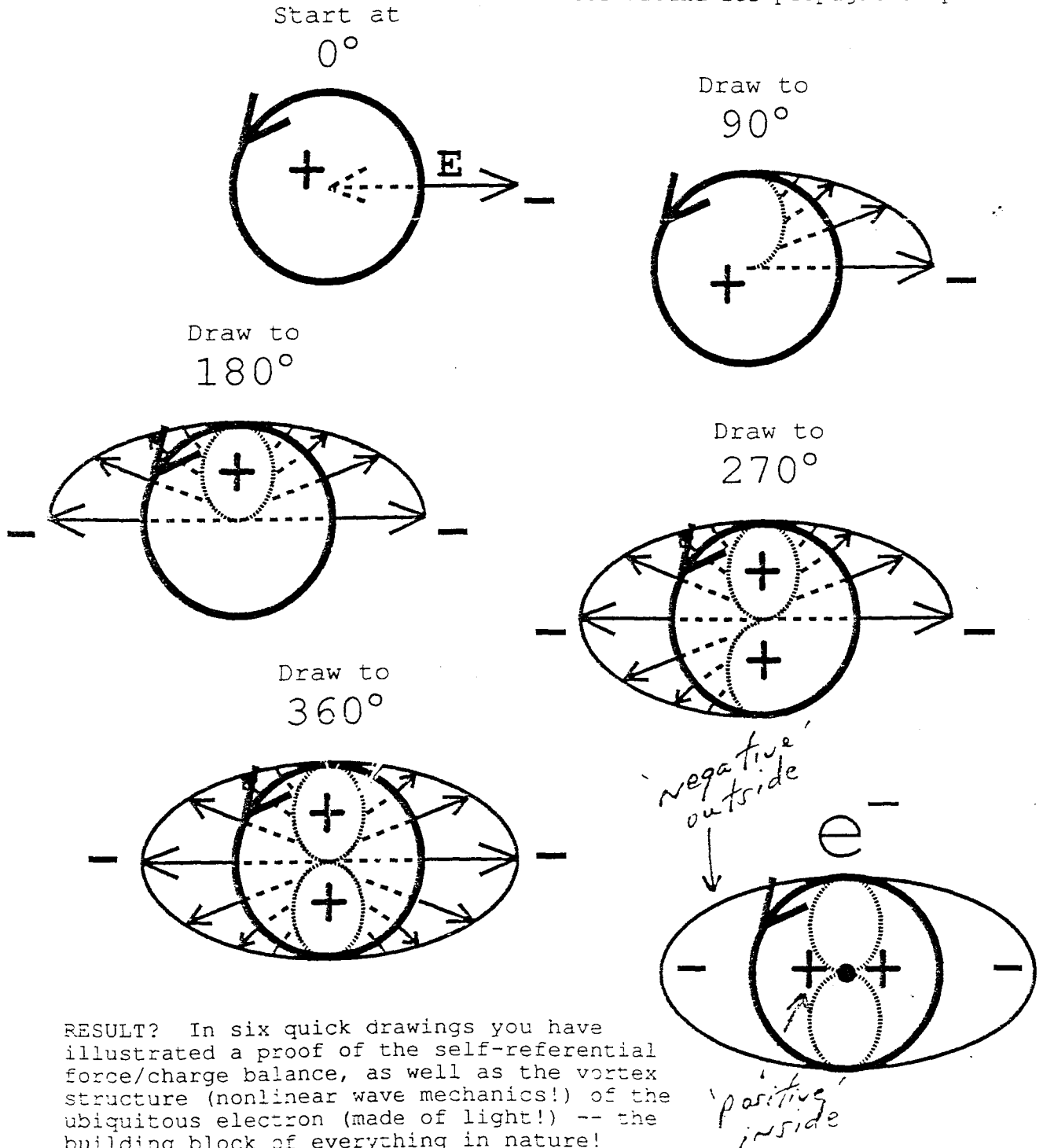
Millennium Twain

cc: Timothy Binder ---

Sketching the (BiPolar) Electron Vortex!

Millennium Twain

To do so, just begin with a ringlike EM propagation path (rather than a linear path) and sketch the movement of the tip of the Electric Vector tip as it (changing magnitude and direction) rotates around its propagation path!



RESULT? In six quick drawings you have illustrated a proof of the self-referential force/charge balance, as well as the vortex structure (nonlinear wave mechanics!) of the ubiquitous electron (made of light!) -- the building block of everything in nature!

Featured Articles

THE SECOND INTERNATIONAL LOW ENERGY NUCLEAR REACTIONS CONFERENCE
SEPTEMBER 13 & 14, 1996
COLLEGE STATION, TEXAS

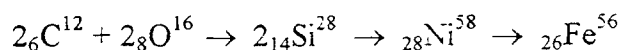
Investigation of Reports of the Synthesis of Iron via Arc Discharge through Carbon Compounds

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KEYWORDS: nuclear transformations, iron formation, low energy nuclear change, transmutation

ABSTRACT

Recent research [1,2] has investigated the transformation of carbon to iron under certain experimental conditions. Reports by Pulver [3] and Oshawa [4] of iron formation in carbon by exposure to an electric arc are the subject of this report. Iron formation was originally proposed as a result of the reaction of carbon and oxygen to form silicon, then nickel and finally iron as follows;



Particles of magnetic material attracted to a magnet were given as proof of a transformation. Duplication of this experiment under more controlled conditions with analysis of the iron content of the of the carbon sample before exposure to an electric arc discharge lead to the conclusion that the iron found in the sample may be due to other factors than originally proposed.

INTRODUCTION

This series of experiments was conducted to confirm reports of iron formation in carbon when the latter is subjected to an arc discharge. The description of an experiment conducted by

Frederick Pulver formed the basis for the investigation. Pulver had heard from Michio Kushi of the experiment done by George Oshawa [5] and associates circa 1960 to show the transmutation of carbon to iron. The experiment was based on the theory that the transmutation effect can be classified according to the eastern philosophical principles of yin and yang.[6] The experiment consisted of stirring with a carbon rod, carbon from a "laboratory pure vial of carbon powder" [7] on a copper plate across which was connected a variable a.c. power supply as shown in Fig. 1. The carbon was initially tested for iron content by placing a sample on a clean white piece of paper and passing an alnico magnet under the paper to observe the motion of any iron particles present. No particles were attracted to the magnet. The carbon was then stirred with the carbon rod and subjected to arcing and heating for 10 - 15 minutes. After allowing the carbon to cool, it was again tested for magnetic particles by placing the sample on the paper and passing a magnet underneath. As reported by Pulver [8] "...there were small (sand grain size) particles which were definitely magnetic, which followed the magnet around". Pulver's' recreation of the experiment yielded the same results as predicted and previously obtained by Oshawa.

Because there was no stated iron content of the sample before and after the experiment and because the magnetic particles were not analyzed for iron content, a series of experiments was conducted to more closely examine the phenomenon.

EXPERIMENT

Experimental Setup

As shown in Fig. 1, the experiments required the use of a 220 VAC voltage source and current regulator. A series of adjustable chokes

totaling 15 mH was used as a current regulator. The current was adjusted to a maximum of 40 amps during the process of stirring the sample with a 12.79 mm diameter x 128.18 mm carbon rod on a copper plate. The carbon rod was obtained from Wale Apparatus. Typical iron content for is given at 100 ppm. Before processing, each sample was poured over a 1 inch square by 1/2 inch neodymium iron boron magnet to remove any magnetic material that might be present in the sample. Charcoal, activated carbon, and coal were used as sources for carbon in the experiment. No detectable magnetic material was found in the samples before processing

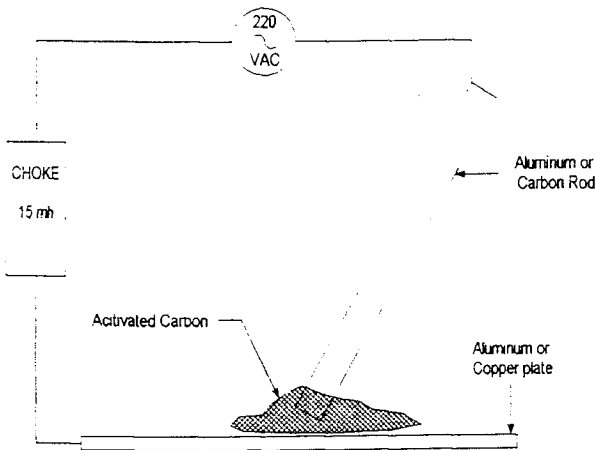


Fig. 1 Electrical connections used for the experiments

Charcoal, (activated powder)

The first experiment was conducted using 10 g of fine mesh charcoal manufactured by Mallinckrodt. No data concerning iron content is available from the manufacturer. Heavy metal content was listed on the label as 0.002%, chloride (Cl) 0.02%, sulfate (SO₄) 0.02%, and uncarbonized constituents as passes test.

After stirring the charcoal for 15 minutes and allowing 10 minutes for the sample to cool, a 1/2" diameter x 1.4" thick neodymium magnet was used in an attempt to pull magnetic material

from the carbon. No magnetic material was obtained from the carbon. No transformation was evident as described by Pulver.

Activated Carbon

A bag of activated carbon of the type commonly used in fish tank filters was obtained from a pet supply store. The activated carbon was divided in half and ground into # 8 and # 60 mesh lots. Ten grams of #60 mesh carbon was stirred for 10 minutes with a five minute pause and then stirred again for 10 minutes. Using the 1/4 inch diameter neodymium magnet, 0.12 g of magnetic material was pulled from the sample. Immediately after the last arc was struck, the temperature of the tip of the carbon rod was measured to be 136^oC.

Ten grams of #8 mesh coal was processed in the same manner. Using the same magnet, 1.20 g of magnetic material was removed from the sample.

Further processing of the sample in 10 minute intervals for a total of 40 minutes yielded an additional 0.34 g of magnetic material for a total of 1.54 g. Before the additional processing, the weight of the carbon rod was 28.59 g. After processing the rod was weighed again and found to have retained the same weight of 28.59 g.

Copper and Aluminum plates and rods.

In an attempt to rule out the possibility that the carbon rod and the copper plate might somehow be contributing to the phenomenon, a 6061T6 aluminum plate 100mm x 65mm x 6.32mm and a 12.71 diameter x 128.60 mm rod of 6061T6 alloy was used to repeat the experiment. Aluminum alloy 6061T6 has an iron content of not more than 0.007 % by weight After processing for 10 minutes 0.23 g of magnetic material was pulled from the sample. Further processing was discontinued due to the formation of slag on the tip of the aluminum rod.

Coal used as a Source of Carbon.

An alternate form of carbon for the experiment in the form of sub bituminous coal was also tested for magnetic material formation. Coal of this type is used in fossil fuel electrical generation plants and typically contains 40 - 60% carbon. In order to prevent the coal from igniting during the arc discharge process, the sample was bathed in a stream of CO₂ as shown in Fig 2.

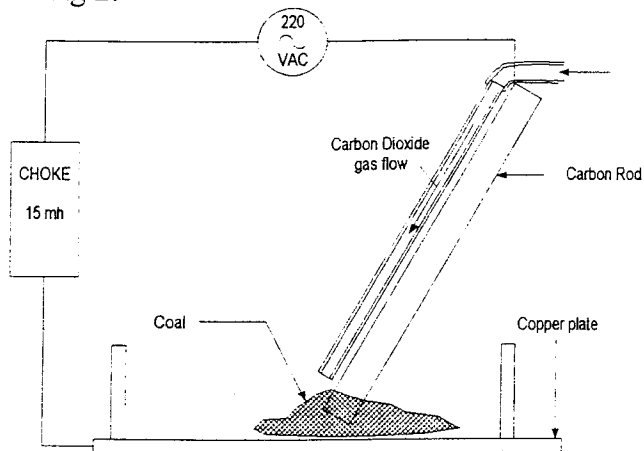


Fig. 2 Carbon Dioxide was used to prevent ignition of the coal.

The following mineral analysis of the coal is typical for coal mined in northwestern Colorado.

phosphorous pentoxide	1.35
silicon dioxide	53.06
ferric oxide	1.16
aluminum oxide	19.18
titanium dioxide	0.63
manganese dioxide	0.05
calcium oxide	9.14
magnesium oxide	1.64
potassium oxide	1.14
sodium oxide	0.28
sulfur trioxide	6.71
barium oxide	0.65
strontium oxide	0.19
undetermined	4.82
Total percent	100

Both #8 mesh and # 60 mesh coal were used in the arc discharge experiment. Each sample of 10 g was stirred for 10 minutes. Because the 60 mesh coal would not conduct an arc, 5 g of the Mallinckrodt charcoal was added to the mixture to facilitate a discharge. After cooling, there was no detectable magnetic material in the samples using the magnetic separation method previously described.

ANALYSIS OF THE RESULTS

Ash analysis of the activated carbon was performed by Standard Laboratories in Casper, Wyoming. The iron oxide (Fe₂O₃) by ash analysis was determined to be 3.81%. Iron makes up 70% by weight of iron oxide. The percentage by weight of iron in the ash is then;

$$.70(3.81\%) = 2.67\% \text{ iron content in the activated carbon}$$

In 10 g of the activated carbon sample there would be $0.0267(10 \text{ g}) = .267$ grams of iron,

The experiment that yielded the most magnetic material was analyzed by The Colorado Assay Company, Denver, Colorado. The total iron in the 1.50 g sample sent in for analysis was found to be 1.485%

$$0.01485(1.50 \text{ g}) = .022 \text{ g of iron removed from the sample (processing time of 40 minutes)}$$

This amount of iron is an order of magnitude less than that which occurs naturally in the sample. Because of this result, an analysis of possible iron contamination from the rods or other sources was not considered. The excess weight appears to be due to magnetic material that is part of or encased in particles of carbon. Using an alnico magnet to pull magnetic material out of the sample resulted in removal of very fine particles that closely resembled iron filings. The

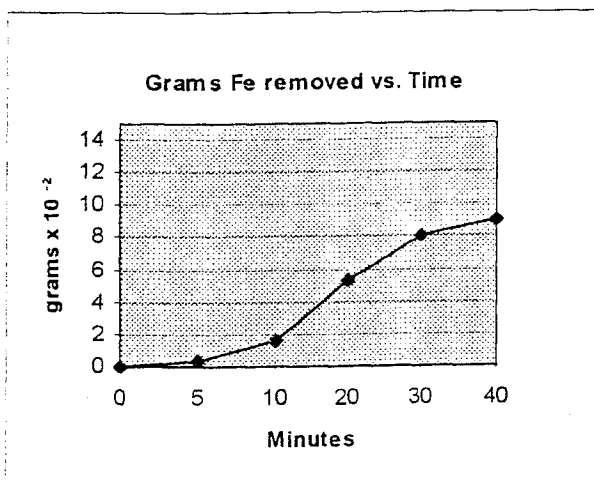
particles removed using the neodymium magnet resembled grains of sand as described by Pulver.

An experiment was conducted to determine the iron, nickel, and silicon content of the activated carbon before and after processing and the content of iron, nickel, and silicon in the magnetic material pulled from the processed activated carbon. Table 1 shows the results.

TABLE 1

% Content of Elements	Fe	NI	Si
Before Processing	3.80	<.01	4.01
After Processing	0.33	<.01	2.82
Magnetic Material removed from Activated Carbon	2.48	<.01	4.62

Additionally it was noted that there was a great variability in the amount of material removed vs. time under process. In Fig. 3 it can be seen that after 40 minutes of process there was slightly less than a gram of magnetic material removed. The curve appears to an asymptote around 0.10 grams indicating that there is a point at which no more magnetic material may be removed from the sample using the arc discharge process.



It is proposed here that the high current density of the arc discharge magnetizes magnetic material that exists within the particles of the activated carbon. This then allows separation of

the magnetic material from the sample using a magnet. The #60 mesh samples may have had magnetic material broken down into a size that was too small to be magnetized by the current flow of the arc. The relationship between size of a particle containing magnetizable material and the ability of an electric arc discharge through the particle to magnetize the material is outside the scope of this report.

Because the #60 mesh samples of charcoal and activated carbon did not yield magnetic material, it may have been that the "laboratory grade" carbon used by Pulver was much coarser in size.

In essence there are two contradictions to the original reports of transmutation of carbon into iron. First, the laboratory grade carbon by Mallincrodt did not produce magnetic material, although the laboratory grade carbon used by Pulver did, second, when magnetic material was produced from carbon, the quantity that was removed was an order of magnitude less than occurs naturally.

It is however fortuitous that the theory of Oshawa sparked the experiments of Bockris, Sundaresan, Singh, et al, who have found anomalous formation of iron during arc discharge experiments.

FUTURE RESEARCH

Since the experiments described above were conducted, the author has learned of experiments conducted by C. Akbar at the Kushi Research Institute that indicate that voltage potential and current density are important in the formation of iron in chemically pure carbon. [9] This is in accordance with more detailed descriptions of the carbon to iron transformation experiments presented by Kushi and Esko. [10] Future work will attempt to define the parameters around iron formation vs. voltage

and current and if anomalous amounts of iron are formed at optimum conditions.

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2. M. Singh, M.D. Saksena, V.S. Dixit, and V.B. Kartha "Verification of the George Oshawa Experiment For Anomalous Production Of Iron In Water", *Fusion Technology* Vol. 26, Nov 1994.
3. F. Pulver, in *Biological Transformations New Alchemy* by Louis Kevran and George Oshawa, George Oshawa Macrobiotic Foundation, 1971, pp. 48,49.
4. M. Kushi and G. Oshawa, *Kushi Institute Study Guide* Vol. 10, 1980 .
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7. Louis Kevran and George Oshawa, *Biological Transformations New Alchemy*, George Oshawa Macrobiotic Foundation, 1971, p. 47.
8. Louis Kevran and George Oshawa, *Biological Transformations New Alchemy*, George Oshawa Macrobiotic Foundation. 1971, p. 48.
9. C. Akbar, Kushi Institute. private communication.
10. M. Kushi and Edward Esko. *The Philosophers Stone, Michio Kushi's Guide To Alchemy, Transmutation, And The New Science, One Peaceful World Press*. Becket, MA 1994

ZIRBES ENTERPRISES



Division of
UNIFIED ATOMIC RESEARCH
Rt. 1, Box 68, Foreston, Minnesota 56330
(612) 294-5140

March 3, 1987

Mr. Carrick Talmadge
Physics Dept.
Purdue Univ.
W. Lafayette, Ind.

Dear Mr. Talmadge,

I have become aware that you've taken an interest in searching for a repulsive force in nature which "counteracts" gravity, and I am writing to offer a suggestion as to how you can gain immediate proof that such a force does indeed exist. Since you are in effect at square one in your search, I will recommend you begin with a simple and straightforward test first conducted by myself and an associate in the early 1960s which I guarantee yields a dramatic result and offers irrefutable proof that Galileo's work was incomplete at best.

For this particular test I suggest using a ten pound sphere of carbon and a ten pound sphere of iron. The circumference of the carbon sphere will of course be greater than that of the iron, but this factor is very important to the result of the test, as you will soon see. You will also need to construct a drop box large enough to accommodate the two spheres and to incorporate some sort of a triggering mechanism which will ensure the spheres are released simultaneously. To acquire the absolute proof you are looking for, the distance of the drop should be at least 2,000 feet. We used an open mine shaft in Northern Minnesota, and that site worked out very well. After taking into account air flows, lunar winds, etc., make your drop. In our tests we had set up a high speed camera near the impact plane to record the results, but if you have an extra person at hand to make a visual observation the camera wouldn't be absolutely necessary - the result is so pronounced that it cannot be missed.

You will find that even after all possible interfering factors are accounted for, the carbon sphere will impact after a 2,000 foot fall long before the iron sphere strikes the impact plane. We found this particular test to be of great value because it eliminated the possibility that air resistance was the major factor in discrepancies we'd found between rates of acceleration of different elements in some of the other

tests we had conducted. Our result showed that the iron sphere was still six feet from the impact plane at the instant the carbon sphere impacted, proving that different elements falling in a gravitational field accelerated at different rates. The striking, unmistakable result yielded by this test qualifies it as an excellent starting point, and I recommend it highly for the reason that it quickly establishes a solid working foundation from which to proceed.

I realize that you may not have the facilities at hand to allow you to easily arrange to run this test, and so as you will notice I have sent an identical letter to some of your fellow researchers who are also now looking for the repulsive force. It is my great hope that if it is beyond your present means to run this simple test, then perhaps it will be within someone else's means.

After more that twenty-five years of talking about a repulsive force, it is gratifying for me to see persons such as yourself exploring this avenue of research, and I congratulate you. Should you continue this quest into the actions of and reasons for the repulsive force, it will ultimately lead you to unity of all things, and many new technologies vital to the survival of this planet in her time of crisis. If I can be of any assistance to you in suggesting further tests, sharing the results to the numerous tests I've conducted, or in answering any questions you may have, I will be happy to oblige.

cc: R. Newman : U of CA
J. Faller : Boulder, CO
P. Boynton : U of WA
E. Adelberger : U of WA
P. Thieberger : Brookhaven
V. Fitch : Princeton Univ.
D. Sudarsky : Purdue Univ.
A. Szafer: Purdue Univ.
S. Aronson : Brookhaven
E. Fishchbach : U of WA
G. Bock : U of IL
H. Cheng : Purdue Univ.

Sincerely,
Lloyd B. Zirbes
Director-Project Stardust

Gravity studies suggest a sixth force of nature

Associated Press

SAN FRANCISCO — Sensitive measurements of gravity made on and near a 2,000-foot TV tower suggest the existence of a new fundamental force that adds a tiny boost to gravity's attraction, scientists said Friday.

The finding "is very exciting because it indicates the force we call gravity is much more complicated than we thought," said Paul Boynton, a physicist and astronomer at the University of Washington in Seattle.

The four fundamental forces of nature are gravity; electromagnetism; the strong force, which holds the centers of atoms together; and the weak force, which makes some atoms break down in radioactive decay.

Studies by Boynton and others previously found evidence for a fifth force, which slightly counteracts gravity's pull over 10- to 1,000-yard distances.

...

OLD WORLD MATH

It is common knowledge that Mr. Einstein spent much of his life attempting to mathematically formulate unity of all things, and that he failed in this noble effort. There are various reasons for this failure, and lack of full knowledge of the actions of free falling bodies was the primary reason. He lacked accurate data - he lacked facts - he was doomed to fail.

There is now such heavy reliance on the erroneous equation $E = mc^2$ by militarists in industry, politics, and science that questioning Einstein's very famous equation is viewed as an attack on their demi-god, and any "offender" is immediately attacked by those whose power and influence depends upon your continued trust in the promise of $E = mc^2$. In reality, this promise is a lie, and anyone who has examined this equation knows it's in error. This presents an obvious question : if it is in error, then why do they cling to it? In our view it is like a root from which has grown a plant called science, technology, and nuclear

These newspaper articles included to show different responses to Lloyd's letter to Boynton and Faller

Galileo revisited

"We simply did what Galileo would have done if he'd had our technology," says James E. Faller of the National Bureau of Standards. Working with physicists at the Joint Institute for Laboratory Astrophysics at the University of Colorado at Boulder, he repeated, at much higher precision, Galileo's notorious (because probably apocryphal) Tower of Pisa experiment

in which different objects of different mass were observed to strike the ground simultaneously when dropped from the same height.

The team used special vacuum chambers, a stabilized laser, optical interferometry, and copper and uranium masses to test whether different masses do indeed undergo the same acceleration due to gravity. The experiment confirmed this theory "with exquisite accuracy"—better than five parts in ten to the tenth power.

Popular Science
Dec. 87 p. 12

energy. This plant in turn feeds a beast known as the military/industrial complex. Were anyone to unearth this evil root called $E = mc^2$, the plant would wither and the beast would starve. This is why no one dares question, and why the truth has remained hidden. To laymen we say - a lie quickly becomes complex, but the truth is clear and simple. WE will now examine this jealously guarded root in the light of truth, and let the reader decide where logic lies.

Einstein used ergs as his value for energy. An erg is a value taken from the centimeter-gram-second system of measurements. Please take note of the term gram, which indicates weight. An erg is defined as : a unit of energy or work equal to the work done by a force of one dyne acting over a distance of one centimeter. From the start we can clearly see the "slippery" terminology applied as an aid to confusing the issue (and safeguarding the root). Work, energy, and force are all equated. We ask, are they indeed all equal? It would appear they are if "science" needs them to be, but is this the truth? Let us continue working our way through this maze and see where it leads.

One erg is a very small unit, so present day physicists use joules to place a value of E (energy). One joule was declared to equal ten million ergs, but the question then was, is a joule potential energy (voltage) or is it work done (ampere flow)? The congress decided the question by

declaring one joule to equal one watt of power. We now find that one watt is equivalent to an electrical flow of one ampere, and one ampere is the same as one coulomb. A coulomb is, by definition, the passing of one ampere of current across a given point in one second, and placed in concrete figures, a coulomb is a movement of 6.28×10^{18} electrons. A single electron has an atomic mass unit value of 9.1095×10^{-31} kilograms. 9.1095×10^{-31} kilograms times 6.28×10^{18} electrons equals 5.708×10^{-12} kilograms. Science hopes you are completely confused by this time, but if we reduce this maze to a simple list, perhaps we will see more clearly.

10 million ergs = 1 joule
 1 joule = 1 watt
 1 watt = 1 ampere
 1 ampere = 1 coulomb
 1 coulomb = 6.28×10^{18} electrons / sec.
 6.28×10^{18} electrons = 5.708×10^{-12} KILOGRAMS

What was Einstein referring to when he spoke of energy? Weight? To have weight there must be mass, and so Einstein's "E" is really mass, is it not?

A quick glance at Einstein's m (mass) is all that's required to reveal the basic error. Once again we are dealing with kilograms as the unit of measurement. On the equator at the surface of earth, one gram of mass weighs one gram. That very same gram of mass in deep space will have a weight value of zero, while on the surface of Jupiter this gram of mass weighs 2.5 grams. In applying these values, we find that nuclear technology should not be functional in open space - yet it is. WE also find that on the surface of the planet Jupiter, a nuclear warhead should yield a 250% greater reaction - yet it won't. Clearly, reliance of the weight of m (mass) leads to gross errors in calculations, and errors in calculating lead to errors in judgement.

We are told that in $E = mc^2$ Einstein sought to express the equivalence of energy and mass, and Mr. Einstein was as

correct as limited facts would allow him to be. Energy and mass are equivalent, for "energy" IS mass. It is then explained that c^2 comes into play only because of the "traditional" manner in which physicists calculate energy and mass. c^2 is, in fact, a value more or less pulled out of thin air, with nothing to support it other than faulty calculations. Physicists know that it is equally correct to calculate on the basis of $E = m$, and to adjust the units of measurement to suit the situation. That this fact is avoided in favor of the astronomical figure represented by c^2 (i.e., 8.9874^{16} meters per second) should alert us to the fraud involved.

Even though the most vigorous nuclear reaction yield at most 1% of the promised energy, science holds onto the "carrot" of c^2 as the promise of the future. In truth, if one were to be really precise, this mere 1% could be dissected into the various "quasi" concepts currently lumped under the heading "energy", and the lie would become even more apparent. Science has not only broken their promise - they have broken faith with the people.

In summation we should briefly address a question often put to us: if these technologies (electron/nuclear based) are wrong, then why do they function? The answer lies in the work of Maxwell, Faraday, and the other classical, true scientists, who performed hands-on experimentation to determine what worked. Modern theoretical scientists took this work and attempted to build a theory which would explain why things worked. When the militarists found a theory which worked to their advantage, progress in this area was halted, and it remains stagnant to this day. Data which does not fit the theory is simply ignored, and dissident researchers silenced. Those who attack our findings due to ignorance or fear of losing their power and influence must be reminded that Mr. Einstein, the guru of the atomic age, died trying to formulate unity. If he's been satisfied with his original theory, then what was he looking for?

NEW WORLD MATH

The equation which clearly and simply expresses the grand unification theory is $G = mv^2$, where G = gravity, m = mass, and v = velocity. In this short essay we will attempt to offer a brief explanation of this equation in hopes that our readers will then apply it to given specific situations. You will quickly see its validity.

In all of nature there exists but two forces: gravity and motion (velocity). Gravity is the force that causes

motion, and motion in turn creates gravity. These two forces of nature are inextricably intertwined, yet they are also separate and distinct. Velocity pulls everything apart, causing expansion, while gravity pulls everything together, causing densification. Our universe is expanding, therefore, our universe is in the mode of acceleration. We say again - mass expands at the rate of velocity squared.

To form a mind picture of gravity we could visualize an empty bubble - a bubble which is an absolute vacuum. The size of that bubble is determined by two basic factors, namely, the size of the mass which produced it and the velocity of the bubble. Gravity, like mass, has a force value that increases or decreases at the rate of the distance squared, and there are also many other integral functions which we will not flirt with here. As has been stated before, gravity is of two parts. The Project Stardust team simply refers to these two parts as gravity A (attractive force) and gravity B (repulsive force).

Gravity can be and is continuously being created. All falling bodies, from the smallest sub-atomic systems to the largest universal structures produce a repulsive force (see Theory of Falling Bodies I and II). The repulsive force (gravity B) is produced by particles of mass in the mode of direction change. The size of the bubble of gravity produced is directly proportional to the size of the particle and / or system that produces it. Two of the integral functions to consider are the velocity of the mass and the angle of directional change.

To understand gravity A, the attractive force, we must understand that mass expands at the rate of velocity squared. For mass to accomplish expansion it must accept "space". That space is gravity, and therefore, as velocity forces mass to expand, gravity moves in to provide the needed space. This inward movement of gravity tends to push the mass back together, and this action is seen as an attraction.

Placing mass into a universal equation is quite elementary, requiring only the elimination of the weight factor. Weight is nothing more than the inward push of gravity or the outward push of inertia. Because the weight value of a given quantity of mass varies from location to location (see essay Old World Math), it is a very arbitrary value. Indeed, weight is a factor only if you yourself are carrying it. To assign a consistent, workable value to a given volume of mass one must therefore concentrate on the density of that mass. Should weight ever be a consideration it must be seen in terms of gravity or inertia acting upon the mass. Mass itself must be considered in terms of the density of any given volume of mass in inversely proportional to the velocity of the mass, i.e., with an increase of velocity the mass density value will decrease.

In this short writing we will not attempt to explore in any detail the correlation between temperature and the

velocity of mass, but will instead simply state our findings. Mass in the mode of acceleration "absorbs" heat. This absorption results in the creation of a cooled area. Mass in the mode of deceleration releases heat. This release results in the creation of a warmed area. This heat is gravity, and so temperature can also be understood through the application of the unity equation. Though this is not a vital point in this paper, it certainly bears a mention.

We have briefly examined gravity and mass and have determined that gravity equals mass at the rate of velocity squared. Now we must quickly explore the velocity factor, and hopefully all will then become clear.

To visualize velocity we can picture in our mind an unending spiral staircase. The landing of this stairway represents zero velocity. At zero velocity complete densification of mass has occurred - there no longer exists any elements, for elements require space. Space is gravity, and gravity requires motion. At zero velocity there is no gravity, without which our entire solar system would fit into a quart jar - with room to spare. This quart jar would possess a weight value of zero, for weight depends upon gravity and inertia, which in turn rely on motion. Each step of the stairway will now represent an increase in velocity of one meter per second. Each increase in velocity will have a given effect on the mass involved, and as the analogy of the stairway implies, the effect is constant. Throughout any universe the effect of a given velocity on a given quantity of mass will always be constant. This constancy is the essence of a truly universal equation.

All things in nature are progressive or regressive at the rate squared, and therefore, the amount of space (gravity) contained in a particle or system or particles is directly proportional to the rate of velocity squared. The same can be said of distance, i.e., all forces decrease or increase their value at the rate of distance squared. As you consider what has been said it is our sincere hope that you understand the implication of the simple statement: mass expands at the rate of velocity squared. From this we deduce that as mass expands, space (gravity) is required, and that the amount of required space depends directly upon that velocity. Stated most simply: $G = mv^2$

Zirbes Enterprises, Project Stardust Team, July 1988

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From The Archives

Editors note: Royal Lee was a dentist, inventor, and pioneer in nutrition. He founded Standard Process laboratories

LEE ENGINEERING COMPANY

TELEPHONE WEST 3-2100

2023 WEST WISCONSIN AVENUE

MILWAUKEE 3 WISCONSIN

January 6, 1955


Mr. Walter Russell
Swannanoa
Waynesboro, Virginia

Dear Mr. Russell:

Thank you for your letter of January 2nd requesting a copy of the Tesla book for Mr. Maurice Miller which we are happy to send. I am sorry I had not previously acknowledged your open letter to the world of science under the date of February 3, 1953. It is a tremendous presentation and I certainly appreciate your difficulty in getting scientific minds interested in the ideas communicated therein. We really live in a world of slanted publicity in which there seems to be a politically inspired repression of many facts. We possibly run into more of that than anyone because of our contact with nutritional foods in which promoters seem to be quite successful in keeping the public in the dark about the effects of those foods. I enclose a copy of a lecture that will give you a few ideas on the subject. Heart disease would disappear if we would not have to eat refined foods.

Very truly yours,

LEE ENGINEERING COMPANY


Royal Lee

*Enc - U Practical Way to
Avoid Heart Disease -
+ List of Reports -*

RL/ba

March 20th 1954.

Dear Dr. Lee:

I cannot tell you how pleased my wife (Lao) and I were to receive a copy of the Tesla book which you reprinted for the benefit of thinkers in science. Nicola Tesla and I exchanged inspirations for many years. He was an artist at heart whom the world knew as a scientist- while I was a scientist at heart whom the world knew as an artist.

He was my spiritual mainstay while I produced my greatest work in sculpture - The Mark Twain Memorial, and I likewise spiritually supported when his soul was low from doubtings and attacks by lesser minds.

I give you these reasons why I especially thank you for the book-- but I also add an appreciation for your vision which indicates a love and admiration for him such as had grown in me.

I could never understand why Nicola Tesla was not proclaimed the greatest man in science of his day - for he was just that and your gesture in printing that book makes me feel deeply indebted to you in my friend's name.

Thinking you may be interested to know of our work here - and my unrewarded contributions to science which have received even less recognition than Nicola's - having given the six transuranium elements to the world as you will see by the enclosed charts - I enclose a little booklet of my life and my second open letter to science for your perusal.

Mrs. Russell joins me in extending to you a cordial invitation to visit our mountain top shrine at any time you may feel like looking at the other side of the medal upon which is written the constitution of matter from Nature's point of view to replace the unnatural one written on the visible side by man.

Thanking you again and looking forward to a interchange of thoughts whenever you feel so inclined, we extend to you our good wishes and greetings.

Sincerely yours

Walter Russell.

P. S. You ask if I might wish to send one to any other Tesla admirer. /~~Dr~~ John O'Neill, science editor of the Herald Tribune, wrote an excellent book of Tesla's life, entitled PRODIGAL GENIUS of which I have an autographed copy. I am sure he would be delighted to exchange copies with you, and I am sure you would like his book.

which still manufactures natural whole food concentrates. The Russells, especially Lao Russell, had a common interest in natural approaches to health, healing and whole natural foods diet with Royal Lee.

This letter from Walter Russell to Royal Lee is the only item in the archives that shows any trace of Walter Russell and Nikola Tesla's association. If there are any readers that know of any correspondence between these two great minds I would be grateful to receive a copy on behalf of USP.

ALCO VALVE COMPANY

ST. LOUIS, MO.

November 21, 1958

JOHN E. DUBE
PRESIDENT

Dr. Walter Russell,
University of Science and Philosophy,
Swannanoa, Waynesboro, Virginia

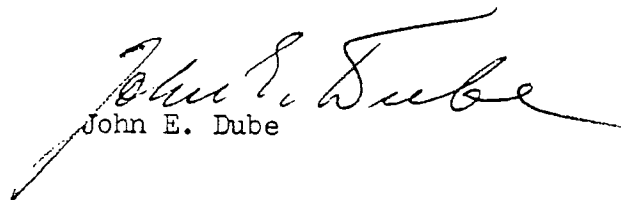
Dear Dr. Russell:

Attached find report of comparison tests between a Russell and an orthodox solenoid coil. You will note that we were unable to detect any advantage for the Russell coil.

Under separate cover we are sending you the two pairs of test coils to give you a personal opportunity to check our results.

Please let us know if you want further information concerning this matter.

Yours very truly,


John E. Dube

JED:ER
Encl.

CC: Mr. Russell Maguire

REPORT ON EVALUATION OF RUSSELL COIL

OBJECT OF PROGRAM: To compare the pulling power of the Russell type solenoid coil with conventional coils.

SIGN OF COILS: Two Russell coils were constructed in accord with the layout, Drawing L08308-11 and associated detail parts drawings. Two conventional coils were constructed in accord with Drawing L08308-12 and associated detail parts drawings. Prints of all above drawings are attached. The sizes of the various coil windings were calculated to use the same total length of copper wire per unit. The sum of the resistances of the segments of the Russell coil actually came out to be 4% less than the conventional coil. This small difference is less than the deviation we allow in production of conventional coils so is considered acceptable. The difference favors the Russell coil, so is not detrimental in this evaluation.

DESCRIPTION OF TEST #1:

Two completed conventional solenoids were mounted in line axially with a one-half inch gap between the adjacent core buttons. The windings were wired as indicated in Fig. 1 and 24 volts direct current power was applied to the leads. Iron filings were dropped into the 1/2 inch gap between buttons until the solenoids were apparently supporting the maximum amount of filings. This amount was weighed. The test was repeated using Russell coils wired as shown in Fig. 2. There was no apparent difference in the supporting power of the Russell and conventional coils. However the test was considered inconclusive because the operator could vary the supporting power by packing the filings around the buttons, leading to the suspicion that the method of application of the filing might make more difference in the test results than the difference between the coils being compared. This form of testing was abandoned in favor of the following test.

DESCRIPTION OF
S. #2:

Two conventional coils were wired as indicated in Fig. 1 and mounted in the test fixture shown in Fig. 3. With 24 volts applied to the leads the pull necessary to separate the two coils was measured by means of a sensitive force scale. The test was repeated a number of times with different thicknesses of plastic spacers creating a gap between the buttons. The same procedure was followed with the Russell solenoid wired as shown in Fig. 2. All tests were repeated a number of times with very consistent results. With no gap (spacers removed) the conventional solenoid drew 4.4 watts and the Russell coil 4.6 watts.

RESULTS:

The attached Fig. 4 is a plot of the pulling power of each type coil against the gap. The conventional coil has 5 to 10% more pulling power throughout the range of gaps tested.

CONCLUSIONS:

- (1) The slight inferiority of pulling power of the Russell solenoid can be accounted for by conventional theory. Since both type coils had the same length of copper wire in the windings, and since the average diameter of the Russell coil was slightly larger (due to the irregular core shape and loss of space between the segments of the winding) the Russell coil has slightly fewer turns, and this generates fewer ampere-turns of magnetic power, when operated at the same amperage and wattage as conventional designs.
- (2) Since the Russell design inherently loses winding space it would appear to be inferior rather than superior to conventional design.
- (3) Even if some new winding technique were developed to overcome the space loss in the Russell coil, it would appear that it would equal but not exceed conventional designs.

Nov. 24th, 1958.

Mr. Russell Maguire,
Greenwich, Conn.

Cc. Mr. John E. Dube,
St. Louis, Mo.

Dear Russell;

First let us thank you sincerely for making this second step toward the accomplishment of our epochal goal - the control of matter - and to thank Mr. Dube for his meticulous care and patience in working out the mechanics and mathematics of our coil unit in so skillful and masterful a manner. Having done this let us now examine the result of it from both your point of view and ours.

To you the resultant test was a failure and you undoubtedly judged it a failure because it did not do what we said it would do. For that reason we feel that you are fully justified in withdrawing from it. From our point of view it but informs us of one seemingly mistaken step which every greatgiver of idea to the world encounters during the mechanical unfolding of his idea. It has made us fully aware of what that mistake is, but we do not see failure in it as you probably do. Alexander Graham Bell encountered many such seeming mistakes which his backers and friends considered dead ends, during his struggle with the telephone. He was reduced to apple and cheese diet for long periods because of them. He won out, however, for within him was a light of knowing which the world did not recognize. Charles Goodyear gave rubber to the world against ten times the resistance by a world which named him a fool, a cheat and a knave. Yet each of these two "fools" transformed the world communications systems in their two separate ways.

Our mistake was in making an issue of an effect which in no way affected our objective. We mistakenly based that test upon our assumption that the Russells' coil would greatly increase the magnetic field potential over that of the traditional coil, because of the back-wiring, and one-way wiring practice now in use -- while our real objective is to produce a new wiring system in a coil which would control the construction of matter by dividing the static white light of space into pairs of spectrum mates, as each wave thus divided light to integrate its pairs.

Our assumption of that greater power was purely theoretical and unimportant. We can now see by this test that any two wire coils, wound in any way whatsoever, will give equal resultant field potential, providing that the various dimensions of each coil are equal. We can readily see that now, and can admit it as a fact of law, as you have proved it to be.

The fact that back-wiring does not subtract from power is a lesson which will enable us to simplify our coil by not having to make it in sections, but as long as the one-way wiring system is used in this two-way universe of divided mate-pairs, science will be limited to a synthesis of existent matter. It will never be able to transmute one element into another or to create new elements. To create and control matter, it is necessary that the two-way wave principle which divides light into spectrum pairs, be employed, and that can be done only by obeying Nature's laws of construction. Present day science can neither obey or command these laws, for the construction of matter is admittedly a blank slate.

YOU know what our objective is, and you know what world-control over its gases and metals would mean. We want to give the secret of that power to a source of GOOD to conquer evil. We want the world's needs for power and for the creation of fuels, metals and water to be under the control of men who have knowledge, and of a character which will not misuse them, and not let the world be subjected to shortages of essential needs and consequent suffering, because of ignorance of Nature's processes of construction and their control.

Our coil is the most basic thing in science because it contains within it the entire principle which emulates the wave in every respect, and the wave is Nature's ONE UNIT which creates all things.

This test, plus our wrong assumption about back-wiring, has taught us that the great secrecy which we thought necessary was not at all necessary for we could actually give this coil to anyone and tell him that it held the world's greatest secret and he would not know how to use it. It would be as safe as pointing to the sun and telling him the same thing - and he still could not use it. In fact we doubt if it is patentable because of its mechanical similarity. After all a coil is a tool, like a lever. A lever cannot be patented but a typewriter, operated by levers can be. That which we can patent is a mechanical system which can do what no other mechanical system can do.

Perhaps the next step is to reconstruct the mechanical system which one of us produced long ago in Westinghouse Laboratories, which made it possible to change six cubic centimeters of water into seventeen other "substances". In doing so water was assumed to be one of the tones of the nine octave harp which the universe is. A universal "tuning fork" was produced which changed the pressure dimensions of one tone into another, as a piano tuner, violinist or harpist do to their tones.

That knowledge of principle we alone have. We alone can give that tuning fork (a differently powered one for each octave) to the world. This gift would be useless to anyone who has not the vast knowledge of basic principle which lies behind its usage, such as the geometry of space which measures and controls the dimensions of wave fields - the mechanics arising from that knowledge which causes compression-expansion sequences of the universal heartbeat - the power to transmute existing metals or create new ones - the "echo" or radar principle which repeats every thing which happens everywhere to every other where - the power-projection principle of Nature which will rid science of its costly and primitive power lines as its present system of power-transmission - and, most important of all, will immunize any nation from being hurt by any approaching missile, bomb, submarine, warship or plane.

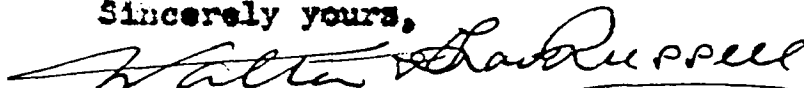
CONCLUSION.

As soon as it is humanly possible we will take another step to demonstrate what is herein written, but the time limit which we can give to this is small because of our university activities, and our financial power is limited to our own earnings, but, despite all handicaps, we will demonstrate to you that this test is in no way a finality. It has been an easily surmountable hurdle into a strata of greater light. It has helped to simplify our procedure by ridding it of the one thing about it which was theoretical, and proved to us that the end result is where we should look for patent protection, and not in any mechanical tool used to attain that result.

For these reasons we ask you to hold any opinions you have formed in suspension until we find ourselves able to open another door in the long corridors which every creator of new ideas must painfully find his way - and surmount each unseen obstacle as it rises before him to try to block his way.

Again thanking you for your valued help to us, and to the world, and assuring you of our warm personal regards, we are

Sincerely yours,



Walter and Lao Russell.

P. S. Please ask Mr. Dube to return our original papers for posterity, and take copies in place of them for his records.

Editor's note: I feel it is imperative to publish the test results that Walter Russell received after testing the viability of his contention in the *Home Study Course* unit 10 and in other writings that spiral wound coils produce a greater current flow and thus greater power. I know for a fact that many people have spent countless hours in attempting to construct spiral wound coils in hopes of getting greater power out of them as the *HSC* claims. It is my desire that the results of the test data, how the coils were constructed and tested, and Walter Russell's response will save researchers much time in their attempts to bring to fruition any possible fruit from the concept. I am certain that both Walter and Lao Russell would want this information available to their students at this point in time.

Apparently the tests revealed and Walter Russell agreed that, "any two wire coils wound in any way whatsoever, will give equal resultant field potential, providing that the various dimensions of each coil are equal". Since this appears to be the fact I believe that this should be noted in future additions of the *HSC* along with a commentary about what he felt still might be viable in the concept of spiral windings for new technology. Exactly what he still felt was viable as stated in his letter of Nov. 24th, 1958 is unclear to me.

On page two of his letter fourth paragraph in the third sentence, I believe the word similarity was meant to be simplicity.

It appears that Russell continued to think that spiral coils were essential for transmutation as he says that science, "will never be able to transmute one element into another or to create new elements".... "as long as the one way wiring system is used in this two way universe.....". Yet, Russell transmuted matter at the Westinghouse Lamp Labs in 1927 using straight wound coils and the Russell Science Research team did the same in the 1990s.

It appears to me that the concept of opening and closing spirals has importance to technology and Russell hints that he feels it is important for transmutation and in this area I feel he was on the right track but not in relation to electrical coil windings as stated in the *HSC*. Spirals are possibly important in fluid motions of materials to separate out elements and maybe in some ways that he did not experiment with in the transmutations of gases in spiral wound tubes. Bottom line is the tests he had done proved that spiral wound coils do not produce greater power than straight wound coils and the publication of this data helps set the record straight and may assist future

researchers.

There is an additional item in regards to the Russell's claims to produce greater power with their concepts that I feel may help researchers that I feel impelled to bring to your attention. In Unit 11 of the *HSC* the claim is made that an octave system of lenses will produce greater heat and power than is put in it. While I have not seen any test results that Walter Russell had done with this idea I know someone who claims to have constructed such a lens system as detailed in the *HSC* and it was found to not produce any over unity of heat or light. In addition the placement of the lenses as detailed in the course will not allow the focal points to fall where the Russell's thought they would as the lens makers pointed out to my friend. But, either way they were placed, as the Russells showed it or as it had to be to focus as they wanted it to focus, this individual found that there was no over unity production of heat or light. I will attempt to get photos that I have seen of the lens system and data to publish about this testing in future issues.

All a lens does is concentrate the given heat/light to a focal point. Any system of lens can do no more than a single lens and a single lens in fact is a series of lenses within lenses. A lens or lens series will focus what is spread out over a wider area into a smaller area, but it will not create over unity or something for nothing.

If any reader has done any experimentation with either the spiral coils or octave wave banks of lenses that they feel does substantiate claims of over unity, I and USP will be very grateful to investigate it.

It appears that the domain where Walter Russell was most fruitful in regards to technological applications for his concepts was in the area of transmutation. He did this at Westinghouse in 1927 and it was verified again in this decade. I have had conversations with a scientist who worked with Russell in the 1950's as his assistant at Swannanoa when they tried to reduplicate the 1927 work and failed at that time to do it. Yet, his concepts explain all the phenomena that scientists are observing of transmutations in cold fusion research that they are mystified about.

There may yet be some manner in which his concepts for electrical power and solar energy production may prove of value. It is with this hope for humanity that I have included his own test results and correspondence in this edition of *Fulcrum*.

RUSSELL RENT MUTUALIZATION PLAN

A BRIEF OUTLINE

The National Rent Mutual Corporation is a construction, managing and renting company mutually owned by all its members and tenants and operating under the Russell Rent Mutualization Plan.

It is capitalized at \$5,000,000. This is divided into 1,000 shares of Founders 8% cumulative preferred and 49,000 shares of cumulative 7% preferred. There are in addition 50,000 shares of common stock of no par value, to be given to purchasers of preferred stock and for the organizers.

The purpose of the Russell Rent Mutualization Plan is to gradually free all rent payers who become its members from the burden of rent paying by capitalizing for their benefit the hidden values in their rent receipts.

To do this 90% of all rental profits are used to free the company's buildings from debt, or to erect new buildings, and the tenants are given this 90% each year in the form of dividend-paying participation certificates, issued yearly for this purpose. These certificates are equal in value to the common stock, except that they have no vote.

The remaining 10% is company profit, which, together with its other earnings from construction, management and interest savings, are divided among the holders of all stock as dividends.

In this way it is estimated that at least 92% of all profits would go to the tenants who are holders of the preferred stock and 8% to the holders of the original voting common stock.

Of this original common stock the tenants who have purchased preferred stock will own about one-half and the founders and organizers will own about one-half.

It will, therefore, be seen that the organizers could not receive more than about 4% of all profits, while the tenants should receive about 96%.

The effect of this plan to a tenant is about as follows:

Mr. Jones, who pays one hundred dollars a month rent would receive back in stock at the end of the first year 90% of that part of his rent money which had been used to liquidate the debt on his building. This should be approximately \$400.

At the end of the second year he would receive a cash dividend on the \$400 and another \$400 in stock for the second year's earnings.

Each subsequent year he would receive cash dividends on his old stock and about \$400 of new stock.

In this way his dividends would gradually equalize his rent payments just as life insurance dividends will gradually equalize premium payments.

In the meantime his family is insured for two years' free rent if the bread winner dies and any tenant temporarily embarrassed can borrow on his rent credits just as one can borrow on one's life insurance credits.

R U S S E L L
Rent Mutualization Plan
FOR NATIONAL RENT RELIEF

**MEMBERSHIP
REQUIREMENTS**

**NATIONAL RENT
MUTUAL CORPORATION**

366 Madison Avenue, New York

Telephone Murray Hill 9308

BRONX OFFICE

375 FORDHAM ROAD

Over Corn Exchange Bank

Class A Occupancy Certificate

Covering Residence Buildings

erected by the Company

1. Each subscriber to a minimum of four shares of 7% preferred stock of the National Rent Mutual Corporation, is given a CLASS A OCCUPANCY CERTIFICATE, numbered as of the day of his subscription.
2. This CLASS A OCCUPANCY CERTIFICATE entitles the owner of the right to a RENT PARTICIPATION LEASE in numerical sequence in any residence building erected by the company.
3. An OCCUPANCY CERTIFICATE is a separate document delivered to each member on completion of his payment of \$400.
4. Members holding more than four shares in one name may acquire one OCCUPANCY CERTIFICATE for each four shares at any time by transferring the stock into multiples of four shares under different names. Occupancy numbers will date from the time such transfers are made.
5. Members may pay their subscriptions at the rate of \$40 down and \$10 a month, or they may pay \$10 down and \$10 a month, but their OCCUPANCY CERTIFICATE shall not be numbered until \$40 has been paid.
6. OCCUPANCY CERTIFICATES are given and accepted on conditions printed on the face of certificate, a copy of which is printed in this folder.
7. Interest at 4% is allowed on all installment payments, adjustable on last payments.
8. All members holding OCCUPANCY CERTIFICATES who desire occupancy shall file with the company a card which will be supplied to each member. This card is headed REGISTER YOUR NECESSITY and indicates each member's requirements as to number of rooms, apartment or private house, city or country or preferred location, and maximum amount of rent the member cares to pay. It is the purpose of the company to erect its buildings strictly in accord with this indicated desire. Each member whose number will make him eligible to occupancy will be notified at the starting of every building which comes within his requirements. He will be given a reasonable time to decide whether or not he cares to exercise his right of leasing in that building and if, for any reason, he does not care to, he does not lose his turn.
9. Members may not sell their stock without selling their OCCUPANCY CERTIFICATE. Members may, however, borrow from the company upon their stock and OCCUPANCY CERTIFICATES, upon terms and in an amount to be decided later.
10. Members may move at any time to any other building owned by the corporation whenever a vacancy occurs or make application to move into any new building to be erected. The number of the OCCUPANCY CERTIFICATE always keeps its preference and precedence even on new buildings.
11. Members who desire to sell their number to another may do so by simply exchanging OCCUPANCY CERTIFICATES by assignment on the back thereof and having said exchange transferred and recorded on the books of the company.
12. Any member who cannot complete his payments shall not lose his money through default but will be given One Hundred Dollar 7% preferred shares and Ten Dollar Scrip Certificates for the amount paid. The Occupancy Certificate will in that case be forfeited after 60 days' default but may be restored at any time by completing the payments. A new Occupancy Certificate number will be given at the time of restoration.

Occupancy Certificate

CLASS-A

CLASS-A

No.....CERTIFICATE OF RIGHT TO A RENT PARTICIPATION LEASE

THIS IS TO CERTIFY THAT....., the holder of not less than four (4) shares of the preferred stock of the NATIONAL RENT MUTUAL CORPORATION, is entitled to a rent participation lease of space in any of the buildings owned or controlled by the National Rent Mutual Corporation upon the following terms and conditions:

1—Occupancy privileges shall be designated in the order in which applications are filed and holders notified. Any member not accepting this right does not forfeit the right to file further applications.

2—Occupancy shall be subject to the rules governing the building and of the provisions governing the lease of same. Leases of all buildings shall be drawn with the intent of giving certificate holders the right of permanent occupancy, and with the right of cancellation by the tenant on any October 1st, providing three months' written notice of such intent has been given. It shall also state the rights and limitations regarding sub-leasing.

3—The holder hereof expressly consents to said right of occupancy being subject to the discretion of the management or a committee on admissions, upon whom rests the responsibility of renting the property of the corporation for the benefit of all in interest.

Leaseholds shall be fixed at normal rental, the yearly total of which for the first five years after completion shall never exceed one-sixth of the cost of the building. A re-appraisal of rental value shall be made every five years and the rent shall be reduced or increased in accordance with the appraisal. The purpose of this re-appraisal shall be to establish and maintain normal values.

4—It is expressly understood that holders of class A certificates of occupancy have no prior rights of occupancy over holders of class B certificates held by investors in special buildings such as professional buildings; or when special groups have been formed to occupy a specific building for which they have supplied the necessary cash for the erection of the building; nor over the holders of class C certificates which are held by investors in business or office buildings.

IN WITNESS WHEREOF, the National Rent Mutual Corporation, has caused this Certificate to be signed in its name by its duly authorized officers and its corporate seal to be hereto affixed.

....., 1923.

NATIONAL RENT MUTUAL CORPORATION

By.....
ASSISTANT TREASURER

THE UNIVERSAL ONE

Digest

IN THIRTY POSTULATES

By

WALTER RUSSELL

Published by

BRIEGER PRESS, INC.

55 Van Dam Street, New York, N. Y.

PUBLISHER'S PREFACE

In assuming the financial burden of giving "The Universal ONE" to the world of science and education I am violating the business principles of a lifetime to demonstrate my belief in a transcendent message of an unusual man, with a vision that has penetrated realms that have long baffled science.

Call the author a fantastic dreamer, if you will, but after all, we must believe in dreamers. Without them the realist would make scant progress and man would still be primitive. The great genius of the ages has been the man of super vision. And yet civilization has not cured itself of the habit of calling to-day's dreamer a fool while it worships at the feet of the dreamer of yesterday, and forges ahead only through the realization of these unrealities.

All commonplace realities of to-day are the miracles of yesterday's dreaming. The realist crucifies genius, reaps the fruit of his vision and then immortalizes him. Down through all time great ideas have been universally condemned at birth. Prophets, philosophers, saints, discoverers, inventors all have delivered their messages in the agony of soul—crucified as living men, worshipped when dead.

Facing this truth, I still want to record the message set out in these pages with full expectation of opposition to-day but of acceptance to-morrow. I plead here only a patient hearing for the author and his work. Walter Russell gives to the scientific and industrial worlds new laws which lay bare the amazing secrets of nature that man has sought for through centuries of patient research and tireless experiment.

The author throws open here a great storehouse of facts that are provable by the accompanying charts. With their aid his claims cease to be mere theories and become demonstrable and workable realities that cannot mean less than an inconceivable revelation and revolution in the industrial arts and sciences that depend for their production upon the elements of nature. In a word, by these charts Walter Russell tells us, in a positive way, how man can produce nature's elements in exactly the way nature itself produces them. Experiment and research give place to positive and definite knowledge.

It is, of course, beyond the human intellect to compute or even attempt to estimate what this knowledge eventually must mean to the industrial and commercial world of the ages to come.

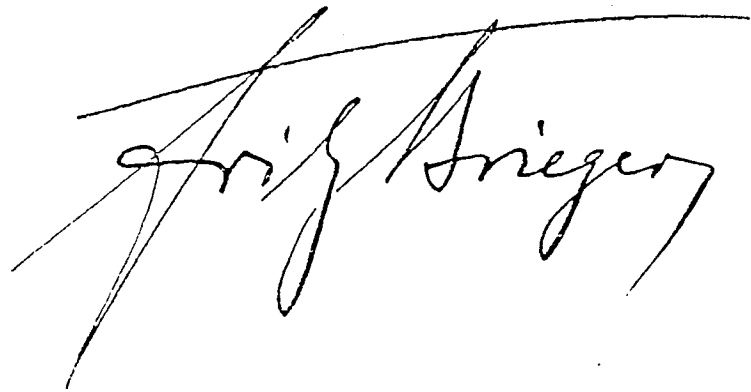
But of these claims scientific minds demand as proofs formulæ worked out in their own language and by way of accepted scientific deductions. Walter Russell's laws in "The Universal ONE", they say to me, are all contrary to their beliefs and cannot be considered because they are not proven in the accepted way.

I ask only the same thoughtful attention for "The Universal ONE" that would be given to other new scientific discoveries. If only this is done I am content that this volume will arouse the interest and hold the attention of intelligent men, and especially those whose deep life interests and occupations center about the production from nature's elements of the many needs of civilization.

By the aid of Walter Russell's charts discoveries cease to be accidents, for they tell the investigator that a desired product will positively result from the combination of given elements.

"The Universal ONE" is the Why of Things. It brings to man the knowledge of cause, which gives him greater control of effects.

I hope your interest in civilization's material progress will lead you through the seemingly spiritual foreground of Walter Russell's presentation into the marvelous possibilities that lie at the hand of the great captains of industry whose mission it is to meet the demands of the world of to-day and of its growing needs of to-morrow.

A handwritten signature in cursive script, reading "Fritz Brieger". The signature is written in black ink and is positioned in the lower right quadrant of the page. It features a prominent horizontal line above the first few letters and a long, sweeping tail that extends to the right.

Digest in Thirty Postulates

FIRST POSTULATE

The universe in its entirety is One thinking, living, breathing, pulsing, universal Being.

The sole purpose of the universal One is to think.

The sole product of the universal One's thinking is idea.

The one desire of universal thinking is to give form to the idea of the image making faculty of universal thinking.

The one form of universal thinking is the sphere. The sphere is the perfection of all form.

The sphere is the completed form image of the creative force of universal thinking. All forms other than spheres are evolving toward or away from spheres. All complex forms and masses are a multiplicity of evolving and devolving spheres.

All things are created in His image.

All images of creative thinking are multiples of spheres in the making or in the unmaking.

SECOND POSTULATE

Mind is the concept force of this creating universe of form.

Form in matter is the reflected expression of the concept force.

Mind and matter are one.

Matter is the substance of Mind.

Form in matter is an illusion of motion.

Motion is produced in Mind substance by the concentrative action of creative thinking, followed by a sequential decentrative reaction of decentrative thinking.

Motion is reproduced by a union of the action and the reaction.

The reproductive principle is the principle of continuance of motion.

All form is first conceived by Mind, then evolved in form by the mechanics of the thinking force of Mind.

THIRD POSTULATE

Every particle of matter in the universe is a living part of the One.

The life principle is a swing of the pendulum between creative actions of concentrative thinking and destructive reactions of decentrative thinking.

This is not a created universe. It is a creating universe, and that which is being destroyed exactly balances that which is being created.

Also, reproduction exactly balances the creative-destructive sequences.

This universe of motion is a universe of production, destruction and reproduction in endless sequences.

This is a universe of evolution and devolution, of integration and disintegration, of association and disassociation, of generation and radiation.

These opposing forces are exactly balanced at all times.

Any plus of one is counterbalanced by an equal minus of the other.

FOURTH POSTULATE

All of the universe breathes in unison with the One.

Concentrative actions of creative thinking followed by the decentrative reactions of decentrative thinking are the sequential pulsations of His breathing.

The smallest corpuscle or the giant sun inhales and exhales even as man inhales and exhales.

The inhalation of the most obscure mass is exactly counterbalanced by an equal exhalation somewhere in the universe.

The inhalation of the universal breathing is the electric force of Mind. It is an endothermic, heat absorbing form. It is the generative force of compression.

The exhalation of universal breathing is the magnetic force of Mind. It is an exothermic, heat releasing force. It is the radiative force of expansion.

Mind is concerned only in the creation, electrically, of the thinking universal body by a multiplicity of spheres assembled into complex forms in motion, and the dissipation, magnetically, into the formlessness of Mind substance in inertia.

FIFTH POSTULATE

There are not two minds, two forces, two substances nor two things in the universe.

Separateness and separability are impossible in this universe of the One Supreme Being.

The appearance of separability belongs to motion and not to substance. All apparently separate things are functioning mechanically as the body of the One Supreme Being, and all apparently separate Minds are thinking His thinking.

They cannot do otherwise.

Everything that is, is of everything else that is. Nothing is of itself alone.

DIGEST OF THE UNIVERSAL ONE

SIXTH POSTULATE

Mind substance is the reality, and form of substance in matter is the illusion of reality.

Mind thinks idea, and the force of creative thinking reflects that idea in its own substance through motion of the substance.

The substance is eternal and unchanging, but the forms of ideas are fleeting and constantly changing.

SEVENTH POSTULATE

Thinking is a process, a purely mechanical process of reciprocal actions and reactions.

Without the sequential actions and reactions of the thinking process the universal Mind substance would be a lifeless substance, inert and incapable of motion.

Reciprocal actions and reactions of the life principle of Mind cause an apparent division of the One force into two forces.

The two apparent forces oppose each other.

One is the creative force which desires form through motion. This is the electric force.

The other is the destructive force which desires formlessness in inertia. This is the magnetic force.

The two opposing electro-magnetic forces in opposition are but One force in equilibrium.

EIGHTH POSTULATE

This creating universe comes into the appearance of existence through form by the preponderance of electric action.

Solidity of form in matter is electrically generated.

This decreasing universe disappears as form through the preponderance of magnetic reaction.

Solidity disappears through tenuity by magnetic degeneration.

Electricity generates through concentration.

Magnetism degenerates through deceneration.

NINTH POSTULATE

Opposition is a characteristic attribute of the life force of Mind.

The opposing actions and reactions of electricity and magnetism make the universal force a living substance of light.

This is a universe of light.

Every effect of motion has its two apparently opposite attributes in motion which, when united in equilibrium, make one inert force of non-motion.

Light has its opposites.

The light with which man is familiar is the light of electric action.

This light is visible to him through his outer mind as physical sensation.

The light with which man is not familiar is the light of magnetic reaction.

This light is visible to inspired man through his inner mind.

Man is still in a primitive stage of his evolution.

His mind is preponderantly confined to outer mind thinking.

His sensations are preponderantly bodily sensations.

He has gradually been acquiring an ecstatic sensation of high inspiration which transcends all bodily sensation.

This is a forerunner of a new sense which is evolving within man, a spiritual sense in which the light of inner thinking opens the locked doors of the unseen universe and clarifies its mysteries.

When that spiritual sense comes to man he then knows the orderliness of creation and the causes of all things from the beginning.

The white light of inner thinking has been experienced at rare intervals by men for thousands of years.

These men have told the same unvarying story of the existence of the One Universal Being, that man is the son of the One, that "God is Light, in Him there is no darkness," that "There is no death but only life eternal," and other principles of the immortality and universality of all things.

As man acquires the ecstasy of universal thinking he finds that all knowledge is confined to cause and exists within himself, that man is omnipotent, omniscient and omnipresent, that the "physical universe" is but an illusion of motion and that the only reality is the unchanging substance of universal Mind of which he and all else is.

At the present stage of man's evolution he knows only the simulated light of motion, then darkness, in sequence; he knows consciousness and unconsciousness in orderly periodicity, his beginning in life and his ending in death.

For ecstatic man to come there will be no alternate period of darkness, no period of unconsciousness and no beginning nor ending of life.

He will know that the universe is repetitive in all its effects of motion, and that all are evolving as they are repeated.

He will know that he is creating himself by his own thinking, that his thinking is part of the universal thinking, that his thinking is recorded in his soul, and that he is in control of all of his actions but not of the reactions to those actions.

TENTH POSTULATE

The mechanics of universal thinking are simple and familiar to man.

DIGEST OF THE UNIVERSAL ONE

The reciprocating and alternate compression and expansion preponderances of any power-generating, power-radiating plant are exactly analogous to the energy expressed by thinking idea into form from concept.

The compression-expansion oscillation of the universal Mind force is the cause of the apparent division of the One inert force into two opposing forces in motion.

The two apparently opposite expressions of the One force are plus and minus. These reach an equilibrium in inertia.

This is a universe of plus and minus in all its effects of motion.

The plus force is the electric force of contraction, or compression, from within.

The electric force is the attractive force which gathers integrating masses together into cohesive solids.

The minus force is the magnetic force of expansion or expulsion from within.

The magnetic force is the repellent force which disassociates disintegrating masses toward their disappearance in inertia.

A plus equilibrium cannot be effected without taking from equilibrium a balancing minus.

Compression of the universal constant cannot be effected without a corresponding equal counterbalancing expansion.

Compression accumulates energy into less volume.

Compression is the electric action of the creative force.

Electric actions attract other electric actions in the direction of increasing solidity.

Expansion spreads accumulated energy into greater volume.

Expansion is the magnetic reaction, the destructive force, which disintegrates form by repelling each form from every other form and also by expanding form toward tenuity.

This universe of motion is divided into pairs of opposites which are, in effect, reciprocating engines of various power forever pumping throughout the universe of dimension to continue the illusions of form.

One might better visualize these pairs of opposites by imagining two connected cylinders with an equal amount of air pressure in each. This state represents inertia.

By pumping air out of one into the other a plus of air exists in one and a minus of it in the other.

This is a state of opposition which produces stored energy in both cylinders.

This stored energy will perform work by the force exerted in seeking an equilibrium pressure,

but force will cease at this inertial position, to be continued again only when a plus-minus condition is repeated.

Nature's opposites work in the same manner.

The analogy can be carried further by imagining the cylinder walls made of such porous material that there is a leakage out of the compression cylinder and a leakage into the evacuated one.

Nature's cylinders are spiral cones and her compression-expansion lines of force are toward and away from vortices.

The "leakage" out of the pressure lanes of the charging elements is a simultaneous discharge which makes of them merely preponderantly electro-positive elements.

The "leakage" into the pressure lanes of the discharging elements is a simultaneous charging which makes of them merely preponderantly electro-negative elements.

ELEVENTH POSTULATE

This universe of motion is corpuscular.

It is composed of particles of stored energy each of which are but states of motion which man mistakes for substance.

Each particle, whether it is the invisible electron or the giant Betelgeuse is either one of the preponderantly expanding or one of the preponderantly compressing cylinders of the universal engine.

As it is with particles, so it is with systems.

Each particle is part of a system and each system is, in its turn, either a compression or an expansion force (in preponderance) until it reaches the bisexual position in the wave which is also the meeting point of the apices of two opposing cones.

TWELFTH POSTULATE

Every mass in the universe absorbs energy for the continuance of its existence as form, and eliminates it for reabsorption by other masses, just as man takes food or an engine takes fuel.

All states of motion need constant "nourishment" for their regeneration.

Atoms "hunger" as men hunger when they have eliminated enough energy to "suffer" from the effects of abnormal expansion force.

Without a constant supply of "nourishment" all forms of universal idea would expand into disappearance.

THIRTEENTH POSTULATE

All mass is compressed or contracted into the appearance of form by the electric force of attraction exerted from within.

DIGEST OF THE UNIVERSAL ONE

This opposing effect of motion is what is called gravitation.

All gravitational effects are generative.

All generating energy is charging.

All mass is expanded into disappearance as form by the magnetic force of repulsion exerted from within.

This opposing effect of motion is what is called radiation.

All radiational effects are degenerative.

All degenerating energy is discharging.

All charging bodies attract each other.

All discharging bodies repel all others.

As all bodies are both charging and discharging, they all attract and repel, the preponderance of either effect depending upon the preponderance of either opposing force.

FOURTEENTH POSTULATE

The apparent division of the One inert force into two opposing forces in motion results in an alternate swing of the cosmic pendulum toward a preponderance of one force, then a return toward the other.

All motion is characterized by these oscillations which occur in time interval sequences of countless trillions per second to one in a countless number of years.

Periodicity is the natural result of oscillations between the creative and decreative sequences.

Periodicity is a characteristic of all effects of motion.

FIFTEENTH POSTULATE

The opposite plus and minus forces of action and reaction divide the sexlessness of inertia into the appearance of two sexes in motion, male and female, which in their turn become one through union in equilibrium.

The male force is the father force of creative thinking. It is the electric force.

The female force is the mother force of decreative thinking. It is the magnetic force.

When the two forces meet in opposition at the maximum point of their expression of opposition, a bisexual force is the resultant effect.

SIXTEENTH POSTULATE

The two opposing forces in attempting a division of the One force, do not succeed in completing their opposition.

Each separating force is partly endowed with the other.

The male, generative force of electric compression is in a less degree female, and the female, degenerative force of magnetic expansion is in a like manner partly male.

Entire separability of the One force into two is not effected in nature.

Preponderance of one effect of motion is present in every forming mass, but each mass is both male and female, generative and radiative, attractive and repellent, compressive and expansive, integrative and disintegrative, charging and discharging.

Both opposing effects of motion are born together. One is preponderant but the other overtakes it at the point of maturity, passes it and in its turn becomes preponderant.

Death and life are born in the same cradle.

Preponderance is not a characteristic of formed mass.

The true sphere is bisexual. It has reached that point where inertia is simulated through perfection of gyroscopic motion.

SEVENTEENTH POSTULATE

The gyroscopic principle is an attribute of all effects of motion.

When the stability of inertia is first overcome by motion its action can well be likened to the wobbling of a gyroscope top in slow motion.

This is the state of motion of expanded elements of large volume.

As the force of motion increases in the wave toward the bisexual position, the wobbling gradually gives place to the perfection of gyroscopic motion.

The real stability of inertia is then simulated in perfection of motion.

All effects of motion are but simulations of their concepts in inertia.

Evolution of all effects of motion toward gyroscopic perfection is the cause of non-symmetrical effects of motion such as eccentricity of orbits, precessional orbits, revolution of planets and satellites out of the plane of the solar equator.

Because of the gyroscopic principle all energy is expressed in cones of changing dimensions.

All direction of force is therefore curved and spiral in its curvature.

All motion of the varying cones of energy is recorded in waves.

Waves are masses of opposed energy, exchanging their plus-minus preponderance in sequence.

Wave lines are the moving apices of energy cones tracing the records of their energy dimensions in spirally curved wave lines.

Wave lines are the storm centers of the explosive actions and reactions of oscillating energy expression.

To know the wave is to know the secret of transmutation.

To know it and measure it in only its frequencies and length is to greatly limit man's use of unlimited power.

EIGHTEENTH POSTULATE

The journey from idea in concept in inert Mind to the form of that concept in motion is a battle between the two opposing forces.

The direction of the compression force of electricity is always toward the apices of cones of energy. Electric force is therefore centripetal.

The direction of the expansion force of magnetism is always toward the bases of cones of energy. Magnetic force is therefore centrifugal.

Centripetal force characterizes every effect of gravitation.

Centrifugal force characterizes every effect of radiation.

Electricity is for this reason the attractive force and magnetism the repellent force.

In this battle the electric force of gravitation assumes the offensive and accumulates speed of low potential into power of high potential.

The magnetic force of radiation eventually overcomes the electric force of gravitation by exchanging attributes, as two people of opposite sex might exchange clothing to simulate the attributes of each other.

Every attribute of motion adopted by electricity to overcome inertia is adopted by magnetism to overcome motion.

Displacement and replacement must balance and nature, in her economy, does not utilize two processes where the same one will answer for both opposing effects.

NINETEENTH POSTULATE

Stability is a characteristic attribute of the universal force.

Every electric action is calculated to be a menace to universal stability but its effect is nullified by the magnetic reaction.

An action united with its opposing equal reaction simulates in motion the stability of inertia.

As perfection of gyroscopic motion increases, all actions and reactions increase their powers to oppose each other until there are four focal electric actions and four focal magnetic reactions in each wave of energy.

One of these focal actions meets its reaction at the crest and trough of each wave and becomes a double tone.

These eight opposing actions and reactions are the four pairs of opposites of seven tones of four units which constitute each wave of energy.

TWENTIETH POSTULATE

The seven tones, one tone of which is a double tone, are divided as follows:

Numbers 1+, 2+ and 3+ are increasingly preponderant in electro-positive force, which means that the compression force is increasingly dominant in each.

Numbers 1-, 2- and 3- are increasingly preponderant in electro-negative force, which means that the expansion force is increasingly dominant in each.

The double tone 4‡, is equally forceful in both compression and expansion forces.

TWENTY-FIRST POSTULATE

The seven tones of four units to each of ten octaves are differing states of motion of the One substance.

Man calls these different states of motion the elements of matter.

Man supposes these substances to be different substances.

They are but One unchanging substance. Their apparent variation is due to their dimensions of motion.

Man is looking forward to the day of transmutation of one element into another.

That day is close at hand, for by knowledge of the varying dimensions of the wave which records all motion, any substance can be transmuted to any other substance.

TWENTY-SECOND POSTULATE

Dimension is an attribute of motion.

The real universe of Mind is dimensionless.

The reflected universe of the illusions of motion is dimensional.

All of the elements of matter owe their appearance of difference in substance to the dimensions of their potential positions.

These dimensions are eighteen and all are measurable.

All dimensions expand and contract in relative ratios.

TWENTY-THIRD POSTULATE

Universal mathematics are simple.

The universal gyroscope develops generative compression pressures which pack all effects of motion into the narrowing vortices of energy cones and equal radiative pressures to disintegrate them.

Electric compression pressure is in inverse ratio to the square of the distance, area, plane, orbit or time unit and to the cube of the volume, while magnetic expansion pressure is in direct ratio.

DIGEST OF THE UNIVERSAL ONE

TWENTY-FOURTH POSTULATE

All dimensions are pressure dimensions.
Every particle and every part of the universe of dimension varies in pressure.

Space is not a void.

Planets of solar systems and electrons of atoms do not continue their journeys because of an original impetus, but because of their changing compression-expansion power.

Every mass is, in effect, a pump.

Energy is either being pumped into or out of it.

Every mass has its proper potential position of the moment and changes it to one appropriate for the next moment.

Every preponderantly generative mass pumps itself closer to its nucleal center of high pressure in a centripetal direction.

Every preponderantly radiative mass pumps itself farther from its nucleal center in a centrifugal direction toward the low pressures of the bases of energy cones.

TWENTY-FIFTH POSTULATE

Time is a dimension which contracts in inverse universal ratio and expands in the direct ratio to its distance from the nucleal center.

A day on Mercury is over eight hundred thousand years long while on Jupiter it is but ten hours. Farther out in the system the day shortens to disappearance.

On the contrary, a year on Mercury is but eighty-eight days. The length of a year increases into hundreds, then thousands, then tens of thousands of years as planets within and beyond our vision increase their distance from their sun.

Time appears as solidity increases because of increased revolution and decreased rotation, both of which effects are centripetal.

Time disappears as solidity decreases because of increased rotation and decreased revolution, both of which effects are centrifugal.

In one effect the year extends to interminable length and in the other the day extends.

Time and power appear by lengthening the day and shortening the year, and disappear by reversing these effects.

TWENTY-SIXTH POSTULATE

Nature's method of manufacturing her products is to melt her material in high pressure crucibles and put it out to cool in the pressure lanes of its system of motion.

As every element is a system of motion and has a different pressure position, nature's mate-

rials melt at very low temperatures in expanded potential positions near the bases of energy cones and at increasingly high temperatures as the pressure lanes near the apices of the cones.

Nature has many crucibles in which to heat her materials and many pressure lanes in which to mold her rotating spheres.

TWENTY-SEVENTH POSTULATE

Nature's processes are evolutionary.

Iron is not produced by one effort, but is the result of many heatings and coolings.

The heavy solids pass through many crucibles in their journeys from low to high pressures.

They undergo many meltings to increase their potentials of stored energy and are frozen many times to retain that power by anesthetizing their activities.

Solids are compressed activities.

Liquids are expanded solids. Compressed activities are slightly released.

Vapors are expanded liquids. Activities are still further released.

Gases are expanded vapors. Activities continue to be unbound.

Ethers are expanded gases. Activities are practically freed from bindings.

Continued expansion causes disappearance of form.

Continued compression causes appearance of form.

TWENTY-EIGHTH POSTULATE

Masses are stored energy.

All masses are charged.

The universal charging poles are in the changing positions misnamed magnetic poles.

Charging poles in forming mass are first located at the equator, and gradually move toward the poles of rotation as mass becomes a true sphere.

All charging mass discharges.

Discharging is first preponderant at the poles of rotation and moves toward the equator in ever shortening cones until the opposing cones disappear in one plane at the equator as mass evolves toward the true sphere.

TWENTY-NINTH POSTULATE

The charging of any one mass is equally balanced by the discharging of some other mass.

Every corpuscle, atom, planet or solar system is indissolubly bound together by the nerve force of charging poles and discharging bases.

THIRTIETH POSTULATE

Each mass charges itself and every other mass as they approach and each mass discharges itself and every other mass as they recede.

Approaching masses increase compression and receding masses increase expansion.

THIRTY-FIRST POSTULATE

The attraction of gravitation charges.

Charging is the positive, plus force.

All positive, charging force in a mass attracts the positive, charging force in any other mass.

Positive bodies are contracting bodies.

Contracting bodies attract each other.

The repulsion of radiation discharges.

Discharging is the negative, minus force.

All negative, discharging force in a mass repels all other discharging and charging forces in all other masses.

Negative bodies are expanding bodies.

Expanding bodies repel all other bodies.

The assumption that negative and positive forces attract each other is an illusion of motion which deceives the senses just as the illusions of perspective deceive the senses until we overcome the deception by knowledge.

All effects of motion are illusions and deceive us until we familiarize ourselves with cause.

It is the plus, or compression force in each opposing body seeking equilibrium, and not the expansion force which attracts.

Each expanding body has a minus compression force, just as each contracting body has a minus expansion force.

The plus compression force of one and the minus compression force of the other are constantly endeavoring to effect a union in order to stabilize themselves and hold the potential positions they have earned through their successive efforts in attaining such positions.

THIRTY-SECOND POSTULATE

Direction is an effect of motion.

Without motion direction, time, plane, tone, colour and all dimensions would cease.

North is the apex of every cone of energy.

North is the universal direction of electric, centripetal, generative, positive, plus, attractive, gravitative, endothermic compression force.

Any two electro-positive forces head toward each other at apices of two opposing cones of energy and meet at a gravitative center which is the point of north at the center of all forming mass.

This is the generative principle of contraction into appearance.

South is the universal direction of the magnetic, centrifugal, radiative, negative, minus, repellent, exothermic expansion force.

Any two electro-negative forces head away

from each other toward the bases of two opposing cones of energy.

This is the degenerative principle of expansion into disappearance.

When they reach these positions their impetus carries them across the inertial dead center, they cease to expand and begin to contract in the next cone.

This is the regenerative principle of repetition of plus-minus opposites born of inertia.

As all energy moves in spiral pressure lanes and not in straight lines, the positive direction of contraction toward north is by the way of east.

Contrarily, the negative direction of expansion toward south is by way of west.

THIRTY-THIRD POSTULATE

Nature freezes her accumulated energies into crystal forms to hold them in locked potential positions.

Low potential is frozen into very soft, multiple sided crystals.

As potential of energy increases, the newly acquired states of motion in higher pressure zones freeze into simpler crystal forms.

The perfection of crystal form is the cube.

When the cube is reached maximum hardness, highest melting point and greatest opposing pressures are obtained.

Carbon, as represented by the diamond, is the only element which crystallizes in the true cube.

All separate parts of all carbon atoms are true spheres.

THIRTY-FOURTH POSTULATE

Carbon is in the bisexual position of the fifth octave.

There are ten octaves in the cycle of motion.

Each octave is in inhalation-exhalation periodicity in itself but carbon marks the turning point between cyclic inhalation and exhalation.

At this point compression pressure has reached its maximum in the elements and expansion pressure has gathered sufficient force to conquer it.

At no position other than at the bisexual carbon position do the elements which form in that position crystallize in true cube nor are their separate parts true spheres.

THIRTY-FIFTH POSTULATE

Nature is very orderly in the arrangement of her forces.

All elements in the carbon bisexual, double tone position are non-metals. They are the stony formations.

All elements on the plus compression side of the carbon series are alkaline metals such as iron,

manganese, nickel, or aluminum. These are the charging or inductive elements.

All elements on the minus expansion side of the carbon are acid metaloids, such as copper, sulphur, zinc or gold.

By uniting any two equal and opposite plus alkaline metals and minus acid metaloids their alkaline-acid attributes are neutralized into salts and the maximum stability of each is effected.

By uniting unequal opposites their instability is increased according to their positions.

Explosions, poisons and destructive acids are the result of unequal unions.

THIRTY-SIXTH POSTULATE

The universal One has established a marvelous and infallible system of bookkeeping.

Every expression in every octave of energy is permanently recorded in inertia.

A series of gases, known as the inert gases, such as helium, argon, krypton, neon and xenon stand at the inertial heads of their octaves to record every effect of motion which takes place within that octave.

Within each simple or complex mass each action is so recorded as a plus, and its opposing reaction is recorded as a minus.

What is true of the simplest corpuscle is also true of man.

Man's thinking is recorded within him in the inert gases which man calls his soul.

Every action of man is within his control but the reactions to those actions are controlled by the universal One Who demands an equilibrium.

The reaction to every action must be lived by man as it must be by every other state of motion in the universe.

From this state of truth there is no escape, no absolution, no forgiveness other than that by earning it by substituting right thinking and right actions for wrong thinking and wrong actions.

THIRTY-SEVENTH POSTULATE

Nature's records are in lines of light.

Light is the universal language by means of which man may read the history of creation.

Man has learned to separate the light of electric action into thousands of lines by means of the spectroscope.

By means of these lines he has learned to read the story of the chemical composition of the farthest stars.

Unfortunately he has not yet learned that these lines of light tell the life history of any state of

motion and he laboriously studies this language and sets it down as separate words without any connective meaning.

If iron is found in the sun, every element preceding iron must be there, otherwise iron could not be.

This he does not know, for he does not realize that the lines of iron lead back into the unseen universe telling the entire life history of iron.

When man reads his spectroscopic lines cumulatively instead of separately he will know all there is to know regarding all of the elements of matter in both the visible and the invisible universe.

The visible universe lies between hydrogen and uranium and the invisible universe extends at both ends of this range and meets at an equilibrium point where ultra-violet meets infra-red.

THIRTY-EIGHTH POSTULATE

After man has learned the language of generative light of compression by means of which the story of motion is half told he then has the ecstasy of learning the language of reactive light by means of which the other half of the story is told.

Alas for man, there are no instruments nor will there ever be which will teach him this language, for the light of reaction is visible only to his inner Mind, reacting in unison with the physical reactions of outer mind thinking.

In accordance with man's ability to comprehend his universality with the One, it will be given him to know the universal language of light of inner thinking.

When man is illumined with full knowledge of his Oneness with the One universal force, then will he see the light with his inner vision.

The inner vision of man is the inspired vision of man's knowledge of his Son-ship with the One, his omnipotence, his omniscience and his omnipresence.

As man acquires this ecstatic knowledge through being reborn in truth, through regeneration in perfection of the sense of the beautiful, through ecstatic exaltation of spiritual sense in equilibrium with all actions of physical sense, he will gradually acquire the light of understanding of the light of inner vision.

When he has fully acquired that vision then will he stand with the immortal few who have been permitted to see the **WHITE LIGHT OF THE HOLY OF HOLIES.**

In studying this archival piece I want the reader to be aware that Russell changed his ideas in virtually all his writings after he wrote the Universal One in the following ways: 1) He changed from 10 octaves to 9 octaves of elements and isotopes of tonal matter. 2) Gravity was no longer described as is usual with science as a pull, but as a push from without to within, or as the whole cycle of compression into form or a push, and a push from without to expansion out of form. 3) His periodic chart after the Universal One contained 121 elements and isotopes of tonal matter in 9 octaves as compared to about 134 in the Universal One's 10 octave periodic chart. Yet there remain many concepts in his Cosmogony that he did not later deny, such as the 18 dimensions of matter, that were never elsewhere described. To be able to study this singular part of his Cosmogony and the complete historical record of his work as well as for scholars of this work to judge for themselves which of his ideas, his earlier or later, are more valid, are the reasons I feel it is important that all of his work as well as any results of tests performed be available to the public.

United States Patent [19]

[11] 4,163,367

Yeh

[45] Aug. 7, 1979

- [54] **HYBRID FLYWHEEL/COMPRESSED-FLUID PROPULSION SYSTEM FOR NONSTATIONARY APPLICATIONS**
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- [21] Appl. No.: **867,694**
- [22] Filed: **Jan. 9, 1978**
- [51] Int. Cl.² **F15B 1/02**
- [52] U.S. Cl. **60/414; 60/416; 60/643; 60/668; 180/165; 180/302**
- [58] Field of Search **60/371, 407, 408, 413, 60/414, 416, 643, 659, 668, 698, 701; 180/44 F, 44 M, 65 A, 66 B; 74/572**

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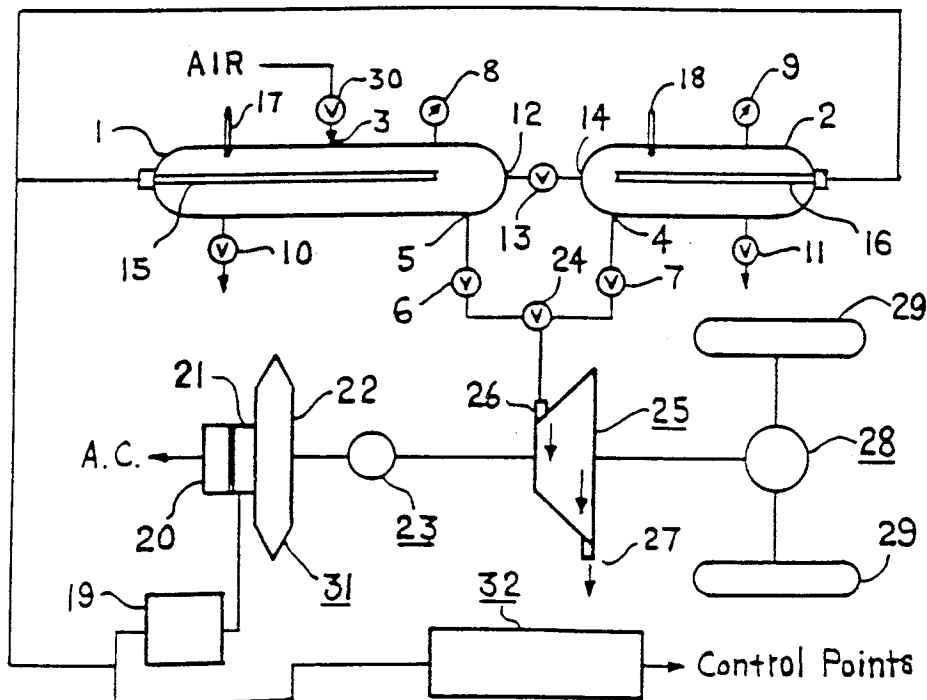
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[57] **ABSTRACT**

The adaptation of a compressed-fluid (such as compressed-air) powered turbine in conjunction with the use of a flywheel as a hybrid propulsion system for nonstationary applications, such as vehicle drive, is shown and its practicality demonstrated. This propulsion system requires a nonpolluting fluid, such as air, and a source of mechanical or electrical energy to compress said fluid and energize said flywheel, both of which act as energy storage media. An expander/compressor unit, such as a turbine, is used for converting the stored energy of said compressed-fluid into shaft power by expanding said fluid, and recovering the braking energy during vehicle deceleration by compressing and storing the atmospheric air (if air is used). Said flywheel is used not only for providing peak powers necessary for vehicle acceleration but also for recovering the braking energy during vehicle deceleration and refilling said compressed-fluid in an emergency. The propulsion system can use the unlimited supply of air as the primary energy-storage medium and said flywheel as the secondary energy-storage medium. The propulsion system is not only regenerative but also quick-recharging; it, therefore, has high energy-efficiencies and broad applications.

6 Claims, 2 Drawing Figures



HYBRID FLYWHEEL/COMPRESSED-FLUID PROPULSION SYSTEM FOR NONSTATIONARY APPLICATIONS

BACKGROUND AND OBJECTS OF THE INVENTION

This invention relates to hybrid propulsion systems for nonstationary applications, such as vehicle drive, farm-machine drive, boats, etc., and more particularly to the adaptation of a hybrid flywheel/compressed-fluid propulsion system as a power drive for nonstationary applications. Compressed-fluids, such as compressed-air, have been used as an energy-storage medium for driving energy converters, such as turbines, which act as process plant drivers for many decades. Although many successful stationary applications of a compressed-air turbine can be found in various industries, very few nonstationary applications of the same have been reported in the literature. This is because the limited energy-storage capacity of a compressed-fluid that results in a restricted operating range makes its application impractical or economically infeasible.

Significant advances have been made recently in the structural materials and designs of high-pressure vessels. High-pressure compressors have also improved greatly over the years. Now, it is practical to generate and store a compressed-fluid at pressures over 30,000 pounds per square inch. Today, high-pressure vessels and compressors are lighter and more compact than they were twenty years ago due to the lighter and better structural materials and the advanced designs used. But, this will still result in a limited supply of energy of a compressed-fluid when used in nonstationary applications, such as vehicle drive. Therefore, every practical step must be taken to maximize the use of this limited energy supply if it is to be viable for nonstationary applications in this time frame.

In spite of the limited supply of energy, a compressed-fluid is an attractive energy-storage medium especially when compressed-air is used for vehicle drive since it has several advantages over other available energy-storage media. These advantages are: (1) truly nonpolluting; (2) using the unlimited supply of air; (3) having high energy efficiencies; (4) the braking energy can be recovered substantially; (5) fewer moving parts requiring little maintenance; (6) long service-life; (7) quick-recharging, etc.

While vehicle range may be improved by using lighter materials and improved designs it will still be governed by the energy stored in the compressed-fluid as well as the way the vehicle is used. The range of a vehicle driven by a compressed-fluid propulsion system will be very much dependent on many factors which fall into two major categories. The first is concerned with the compressed-fluid itself and includes such factors as the initial pressure, temperature, and volume. The second is concerned with the way in which the vehicle is operated and includes the total weight, the vehicles speed, the number of starts and stops per driving cycle, the acceleration, the wind conditions, the road-surface conditions, and the variation from a level route. In general, increased performance in these operational categories requires higher fluid-pressures and volumetric flow-rates from compressed-fluid, resulting in less total energy being available for traveling.

According to the results of studies made by this inventor, a key to improving vehicle range is to remove

the requirement for peak powers from the compressed-fluid propulsion system in the operational categories described above. The results also indicated that once the vehicle has reached its maximum speed, the power requirement for maintaining its speed is approximately one fourth of the peak value. At this point in the driving cycle, if the vehicle velocity is held constant, the power requirement of the vehicle is approximately equal to the losses due to the expander, drive trains, aerodynamic drag, and the rolling resistance of the tires. My above studies have concluded that the peak power requirements during vehicle acceleration greatly reduce the available energy supply of the compressed-fluid for traveling. Therefore, it is essential to provide a system which can prevent these peak power drains in the compressed-fluid propulsion system used for vehicle drive. My studies further indicated that a second key to improving vehicle range is to recover the braking energy when the vehicle decelerates. Without the use of a recovery system, the kinetic energy generated through a propulsion system, such as a compressed-air turbine, will be dissipated partly in the frictional braking system as heat and partly in the rolling resistance and vehicle drag as it decelerates.

The main object of this invention is to provide a viable compressed-fluid propulsion system, such as compressed-air, for nonstationary applications, especially for vehicle drive by combining with a secondary power source capable of reducing peak powers drained in the compressed-fluid propulsion system during the acceleration cycle and recovering the braking energy during the deceleration cycle.

Other important objects of this invention are: (1) to provide a truly nonpolluting propulsion system for nonstationary applications, especially vehicle drive; (2) to provide a propulsion system for nonstationary applications, especially vehicle drive, which utilizes power-storage media capable of quick-recharging; (3) to provide a propulsion system for nonstationary applications, especially vehicle drive, which contains a regenerating system for recovering the braking energy and which operates with high energy efficiencies; (4) to provide a propulsion system for nonstationary applications, especially vehicle drive, which requires little maintenance and which has a long service life, etc.

DETAILED DESCRIPTION OF THE INVENTION

The above objects of the invention are achieved by the adaptation of a suitable compressed-fluid propulsion system, preferably a compressed-air interacting with an expander/compressor unit, and a regenerative flywheel system to provide the peak powers required during vehicle acceleration and recover the braking energy during vehicle deceleration. According to the present invention, the braking energy can be recovered also by the use of said expander/compressor unit acting as a compressor to compress the atmospheric air using the shaft power transmitted from the drive trains of the vehicle, and store the compressed air generated in a tank in order to use it with the vehicle's original compressed-air supply, which can perform the work of expansion through said expander/compressor unit to produce the shaft power for transmitting to the vehicle's drive trains.

No where in the literature known to me is there a report of the use of a hybrid flywheel/compressed-fluid

propulsion system for nonstationary applications, such as vehicle drive.

The results of initial studies made by this inventor indicated that approximately 75% to 90% of the braking energy can be recovered by the use of the regenerative flywheel and the regenerative compressed-air propulsion system proposed by this invention. The results also show that with three stops per mile, the range of a compressed-air powered vehicle traveling at an average speed of fifty miles per hour can be doubled for a given compressed-air supply, by the use of said regenerative systems provided by this invention, assuming that both the expander/compressor unit and the flywheel have a mechanical efficiency of 90%.

In the following, the invention will be discussed in detail by reference to the specific preferred embodiment and the typical installation of the invention shown in the accompanying drawings, FIGS. 1 and 2.

FIG. 1 is a detailed diagrammatic illustration of a preferred embodiment of the hybrid flywheel/compressed-air powered vehicle drive provided by this invention. The high-pressure tank 1 has the inlet 3 and the control valve 30 to receive the initial supply of compressed-air at a maximum pressure. The maximum air pressure can be regulated by the use of the relief valve 10 and the pressure gauge 8. The air temperature inside said tank 1 can be controlled by heating the air electrically with the electrical heater 15, the thermometer 17 indicating the temperature of the air in the tank.

During vehicle acceleration, the compressed-air in said tank 1 is discharged at a desired pressure and volumetric flow-rate through the outlet 5, the control valve/pressure regulator unit 6 and the three-way valve 24, and flows into the expander/compressor unit 25 through its high-pressure air inlet 26. For vehicle acceleration, said expander/compressor unit 25 acts as an expander to convert the work of expansion performed by the compressed-air into shaft power, which is then transmitted to the drive train/differential unit 28 for driving the wheels 29. The expanded-air leaves said expander/compressor unit 25 through its low-pressure air outlet 27 into the atmosphere.

During vehicle deceleration, the vehicle kinetic energy is transmitted through said wheels 29 and said drive trains/differential unit 28, to said expander/compressor unit 25; and as a result, said expander/compressor unit 25 turns to take in the atmospheric air through its low-pressure inlet 27, which also acts as the low-pressure air outlet during vehicle acceleration as described above. The air taken in is compressed, and then leaves the high-pressure air outlet 26, which also acts as the high-pressure air inlet during vehicle acceleration as already described above. The newly generated compressed-air is led through said three-way valve 24, the control valve/pressure regulator unit 7 and the air inlet 4 into the low-pressure tank 2. Said tank 2 is used for storing the compressed-air generated by said expander/compressor unit 25 acting as a compressor during the deceleration cycle or in an emergency refilling; and therefore its air pressure is normally set below the initial air pressure of said tank 1, due to the limitation in the maximum air pressure that can be obtained by the expander/compressor unit 25 acting as a compressor. Like said tank 1, said tank 2 has a relief valve 11, a pressure gauge 9, and electrical heater 16, and a thermometer 13 for the control of the inside air pressure and temperature.

The power required for both electrical heaters 15 and 16 is supplied by the battery 19, which is constantly recharged by the alternator 21 of the flywheel/motor/alternator unit 31, comprising A.C. motor 20, alternator 21 and flywheel 22.

The flywheel/motor/alternator unit 31 has several different functions. It can be energized by the use of the A.C. motor 20 of said unit, or regenerated by the use of the shaft power transmitted from the drive train/differential unit 28 through the clutch/gear unit 23 to flywheel 22 during the vehicle deceleration cycle, in order to store the energy needed for providing the peak powers required during the vehicle acceleration cycle. It will run the alternator 21 to charge the battery 19, which is the electrical power source for all the electrical devices, instruments and controls that run on electrical power. The flywheel/motor/alternator unit 31 can be driven by the A.C. motor 20, transmitting the shaft power to the expander/compressor unit 25 acting as a compressor in order to refill one or both of the air tanks 1 and 2 through their air inlets 4 and/or 5, with the valves 6, 7, and 24 properly regulated.

The two air tanks 1 and 2 maybe provided with the openings 12 and 14, and the valve 13 to make possible the transfer of compressed-air from one tank to another when desirable.

The vehicle control system 32 contains all the electrical, mechanical, and manual controls needed to operate the vehicle; and it receives the needed electrical power supply from the battery 19. While the pressure, temperature and flow rate of the compressed-air may preferably be controlled automatically, the flywheel/motor/alternator unit 31, the clutch/gear unit 23, the expander/compressor unit 25, and the drive train/differential unit 28 may be controlled automatically or manually, depending on the specific application.

It is important to note that the braking energy recovery systems provided by this invention will not only regenerate and store the power supply but also reduce or eliminate the need of a friction-braking system, which is normally used in conjunction with the conventional vehicle drive.

FIG. 2 illustrates in block diagram form, a typical installation of the hybrid flywheel/compressed-fluid propulsion system for nonstationary applications including vehicle drive, according to this invention. The installation consists of five component systems, each of which has functions of a specific category. The compressed-fluid tank system 41 has high-pressure tanks and all the subsystems needed to regulate the pressure, temperature, and flow-rate of said compressed-fluid into and out of the expander/compressor system 42. The expander/compressor to be used may be of the axial-flow type, the radial-flow type, the centrifugal type, or the reciprocating type. It may have a single stage or multiple stages having more than one inlet and outlet. If desirable, it may include a separate compressor unit for compressing the atmospheric air for recovering the braking energy or emergency refilling of said tanks. Said system 42 is provided with all the necessary means for controlling the flow and pressure of the fluid being expanded or compressed. It has a mechanical linkage with the drive train/differential system 43 for transmitting the shaft-power through said system 43 to the object to be driven, such as drive trains in case of a vehicle. The flywheel/motor/alternator system 44 normally includes a clutch and gears for transmitting the shaft-power between said systems 44 and said expander/com-

pressor system 42 or said drive train/differential system 43, at a desired speed ratio. System 44 normally includes an A.C. motor for driving the flywheel in an emergency refilling of the compressed-fluid tanks. It also contains an alternator to generate the electrical power required for operating all the electrical devices, instruments and controls used in the specific nonstationary application. The mechanical linkage between the flywheel/motor-/alternator system 44 and the drive train/differential system 43 can be made or disconnected through the use of said clutch included in the system 44. In this way, the flywheel can perform anyone of its several functions, as already described above in reference to FIG. 1. The control system 45 contains all the necessary automatic and manual controls that are needed for the specific nonstationary application. The types of devices, instruments, controls, and other subsystem components which will perform the purported functions of systems 41, 42, 43, 44, and 45 are well known in the art and may easily be provided.

Since the use of a flywheel as a means for energy storage and shaft drive is not as common as that of a compressed-air turbine, which has been in use by various industries as long as air compressors have been known, it should be instructive to briefly discuss various important aspects of the design and operation of flywheels applicable to this invention.

While the energy stored in a flywheel is proportional to the square of the rotational speed, the theoretical maximum specific energy $(E/W)_{max}$ of a flywheel is determined by the strength/density ratio of the material from which it is made. The following relationship may be used for the weight specific energy:

$$(E/W)_{max}(kw-hr/lb) = 0.0314 Kw\Sigma(kpsi)/\delta(lb/in^3)$$

where Σ and δ are the stress-level and density of the structural material respectively, and the numerical factor derives from the choice of units used. Kw is a constant which indicates the efficiency with which the particular design utilizes the material's strength, and is a maximum if the stress is distributed uniformly throughout. Therefore, in an optimum design for isotropic material, both radial and tangential stresses would be equal and uniform, and Kw approaches a value of 1. In a realistic design, the energy per unit weight must be sacrificed somewhat in order to reduce the space required, and with it the weight and cost of the safety shield and gas or vacuum enclosure. The theoretical maximum specific energy of a flywheel may also be expressed as the maximum energy stored, per unit volume of the cylinder enclosing the flywheel's maximum axial height and its maximum radial dimension. The volumetric specific energy may be given by:

$$(E/V)_{max}(kw-hr/ft^3) = 0.0542 Kv\Sigma(kpsi)$$

where the numerical factor derives from the choice of units used, and Kv is the efficiency with which the particular design fills the cylindrical volume as well as utilizing the material's strength; for a uniform-density material, it equals Kw times the fraction of cylindrical volume occupied by the flywheel.

As discussed above, the capacity of a flywheel system as an energy storage medium is dependent on the strength/density ratio and the strength of the structural material of the flywheel. The stress level that can actually be utilized in the structural material is lower than the highest values obtained in the laboratory due to

structural flaws which might be present in the material used and/or flaws which might have grown as a result of cyclic loading and/or high-cycle fatigue of the flywheel. Thus, the usable stress level and the resulting energy storage density will depend not only on the design and the material selected, but also on the homogeneity of the properties of the structural material used. Structural materials used in flywheels may be classified into the two categories, isotropic materials and unidirectional composite materials. The most commonly used materials are: metals, alloys, glass, graphite, plastics, fiber-reinforced composites, etc.

A complete flywheel system consists of various subsystem components other than the flywheel itself. The principle subsystem components are: the housing, bearings, seals, vacuum pump (to minimize windage losses), and containing ring (if required).

Part of the kinetic energy stored in a flywheel will in general be nonrecoverable, either due to internal losses or as a result of constraints imposed by other parts of the system. Sources of the internal losses include windage, bearings and seal friction, vacuum pump power requirement, and inefficiencies in both motor and gear systems (if used). The system constraints normally include the maximum rotational speed obtainable and the minimum rotational speed at which the required power can be delivered as a result of the limitation in the maximum permissible torque due to shear stresses in the flywheel system. The internal losses are the source of idling losses of a flywheel system. Both the idling losses and the system constraints will affect the rotational speed, which in turn determines the power levels of the flywheel system. The results of studies made by this inventor as well as other workers indicates that the power levels and service life of flywheels may far exceed those of common battery systems.

Many historical as well as modern applications of flywheels were reviewed by several workers including: R. C. Clark, Trans. SAE 72, 508, (1964); D. W. Rabenhorst, Preprints, ACS Division of Fuel Chemistry, 19 (6), 162-171 (Sept. 1974); and D. W. Rabenhorst and R. I. Taylor, Johns Hopkins Report TG 1229 (Dec. 1973). Many reports of studies made on various important aspects of flywheels can be easily found in the literature.

Thus, a hybrid flywheel/compressed-fluid powered, regenerative, quick-recharging, nonpolluting propulsion system for nonstationary applications, such as vehicle drive, which can use the unlimited supply of air as the working fluid and requires no fuels has been shown. The hybrid propulsion system has the effects and performance characteristics that are quite different from those of the conventional flywheel power system or of the conventional compressed-air power system, as may be obvious from the above discussion. Although a preferable embodiment using air as the working fluid for application to vehicle drive has been disclosed fully, it will be obvious to those skilled in the art that various modifications and other applications may be made without departing from the spirit of the invention, as exemplified by the typical application shown in FIG. 2. Today, various improved and light materials, such as fiber-reinforced composite materials, are available for the construction of high-pressure tanks and flywheels having high-performance characteristics. With these improved materials, high-pressure tanks and flywheels can be designed and constructed economically to withstand working stresses over several hundred thousand pounds

per square inch, and flywheels can be constructed to provide service cycles as many as nearly a million cycles. High-pressure compressors can be installed easily in service stations and parking lots across the country to provide a quick-refilling of the compressed-air tanks used in vehicles driven by the invention, as often as needed. To assist the invention in long-range cruising, a small combustion-engine powered compressor may be carried or installed in the vehicle in order to refill the compressed-air tanks wherever and whenever needed. The compressed-fluid, such as compressed-air, carried in the vehicle can be partly used for generating cold and hot air streams by using a vortex-tube, for cooling or heating the interior of the vehicle for the comfort of passengers. Today, vehicles can be designed and built to utilize lighter materials, achieve lower aerodynamic drag losses by reducing frontal area and drag coefficient, reduce spinlosses by using more efficient bearings and gears, and lower rolling resistance by using radial tires. Needless to say, all of these factors have the effect of improving vehicle range for a fixed charge of compressed-air.

It should be noted that the present invention is intended for and adaptable to all nonstationary applications. It may use any nonpolluting fluid as the energy-storage medium, any type of expander or compressor for generating and regenerating shaft power, and any type of flywheel for storing and regenerating shaft power. It may also be used in conjunction with another propulsion system, if desirable. It is the combination of a compressed-fluid power system and a regenerative flywheel power system, which produces the desirable effects and characteristics that are absent from the conventional compressed-fluid power system alone or the conventional flywheel power system alone, that is the heart of the present invention.

The invention claimed is:

1. A hybrid flywheel/compressed-fluid propulsion system for a self-propelled object, said system comprising:

- (A) a rotatable drive shaft adapted to propel said object when rotated;
- (B) energy conversion means connected to said drive shaft and employing a compressible working fluid, said energy conversion means being adapted, when supplied with said working fluid in a compressed state, to expand said working fluid and produce shaft work for transmission through said drive shaft;

- (C) a primary container for storing said compressible working fluid in compressed state;
 - (D) first conduit means adapted to connect said primary container and said energy conversion means, and to supply compressed working fluid to said energy conversion means;
 - (E) first valve means interrupting said first conduit means and adapted to selectively control the flow of compressed working fluid to said conversion means; and
 - (F) a flywheel connected to said drive shaft through disconnecting means adapted to selectively connect said disconnect, independent of said conversion means, said flywheel from said drive shaft.
2. Propulsion system according to claim 1 and additionally comprising separate drive means adapted to selectively and independently drive said flywheel.
3. Propulsion system according to claim 1 additionally comprising a generator connected to said flywheel and adapted to generate electrical power when rotated, and a rechargeable battery for storing the electrical energy so generated.
4. Propulsion system according to claim 1 wherein said energy conversion means also is adapted, when driven by said drive shaft and supplied with said working fluid in noncompressed state, to compress said working fluid through conversion of shaft work transmitted by said drive shaft into work of compression.
5. Propulsion system according to claim 4 and additionally comprising:
- (A) a secondary container for storing said working fluid in compressed state;
 - (B) second conduit means adapted to connect said secondary container and said energy conversion means, and to transmit compressed working fluid between said energy conversion means and said secondary container;
 - (C) second valve means interrupting said second conduit means and adapted to selectively control the flow of compressed working fluid therethrough; and
 - (D) third valve means adapted to selectively connect said first conduit means and said second conduit means to said conversion means.
6. Propulsion system according to claim 1 or 5 and additionally comprising means for heating and controlling the temperature of said working fluid inside of said container.

* * * * *

UNITED STATES PATENT OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 4,163,367
 DATED : August 7, 1979
 INVENTOR(S) : George C. Yeh

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 8, Line 13, the word "said" (first occurrence) should read -- and -- .

[SEAL]

Attest:

RUTH C. MASON
 Attesting Officer

Signed and Sealed this

Thirteenth Day of November 1979

LUTRELLE F. PARKER

Acting Commissioner of Patents and Trademarks

INVENTOR REFUSES BILLION DOLLAR OFFER!

AUTO RUNS ON AIR!

By Gilbert Lawrence

"...Actually, they offered me over a billion dollars — but I was afraid the big three would just buy it up and never have any intentions of releasing it to the consumer!"

— Lee Rogers, Inventor

The following feature, to many American Consumers, may seem difficult to believe. — It none the less is true! This is not just a story of the man's desire to overcome the suppression of massive odds against himself, but, entwined within his destiny and within his hands he may find the future destiny of America and the free world. You may never need ask again, "Whatever happened to good old American ingenuity?" Where are the modern day, Graham Bells, the Wright Brothers, Henry Fords and the likes?"

No doubt, we have all heard the expression "Don't look a gift horse in the mouth," but, who among us could look a billion dollar plus offer in the face and say - NO! Well, it may sound like a good plot for a television series (we all remember "The Millionaire"), but it's no fiction, it happens to be the truth. "The Big Three," apparently pooled their automotive fortunes and efforts to the tune of over one billion dollars! All they wanted in return were the absolute patent rights owned and already registered to Lee Rogers, for an automobile that literally runs on air.

Rogers, a forty-one year old residential contractor, from Iona, Florida had one underlying fear. He had a near obsessive concern that the automotive industry might merely "snatch" his revolutionary invention and keep it off the market. Rogers might well be right, if all indications prove correct! His idea to operate any regular gas designed engine on compressed air could cut America's massive dependence upon foreign oil. Because, as Lee Rogers says, "It's probably the closest thing to a perpetual motion machine that may ever be invented."

News of Lee Rogers revolutionary design, reached Consumers Guide Editors and immediately we went to work to separate fact from rumor. As I quickly found out, this wasn't an easy task. For some reason, there almost seemed to be a "Media Black-Out," when it came to acquiring information on this potential block-busting invention.

How could it be, I asked myself, in fact, as Lee Rogers had stated, his invention was probably the closest thing ever to a perpetual motion machine, that no one, including AP, UPI, NBC, CBS, and ABC had not grabbed up this little gem and really ran the distance.

For whatever their fears or reservations the balance of the media seemingly held back, and given the initiative of time, the Guide continued to force ahead to expose the inventive genius — or fraud — of Lee Rogers.

As the days grew into several weeks, bits and pieces of the puzzle, the Rogers story, started coming together. Many unanswered questions and doubts were investigated and the solutions to the key questions were answered with fact.

Example: Why did Dr. Larry Bagnall, of the University of Florida

agricultural engineer, criticize Rogers' invention, saying, "Rogers might just as well use a horse to turn a windmill?" Further, Bagnall stated, "I would roughly estimate that it would take twice as much energy to fill the tanks and compress the air as the engine could ever produce. After all," Bagnall continued, "Rogers will have to use more fuel to compress the tanks of air than the auto normally would use!" Rogers, not one to be at a loss for words, countered Bagnall's attack with a chuckle, "the compressor will be continually fueled simply by the power from the engine itself."

As Rogers later stated in an exclusive Consumers Guide interview, "I work on one problem at a time. First, they told me it was impossible to run an auto engine on just plain 'pure' simple air — and I said, Why? After all," as Lee Rogers continued, "All gasoline does is create a 'hot' explosion driving the pistons up and down, and the only reason it's a hot explosion is because it's ignited. So, I got to thinking, no reason why the air has to be hot! Why not just regular cool everyday air like you and I breathe?"

"Sounds good," everyone would say, "but it'll never work!" "Well, I made it work! I proved it! I not only started it, and idled it (for many, many hours), but I took 'em for a drive in it. — Now let 'em tell me it can't work!"

State Rep. Paul Nuckolls, (R) Fort Myers, who just happens to be on the House Agricultural Committee, sees the Rogers invention as a potential revolutionary breakthrough for the farming industry. Without the high cost



photo courtesy Fort Myers, Florida News Press

LEE ROGERS OF IONA EXPLAINS HOW AIR POWERS HIS CAR
...no other fuel is used to run the vehicle.

of fuel, that the farmers are presently faced with, food prices could be slashed.

Rep. Nuckolls personal aid, Jim Siford, stated to The Guide, "I remember the day we all went down to Lee's for a look. A whole group of us were there. We had heard all types of rumors, and Mr. Rogers walked out to his garage with us explaining, 'it just simply runs on air.' One gent who was there with us, who I dare not name, said, 'if that thing even starts, I'll consider it a miracle!'"

"Well, Mr. Rogers opens up the garage door and there sits a regular looking 1977 Dodge stationwagon. After showing us the modifications, Mr. Rogers hops in and not only starts her up, he backs down his driveway and waves to us, as he drives off down the street. You could have knocked us all over with a feather!" Siford concluded.

(EDITOR'S NOTE: Accompanying this article is the Guide exclusive interview with Lee Rogers.)

Consumers Guide interview with inventor Lee Rogers:

Air-powered auto is a reality!

By JERRY KEEFE

LEE ROGERS is a resident of Iona, Florida, a small residential area outside Ft. Myers. He believes he's invented a car that runs on compressed air, no fuel, no combustion, just the power of air trying to free itself from the cylinders of a V-8 engine.

Rogers' idea to run an automobile on compressed air was sparked by the energy crunch two years ago. This idea has been fueled by his technical progress on the engine, and his desire to change the nature of the auto industry, thus freeing the consumer of spiraling gasoline costs and cut America's umbilical cord with the energy-rich Arab nations.

Lee began by tinkering with his 1977 Dodge Aspen station wagon. He removed all the gasoline components from his car's engine including the carburetor, spark plugs, gas tank, fuel pump and exhaust system.

The old Dodge was originally fueled by pressurized air tanks that Rogers had purchased. He has since designed an air compressor that provides a continuous supply of air to the engine. A converter that he developed attaches to the

engine block, pumping pressurized air into the cylinders — and it works!

"Simply, it just runs on air instead of gas," the 41-year old former home builder says of his first invention. "Instead of gas, it just has air going in to drive the pistons up and down. It's so damn simple nobody believes it."

That includes Jimmy Carter, the Department of Energy, Ralph Nader and the major U.S. car manufacturers, all of whom Rogers has contacted with little or no response.

Rogers contacted the major auto companies last year and tried to interest them in his idea. But, they apparently wrote him off as a nut and ignored his request to come and see his perpetual motion machine.

Apparently the Big Three believe him now. After a great deal of publicity and documented facts, they have pooled their bargaining efforts and offered him "over a billion dollars" for his patent.

"Chrysler and General Motors asked me to send it to them, but they didn't believe I could turn it (the engine) over."

Rogers says with amusement, "They can let it idle eight hours a day or more, take it on a test run and reach speeds up to 80-miles per hour. And when you look at the engine, it has a nice frosty, cool appearance to it and is cold to the touch."

"There's a couple little tricks to the invention that I haven't told nobody. My wife doesn't even know about em. Like I told Chrysler, if you had this idea you could be No. 1 instead of being on the brink of bankruptcy. They said, 'Well, send it to us. We don't expect it to run.' But they want me to practically sign the patent over to them."

And Rogers has his engine patented to the hilt. He has about \$7,000 of his own money in his own invention, so he says.

Mr. Rogers fears that if the big auto companies did buy his creation, they might hold back the production of a car that runs for years with no engine combustion or tune-ups.

"And if they did make this car, where's the average consumer going to get the \$16,000 or \$20,000 to buy one?" Rogers asks.

Continued on page 8

Lee Rogers interview

Continued from page 4

Lee Rogers plans to build a "converter kit," that will adapt to any American built auto, mass produce them, and sell them outright. He feels that if he builds and sells them on his own he can protect his patent, help out the consumer, save his country from the Arab oil squeeze and make a comfortable sum of money to live on.

He tours his invention as one solution to solve the energy crisis, and says that when it is perfected, it will run as fast as gasoline-powered engines and revolutionize the industry.

Ford Motors told me the engine would never run on air. They said it's designed to run on combustion only, created by a fuel," Rogers adds. "Nobody believed it would work because they said it would work they would have done it a long time ago!"

In the process of designing and building his perpetual-motion machine, Lee Rogers had to have every part made at various machine shops. Many times the various parts had to be modified, redesigned, or completely remade.

"My invention would turn inflation crazy around. If enough American people know about it... they're going to push for it. The auto companies could have created this ten years ago. Frank Kelly, my neighbor, who has assisted me in the assembly of the engine, and I can't change the country by ourselves. We need help from everyone to put pressure on the auto industry to give my engine a chance.

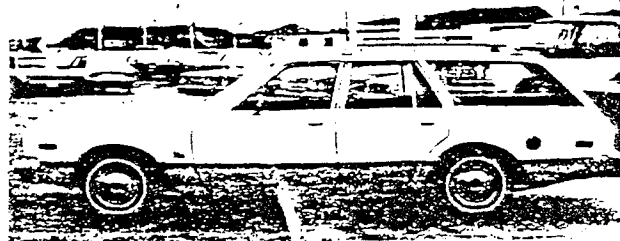
Rogers' 1977 Dodge is currently running at 98% H.P. efficiency, compared to only 20% for gas powered vehicles.

Lee Rogers' air-powered conversion kit (owner manufactured) could be adapted to any American-made auto and would sell for about \$1,000. The kit could be installed by your local mechanic at a nearby gas station. The car keeps its battery to power the lights, accessories, and to start up the air compressor.

Now, assuming you have bought the conversion kit, had it installed, you are now ready for your initial test run. But first you must spend \$14 for a tank of nitrogen to charge all four air tanks that are mounted where the gas tank used to be. You have the main tank, and the other three are reserves. The compressor is fueled simply by power from the engine and as the engine runs, it's constantly rebuilding its own air supply. As one tank empties, another is being filled...and so on. When the charge gets up to 500 P.S.I., the auto is ready for the highway. The nitrogen is a one time purchase. It also cleans, blows out all oil and gas residue, cleaning the valves, the engine and everything else right out to the exhaust.

Now, step into the car, turn on the key... give it some air (step on the former gas pedal) and away you go.

The whole concept of the perpetual-motion machine is based loosely on the same theory of an air-gun. The former gas pedal acts like a trigger and gives



LEE ROGERS has adapted his 1977 Dodge stationwagon (similar to photo shown here) with an airpowered engine that has the auto industry worried.

photo: BILL LANGHORST

you various speeds when you press down on it.

CURRENT PROBLEM

What stands between Lee Rogers marketing the converter kits now or at some time in the near future, is a slight problem he hopes to soon solve. At low speeds, the auto uses the air pressure up in about 20 minutes.

"The engine doesn't run fast enough at 5 to 15 mph to rebuild the air supply. The air pressure has to reach about 2,000 R.P.M.'s to remake its own supply," Lee chuckles and adds, "But it's merely a matter of gearing and some slight changes. I'm very close to solving the problem. Very close," he adds and grins.

And grin he should. Lee is on the verge of creating complete havoc in the automotive world that for years has been dependent on the oil and gas companies. And should his design work, the hiss of his air exhausts sweeping across the nation will be topped only by the screaming and

selling of the money hungry oil and gas magnates pulling their hair out.

MODERN DAY HERO

In this day and age when heroes are a rarity, Lee Rogers is certainly destined to be a cult hero. The 41-year old building contractor is gaining a cult following with engineers, mechanics and farmers who call day and night and even stop by his house, the location of which Rogers is trying to keep "Top Secret."

The usually calm, soft-spoken man sometimes breaks into a hearty laugh when he recalls what some people have gone through to beg a glimpse of the air-powered engine or just to shake the inventor's hand. A farmer flew in from Wisconsin and wanted to buy 18 conversion kits for his tractors, when he arrived he still had on his bib overalls.

An older couple named Rogers -

Continued on page 8

Auto runs on air

Continued from page 5

drove down from North Carolina, simply to congratulate another Rogers. And on and on it goes... phone calls, visitors, TV, radio and newspaper reporters...all hoping to catch a glimpse of the Dodge running on air. All the attention has built up to the point where Rogers is finding a little privacy hard to come by.

He has an unlisted phone number, and for some, the journey to see the perpetual-motion machine ends in disappointment. Lee Rogers attorney has insisted that all viewing by unknowns be halted and that his "secret" be guarded and kept under lock and key.

Years from now, we may be breathing clean air as we sit on our porch in a rocking chair...telling our grandchildren about the legend of Lee Rogers and how he slew the giants of the auto industry with his creation of a perpetual-motion machine that revolutionized the auto industry and just possibly saved mankind from walking the face of the earth with a gas mask and a tank of oxygen strapped to his back to breathe with.

Note: In our conversation with Mr. Rogers he has expressed a concern for the preservation of his privacy, in order that he may maintain some semblance of normal life. Thus, in accordance with Mr. Rogers wishes, Consumers Guide will not publish any direct contact information. Should you desire to correspond with Mr. Rogers, please write to:

Lee Rogers
c/o Consumers Guide
P.O. Box 2700
Toledo, Ohio 43606

The Guide will forward all correspondence to Mr. Rogers.

NOTES BY T.F.E.P.

EINSTEIN SAID ENERGY IS NEITHER CREATED NOR DESTROYED. THIS SEEMS TO BE IN AGREEMENT WITH THIS ARTICLE BY GIL LAWRENCE. SUCH A COMPRESSED AIR POWER SOURCE OFFERS THE MEANS TO UTILIZE ENERGY THRU MANIPULATION, WITHOUT DISSIPATING OR EXPENDING IT. THE POWER NEEDED TO RECOMPRESS IS MINIMAL BECAUSE SUCH RECOMPRESSION IS NOT FROM ATMOSPHERIC PRESSURE WAY BACK UP TO TANK PRESSURE. IN THE POWER STROKE LITTLE DECOMPRESSION TAKES PLACE COMPARED TO THE AMOUNT OF AIR AND THE PRESSURE OF IT AVAILABLE IN THE TANK. IN OTHER WORDS THE ENERGY REQUIRED TO PERFORM THE POWER STROKE IN ADDITION TO THE AMOUNT OF ENERGY REQUIRED TO RECOMPRESS AFTER THE POWER STROKE IS A VERY SMALL AMOUNT COMPARED TO THE AMOUNT AVAILABLE IN THE SUPPLY TANK. THE PROBLEM THEN BECOMES NOT WHETHER OR NOT THERE IS ENOUGH POWER AVAILABLE. CLEARLY THE ONLY PROBLEM IS IN DEVELOPING THE HARDWARE NECESSARY TO MANIPULATE THE AVAILABLE ENERGY WITHOUT LETTING IT SLIP THRU OUR FINGERS.

Some Of Our Current State (+ & -)

HEALTH & HEALING - A book titled *Eccentrics: A Study of Sanity and Strangeness* by David Weeks and Jamie James who did a deep study of eccentrics reveals that eccentrics live longer and are happier than more normal and conforming people. They list the following attributes to identify eccentrics: nonconforming; creative; strongly motivated by curiosity; idealistic (wanting to make the world a better place and the people in it happier); cheerfully obsessed with one or more hobbyhorses; aware from early childhood of being different; intelligent; opinionated; outspoken; convinced of being right and that the rest of the world is out of step; noncompetitive (not in need of reassurance from the rest of society); unusual in eating habits and living arrangements; not particularly interested in the opinions or the company of other people, except to persuade them to his point of view; possessed of a mischievous sense of humor; single; usually the eldest or an only child; a bad speller. (Editors' note: I find myself fitting all of this list but two or maybe with qualifications three items! A very close friend of mine once laughed at hearing me say "I am not impractical, I just attempt the impossible" and had me write it down she thought it so worth remembering.) Mr. Weeks in his book says, "In every field, the eccentric welcomes the impossible challenge". Eccentrics also are very long lived and many look, feel, behave and think younger than their biological age. I think many people would be helped by adding a dash of eccentricity to their lives. Break out of the old ruts of thinking and the hobbling habits of ordinary life! Life is for living and is lived best when lived authentically! The question is what is an authentic life for YOU?! This information sent me by a subscriber to *Fulcrum* from England.

FOLKLORE CANCER TREATMENT! 75 year old former truck driver Jim Kelmun of Ashville N.C. paid attention to the only survivor in a family plagued by breast cancer and tried her habit of sipping on maple syrup and baking soda on hundreds of people with cancer. "Dr" Jim, as the people he has helped call him, claims that of over 200 terminal cancer patients, 185 lived at least 15 years or more and nearly half enjoyed a complete remission of their disease! (Editors note: I think it interesting that people instinctively know a real healer and will call him or her "Dr." whether or not they have a medical degree.) Dr. Jim proudly demands, "You tell me about another treatment that works that good!" Medical "experts" are less enthusiastic. "This man is a quack, plain and simple", blasts an official at a state medical association. "We intend to see that he is arrested for practicing medicine without a license". Until that happens Dr. Jim vows to keep prescribing his treatment: "I'm just going to keep on saving lives". Dr. Jims Recipe for whatever it is worth is: one part baking soda with three parts maple syrup stirred briskly while heated in a saucepan for 5 minutes. Take one teaspoon daily as needed. *KeelyNet* June 1996. (Editor's note: How can maple syrup and baking soda be

practicing medicine without a license? It is admittedly not a medically taught cancer treatment. What are they afraid of? He is not calling himself a medical doctor. If it works what might its' modus operandi be? Cancer cells thrive in and measure preponderantly acid compared to surrounding healthy tissue and the "recipe" is alkalinizing so perhaps it helps the body overcome the condition by restoring a balanced PH. Additionally a daily taste of the sweetness of life even if it is only oral may help restore joy and vitality to the patient and thus improve the immune system.)

EARTH CHANGES - Gordon Michael Scallion, futurist and psychic believes," global geophysical earth changes will accelerate after a prolonged quiescent time period. I continue to perceive December as a beginning window for significant global earthquakes and vulcanism that will build in strength throughout 1997. As perviously stated in ECR, watch the Western and Eastern US". (Editors note: Gordon has previously also stated he feels New York City will experience a small earthquake in the 3 to 4 richer scale range to be followed very quickly by a big apple rocker in the 7 + richter scale range. Likely time December 1996.) 1996 has the record for being the worst year for USA wildfires. *The Earth Changes Report* Oct. 1996.

GOVERNMENT/POLITICS - "The Kennedy Kassebaum health insurance bill passed by Congress would require doctors to pass to databases 'encounter data', a vague term that might include (details) of visits and consultations. The bill also allows medical researchers to use patient information gathered by health care companies in research without their consent". John Schwartz *Washington Post* quoted in *Forbes* 8/26/96 and requoted in *The Reaper* 9/11/96.

The total tax take from the American people from taxes at all levels (federal state and local) consumed 30.4% of GDP in 1995. Americans are presently paying the highest taxes in history as a percent of their income. *The Reaper* 9/11/96.

RELIGION - The divorce rate for regular churchgoers is 18%. For those who attend services less than once a year, 34%. Frequent chrchgoers are about 50% less likely to report psychological problems and 71% less likely to be alcoholics. US News & World Report. (Editors note: In 25 years of medical practice I have been privy to many peoples' personal lives. My observations have been that many if not most marriages are unhappy and that rather than move on from an unfulfilling relationship most people will stick it out because of children, finances, religion or all three of these. Alcoholics anonymous is founded on the bedrock of belief in GOD and GOD working with us, but not for us. These statistics may not really reveal what is happening behind the scenes so to speak with marriages, divorce and the part religion plays in it.)

ART - "Films reflect the psychology of the times. Fear, horror, violence, aliens, unknown menaces from outer space, that seems to be what's bringing crowds to movie theatres. I think it fits into a strange sense of foreboding that has infected the American spirit." Richard Russell. *Dow Theory Letters* 8/14/96. (Editor's note: There are films like *The Bridges Of Madison County* and others that reflect different values, and changes that have infected the American spirit. Films are probably the art form the masses presently seek out and pay for the most and they do influence people's thinking and actions. The fine arts have been relegated to a back seat and artists find it necessary to turn their talents to the film industry as a means to survive and pursue some form of their passion and talents for creativity. The Russell's spoke of artists having to lower their standards to appeal to the cruder sense of the masses at this relatively unenlightened time on the planet.)

ART & PERPETUAL MOTION! Reidar Finsrud a Norwegian painter and sculptor has created the first working model of a "perpetual motion" machine. Reidar created the machine as a 'moving sculpture' and worked on it for twelve years. The machine is very simple and all parts and internal workings of the machine are clearly visible in a video made by Norwegian channel 2 TV. The art piece has a metal ball that rolls continuously once set in motion (it has been rolling for many months now). It has three swinging pendulums and six magnets that act to keep the ball in motion. The inventor/artist is currently displaying the device in his art gallery which is open for the public. This artist with no training in physics or mechanics has succeeded in creating one of humanity's most mythical dreams that has been sought for over a thousand years: the Perpetuum Mobile. Congratulations Reidar Finsrud! Edited and redone from *KeelyNet NL* June 1996.

SCIENCE & TECHNOLOGY - (Editors notes: While free energy devices of all types like cold fusion and transmutation are still bad science in the U.S. there are at least 15 companies listed in *New Energy News* August 1996 that are now commercializing such free energy or other energy enhanced devices. There is a major revolution right now in energy production happening on the planet in spite of the media blackout and establishment ignorance of this phenomena. *Space Energy Journal* June 1996 lists 7 papers relating to "antigravity" phenomena that have been demonstrated that were reported on in various publications or presented at international conferences in the last few years.)

BUSINESS & COMMERCE - The real U.S. inflation rate is running about 6.5% *The Reaper* 9/11/96. Three cheers for complexity: Several recently enacted laws containing more than 650 tax changes are 'very exciting for us' says John Hewitt, chairman of Jackson Hewitt Tax Service in

Virginia Beach, VA. He calls the avalanche of changes a 'tax preparer annuity plan', adding: 'We're going to have a boom year here and I'm sure all the tax preparers will'. Tom Herman *WSJ* 8/28/96 and *The Reaper* 9/11/96.

AGRICULTURE - "China... has lost 1% of its farmland each year. It is expected to lose 25% of its arable land by 2010. Additionally, the increasing use of wells and irrigation causes water tables to drop. China expects to have 31% less water per person by 2050 and already has over 100 large cities with severe water shortages. Irrigation is leaving salt in the soil and over a quarter of China's irrigated land already suffers from salt damage. These problems are not unique to China. They are even more intense in Bangladesh, parts of India and areas in Southeast Asia". Evelyn Browning Garris. *Browning Newsletter* 7/21/96. (Editor's note: This problem is acute in the US and in fact is worldwide.

The longer we postpone the burial of chemical mono big agribusiness (culture?) and keep the benefits of natural organic farming methods that rectify the above problems, and more, unknown to the public, the more disease we will see as well as increasing expense and scarcity in foods.)

EDUCATION - The Education department has summarized information on federal financial aid programs at this web site (http://www.edgov/prog_info/SFA/StudentGuide). And users who want to apply for aid can download a special software package to complete the necessary forms by computer. *WSJ* 8/29/96.

Tuition at 4 year public colleges increased 234% between the 1980-81 and 1994-95 school years, or nearly three times as fast as household income and more than three times the rate of consumer price inflation. *International Herald Tribune* 8/18/96.

MISCELLANEOUS - (Editors notes: **RUSSELL SCIENCE RESEARCH ON TV!** The TV show *SIGHTINGS* spent 4 hours in Boulder CO with the Russell Science Research Team of Toby Grotz, Ron Kovac and *Fulcrum* editor Tim Binder filming a segment for the show about two months ago. The show focuses on the teams efforts and success in demonstrating low temperature and low pressure transmutations based on the prior work and concepts of Walter Russell and others. The *Sightings* staff had heard of the team's work and especially of our lithium (mass) 5 transmutation via nitrogen from USP friend/Russell student, PMH Atwater of Charlottesville VA. PMH is an author and teacher of life mastery from her near death experiences and life challenges. The show will air on the FOX channel sometime after October of 1996. Check your guides for info on exact dates.)

Newsletters/Periodicals

NEW SCIENCE/TECHNOLOGY/FREE ENERGY

Electric Spacecraft Journal. Published quarterly, annual subscription rate \$24, Canada/Mexico \$29, other countries \$39. ESJ publishes research articles on new science, inventions and network notes from the ESJ network of individuals sharing ideas about these topics. Devoted especially to discovering the means/mechanisms for "electric" spacecraft and all that such understanding would mean for our civilization. I have known the editor Charles A. Yost the last few years and he spoke at our 1995 symposium. I find Charles' ESJ to be interesting and informative, and although most articles are very technical there are aspects of the journal that the average reader should find comprehensible and of interest. Charles A. Yost editor. ESJ, 73 Sunlight Drive, Leicester, North Carolina 28748. Phone 704-683-0313 Fax 683-3511.

The Space Energy Journal Published Quarterly. \$35 U.S., \$40 Canada & Mexico, \$50 elsewhere. Jim Kettner and Don Kelly editors. This journal publishes the positive and the negative results of testings of free energy machines and other new science experiments. The discussion of new science ideas is technical and yet also very down to earth so that the average reader should follow most of it. I have met Don Kelly through my association with the International. Assoc. for New Science/ International. Symposiums for New Energy and he is familiar with the Russell work too. Space Energy Association, P.O. Box 11422, Clearwater FL 34616. Phone/Fax 813-461-7119.

New Energy News is the newsletter from the Institute for New Energy. It is a collection of reports on inventions, ideas and of publications relating to alternate and free energy. Monthly free to members with member fee of \$35 and \$60/yr. to corporations, libraries and universities. Hal Fox Editor, P.O. Box 58639, Salt Lake City, UT 84158-8639. Phone 801-583-6232 Fax 583-2963.

The *Planetary Association for Clean Energy* newsletter publishes articles to facilitate the development of a wide range of clean energy technologies including free energy technologies. Usually quarterly \$35/yr. Canada, \$40 USA, \$45 elsewhere. Andrew Michrowski, editor, Planetary Assoc. for Clean Energy, Inc. 100 Bronson Ave. Suite 1001, Ottawa, Ontario, Canada K1R 6G8. Phone 613-236-6265 Fax 235-5876.

INVESTMENT/INTL. POLITICS/ ETC.

The Reaper. 36 issues per publishing year. I year- \$195. 10 issue trial - \$60. *The Reaper* is a no holds barred newsletter examining our current global and national economic/political status with an eye towards assisting investors in commodities, currencies, real estate, etc., etc. Publisher R.E. McMaster Jr.

is an acquaintance of mine who I introduced to the Russell's work and I have subscribed to his NL off and on over many years - not because I am an investor (I should be and if I would have followed much of his advice would have made some cash, but I'm too involved in other work), but because I have been fascinated with R.E.'s analysis of our world situation. Called the Indiana Jones of the Christian economists by some he has a 'Christian' point of view but it is not conventional in my estimation. He is aware of new energy and natural health/healing practices and reports on these areas at times. P.O. Box 84901, Phoenix, AZ 85071. Phone 800-528-0559.

EARTH CHANGES/ESOTERIC

The Earth Changes Report 12 issues/yr. \$36; Canada, Mexico, Alaska & Hawaii \$46/yr.; \$56/yr. elsewhere. Published by futurist/psychic predictor Gordon Michael Scállion gives Gordon's psychic predictions and a review of his hits and misses as well as articles in the new age spiritual genre and a report of earthquake, climate changes, etc. worldwide. I have watched Gordon Michael's predictions for the last several years and while he is not 100% on target he has been close enough on enough times to be much more than just coincidence. Published in the spirit of better to be prepared for what does or does not happen than to be unprepared for what does happen, the ECR is a good monthly review of earth changes as they happen and of what might happen beyond most folks wildest dreams - both pro and con. Matrix Institute, P.O. Box 336, Chesterfield, NH 03443. Phone 1-800-628-7493.

ESOTERIC/NEW SCIENCE

New Science News published by the International Association for New Science (IANS) addresses metaphysical and esoteric perspectives on pro-social topics such as sociopolitical, new age, and new science concepts. I have spoken at several of their conferences on the Russell's work as well as alternative healing topics. Quarterly, \$35 membership. Bear Jack Gebhardt, editor, IANS, 1304 South College Ave., Ft. Collins, CO 80524

KEELYNET NEWSLETTER/INFO EXCHANGE

P.O. Box 870716, Mesquite, Texas 75187
Subscription price unknown - Published Quarterly - Info on new energy science and health information exchanges. The publisher is Jerry Decker a long time Russell student, Keely student and investigator into all kinds of unusual phenomena.

RATBAG ANTIPHYSIC NEWSLETTER.

New Energy Science, anti-establishment news. Subscription price unknown. The publisher goes by the name of Millenium Twain, Plasmatronics Inc., P.O. Box E, Menlo Park, CA 94026

In The Wave Lies The Secret Of Creation

by Dr. Timothy A Binder

This soft cover treatise on the Russell Cosmogony with 44 color charts, 10 black & white charts and 31 diagrams is now available. The book presents a Universal Systems Model that is applied to language in order to facilitate greater comprehension of the Russell Cosmogony. A comparison of Russellian Science and the Science of his time is given as is a description of the chief elements of the Cosmogony including: the eighteen dimensions, formula of the locked potentials, wave mechanics, the cube and the sphere, periodic charts, thermodynamic laws, and Newton's first and third laws versus the Russell Cosmogony to give a firm basis to understand Walter Russell's scientific paintings and charts.

An analysis of the paintings and charts comprises the second half of the book. Most of the paintings included in this volume have never before been published. The cover of this issue of *Fulcrum* has one of these paintings as its front cover piece.

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