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EXPERIMENTS SUPPORT SPACE ENERGY

By Hal Fox

Before the energetic ether succumbed to false accusations of its demise, there was an ongoing debate about the existence of an energetic ether. Mr. Vincent Coon, of Salt Lake City, Utah, brought in an important historic document for our consideration plus a more recent paper. Here is the story:

Dr. E.H. Kennard was a professor at the University of Minnesota and an excellent experimenter. In August, 1916 he submitted a paper to the *Philosophy Magazine* [1] titled "On Unipolar Induction: Another Experiment and its Significance as Evidence for the Existence of the \AA ther." Here is his summary of that paper:

An experiment is described showing that a cylindrical condenser rotating inside a magnetized coaxial solenoid becomes charged as required by the theory of Lorentz. Rotation of the solenoid has no effect. The disproof of the moving-line (cutting lines of magnetic force) is thus completed; electromagnetic induction depends in part upon absolute rotation in the mechanical sense. Analysis in terms of electrons seems to make necessary the existence of a stationary aether in order to explain the observed effect; so that the phenomenon seems to present difficulties for those relativists who reject the aether.

This experiment certainly supports the concept of space energy. It is apparent that for magnetic induction (using either permanent magnets or electromagnetics) it is definitely not the **relative rotation of the conductor with respect to the magnet** that is important. **The important factor is the rotation of the conductor with respect to a stationary ether or space energy.** Kennard makes the following observation:

The practical bearing [consequence] of these experiments is small, yet they do necessitate a correction of certain statements that are common in the textbooks. For instance, it is not correct to say

that the effect of rotating the armature of a dynamo [generator] is the same as that of rotating the field-magnets in the opposite direction. The total E.M.F. is the same, but in the first case it is developed almost entirely in the longitudinal parts of the winding, while in the second case a large fraction of it is developed in the radial parts, and the distribution of electrification on the armature will be different.

It is interesting that in spite of experimental evidence, the textbooks of today do not properly explain the full story of magnetic induction. The full story is that there is a force developed in a conductor **that is moving in the presence of a magnetic field** such that an electrical voltage or a current flow is induced in the conductor. **Therefore, there has to be some stationary (with respect to the conductor) non-material something which causes the force which results in electrical induction.** We are strongly convinced that this "non-material something" is space energy.

The second paper appears in the May/June 1990 issue of *Galilean Electrodynamics* [2]. The article by Francesco Müller is titled "Unipolar Induction Experiments and Relativistic Electrodynamics." The abstract states:

The relativistic requirement of relative motion between a conductor and a magnet to produce electromagnetic induction is critically re-examined both historically and by original experiments. That no such requirement is needed for a rotating system was demonstrated by Kennard in 1917 and is acknowledged by some relativists, who have therefore resorted to General Relativity for an explanation of the rotational unipolar inductor. But the additional experimental tests with a modified, rectilinear version of the unipolar inductor reported here rule out General Relativity as well. There appears therefore to be a need for some new theoretical formulation of the problem, based either

on classical (Maxwellian or Amperian) electrodynamics or on an altogether new approach.

Einstein, in his 1905 paper [3], states that electromagnetic induction "depends only upon the relative motion between a magnet and a wire." However Faraday had shown otherwise and Kennard's experiment conclusively demonstrates that Special Relativity is wrong for this electromagnetic induction. However, because the experiment is a rotating frame of reference, Schiff [4] used General Relativity to explain the results. Here is the explanation as reported by Müller:

In his paper, Schiff calculates the "warping" of space which is "ascribed to the rotation of the distant masses" of the universe and which shows that an "extra current appears and modifies the electromagnetic tensor equations" in a rotating frame of reference. This means, in ordinary language, that the peculiar effects occurring in a rotating electromagnetic system are supposedly due to the violent "backward" rotation of all fixed stars and extragalactic nebulae as seen by an observer stationed at the rotating magnet itself. No physical explanation is given as to how such a mysterious interaction takes place.

Müller points out a unique rectangular experiment by which only rectangular and not rotational motions are involved. The results in the "unipolar" induction of electricity is still the same. **Therefore, the explanation of this Faraday discovered effect is not explained by either Special or General Relativity.**

The most rational explanation is that there is an essentially stationary ether or space energy that is involved in all electromagnetic induction. These two papers are important. They are peer-reviewed papers addressing important scientific issues and they cite experimental data that can be replicated.

Some of our readers who are experimentally inclined may want to study these articles. If they are not available in your nearby libraries, you can get copies for academic or educational purposes from *NEN*. We try to track and pay the appropriate charges when articles are copied from copyright sources.

An extremely interesting effect is that if a conductor is rotated and the magnetic field is stationary, the input power required to produce electrical power is directly proportional to the electrical power output. By contrast, when both the magnetic field and the conductor are rotating, the output power as

measured in an external load appears not to be proportional to input power. In other words, there is little "back torque" caused when both the conductor and the magnetic field rotate.

It does appear to be **easier** (in terms of the rotational speed required) to produce electrical power by rotating the conductor and leaving the magnetic field stationary. Higher rotational speeds are apparently required to obtain suitable amounts of output power when both the magnets and the conductor are rotating. A close consideration of this phenomena suggests a new formulation for electrical induction. We will try to have this issue formally addressed in a near future article in *NEN* so that you will have the mathematics to help in the design of your experimental N-Machines.

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Fusion Briefings

BBC - COLD FUSION VIDEO

The British Broadcasting Corporation System aired an half-hour presentation under their "HORIZONS" program about Cold Fusion on March 15, 1994. Contrary to an earlier presentation that was highly negative, this video presentation was balanced and therefore quite positive. John Huizenga (University of Rochester), David Williams (Harwell atomic energy facility), John Parker (MIT), and John Maddox (editor of *Nature*) were the principal (and perennial) skeptics

interviewed. Of this group only Williams and Parker had ever tried an experiment and their results have been seriously questioned by other scientists, in fact, Parker's results have been shown to have produced a small amount of excess heat.

The proponents were Pons and Fleischmann, Michael McKubre (SRI, International), Randell Mills (Lancaster, Penn.), Robert Shaubach (Thermacore), Gene Mallove (formerly MIT), Kunimatsu (Japanese scientist), and an undisclosed scientist from one of the U.S. National Laboratories. All of these scientists (except Kunimatsu and Mallove) were interviewed in their laboratories where increasingly positive results of cold fusion have been carefully measured. In addition, Bruce Lewenstein was interviewed concerning the nature of scientific inquiry.

As I have personally met all of these persons except for Williams and Maddox, it made for an interesting review of the progress of two aspects of cold fusion (the Pons-Fleischmann heavy-water electrochemical cells, and the Mills light-water work.) The six other methods by which nuclear reactions can be produced and controlled in relatively simple experiments were not mentioned. The only additional new energy source mentioned was the work being done to make a vehicle that runs on water by Stanley Meyer, which has little or no relationship to cold fusion.

Perhaps the most interesting part of the presentation was the view of Fleischmann in his Japanese-funded laboratory where he was shown with relatively large devices in which the cell electrolyte was boiling. It was mentioned that they wanted to maintain a 500 watt output and keep the cell boiling for a period of three months. This plan is a step in the commercialization of cold fusion.

When there has been so much planned and intense criticism of cold fusion, it was pleasant to view this balanced production. At the end of the film the new interest by corporations willing to invest capital in cold fusion was reviewed. Fred Jaeger, president of ENECO, Inc. of Salt Lake City discussed the merits of his company's early entry into the cold fusion technology. ENECO has obtained rights to several of the world's most promising cold fusion technologies, including the exclusive worldwide rights to the original Pons-Fleischmann work at the University of Utah.

PATENTS FOR COLD FUSION

By Harold Aspden

Stephen Roen (*Fusion Facts*, February 1994) tells us that no U.S. Patent has yet been issued on any cold fusion application.

He quotes a recent U.S. Patent Office Board of Appeals decision that was based "on evidence that the experiments of other "careful researchers" in the field were unable to demonstrate neither excess heat nor traditional by-products of fusion reactions." The Board also noted that erroneous results could be achieved by failing to observe "strict experimental controls."

My experience in applying for "cold fusion" patents in the British Patent Office has not run into such a formidable barrage of reaction. On February 23rd, I was notified that my second such application was granted and will be published on April 20th as GB Patent No. 2,251,775. It has been assigned to Utah-based ENECO.

My study of the copious rejection material cited against the corresponding U.S. patent applications showed how much the U.S. patent examiners are relying on the null research findings of those "careful researchers." What was cited was not prior art or experiments based on what I had described and claimed. It was simply an account of failed attempts by laboratories who were so careful about measuring every calorie of heat that might be produced in the living cold fusion cell that they encased it so tightly in its test bed that it was choked to death. When a calorimeter report did show a faint breath of life, a slight temperature difference, that was seen as spurious and arrested by taking even more care to be sure the inside of the calorimeter was at a uniform temperature.

Now, the day before the grant day of my second cold fusion patent in U.K., namely February 22nd, was the issue date of my U.S. Patent No. 5,288,336, which is about thermoelectric energy conversion. That invention encountered no problem in the U.S. Patent Office. It concerns electrical actions developed in metal subjected to a temperature difference. I can assure everyone that if we were to subject the patented device to "careful" testing in a perfect calorimeter which keeps temperature uniform, then it would certainly not function. Indeed, our demonstration device on which the patent is based shows that it only responds when there is a priming flow of heat through the

metal. That flow of heat, given that we used nickel in our device, was carried by electric charge through the microscopic powerful magnetic fields intrinsic to nickel, like a flow of ions in a hot plasma transported through the magnetic fields in the technology of magneto-hydrodynamic power generation. This combination works wonders in converting heat into electric field action, but the "establishment" is more familiar with the hot plasma applications than with the ambient cold activity inside a metal.

The "establishment" likes a hot environment and if our future energy world has to be "cold," they like to clothe it in a blanket (calorimeter) to keep it cold -- or, rather, prevent it from getting warm!

So, why is this relevant to "cold fusion"? Well, I see from *New Energy News* (March 1994) that on the day my cold fusion patent was granted in U.K., February 23rd, the Editor received a fax from Dr. Bruno Stella in Italy, announcing an astonishing cold fusion result using a nickel bar and a heater while subjected to electromagnetic stimulation.

I will say no more on this, as I have a third U.K. patent application in process and this cold fusion field is likely to become really competitive once the U.S. Patent Office lowers its barriers.

As a final comment, I draw attention to my letter to the Editor of the U.K. magazine *Electronics World & Wireless World*, published under the title "Out in the Cold" (December 1993, p 996.). After explaining how Harwell scientists and others had merely choked off the action they sought to measure by setting out to do calorimeter tests rigorously and properly with well-monitored calorimeter apparatus, deliberately minimizing temperature differentials to assure the temperature was measured with precision, I added: "The recipe for sustained success involves injecting heat initially to get the cold fusion reactor started. The trigger depends upon a thermoelectric phenomenon, the Nernst effect."

See enclosure.

[The following is the letter sent by Dr. Aspden to *Electronics World & Wireless World*, as mentioned above.]

The article "Clawing back respectability for cold fusion?" (*EW & WW*, October 1993) tells us how AEA Harwell's researchers were unable to duplicate the Fleischmann and Pons results, but also reports

that some researchers are "gaining tantalizing glimpses of the effects first noted by Pons & Fleischmann."

Obviously, there is a reason why some fail and some occasionally succeed and eventually, with hindsight, the reason will become as clear as our understanding of why an oscillator can need an initial stimulus before it starts oscillating.

The F&P tests were seen to involve possible errors in estimating heat production due to small temperature differences between different cathode regions in the cell. Therefore, in setting out to replicate the experiment and measure any excess heat with greater precision, the so-called experts used calorimeters to which cell temperature was assuredly uniform to within a small fraction of a degree.

The cold fusion reaction did not occur.

The physics of the 19th century tells us that a temperature gradient can develop an electric potential in a metal and so a non-uniform temperature can set up a residual charge in that metal. Such a source of negative charge could, within a cathode full of positive deuterons having the right geometry and current excitation, assist in bringing those deuterons close enough to fuse. But one needs a temperature gradient.

The cold fusion process no doubt depends upon the prior existence of a temperature gradient in the cathode before it develops heat that sustains in that cathode a temperature gradient so heat can be conducted away. This, as we well know, from analogy with electric theory, is a recipe for exponential escalation, instability, and even runaway heat generation that F&P found in one experiment. The action needs that initial temperature gradient to be triggered!

So, since Harwell and others set out to do calorimetry tests rigorously and properly with well-monitored calorimeter apparatus, deliberately minimizing temperature differentials to assure the temperature was monitored precisely, they merely choked off the action they sought to measure.

The recipe for sustained success involves injecting heat initially to get the cold fusion reactor started.

The trigger depends upon a thermoelectric phenomenon, the Nernst effect.

Harold Aspden, Chilworth, Southampton

COLD FUSION GOES HOLLYWOOD

By Dineh Torres

"Word is out that Keith Johnson, MIT Professor and cold fusion theorist, is producing Excess Heat. Not the real thing, but a feature motion picture 'thriller' with cold fusion as the principal plot element," says a Hollywood blurb that was recently released.

Dr. Keith Johnson, now on sabbatical from MIT, completed a screenplay last summer which attracted the attention of a Hollywood agency and Paramount Pictures. He is producing Excess Heat in collaboration with a group of East Coast producers. The movie will be directed by internationally known writer/director Federico Muehnik who also helped in script drafting. Casting is now in progress, and shooting will start in Boston and Cambridge this summer.

"Set against the backdrop of Boston/Cambridge academia, the story is about what happens to a young female professor of physics when she discovers a computer diskette containing the secret to a revolutionary new technology for producing cheap, environmentally safe energy from water. As she unravels the secret and connects it to the mysterious death of a senior faculty member, she becomes a target of a conspiracy to protect the vested university, industrial, and government interests and keep the new energy source from being commercialized. Excess Heat is about trying to stay alive while uncovering the truth. Suspense, conspiracy, action, sex, and murder, they're all in Excess Heat." So says Hollywood. And some people thought research science was boring.

Problems worthy of attack,
Prove their worth by hitting back.
Piet Hein

Space Energy

ANOTHER PIECE OF THE PUZZLE

By Hal Fox

In the February, 1994 issue of *NEN*, we reviewed the peer-reviewed articles by Hal Puthoff as he, Cole, Haisch, and Rueda extended our knowledge and understanding of space energy. In a recent communication from Dr. Alfonso Rueda, he brings another aspect of space energy to our attention. The Lorentz invariant electromagnetic radiation (zero-point fluctuations) is the accelerating mechanism that produces Cosmic Rays. To educate me, Dr. Rueda sent copies of 12 papers which he and co-authors have published over the period of 1978 to 1993. The following is a very brief summary of these articles:

Primary Cosmic Rays or Cosmic Radiation (CR) has an intensity that is essentially unchanged over time; CR occurs from space about equally in all directions (isotropic); the composition of CR represents an anomaly - not readily explainable by standard scientific understanding; and CR contains highly energetic particles. Astrophysicists have shown that CR appears to come from every direction and have traveled through intergalactic space. The composition of CR contains roughly one million times as much lithium, beryllium, and boron as contained in the sun (which, through atomic reactions, is a generator of many of the light elements.) The origin of CR has not been explained to the satisfaction of most astrophysicists. The major difficulty has been to find a mechanism whereby charged particles can be accelerated to the very high energies found in CR. As an example, if you were to drop an apple in the earth's gravitational field for a distance of several meters and then to place all of that kinetic energy onto one proton, that is the type of energy observed in CR.

Rueda states that there have been marvelous and exciting discoveries that have been made during the development of Quantum Dynamics. He also shows that by using similar mathematical logic but using a more classical foundation rather than quantum theory, that many of the same (but certainly not all) of the discoveries credited to Quantum Theory (QT)

can be replicated. This approach is called SED (Stochastic ElectroDynamics). One of the major differences in the two approaches relates to the concept of zero-point energy. In Quantum Dynamics it has been found that the theory and mathematics indicate the presence of a highly energetic zero-point energy. In SED, the existence of the zero-point energy is accepted as a fundamental principle. The presence of zero-point energy in QT has been explained by calling it a **virtual** rather than a **real** electromagnetic field.

SED begins with a highly energetic electromagnetic zero-point energy field and then derives from basic physics the implications of that **real** space energy. The following are some of the phenomena that are explained by this SED approach:

1. The Casimir effect. The difference in the radiation pressure between and on the outside of two parallel conductive plates causes these plates to be **pushed** together.
2. The Van der Waals forces. Attractive forces between dipole moments in atoms or molecules. This force varies inversely as the seventh power of the distance between ions as compared with the second power of gravity attraction between two masses.
3. The explanation of diamagnetism. The characteristic of some materials that oppose a magnetizing force. Opposite to magnetism which enhances a magnetizing force.
4. The Planck distribution. Planck suggested that the energy that can be transferred from radiation is proportional to a constant and the frequency, $E = \hbar\nu$.
5. The Davies-Unruh effect.
6. The stability of the hydrogen atom. The electron orbiting the hydrogen nucleus does not radiate its energy and spiral into the nucleus. The electron jitters as it receives and gives up energy to space energy.
7. Gravity between two masses. Puthoff has shown that this is mathematically explained by the interaction of space energy.
8. The source of zero-point energy as shown by Puthoff.

9. And most recently, inertia is a byproduct of space energy.

Quantum Theory does not begin with the acceptance of space energy, however, the resulting mathematical description of observed reality results in the prediction of a highly (almost infinitely) energetic space, often considered as **virtual**.

Stochastic ElectroDynamics starts with the acceptance of space energy and the resulting mathematics has shown or described the above nine fundamental and sometimes very surprising derivations of real phenomena.

The **tenth byproduct of space energy** is the explanation of cosmic radiation. Here is my very simplified description. If we go out into intergalactic space, we find that there is an abundance of hydrogen. Due to the energy encountered (space energy), the ordinary hydrogen atom become quickly ionized (separated from its orbiting electron.) The ionized hydrogen we call a proton. These protons exist in the sea of energy which is characterized by electromagnetic radiation coming from all directions and having almost all frequencies. A proton is "hit" by a packet of electromagnetic energy that "fits" the proton. There is an exchange of energy and the proton is accelerated. As long as the proton does not hit another proton (or less likely, another nucleus of a larger atom) the proton moves at a higher velocity. The same proton may interact with another photon (packet of electromagnetic energy) and may be further accelerated. Rueda has shown mathematically that we can expect the proton over time to increase in acceleration. Over a very long period of time, many, many protons are accelerated to very high velocities (which is equivalent to saying to high energy levels).

These highly energetic protons permeate all intergalactic space and can be considered as moving in all directions. After many (even thousands) of years of travel some of these protons impact into the more dense matter of our solar system and even of our atmosphere. The impact of the highly-energetic protons with other matter is the source of the cosmic radiation that is occurring at the rate of about one per square centimeter of the earth's surface per second. Therefore you and I, unless sheltered, are bombarded by high energy gamma rays at the rate of several per second.

By Einstein's formula $E = m c^2$, is reversible (two-way street) so we can consider that $m = E / c^2$.

Therefore if the energy is high enough some mass can be created. This concept has not been explicitly treated by Rueda (in his inch-high stack of papers he sent to me) unless I missed it, but it would explain the anomalous heavier elements that appear to be a part of the cosmic radiation. Note that the elements that are found are the light elements lithium, beryllium, and boron (elements number 3, 4, and 5 of the periodic table, where hydrogen is 1 and helium is 2.)

We greatly appreciate that Dr. Rueda has taken time to share this important additional aspect of space energy with us. We look forward to having some of these skilled theoretical physicists deriving more of observable phenomena using the SED mathematical approach. We suggest that the following phenomena can be explained by logical derivation from the initial acceptance of space energy: 1. Electron flow resulting from a conductor moving in the presence of space energy and a magnetic field. 2. Magnetic attraction and repulsion. 3. Electrostatic attraction and repulsion. 4. The storage of energy in the space gap between magnetic poles. 5. The interaction of scalar electromagnetic waves with gravity (as shown by Kelly's electromagnets falling slower in a gravity field when energized.) 6. The formation and stability of high-density charge clusters (the Shoulders' Effect.) 7. Anti-gravity and overcoming inertia.

Here is the letter written to *NEN* by Dr. Alfonso Rueda:

Dear Mr. Fox:

Thank you very much for your several issues of *NEN* as well as for your very generous comments and information pertaining to our Inertia paper (with Bernie Haisch and Hal Puthoff).

With much interest I have read your ideas on the space energy concept that you write so eloquently about in your publication. It, however, came to my attention that neither you nor Moray B. King in his book, mention an example that, in my opinion, is very outstanding of the existence in nature of a space energy manifestation that is very dramatic. To a layman what I am saying may sound propagandistic but not to you since you well know the amounts of energy present in the quantum vacuum. This manifestation is what I and a few others have called the cosmic rays acceleration mechanism.

I worked and still work on several aspects of that mechanism that was derived both semiclassically, by

means of stochastic electrodynamics and also quantum mechanically by me. I presented it in very many symposia and conferences including the well known International Cosmic Rays Conferences. I went to the one in Paris, '81, Bangalore (India) '83, and La Jolla (California) '85. The mechanism was as far as I recall only once unfavorably criticized in the literature by Luis de la Peña, T.L. Brady and J.L. Jiménez in the *American Journal of Physics* (ca 79). But later on de la Peña somewhat revised his opinion and gave it a very good review and even now it seems quite favorable to it. As far as peer-reviewed literature it has received considerable exposure and development since 1978 when it was proposed in several papers in *Physical Review A* and *D*, in *Il Nuovo Cimento*, etc. and lately in *Physics Letters*. I also received the honor of the requests for an invited paper to *Space Sciences Reviews* by Cornelius de Jager, editor, and by the editorial board of that excellent reviews journal. Enclosed please find a copy of that review plus a few other reprints. Even today I am working slowly in some aspects of that mechanism particularly for the problem of the generation of voids in astrophysics.

According to the mechanism the ZPF gives energy to intergalactic particles thanks to the very high natural vacuum present in intergalactic space (≈ 1 particle per cubic meter). The efficiency of the mechanism decreases with collisions and interference on the particles that are being accelerated.

Very important for the acceleration mechanism derivation are several SED techniques particularly the one of Einstein and Hopf. By the way, the familiarity that I developed with this and related techniques as well as my background in applied mathematics were essential for the analysis in the Inertia paper.

Enclosed please find some papers that hopefully will convince you that the ZPF acceleration mechanism is another manifestation of space energy. So Nature has designed one way of tapping the vacuum energy. Let me tell you in advance that Dr. Dan Cole of IBM is working on a detailed thermodynamic analysis of the mechanism that will soon be submitted for publication (possibly to *Phys. Rev. E*). This was one of the difficulties that the mechanism seemed to face in the eyes of some scientists. That stumbling block is being removed now.

Thank you also for your interest and attention and please let me know your views after you have had a chance to take a look at some of the enclosed literature.

Yours sincerely, /s/ Alfonso Rueda

The following are the references to the peer-reviewed and published papers sent to us by Dr. Rueda. We are most grateful for his service in calling our attention to another important aspect of space energy.

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Electricity

THE BEARDEN CIRCUIT AND THE VIEW OF "NEW ENERGY NEWS" ON SPACE ENERGY

By Lee Trippett

I believe space energy characteristics are behind Bearden's simple 'free energy' switching circuit. Here are some *NEV* comments on space energy which relate to my current version of Bearden's theoretical switching circuit. All references are from the Feb. '94 issue of New Energy News.

Space energy is fundamental in stabilizing all matter (p. 3, col. 2, para. 1) and is all-pervading without regard to temperature or vacuum (p. 4, col. 1, para. 4; col. 2, para. 3). It is from "zero-point fluctuations of the background vacuum electromagnetic field" (p. 3, col. 1, para. 3).

Space energy can be tapped without limit (p. 4, col. 2, para. 3) from an accelerated frame of reference (p. 9, col. 1, para. 2). Electric current through a coil exhibits an aligning effect upon space energy. The process of modifying the alignment of space energy couples space energy into electrical coil thus inducing an electric current. Electric induction can therefore be attributed to changes in the alignment of space energy (p. 9, col. 2, para. 1).

Solutions for Measurements and Replication

This version of Bearden's switching circuit presently shows very little power capacity but a significant current gain (now up to 200). This is without the use of semiconductor material or the use of a super high speed switching rate, i.e., 10-19 sec. And so we are only at the beginning of our potential! Even though there is presently a small current in the primary loop (the ideal is none), the switching circuit demonstrates a large current gain when there is a sharp pulse (at least on the trailing side), a switch ON of a few microseconds to a wire 'collector', and a low circuit resistance in both the primary and secondary loops. The 'collector' needs to be at least 30 feet of 22 gauge. Longer and larger is okay.

The ideal measurement tool is a low level DC current probe and a digital scope. When using series in-circuit milli-ammeters, they need to have less than 2.0 ohms internal resistance. These are not common. So, you

can add a shunt to quality low level micro or milli ammeters. However, low resistance DC ammeters have difficulty reading the low current values in the primary loop. Determining these low values is critical for proper calculation of gain.

Caution: A pulsed DC current is not the same thing as an AC signal. Many RMS meters are for common AC or AC on DC patterns. Many digital ammeters do not take a fast enough sample or take enough samples to integrate a one microsecond pulse that is ON only 0.2 of 1 percent of the time. A little arithmetic and a simple series DC circuit with an electronic switch will provide ample demonstration. Start with a low frequency and an ON OFF ratio of one. Apply the meters and gradually increase the frequency and then gradually increase or decrease the ON OFF ratio. This will verify and provide a calibration for the meters.

When there is a very short ON time of a DC pulse relative to a long OFF time, and when the values are very low on the scale, an extreme ON OFF ratio can be of major significance in determining current or power gain. However, the meter scale can be calibrated by substituting a known resistor in the 'collector' position. The fixed and known voltage of the Bearden circuit primary loop divided by the resistor value times the ON/(ON + OFF) time will establish the correct current value for the scale.

Calculation of power out is by the current squared times the load because the high impedance of voltmeters prevents them from providing an average value with the same relative reference. Low resistance analog electromechanical DC ammeters can provide a reasonably accurate average current value. This is proven by the meters indicating the same current in both loops when using a capacitor 'collector' over a wide range of frequency and ON OFF ratios. This is also proved by a consistent battery time-energy drain curve for the same wide range of frequencies and ON OFF ratios. This is for the situation of a load in the secondary loop when compared to the same load on a direct battery connection. However, there is a limit and be sure to note the caution above.

In addition to measurement problems, the lack of replication of a current gain appears to stem from substituting components with high internal resistance, slow switching rate capability, or not matching impedance to maintain a sharp pulse. Even a small signal general purpose high frequency FET in only the inverter stage degrades the performance. There are chips and boards especially designed for driving power MOSFETs. And still yet to be tested are those power

MOSFETs which have a hundred times less internal resistance.

A recent KeelyNet file called ZPETEST offers additional insight and improvements. (KeelyNet is a free BBS, datum 214-324-3501.) This file suggests my circuit is similar to a conventional flyback converter. The circuit is similar but not equal. There is no evidence of current or voltage leaking from either of the batteries into the load.

The circuit will support additional parallel 'Bearden portions' with practically no additional burden on the switch and inverter stage.

Questions?

Why does this simple circuit perform as a current amplifier? Why is the current discharge so incredibly slow for an extremely low circuit resistance? Why is there so little variation in the performance of the circuit when the coil 'collector' parameters are adjusted over a wide range? Why is the high current gain limited to a small range of on-off ratio and frequency? Why does the circuit not work with a variety of power MOSFETs, even when listed by NTE as equivalent?

Letter from Lee Trippett:

Dear Mr. Fox,

Thanks to the advice of Dan Davidson, I recently went to Santa Maria and met Walt Rosenthal. I have personally experienced the quality of this man's experience and his reputation for being the final authority on electrical and electronic measurements. With his modern and high-tech equipment, he patiently and meticulously checked every point of data on my version of Bearden's theoretical switching circuit. (See "Current News on Current Gain", New Energy News, Feb. '94, p.15.)

Every one of his measurements validated my data. In conclusion, however, the circuit effects a large current gain but there was no power gain. Walt's current probes and high resolution test equipment were able to measure the input power during the short pulse of the primary circuit. When this measured power is averaged over the period of the complete cycle, it matched my calculations. My calibrated analog dc milliammeter represented a true average current value and so they represented the corrected ON time of the primary circuit. My error was to apply ON time adjustment to the 'potential' source when the average measured current already contained, in effect, that adjustment.

There are still rays of hope. Some 'space energy' theory relates directly to this circuit and its present performance. A couple of experienced 'space energy' researchers are puzzled by the circuit's non-conventional features. I and others have gained much experience and knowledge. By the content of this letter, the two supplements, and past correspondence (see also KeelyNet files TOD*.*), my 'gain' has been fully shared with many. When the required 'special semiconductor material' shows up, many more people will now have an easier time in checking out Tom Bearden's theory, method #2.

In the meantime, there is still much to learn. Why does this simple circuit perform as a current amplifier? Why is the current discharge so incredibly slow for an extremely low circuit resistance? Why is there so little variation in the performance of the circuit when the coil 'collector' parameters are adjusted over a wide range? Why is the high current gain limited to a small range of on-off ratio and frequency? Why does the circuit not work with a variety of power MOSFETs, even when listed by NTE as equivalent?

Thanks for your vote of confidence by publishing my earlier experience with the Bearden circuit. It strikes me as a remarkable coincidence that the coverage of space energy and a preliminary investigation of Bearden's free energy circuit were in the same NEN newsletter, and exactly one year after the release of Bearden's "The Final Secret of Free Energy".

There is still a need to test the circuit with Bearden's mysterious 'degenerative semiconductor material' in the 'collector'. I have found a source of gold ribbon alloy with 12% germanium. There is another source for anodized aluminum foil for testing a capacitor 'collector'. Neither source is willing to provide enough sample for test and the minimum order for both sources far exceeds my limited budget.

I will keep you posted. Please let me know if there are any questions.

Sincerely,
Lee Trippett

AMPÈRE TENSION

Peter Graneau (MIT, Francis Bitter Nat. Magnet Lab., Cambridge, MA), "First Indication of Ampère Tension in Solid Electric Conductors," *Physics Letters*, vol 97A, no 6, 5 Sept. 1983, pp 253-255, 6 refs, 1 fig.

AUTHOR'S ABSTRACT

An empirical law for the mechanical force between two current-elements, originally deduced by Ampère from a series of classical experiments, asserts that an electric current flowing along a straight wire should place the wire in tension. The existence of longitudinal Ampère forces at solid-liquid conductor interfaces has been demonstrated by various investigators during the past 160 years. This letter contains the first report of pulse currents creating sufficient tension to cause fracture in hot copper and aluminum wires.

ELECTRODYNAMIC EXPLOSIONS

Peter Graneau (Ctr. Electromag. Res., N.E. Univ., Boston, MA) and P. Neal Graneau (Phys. Dept., King's College London, The Strand, London, UK), "Electrodynamic Explosions in Liquids," *Appl. Phys Lett.*, vol 46, no 5, 1 March 1985, pp 468-470, 6 refs, 4 figs.

AUTHORS' ABSTRACT

This letter reports experimental results which show that electric arc currents through salt water produce explosions by electrodynamic forces rather than by the thermal expansion of gases generated in the arc column. The explosive phenomena can be explained with the aid of longitudinal Ampère forces but not with traditional Lorentz forces. This represents the first experimental evidence indicating that Ampère's force law may be valid for dense plasmas.

BOOK REVIEW OF DIVINE ELECTROMAGNETISM

By Hal Fox

Divine Electromagnetism, by Stefan Marinov, East-West International Publishers, Morellenfeldgasse 16, 8010, Graz, Austria.

There are few books that are destined to change the world. However, there are a few books that **could change the world**, if they were read by enough educated people. Divine Electromagnetism is one of the potential world-changing books. Why? Not because it is beautifully written, not because it is elegantly printed, but simply because it has a **persistent and important message**: Science has made many mistakes in selecting some scientific facts and ignoring other equally important facts.

As an example: In 1887, A.A. Michelson and E.W. Morley joined in an experiment to measure the speed of light both in the direction of the earth's motion and perpendicular to the earth's motion. Their experiment showed that the speed of light was a constant. This **most famous of all negative experiments** has been credited for the basis upon which Einstein developed his special and general relativity work. The results have been the development of quantum dynamics and the building of a scientific edifice **based on a false interpretation of an experiment.**

Marinov describes in Article 44 "The Coupled Shutters Experiment" which easily shows that the velocity of light is affected by the motion of the earth. The experiment is simple. Marinov constructed two identical disks having a large number of precision-drilled small holes in a circle near the outer circumference of the two disks. The disks were mounted on opposite ends of a shaft about two meters long with a driving motor in the center. A laser light source is placed at one end of the system such that the laser light would travel through a hole in the disk and to a closely-aligned hole in the other disk at the opposite end of the shaft. A photo-electric cell (or equivalent) is placed at the second disk to measure the intensity of the incoming light. When the disks are rotated at high speeds, the second disk hole has moved to a position such that the laser light beam is partially obscured, therefore, the signal from the photo-electric cell is diminished. With this relatively simple equipment, Marinov has shown that the speed of light varies throughout the day (due to rotation of the earth) in an expected sinusoidal fashion. The experiment was first done in 1979 and reported in 1980 in *Spec. Sci. Tech.* Vol 3, p 57, (1980) and again in the Proceedings of the Second Marcel Grossmann Meeting on General Relativity in Trieste in 1982, page 547. The experiment has never been replicated by any other laboratory. Why? Probably because they don't want to know the truth!

With the challenge, "Electromagnetism is a science which is to be learned by everybody who know some mathematics in ten days. Eleven days are too many.", Marinov launches into 149 pages of mathematical preparation of the student. Then in Chapter VI, Experimental Verifications, he begins the most interesting part of his (and the reader's) intellectual journey with a new way to measure the speed of light (the example immediately preceding.)

Several scientific beliefs are shattered as Marinov reports on his mathematical challenge of scientific orthodoxy. Marinov does not stop with mathematics. He explores every challenging concept by designing

and testing experimental equipment. He also publishes his findings. Thirty-nine of the 75 references are Marinov articles. Of special interest are his mathematical and experimental investigations of the Lenz Rule (first published by H.F.E. Lenz in 1834). The rule is that when a magnet is thrust into a coil the motion is opposed. Marinov describes a relatively simple experiment that can be conducted by children to show that there is an "anti-Lenz" effect over a part of the cycle of moving a magnet in and out of a coil. Further, Marinov investigates how this "anti-Lenz Effect" can be used to develop a **perpetual motion machine**. According to accepted scientific understanding, neither the anti-Lenz effect nor the operation of a *perpetuum mobile* is possible. Marinov informs the reader how to demonstrate the anti-Lenz effect. In addition, he spends many pages and reports on many experiments in which machines are built that (if one takes into account the friction & heat losses) are candidates for perpetual motion.

At the end of the book, Marinov describes and testifies as to the reality of the Paul Baumann "Testatika" machine(s) located in the Christian religious community Methernitha in Switzerland. Paul Baumann has solved the problem of making a machine that provides electrical power with no obvious power input. Although Marinov has seen the Merthernitha machine, he is not privy to its ultimate techniques for construction. **However, Marinov is convinced of two concepts, such machines can be built and he is likely to built a similar machine.**

While Marinov does not completely solve the problems of building a self-sustaining energy-producing machine, his tale of discovery is highly recommended reading. Marinov himself is still exploring and learning. He will admit to making and correcting experimental errors and **with equal vigor he will illustrate errors that are now being made in our generally-accepted science.** If you are a pathological skeptic, don't read this book. If you have an open mind; if you enjoy journeys of discovery; if you want to be **shown**, you will find this book of considerable interest.

To obtain a copy of Divine Electromagnetism, write or phone East-West Publishers, Morellenfeldgasse 16, 8010 Graz, Austria. Telephone (0316) 37 70 93. The price of the book is \$70 and the funds go to aid Marinov in his experimental discoveries.

Note: Stefan Marinov was one of the approximate 20 engineers and scientists gathered worldwide to participate in the May, 1993 retreat at Estes Park, Colorado. Also invited were Harold Aspden and Peter Graneau. Peter Graneau's (with co-author Neil

Graneau) book, Newton versus Einstein is another book challenging some of the cherished scientific beliefs. Harold Aspden is working on a new book to update his previous Physics without Einstein book. These scientists together with other scientists and engineers are changing the world. Their work and the work of many other scientists who are challenging some vigorously-protected scientific beliefs is resulting in new ways to produce energy. These are some of the world changers of this generation.

Rotating Space-Energy Machines

ERRATA

On page 15 of the March *NEN* ("First Trial of Crude N-Machine,") we made a rather important error: Column 1, under CONCLUSIONS, should read:

1. _____ was right. You can create an electrical voltage without the need for "cutting lines of force."

SIDELINE NEWS CONCERNING THE ADAMS MOTOR

By Harold Aspden

In any evolving situation, there are times when things go well and other times when there is a down-side and rumors of bad news can arrest progress. I wish, therefore, to draw attention to a circumstance concerning the Adams motor, bearing in mind that it is one of the highlights of our New Energy interest at this time.

I recieved today (March 14, 1994) a copy of a communication from W.G. McMurthy to Robert Adams expressing his lack of faith in the project and declaring his withdrawal from his association with the venture. He stressed that, though he had replicated a working version of the motor, he could not vouch for any over-unity performance claims. He was obviously not impressed by the "harmonic theory" that Adams was using to evolve the design concepts and had come to realize that earlier reports on how efficiency was measured by Adams were not sound. Also, he questioned the relevance of the motor remaining cool,

having regard to the relatively large mass of its core system and windings in relation to power throughout.

Now, it is my experience that everyone working in this 'free energy' field as a pioneer has a pet theory - I have one myself - and all these theories are different. There is no consensus of agreement. The Adams theory has some connection with gravitational wave interaction. Furthermore, there is no basis for anyone to believe that power generating machines can deliver more energy that is fed in as input, at least from somewhere. There just has to be some explanation, even if tentative, to suggest exactly where any excess energy might be sourced.

Added to this, it would be foolhardy for anyone to believe in this 'free energy' possibility unless he or she has actually seen and had hands-on testing experience of such a machine and knows enough to make reliable measurements.

That said, I need to observe as well that it is a fact of life that we all can also deceive ourselves and make mistakes, but most of us act responsibly and persist only if we have overcome those problems and reassured ourselves. Even so, at the end of the day, one still has to see consistent verification by others or to prove that position by building one's own machine.

I am now ordering parts to build my own development version of an Adams machine.

In any event, I think it right to avoid references to fundamental and controversial theory when explaining an invention that one can demonstrate by machine. Let the machine speak for itself! A report on how to build the machine and how it performs is all that is needed unless the theory uses standard physics.

I am sure that gravitational theory has no bearing whatsoever upon the power delivered by an Adams motor, but I respect Adams for his approach along those lines, because undoubtedly a harmonic resonance with the gravity field can unleash tremendous forces and energy. I believe this because my own theory of gravitation had predicted that resonance interactions were possible at the electron oscillation frequencies close to those occurring in two atoms in the mid-range of the periodic table. One was the element technetium and one was promethium. What, one may ask, would happen to an atom if it did become super-powerful in a gravitational sense owing to a resonant interaction with the hidden energy field? The answer, of course, is that on Earth it would be pulled into the Earth's central core by the intense gravity action. Hardly a practical result! However, I

was well satisfied with my theoretical conclusion because I came later to see why it was these particular atoms, and only these in the main body of the list of elements, that are completely absent from crustal Earth abundance tables but yet they are found in normal measure when meteorites are chemically analyzed.

Concerning the Adams motor, a Norwegian named Ringstad has drawn to my attention and that of Adams the fact that a calculation of efficiency reported by Adams in one of his published articles was incorrectly based on measurements of power by combining d.c. voltage input and a root mean square measure of pulsed current. Adams has acknowledged that the report was misleading and incorrect, being used inadvertently and only as a dated copy of an old experimental note to show he was working on this project 20 years ago. His use of an electronic wattmeter and oscilloscope verification were what assured him of the performance claimed.

However, in the communication Ringstad said that he had built a version of the Adams motor to power a fan and it seemed, at least on a general indication, that the fan operated with a five-to-one power advantage compared with the motor drive replaced. Ringstad further said that he aimed to build a bigger and better version, so, unless, in the light of his further findings, he too becomes disillusioned, we may hear of his progress on that in due time.

Concerning the question of cooling, it is encouraging to hear that a motor purporting to deliver excess power has a cooling feature, even though this does challenge the second law of thermodynamics, because at least there could be compliance with the first law which requires energy conservation.

However, I would not quarrel with Bill McMurthy in expressing doubt on this aspect. Magnetocaloric cooling in ferromagnetism is a true physical phenomenon where the magnet itself cools as it is demagnetized, but the seat of the main cooling can be questioned. The real target of our efforts in this 'free energy' pursuit is to cool that hidden sea of energy, the so-called 'zero-point' field. We will not get much power out of an Adams-type motor if we have to rely on inflow of ambient heat and it seems hardly plausible to suggest that we should fit a gas burner to the motor to enhance its power. So, this is best seen as an open question which can only be answered as our research proceeds.

To conclude, while we must be careful not to build too much on false hopes and we must not mislead others,

we must explore these energy possibilities in search of the truth and, for my part, there is something about the Adams machine that has captured my interest sufficiently for me now to see the project through to a fair conclusion.

I will, at the May 12-15 New Energy Symposium in Denver, explain what I see as the design 'secret' of the Adams machine and look forward to comparing notes with those attending who have, and those who have not, succeeded in its replication.

Vehicles

G.M. AND ELECTRIC CARS

Courtesy of Samuel P. Faile

Matthew L. Wald (writer), "G.M. Signs Electric Car Battery Deal," *New York Times*, March 10, 1994, p C4, Company News.

Looking toward development and commercialization of nickel metal hydride batteries, General Motors announced a partnership agreement with Ovonic Battery Company, a subsidiary of Energy Conversion Devices. G.M. has only occasionally been in the electric vehicle research business, and most of its past efforts have used lead acid batteries. Nickel metal hydride batteries can store more than twice as much energy per pound and can deliver it faster. Recently, this type of battery has been commercialized for laptop computers and cellular phones.

Nickel metal hydride batteries can be charged and discharged repeatedly without damage and would, ostensibly, be good for the life of the car. G.M. believes this partnership will be important in producing a viable electric vehicle capable of meeting customer needs.

On another G.M. development, the Impact, a two-seat experimental electric car with lead acid batteries, will be tested in late spring. Cars will be lent to consumers for two-week trial periods, beginning in Los Angeles and coming later to New York. Data on everyday use performance and consumer reaction is their main concern, since G.M. hasn't thought the current state of technology, especially batteries, advanced enough for immediate commercialization. In its announcement, General Motors said that it was

"encouraged" by the progress in nickel metal hydride battery research.

'94 EVENTS FOR SOLAR & ELECTRIC TRANSPORTATION

April 9-11 **Disneyland Clean Air Road Rally.** L.A. Convention Center to Disneyland. Contact Chris Martin, (818) 565-5652.

April 11-13 **RENEW '94** Sheraton Stamford Hotel, Stamford, CT. Contact: NESEA (413) 774-6051.

April 15-17 **Exide Electric Grand Prix,** Long Beach. Contact Chris Martin, (818) 565-5652.

April 24 **Earth Day/Sun Day 1994,** Ken Bossong, (202) 546-4996.

May 14-17 **Clean Air Vehicle Conference, Exposition & Grand Prix,** Atlanta, GA, (404) 237-2228.

May 21-28 **American Tour de Sol, Solar & Electric Car Race.** N.Y.C. to Philadelphia. Contact NESEA, 23 Ames St., Greenfield, MA 01301, (413) 774-6051.

June 14-20 **'94 HEV Challenge,** Southfield, MI, a North American intercollegiate competition. Contact Nicole Hill, (708) 252-6594.

June 28-30 **'94 International Alternative Fuels Conference,** Hyatt Regency Milwaukee, WI.

July 4 **Chevrolet Pikes Peak Auto Hill Climb,** Manitou Springs, CO, (719) 685-4400.

July 15-17 **SEER '94, Solar Energy Expo & Rally,** at Redwood Empire Fairgrounds, Ukiah, CA, (707) 459-1256.

Editorial

EACH ONE REACH ONE

For some years among Spanish-speaking Americans there was a dedicated effort to teach English so that everyone living in the United States would be English literate. The effort took on the name: **EACH ONE TEACH ONE.** When you learned English you were expected to teach at least one more.

Those of us who are on the forefront of resolving the world's energy problems have a similar task. Because of a most peculiar historic science experiment (the Michelson-Morley experiment) in 1887, it was reported

that light traveled at a constant speed regardless of the earth's direction of motion relative to the experiment. It was later shown that the experiment could not have measured a difference in light velocity. However, this null result was gradually accepted by the scientific community with the result that any concept of an energetic space was rejected.

Throughout all of our educational systems, we teach the results and the implications of this famous negative experiment. Therefore, devices that can transform space energy into useful energy to run our planet have been essentially denied. Now we know better. Now we know that there is abundant energy to be transformed into useful energy. Through the **Institute for New Energy** and with similar help from many other organizations, we have an opportunity to change the way the world produces and uses energy.

The problem is that very few people know what can be accomplished. We must not only help in the design and testing of improved devices, we must also prepare the world for the commercialization of these devices. *New Energy News* suggests that all members of the **Institute for New Energy** adopt a program of **EACH ONE REACH ONE.** Our staff will help. Each month you will receive an application for subscribing to *New Energy News.* Please send us, each month, the name of **at least one person** that you would like to receive a courtesy copy of *New Energy News.* Our staff will mail a copy to your friend inviting him to join us in helping to change the energy world. Thanks in advance for your help.

Miscellaneous

PERMANENT MAGNETIC BEARINGS

Ronald P. Smith (Mgr. of Eng., Magnetic Materials Div., Dexter Corp., Elk Grove, IL), "Permanent Magnetic Bearing Systems," manuscript provided by author, 10 pages, 2 refs, 11 figs, 1 table.

AUTHOR'S ABSTRACT

Modern high energy permanent magnet materials are usable as "passive" bearings in certain applications, such as pumps. With proper design, they can be mounted either vertically or horizontally. Fixed

orientations are the most suitable. For rotating axes, as in aerospace, hybrid designs are possible.

Significant uniaxial forces can be developed for fixed or moderately variable loading. Bi-axial, self centering, designs are also possible and will be described. Design information, guides and graphs will illustrate concepts and provide quick analysis for applications.

SPEED SYNCHRONIZATION CIRCULARITY

W. Vincent Coon, "Speed-Synchronization Circularity," *Galilean Electrodynamics*, Jan.-Feb. 1994, pp 10-12, 2 refs.

AUTHOR'S ABSTRACT

We can neither measure instantaneous speed nor synchronize separated clocks with absolute assurance. The reason is that velocity determination and clock synchronization depend on each other. Hence the realization that special relativity's Principle of Light Speed Invariance (PLSI) is circular and self-fulfilling. PLSI can only base itself upon presumed (not affirmed) velocity/synchronization. In other words, Einstein's Second Postulate can only be a fiat, not a true find of nature.

LETTERS

LETTER FROM St. PETERSBURG

to Don Kelly, reprinted with permission from *Space Energy Journal*, March 1994.

Dear Mr. Kelly,

The description of your gravitational experiments is very interesting. The reply of N.A.S.A. to your experiments show genuine interest to such technologies. I'm not sure that my real but unassuming results are sufficient for industrialist investors. I have no powerful over-unity system in my laboratory. The main reason is the biological aspect of such technology. I had experience of negative influence of technical system on biosystem so I must be more careful. I learn that any free energy system has the following properties:

1. Over-unity power.
2. Gravitational effect.
3. Biological Effect.
4. Decrease of rate of flow of time in area of operating system.
5. Self-cooling system.

We can begin work with industrialists tomorrow and create real free energy sources for market trade. But I'm not sure that we have secure biological safety of this technology.

So I only prove my theoretical ideas in simple experiments with minimal power. If you are interested, I'll send to you all the information for reproduction of experiments and devices if I may have an official agreement with you.

Some notes about the Adams Motor/Generator. I'm sure of the reality of this type of system since I had such a model when I researched the question of perpetual motion. **This idea is next: You must exclude part of the trajectory when the work of field is negative (braking). The field must work only as accelerator of a rotor.** The rotors in magnetic field are permanent magnets and in electrical field they are charged metal parts of the Wimshurst disk. I think that real examples of such sort approach are the Adams Motor/Generator and Swiss M-L Converter.

I wrote to you about the possibility of creation of pulsed gravitational/inertial force, for example in coils that have asymmetrical cardioid form. I sent to you a copy of an article with the description of this effect but I think that it may not be correct. The effect is not the result of interaction between current in a coil and the magnetic field of the planet. The cause is asymmetrical curvature of the trajectory of pulse. Since $F=ma$, we obtain a certain force F when we curve the trajectory of mass motion. I'm not sure that this technology has perspectives since we must use the large currents to get forces that are acceptable for transport. This technology is an example of work with the vector aspect of vacuum but we have a more interesting scalar aspect. I have a simple technical idea for gravitational transport that doesn't use electrical current or wires. It is direct utilization of electro-potential as gravitational potential. The same effect in this device creates the propelling force in an electrogenerator.

/s/ A.V. Frolov

LETTER TO GERMANY'S PRESIDENT

From Stefan Marinov

The energy conservation law is not generally valid. I show this with many of my experiments: the ball-bearing motor, about which any physicist says that it cannot rotate at all, the machines ADAM, MAMIN COLIU, VENETIN COLIU.

The invalidity of the angular momentum conservation law can be demonstrated by any child with a couple of hours of work (angular momentum, momentum and energy are the space-space, space-time and time-time components of a common quantity which we call the energy-momentum 4-tensor). On the picture are the college students S. Homann, M. Pruss, A. Wahmann and G. Vogt of the Friedensschule in Münster, who have repeated my rotating Ampère bridge and demonstrated the invalidity of the angular momentum conservation law by a childish simple **experiment**. I published the scientific report of the children in my journal *Deutsche Physik*. Where are we, Mr. President?! Children do experiments demonstrating the invalidity of laws which "are taught in any university of the world."

These children are the same who, three years ago, won the First prize in the competition "Students research" with my ball-bearing motor. Now the research of the children is concentrated on the perpetuum mobile VENETIN COLIU.

Why am I working with children, would you ask. Because even the heads of the university students, filled with the false dogmas which "are taught in any university of the world," are lost for us.

Paul Baumann, a simple Swiss peasant, who today is the spiritual head of the Christian Community METHERNITHA in the village Linden, near Bern, was sentenced for 7 years by a false accusation. In the prison, in the year 1978, he constructed the first functioning perpetuum mobile on our planet, the machine TESTATIKA. Of this machine dozens of prototypes are built. I give in *Deutsche Physik*, No. 4, the picture of the machine with diameter of the disk 2 m, which will continuously deliver 30 kW electrical power (the machine on p. 9 has only one disk with diameter 20 cm and delivers some 200 W).

I am a member of the community. In March 1989 I tested two machines TESTATIKA. It is besides any doubt that TESTATIKA is a perpetuum mobile, which moreover delivers a great quantity (in comparison with its size and weight) of free energy. I dedicated to this machine the fifth volume of my series The Thorny Way

of Truth. A half an hour video was recorded which everybody can receive.

The Community, however, defends the opinion that humankind is not ripe for such an energy source and does not go with it to the public. The machine, of course, will not be patented (the Community is against all patent offices, banks, prisons, etc.). It will be granted to those villages, towns and countries where the people, as true Christians, live in harmony with the animals, the plants and with each other.

In my opinion, we must now give the machine TESTATIKA to humanity, otherwise our Earth will suffocate. I called forth a meeting of the members of the Community to discuss this question. Unfortunately of the 23 participants I was the only who voted "for," all others voted "against."

During the big spiritual renaissance in the Soviet Union, the Community supported my proposal to show the machine to my friend, Academician Sakharov, and then to show it with his speech on television in Moscow. However Sakharov died during the organization of this action (the respective documentation can be found in volumes VI, VII and VIII of the series The Thorny Way of Truth). Then also the spiritual renaissance in the East was turned away into a blind alley.

Mr. Becker, like Paul Baumann, did and constructed his discovery in prison in Frankfurt. Mr. Sievers, the Beco-partner Mr. Rung, and me are photographed in front of his pump in March of this year (1992). Mr. Becker is afraid, as perpetuum mobile constructor, to be transferred from the prison to the psychiatric clinic, where he will not have the possibility to work further on his machine. For this reason he does not call it perpetuum mobile and does not leave it to rotate alone. In this way he could patent his machine (patent disclosures DE 4037631 A1 and P 41 11662 3-15), as the perpetuum mobile submissions are automatically rejected by all patent offices in the world.

The machine of Mr. Becker consists of two parts: A big water wheel where the free energy, according to Mr. Becker, is produced, and a water pump where it flows as useful energy. I observed and tested the machine. I could not measure an over unity effect, i.e., an efficiency higher than 100%. My hydrostatic calculations show also that neither a theoretical over unity effect might be expected. The dynamic calculations are so complex that they cannot be carried out on the best computer. The inventor is convinced that his machine has an over unity effect. The decision can be given only by a very well

constructed experiment. As now Mr. Becker has no possibility of working further, the Beco-partner Klaus Tolkmitt builds it in a slightly changed form with his own money. He builds only the wheel, without the pump, and hopes to have soon a self-propelling wheel.

I work further with my own money on my machine VENETIN COLIU. The sixth variation of this machine is shown in the photograph which I enclosed. The free energy which VENETIN COLIU produces is caused by the anti-Lenz effect which I have discovered. I hope soon (less money - more time, more money - less time) to have a self-rotating machine.

...On the process I shall not only defend the thesis that people who build perpetual mobilia are not defrauders, I shall accuse today's science of fraud.

1. Today's physics asserts that the energy conservation law has a general validity. This is a fraud. See the above arguments.

2. Today's physics asserts that the angular momentum conservation law has a general validity. This is a fraud. See the above arguments.

3. Today's physics asserts that the second law of thermodynamics has a general validity (i.e., that it is impossible to construct a perpetuum mobile of a second kind). This is a fraud. The Russian Albert Serogodsky constructed a thermal machine with one hot container and without cold container. In November 1991 I invited Serogodsky to Berlin, where he made contacts with Mr. Sievers and with my friend Bernhard Schaeffer concerning the marketing of his machine. Mr. Sievers could not pay the requested sum (1,000,000 DM) and the contract was settled with Schaeffer.

4. Today's physics (the special theory of relativity) asserts that the absolute velocity of a laboratory cannot be measured. This is a fraud. I measured this velocity with three optical and one electromagnetic experiment. My "coupled shutters" experiment gave the value $V = 360 \pm 40$ km/sec with equatorial coordinates of the apex $\alpha = 12.5^{\text{h}} \pm 1^{\text{h}}$, $\delta = -24^{\circ} \pm 7^{\circ}$. My friend Christian Monstein obtained for α and δ the same numbers with ten-year measurements of the anisotropy of the general (not relic) cosmic background radiation.

5. Today's physics (the general theory of relativity) asserts that it is impossible to make an experimental distinction between a gravitational and a kinetic acceleration. This is a fraud. I established experimentally such a distinction.

6. Today's physics asserts that the fundamental equation in electromagnetism is the Lorentz equation. This is a fraud. I showed theoretically and experimentally that the fundamental equation in electromagnetism is the Newton-Lorentz equation (as called by me)

$$\mu_0 = -q \cdot \text{grad}\Phi - (q/c)\partial\mathbf{A}/\partial t + (q/c)\mathbf{v} \cdot \text{rot}\mathbf{A} - (q/c)\mathbf{v} \cdot \text{div}\mathbf{A}$$

where Φ and \mathbf{A} are the electric and magnetic potentials of an electromagnetic system at a point crossed by a particle with mass m , electric charge q and velocity \mathbf{v} . The acceleration of the charge is \mathbf{a}_0 and c is the velocity of light. The LAST TERM IS MISSING in the Lorentz equation. And exactly this term is responsible for the rotation of the rotating Ampère bridge.

7. Today's physics asserts that the displacement current acts with ponderomotive forces on other electric currents and other electric currents act on the displacement current with ponderomotive forces. This is not only a fraud, this is an absurdity. The displacement current "flows" in vacuum. Thus today's physics ascribes acceleration to vacuum!

8. Today's physics (principle of relativity) asserts that when one has in one's hand a magnet and in the other hand a wire, then at the motion of the wire as well as at the motion of the magnet the same electric intensity

$$E_{\text{mot}} = (\mathbf{v}/c) \cdot \text{rot}\mathbf{A}$$

acts on the charges in the wire. This is a fraud. The above motional electric intensity acts only at the motion of the wire. At motion of the magnet the motionaltransformer electric intensity I discovered:

$$E_{\text{mot-tr}} = (1/c)(\mathbf{v} \cdot \text{grad})\mathbf{A}$$

acts on the charges in the wire. I demonstrated this by many experiments, the most eloquent of which is the quasi-Kennard experiment. When wire and magnet move together, then, according to today's physics, no electric intensity has to act in the wire. As a matter of fact the sum of the above two intensities acts and this can be observed on the famous Faraday disk. This effect was observed by Faraday in 1831 but until today physics cannot explain it.

9. Today's physics asserts that the electromagnetic effects are determined by the electric and magnetic intensities, E , B . This is a fraud. They are determined by the electric and magnetic potentials, Φ , \mathbf{A} . Thus, the gauge invariance is a fraud. According to today's physics, if there are two very long coaxial coils and an alternating current flows in the internal coil, there will be no current in the external coil, as there the magnetic intensity is always zero. As a matter of fact, current flows in the external coil, as the magnetic

potential there is changing (see the second term on the right in the first equation on the preceding page). This effect can be observed in any transformer.

10. Today's physics asserts there is a "propagation of interaction" and it even calculates its velocity. This is a fraud. Our world is built of three (and only of three!) undefinable quantities: space (length), time and energy. (N.B. Energy and mass are the same undefinable physical quantity and the "famous" formula of the Austrian physicist Fritz Hasenöhl (1904) $E=mc^2$ says nothing more than the identical equation $1\text{ m} = 100\text{ cm}$.) Thus the only "thing" which can move in space is called energy. And if somebody begins to babble about "propagation of interaction," I say to him: "Express your quantity in meters, seconds and joules." Then the mouth of the babbler closes.

LETTER ON PSEUDO SCIENCE

Dear Mr. Fox:

Thank you for a complimentary copy of *New Energy News*. I don't know who provided you with my name and address, but I have read it with interest. Your interest in energy is well founded because it is the use of energy obtained from fossil fuel (stored ancient solar energy) that has raised our standard of living over the past century.

I find that it presented some interesting theories on energy. However, in the scientific method theories must be validated by making predictions and then testing those predictions with experiments. Energy is of little value to mankind unless it can be used to do our work. Einstein's equation $E=mc^2$ has withstood the tests of the scientific method. It shows that there is no shortage of energy. The problem is the technology and equipment necessary to make the conversion to a form that is useful. We know that we have much free energy available to us. Solar energy provides enough energy to the earth in 2.5 hours to supply mankind's needs for a year. We have technology and equipment capable of transforming this energy into a form that is useful to us. The efforts of your contributors and readers would be well spent on improving the efficiency of conversion and converting available energy into a non-polluting fuel (hydrogen) that can replace fossil fuels which now supply energy when and where it is needed. Demonstrations show that the internal combustion engine becomes a non-polluting air cleaning machine when it uses hydrogen for fuel.

My impression is that most of the theories for obtaining useful energy in *New Energy News* are pseudo science that cannot withstand the test of the scientific method. The pursuit of pseudo energy science is counterproductive to the needs of mankind because it diverts resources from real energy solutions we know are available to us.

Sincerely, /s/ Charles H. Terrey

And the Editor's response:

Dear Mr. Terrey,

Thank you for your letter. It is true that the use of fossil fuels has raised our standard of living and also polluted our planet. If our grandchildren are to enjoy an increased standard of living then we must find new, clean, and essentially unlimited sources of energy.

You state, "The efforts of your contributors and readers would be well spent on improving the efficiency of conversion and converting available energy into a non polluting fuel (hydrogen) that can replace fossil fuels which now supply energy when and where it is needed." We are pleased to report that some of our readers are, indeed, working in the area of hydrogen energy devices and systems.

You also state, "My impression is that most of the theories for obtaining useful energy in New Energy News are pseudo science that cannot withstand the test of the scientific method." Your statement has merit. However, we have had the first retreat of international inventors, engineers, and scientists who have been working on new energy devices and systems. Collectively, we (members of the Institute for New Energy) have tried to separate the pseudo science from the true science. As editor of New Energy News, the separation of pseudo from true science is my most important and challenging task. During the past five years (since the announcement of the discovery of cold fusion), I have collected and read over 1500 articles on cold fusion and summarized them for the readers of Fusion Facts. Since May, 1993, I have been doing a similar task for New Energy News. With cold fusion devices I have visited laboratories in various parts of the world and am personally aware of the reality of cold fusion devices, but not, as yet, satisfied with the theories of how excess heat is produced. The results of our efforts have been credited with hastening the development and commercialization of cold fusion.

Since May, 1993, I have undertaken to both study and replicate some of the new energy devices. There is no question that there are engineering and scientific

mistakes. There are patents issued on devices that do not work. However, our task is not to pursue pseudo energy science. Our task is to help gather and share information on devices that work. In some cases we have already had members finding that a revealed experiment has had problems. In other cases, we have helped in the replication of other devices. Periodically, we publish our editorial evaluation of devices that are most likely to produce "over-unity" power or "excess heat".

Thanks to the financial support of Lynda and Bill Beierwaltes, some new energy devices from various countries will be shipped in and displayed to the public at the forthcoming Second International Conference on New Energy. We are firmly committed to further the development of and the sharing of information about new energy devices. Collectively, we, the members of the Institute for New Energy, are determined to change the world's way of producing and using clean, inexpensive, unlimited sources of energy. We invite you to be involved with us.

Sincerely, /s/ Hal Fox, Editor

Meetings

UNITED NATIONS SYMPOSIUM

Symposium on Energy Efficiency Management and its Widespread Dissemination in Central and Eastern Europe, April 18-22 in Kiev, Ukraine at the Ukrainian Academy of Sciences, is sponsored by the United Nations, Committee on Energy (the steering committee of the Energy Efficiency 2000 Project).

Its provisional agenda is as follows: Session 1: International and national legislation, standards, and labeling systems on energy efficiency; Session 2: Economic Mechanism and Financial Means for Energy Demand Management; Session 3: Institutional and Commercial aspects of Energy Efficiency Management; Session 4: Information Support of Energy Efficiency Management, energy expertise and audits; Session 5: Round-table discussion on Energy Efficiency Management Widespread Dissemination in Central and Eastern Europe. The contact telephone number is 7-044-4170142, Fax 7-044-4170737 or 4164393.

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