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NEW ENERGY SCIENTISTS OF THE YEAR, 1996

This has been a momentous year for new energy and especially for new discoveries in cold fusion. Four persons who have provided exceptional service to the advancement of new energy are two scientists and two inventors.

New Energy News is pleased to name Professor and Editor George H. Miley and Kenneth R. Shoulders as New Energy Scientists of the Year - 1996.

GEORGE H. MILEY



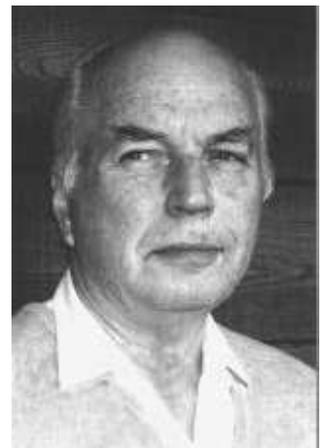
Professor George Miley, as Editor of *Fusion Technology*, an international journal of the American Nuclear Society, deserves high honors for his undaunted service to the scientific community in publishing articles on cold nuclear fusion. Until the *Journal of New Energy* was launched in January 1996, *Fusion Technology* was the only American journal to

publish articles on cold fusion. However, that is not the reason that George Miley has been chosen for the honor of **Scientist of the Year - 1996**. This honor is bestowed on George Miley for his excellent work in the careful tracking of nuclear changes in thin films under electrolysis. (See George H. Miley and James A. Patterson, "Nuclear Transmutations in Thin-Film Nickel Coatings Undergoing Electrolysis," *J. of New Energy*, Fall 1996.)

For several years George Miley and associates of the Fusion Studies Laboratory, Department of Nuclear Engineering, at the University of Illinois, Urbana, Illinois, have been working with the electro-lysis of thin films and showing strong evidence for nuclear reactions. In an extension of Miley's thin

KENNETH R. SHOULDERS

For several years Kenneth R. Shoulders has been an independent scientist working to unravel the secrets of high-density charge clusters. Recently, Kenneth Shoulders obtained and analyzed samples of cathode materials from different operating cold fusion cells and found evidence of many **strikes** by high-density charge



clusters. Here is how Kenneth Shoulders explains the role of these charge clusters in cold fusion: Deuterium is loaded into a malleable palladium cathode by electrolysis. The palladium becomes stressed and hydrogen-embrittled. At some random times the palladium cracks. Trillions of ionic bonds in the metal lattice are broken resulting in a very short-duration high voltage across the crack. This cracking promotes the fracto-emission of high-density charge clusters (Ken Shoulders' "EVs") The charge cluster or clusters pick up deuterons, race across the crack, slam into the opposite wall, and the highly-accelerated piggy-back deuterons have sufficient energy to cause a nuclear reaction. The end result is the formation of many new elements and excess heat. This phenomenon is not $d + d$ fusion but $d + Pd$ fusion.

(Miley, cont.) film investigation, he has worked closely with James Patterson (who received a "Fusion Scientist of the Year 1995" award for developing the **Patterson Power Cell™** by using thin nickel and palladium films to achieve the first cold fusion device with commercial potential). By making extensive measurements of before and after analysis of the thin-film coated spheres that are used by Patterson, Miley was able to show dramatic elemental changes. These elemental changes can only be attributed to nuclear reactions. Miley first presented this important scientific report at the second conference on Low-Energy Nuclear Reactions, September 13, 1996 at College Station, Texas. George Miley also co-hosted this conference with Professor John O'M. Bockris (who also has been honored as "Fusion Scientist of the Year 1994").

New Energy News is pleased to honor George H. Miley as Scientist of the Year - 1996.

While most take the linear textbook road of why it cannot be, it is the brave few that go the uncharted path of why it just might be.

Anonymous

(Shoulders, cont.) (See K. Shoulders and S. Shoulders, "Observations on the Role of Charge Clusters in Nuclear Cluster Reactions," *J. of New Energy*, Fall 1996.)

Some who heard Shoulders' presentation at the second conference on Low-Energy Nuclear Reactions (Sept. 1996, College Station, Texas) were impressed with two concepts: First, the concept of fracto-emission and the resultant nuclear reactions that could be a major source of excess energy in various types of cold fusion devices. Second, the concept that it is much easier to make charge clusters directly than to create charge clusters by fracto-emission. Please note: this explanation of the source of most (or some) of the excess energy in cold fusion devices **is standard textbook physics and, therefore, immediately understandable to anyone who is familiar with the formation and use of high-density charge clusters.** (For further information on charge clusters see Kenneth Shoulders' U.S. Patent 5,018,180). It should be noted that as a result of the presentation of the paper by Kenneth Shoulders, at least one improvement patent application has been filed.

New Energy News is pleased to honor Kenneth R. Shoulders as Scientist of the Year - 1996.

THE NEW-ENERGY YEAR IN REVIEW

By Hal Fox

The Best of 1996

As demonstrated by the awards of **New Energy Scientists of the Year**, two of the top new energy discoveries of 1996 were the large number of nuclear reactions that are being produced in cold fusion electrochemical cells and the discovery that high-density charge clusters can produce nuclear reactions.

The development of Ultraconductors™ (see article by Mark Goldes in this issue) and their application to thermal-to-electric conversion is a significant milestone.

The data presented from Rod Neal and Stan Gleeson concerning their successes in reducing the level of radioactivity in a radioactive liquid is a strong contribution to similar previous discoveries. The discoveries relating to reduction of radioactivity now include Yul Brown's use of Brown's Gas, Roberto Monti's use of explosion, George Rabzy's work in the

Ukraine, Bush and Eagleton's electrochemical method, Ron Brightsen's Clustron Theory, and James Patterson's transmutation in small plated beads.

The perpetual-motion sculpture of Reidar Finsrud must be included as one of the most unusual energy-related developments of 1996. (NEN July 1996).

The continued progress of the development of over-unity electromagnetic motors has been advanced by Dr. Harold Aspden. (See this issue, page 14, and also December 1996 NEN.)

Even NASA made a great discovery in 1996 -- however, we are not yet sure that they know what they discovered. When NASA lost a \$442 million satellite by the unexpected interaction of its 12.8 mile-long tether, NEN believes that they found a dramatic evidence of the existence of anomalous energy in space. (See NEN Mary 1996.)

We predict that 1997 will bring many more unexpected new energy developments.

Fusion Briefings

Pd/D & Ti/D LATTICES AND LENR

K.R. Rao, Samrath Lal Chaplot (BARC, Solid State Phys. Div., Trombay, India), "Computer Experiments Concerning Palladium-Deuterium and Titanium-Deuterium Lattices – Implications to Phenomenon of Low-Energy Nuclear Reactions," *Fusion Technology*, vol 30, no 3, Dec. 1996, pp 355-362, 25 refs, 7 figs, 1 table.

AUTHORS' ABSTRACT

Short-lived large energy fluctuations (SLEFs) in solids, proposed by Khait, are known to be responsible for several anomalous properties in a variety of materials. The study of SLEFs in palladium-deuterium and titanium-deuterium lattices via computer experiments is reported. The relevance of these large energy fluctuations in penetrating coulombic barriers in these systems is discussed. Such dynamic effects arising from the phonon bath as solids may enhance nuclear reaction probabilities leading to cold fusion. Expected cold fusion reaction rates are reported taking into account the effective changes of the deuterium atoms in the solid and SLEF frequencies.

[SLEF may be the result of charge clusters formation, acceleration, and collision. - Ed.]

Always listen to the experts. They'll tell you what can't be done and why. Then do it.

Lazarus Long

THE WORK OF ALBERT EINSTEIN IN RELATION TO COLD FUSION

By Steve Lazarus

Recent theoretical work in the quest to explain cold fusion has focused on the foundations laid down by Albert Einstein [1,2]. Special relativity and quantum mechanics were introduced by Einstein at the first part of this century. Cold fusion reactions taking place in metal lattices are a new and different realm that seem to relate to the area of physics known as relativistic quantum mechanics. Much about the discussion of relativistic quantum mechanics can be found in the scientific journal, *Foundations of Physics*, [3] that has published extensive discussions in this area over the last 10 years.

Contemporary theoreticians and experimenters are bridging the gap between established science and newly discovered mass energy release manifested in cold fusion reactions. Kozima, et al. [4], Sioda [5], and Rout, et al. [6], have demonstrated plausible explanations and experimental results that should put the mystery of cold fusion to rest for all time.

Many fruitful avenues have been achieved by the scaling of macro-phenomena such as galactic vortex formations [7] to the small size of micro fusion. These vortex formations have a place in the theory to explain cold fusion reactions in nano-sized bubbles within the solid lattice of a parent cold fusion material.

References:

1. C.E. Bennett, "An Electrodynamics Theory of Inertia and Gravitation", *Cold Fusion*, #19, October 1996, p 36.
2. C.E. Bennett, "A Quantized Aether", *New Energy News*, November, 1996 vol 4, no 7, p 7.
3. *Foundations of Physics*, volumes 1986-1996.
4. H. Kozima, S. Watanabe, K. Hiroe, Nomura, "Excess Heat and ^4He Generation in a Pd-Black Cathode by $\text{D}_2\text{O} + \text{LiOH}$ Electrolysis", *Cold Fusion*, #19, October 1996, pp 12-16.
5. R.E. Sioda, "Can Nuclear Fusion Be Initiated in Metal Deuterides?", *Cold Fusion*, October 1996, pp 28-35.
6. R.K. Rout, A. Shyam, M. Srinivasan, A.B. Garg, (BARC, Neutron Phys. Div., Bombay, India), V.K. Shrikhande, (BARC, Tech. Phys. & Prototype

Engr. Div., Bombay, India), "Reproducible Anomalous Emissions From Palladium Deuteride/Hydride," *Fusion Technology*, vol 30, no 2, Nov 1996, pp 273-280.

7. Walker, FL., "The Expanding Space Paradox," *Physics Essays Journal*, volume 9, no 2, 1996 (Quebec, Canada).

SEARCH FOR PARTICLE EMISSIONS

John Philip Nicholson (Univ. of Strathclyde, Dept. of Phys. & Applied Phys., Glasgow, United Kingdom), "A Search for Particle Emission from a Gas-Loaded Deuterium-Palladium System in the Alpha-Beta Phase," *Fusion Technology*, vol 30, no 3, Dec. 1996, pp 383-385, 25 refs, 1 fig.

AUTHOR'S ABSTRACT

Neutron and proton emission due to possible solid state fusion events is monitored from a palladium sample loaded with deuterium gas to atomic fractions up to 0.7. Most of the experimental runs show no detectable activity above background rates, indicating a fusion rate $< 2.7 \times 10^{-22} \text{s}^{-1}$ / deuterium-deuterium (D-D) pair. Two brief excursions by the proton counter might indicate a temporary rate of $3.5 \times 10^{-21} \text{s}^{-1}$ / D-D-pair.

AUTHOR'S CONCLUSION

The two brief excursions above background of the proton counter, corresponding to rates of $3.4 \times 10^{-21} \text{s}^{-1}$ / D-D pair and $3.5 \times 10^{-21} \text{s}^{-1}$ / D-D pair, occurred at average deuterium/palladium fractions of ~0.1 and 0.6, respectively, with perhaps higher values pertaining to the surface of the specimen. These occurred near the end of the experiment when the deteriorated condition of the palladium sample forbade further experimental runs. It is interesting to note that one of the theoretical models for solid state fusion does require a substantially dislocated lattice. However, in view of the unreproducibility of the excursions, and the possibility of electromagnetic interference with equipment, we should view these results as inconclusive. [or perhaps as the production of charge clusters. - Ed.]

TRITIUM GENERATION

T.K. Sankaranarayanan (BARC, Chem. Engr. Div., Trombay, India), Mahadeva Srinivasan (BARC, Neutron Phys. Div.), Mukut Behari Bajpai and Devendra Swarup Gupta (BARC, Chem. Engr. Div.), "Investigation of Low-Level Tritium Generation in Ni-H₂O Electrolytic Cells," *Fusion Technology*, vol 30, no 3, Dec. 1996, pp 349-354, 7 refs, 3 figs, 6 tables.

AUTHORS' ABSTRACT

The generation of tritium during the electrolysis of aqueous light water alkali carbonate (K₂CO₃ and Li₂CO₃) solutions by nickel cathodes, first reported by us at the International Conference on Cold Fusion-3 (Nagoya, Japan, October 1992) has once again been verified and confirmed. During 1993, 10 out of 23 cells, whose electrolytes were analyzed using a newly set up dedicated liquid scintillation counting unit, indicated low tritium levels in the electrolyte, in the range of 0.5 to 4.8 Bq/ml. Except one cell, which contained 35% D₂O, the remaining nine cells, which produced tritium, were charged with natural light water solutions only. Two of these cells, which were monitored for tritium every few days, and excluding cell OM-3, which was set up in 1992, indicated tritium level variations in a sawtooth fashion, suggesting the possible presence of an as-yet unidentified mechanism responsible for periodically removing tritium from the electrolyte.

Space Energy

CHARGE-COUPLED PHENOMENA

By Clynton Allen

Some time ago on June 10th 1971, an experiment I conducted was to determine the attractive force of two oppositely charged plates.

First, attaching the negative electrode to one of the plates, then applying power and hearing the characteristic **hiss** from the high voltage, the Positive electrode touched the other plate to charge them. And to my astonishment, during the test, I noted that multitudes of holes had been

punched through the witness plates **from the inside out on both plates!** (directional) They were reminiscent of **buck shot** exit holes on a beer can, some small, some large, all less than a millimeter in diameter. I honestly cannot remember if the holes lined up with each other as the two plates and the dielectric were hanging freely and independently on insulated threads.

On closer examination, I noticed the dielectric separator had also been punctured with multitudes of neat clean **well defined holes!** (non-directional)

At once, I decided to abort the test, as I did not know what effect these mysterious bullets would have on human flesh, considering the condition of the aluminum foil after the test. Then, I quickly jotted down on paper some details and filed it in a ring binder. There it rested until the Internet became available in our part of the world, where I saw an article on "Plasma Injected Transmutation" phenomena. (*NEN* news abstract)

Some details of experiment June 10th 1971:

Witness plates – Aluminum foil .001", about 6" x 8"
Dielectric – Polyethylene .0005", about 10" x 12"

Spacing about 1" separation, free-hanging

Air Pressure about 800' above sea level

Voltage – 9 kV DC, Isolated (not grounded)

Generator Cockroft Walton X 10
 Impedance 22 Meg ohm
 All components > 1 kV W
 Silicon Diodes .18 mfd Capacitors
 Series R one 22 Meg 5W carbon
 Transformer 900 Volt secondary
50 Watt RMS 50 c/s

AUTHOR'S SUMMARY

On reflection of what happened, at least the event was recorded and most of the details. The generator was **Breadboarded** construction and laid on a table. I was careful to avoid electrical shock and handled live wires with good insulated tools.

On touching the plates, maybe **contact bounce** produced the required pulses to make the effect? For more details please contact the writer.

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UNKNOWN POSITIVE EMF

Osamu Ide (Clean Energy Lab., Japanese Green Cross Society, Tokyo, Japan), "Unknown Positive EMF and Clean Energy," Proc. of the First Intl. Symp. on Consciousness, New Medicine and New Energy, Nov. 21-22, 1996, Tokyo, Japan, p 12.

AUTHOR'S ABSTRACT

The speaker has been developing a motor which operates by the discharge of a capacitor in a LC circuit. This motor utilizes the magnetic force of attraction between a pair of coils (a stator) and a ferromagnetic core (a rotor) which moves between the coils. The unconsumed magnetic energy is recycled as electrical energy by recharging the capacitor. In the course of developing this motor, an unusual increase in recharge voltage was observed. It occurs only when the magnetic fields of confronting coils are opposing each other. The ferromagnetic core does not receive any negative torque during the discharge. This voltage increase is not predicted from the computer simulation of the system, which conforms well to the case when the magnetic fields are attracting. The speaker considers, from the experiments using an originally designed coil, a possibility of a positive EMF being involved in this effect. This phenomenon implies a possibility of perpetual energy source.

CREATION OF ENERGY & MATTER

Paramahansa Tewari (Executive Director (Project) Nuclear Power Corporation of India Ltd., Bombay, India), "Creation of Energy and Cosmic Matter from the Universal Space Substratum," Proc. of the First Intl. Symp. on Consciousness, New Medicine and New Energy, Nov. 21-22, 1996, Tokyo, Japan. p 18.

AUTHOR'S ABSTRACT

The energy in matter is derived from the medium of space which in dynamic state, in itself the most basic and primordial source of universal energy. The fundamental state of matter is identified to be

the electron, which is shown to be a "vortex of space." The velocity of light "**c**" plays a broader role in the construction of the universe, in the sense that the fluid substratum of space breaks down in its flow when the speed reaches **c**. The basic equations of classical as well as quantum physics are derivable from the "space-vortex" structure of the electron.

Through a new system of rotating electromagnet, electrical power at low dc voltage and high dc currents, and in excess of the total input given to the system, has been generated, showing thereby that commercially viable electrical power generation can be had in violation of the presently held concept of energy conservation law within the domain of electromagnetic induction.

The substantial reality of the space medium of the solar system is proved by showing that the axial rotation of the planets and the sun are due to the "space vortices" around these cosmic bodies, and produce, between the sun and the planets, electrical repulsive force that along with gravitational attraction determine the orbital stability of the planets.

Miscellaneous

SIMULTANEITY INTERPRETATIONS

W. Vincent Coon, "Simultaneity Interpretations," *Galilean Electrodynamics*, vol 7, no 6, Nov/Dec 1996, pp 109-111.

AUTHOR'S ABSTRACT

It is shown that in inertial frame scenarios, the Einstein interpretation of the Lorentz Transformation (LT) competes with other transformations which do not support light speed invariance. These rival transformations can be obtained by re-evaluating LT simultaneity which is susceptible to overhauling.

INTRODUCTION

Isotropy postulates of space and the speed of light are the basis for defining simultaneity in Special Relativity Theory (SRT). [When,] in a simple text-

book scenario, two identical clock-transmitters send signals toward each other precisely as each clock registers an agreed time, and if the signals meet at a point exactly mid-distant between the clocks, the clocks are said to be synchronized. Supposedly, the signals have the same speed relative to the clocks. This is an assumption that should not be taken for granted. In order to confirm that the signal speeds are the same, they must be verified empirically. But unambiguous measurements of one-way speed are impossible because of *speed synchronization circularity*. You see, in order to measure a signal's one-way speed we depend on synchronized, separated clocks, but in order to synchronize separated clocks we must know a signal's one-way speed to begin with. Defending light speed invariance by SRT's clock settings is therefore tautological. In short, the isotropy assertions of SRT remain postulates because they cannot be proven. Because these assertions cannot be proven, the synchronism required by light speed invariance is vulnerable to reassessment. Revisions of "synchronization" are accomplished by resetting clocks according to other standards of alleged simultaneity which are no less provable. The following exercise [paper] shows how to go about this algebraically.

A NEW SOLUTION TO THE HEAT-TO-ELECTRIC CONVERSION PROBLEM, CAN ALSO BE UTILIZED FOR COOLING AND ENERGY STORAGE

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Converting low-temperature heat into electricity has always been a daunting engineering challenge. Yet, many new sources of energy, as well as numerous other devices, generate only low grade heat – typically not above 300 degrees F.

MPI has been searching for solutions to the low-temperature heat-to-electric problem for many years. Proprietary approaches have been developed to the point where we now believe we have several potential solutions – one of which has already shown the potential to make commercial units cost-effective.

Today's typical commercial power plant generates high temperature heat, which in turn produces high

pressure steam. A steam turbine then converts some proportion of that heat into electricity. But as the temperature falls, the usually applicable ideal (theoretical) engine cycle, named for Sadi Carnot, the Frenchman who is credited with the discovery, makes it much more difficult to convert the heat produced into electricity.

The formula that reflects the problem can be stated like this: Temperature (in Kelvin) of the hot side, minus Temperature of the cold side, divided by the Temperature of the hot side x 100, equals the maximum theoretical efficiency in percent of any heat engine.

$$\frac{T_{hot} - T_{cold}}{T_{hot}} \times 100$$

The Stirling cycle comes closer to the Carnot ideal cycle than any other. The best Stirling engines can reach 50% of the maximum theoretical value, a very high figure.

The engines used in today's most efficient electric generating plants, modified aircraft turbines running on natural gas and spinning alternators, are advertised as about 63% efficient. Actual efficiency is probably somewhat less, as the figures provided for engine efficiency are frequently quoted as a percentage of the ideal Carnot cycle. Thus, the real (overall) efficiency might be roughly half the figure advertised. Efficiency also falls rapidly at partial power. The alternator utilized will further decrease overall efficiency.

A few energy conversion systems, such as photovoltaic cells and fuel cells, are not subject to the Carnot heat-engine cycle. The actual conversion efficiency for such systems is identical to the percentage stated in the technical specifications.

One approach MPI has been investigating involves an unusual Stirling engine design. Other mechanical solutions also remain under consideration. However, recent breakthroughs involving solid-state technology make it increasingly likely that variations of such devices will soon have the potential to supersede systems having moving parts. (A Stirling engine that runs on a 10°F delta T, suitable for classroom use, etc., can be purchased for \$195 from New Machine Co. 206-827-2927 or fax 206-822-8137).

The inventor of a patented, radically new apparatus, incorporating an array of

thermocouples in an unusual loop configuration, claims prototypes have demonstrated 12% efficiency with a propane burner as the source of heat. Remarkably, a paper study indicates that it will also have 12% efficiency with a temperature difference as low as 250 degrees F. MPI calls this device a Ring-TEG™. Production is expected during 1998.

The same device can also be used, in reverse, for cooling and, particularly with a proprietary MPI improvement, is likely to offer an attractive solid-state alternative to mechanical compressors. Electrons are substituted for Freons and other gases.

The device intrinsically generates a magnetic field having the capability to store electricity. When optimized for this application we call it a HOT S-MES. It will compete with today's Superconducting Magnetic Energy Storage "SMES" systems, all of which require cryogenic cooling. This system of energy storage will be particularly economical when powered by waste heat. MPI has begun marketing variations to several large potential strategic partners.

Research by MPI for a United States Air Force Small Business Innovation Research Contract during 1995, indicated that by substituting proprietary new polymer materials we call **Ultraconductors™**, for one of the conventional materials utilized in the device thermocouples, a dramatic improvement in efficiency might be realized. These unique polymers have excellent resistance to heat flow, while simultaneously exhibiting remarkably high electrical conductivity (100,000 times better than copper or gold).

When these polymers were tested with a solid-state thermoelectric module utilized for cooling, a great improvement was demonstrated in the laboratory.

In the future, an entirely different, very compact design will also utilize the Ultraconductors. Considerably more expensive to develop, this advanced unit could prove to be a highly efficient heat-to-electric transducer. In the opinion of the inventor, the design of the device takes advantage of an approach that it is not subject to the Carnot

limit. If this device performs as anticipated, it will not only be suitable for low-temperature reactors, but is expected to broaden the market potential for waste heat utilization at industrial plants and all types of power plants.

In an even later configuration, this more complex invention is expected to be an extremely efficient solid-state cooler. This cooler development is designed to open markets for solid-state cooling down to the region of absolute zero.

Cost-effective electricity from low-grade heat is now on the horizon. Development of all three device applications will accelerate as additional capital resources become available.

MPI intends to make a major contribution to solid-state cooling, energy storage, and the practicality of new energy conversion systems that generate electric power from heat.

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FREE ENERGY CONSCIOUSNESS

Brian O'Leary (IANS, U.S.A.), "The Relationship Between Free Energy Consciousness and Group Focus," Proc. of the First Intl. Symp. on Consciousness, New Medicine and New Energy, Nov. 21-22, 1996, Tokyo, Japan, p 22.

AUTHOR'S ABSTRACT

In recent years, a number of experiments have yielded anomalous, quantifiable results in at least two major categories:

(1) zero point (free) energy outputs using electrical and other devices, and (2) human produced psychokinetic "hits" from random event generators and other devices (consciousness). This paper explores the hypothesis that these two experimental protocols might involve the same basic physics in which charges dynamically interact with a zero point field (ZPF). Therefore, it may be possible to arrive at equivalence, analogous to the energy-mass equivalence ($E = mc^2$) of Einstein. Inomata has suggested that such an equivalence can be expressed in terms of a complexified charge in which the imaginary component manifests as consciousness. Another approach is to ask, can free energy experiments be related with consciousness experiments? Can we determine the equivalence between consciousness and free energy? What thresholds are required to initiate significant flows of energy from the void, so that over-unity energy

and mind-over-matter begin to take over from traditional physics?

How can group experiments enhance our ability to manifest in the material world? This paper addresses these questions and suggests hybrid experiments to enhance our understanding of these issues whose ultimate goal might be an awakening of global consciousness. These questions are so important.

SUPERCONDUCTING MAGNET N-MACHINE

Shiuji Inomata (President JPI, Yoshiyuki Mita, Obayashi Corp.), "Design and Theoretical Considerations for Super-Conducting Magnet N-Machine," Proc. of the First Intl. Symp. on Consciousness, New Medicine and New Energy, Nov. 21-22 1996, Tokyo, Japan, p 9.

AUTHOR'S ABSTRACT

The successful confirmation of the so-called incremental over-unity phenomena in JPI-1 N-machine (Inomata and Mita 1993) has made us design the system over-unity machine JPI-II, which is composed of a super-conducting magnet N-machine, and super-conducting magnet Faraday motor. This combination on the same axle, after being started by the outside electrical power, is expected to feed some 30-40 kW AC power, and cooling energy of the vaporized coolant is negligible, if sufficient heat insulation is provided for the super-conducting magnet.

The N-machine theory, the experimental data (JPI-I) and the design details of the super-conducting magnet N-machine, JPI-II, will be described in this paper. Both theoretical and experimental considerations have indicated that the N-machine output electrical power is not from the driving Faraday motor, but from the "shadow world" or "consciousness world" through the vacuum. And the conservation laws of energy and electrical charge are violated in this system. This means that we need a new scientific paradigm to fully understand the very function of the N-machine.

OSMOLOGY NOTES

Greg Hodowanec
5 Dec. 1996

I. Some Continued Tests of Ckt. FE-8 and FE-9

A. Ckt. FE-8

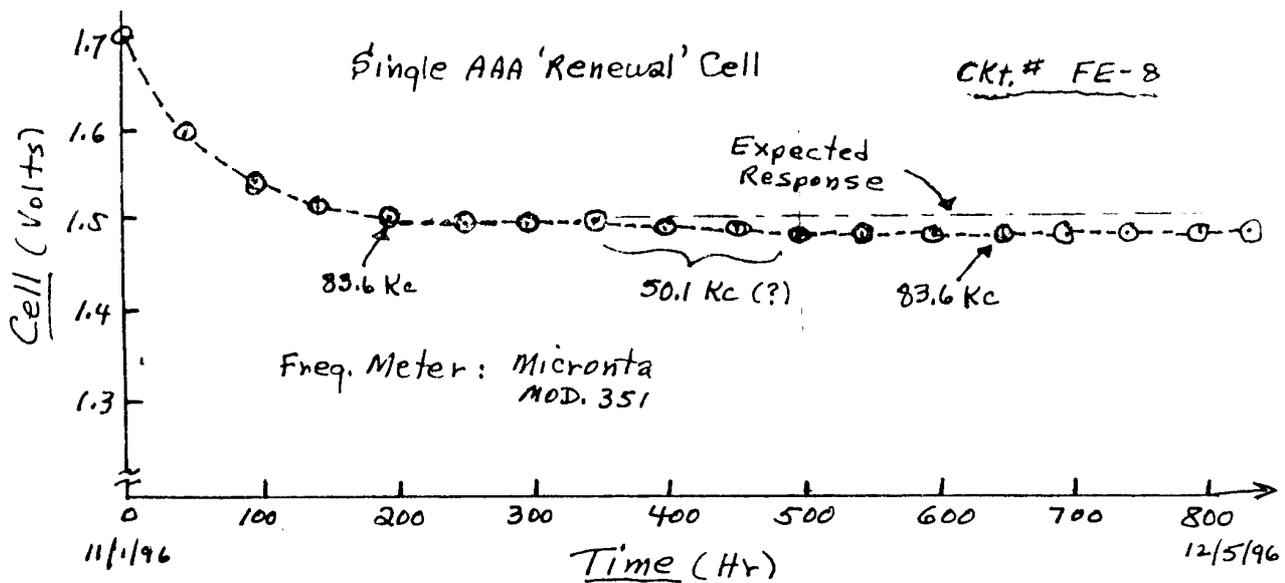
As reported to you in the Note dated 10-29-96, a Rayovac "Renewal" cell was evaluated in this circuit. At the time, I believed that there were some thermal problems as well as an electrical storm which complicated the test results. Therefore, this test was repeated with another "fresh" renewal cell, starting on Nov. 1, 1996. It was speculated that while the "renewal" cell (alkaline) probably would not "trickle" charge very well, the Mini-MRA would become self-sustaining so that the cell would not need to supply any additional power.

Thus, a rather very flat discharge curve was expected. Also, since at this time the home heating system was activated, it was expected that the basement lab area would not have unusual drops in temperature anymore -- in fact the lab temperature remained above 68°F and averaged around 72°F. Thus, it was reasonable to expect the "renewal" cell to maintain about a 1.5 V level. The actual test data is shown in Fig. 1. Here again, the "renewal" cell settled down to about 1.5 volts after about 150 hours of operation, and maintained that level up to about the 350-hour point.

At this time it was noted that the cell had started

to drop slowly in voltage. In checking for the reason, I noted that the oscillator frequency, which was originally set at about 83.6 kHz, was now at 50.1 kHz! I had seen this type of behavior before and had noticed that if I kept my micronta frequency meter across the MRA input (on or off), the operation at 83.6 kHz could be stabilized! I believe that a very small amount of shunt capacitance introduced by the micronta unit may have been responsible for this stability. Therefore, after "returning" the oscillator frequency to 83.6 KHz at the 500 hour point, the FE-8 unit remained highly stable at this frequency and the "renewal" cell maintained a constant 1.48 volt output level out to about 800 hours, when I terminated this test. Apparently the alkaline "renewal" cell does not "trickle" charge as well as a nicad cell. Thus, the voltage "drop" (at the 50.1 KHz operating point) was never restored.

It is concluded that had Ckt. FE-8 remained stable at 83.6 KHz, the "renewal" cell would have been maintained at about 1.5 volts for a much longer period, perhaps a few thousand hours? It should also be noted here that the oscillator frequencies of 83.6 KHz and 50.1 KHz are harmonically related to the universal Rhythmic frequency of about 1.855



Figure(1)

$\times 10^{43}$ Hz! It could also be concluded that Ckt. FE-8 is really "standing alone," with the "renewal" cell acting only as an energy storage reservoir. The purpose behind Mini-MRA Ckt. FE-9 will be to demonstrate that this "active" reservoir could possibly be replaced by a "passive" reservoir, ie., a very high value capacitance? We'll see!

B. Ckt. FE-9

While the above Ckt. FE-8 tests were going on, I completed the Mini-MRA and output sections of Ckt. FE-9. The circuitry as it presently exists is shown in Fig. 2. The GW oscillator section has not, as yet, been built-in (I was using the only available 7611 device in Ckt. FE-8). Thus, I used the tube-type signal generator for some preliminary testing. Since I did not have any more 680 pF (Ag-mica) capacitors left, I re-adjusted the Mini-MRA "resonant" frequency to about 70.5 KHz with the use of a 820 pF capacitor. This was done to keep the unit f_0 at another sub-harmonic of the universal Rhythmic frequency! The output of the Mini is "doubled" using the simple circuit made up of CR₁, and CR₂ (germanium) and C₂ and C₃, to make up for the step-down of the transformer, T₁. The output of the doubler is fed through a "steering" diode, CR₃, to "charge" the 0.1 Farad "storage" capacitor, C₄. A light output load is provided by the output meter, M, (which is approximately a 200 μ A movement with a 0-5 volt scale). A much heavier output load (an

LED diode) can be switched-in to simulate the oscillator load when testing with the tube-type signal generator. This LED load can also be used later to more heavily load the Mini-MRA. This circuit has roughly been evaluated at 70.5 KHz (where V_G is minimum and thus indicative of resonance) and some rough data is given below. At below about a 2 volt (peak-to-peak) drive level, the waveform is quite sinusoidal, while at the higher drive levels up to about 6 volts (peak-to-peak), the waveform is fairly sinusoidal, but develops two "humps" at each peak. At this time it is conjectured that this may be related to the unit responding to two adjacent "resonant" frequencies, but that possibility may be better defined with operation by the GW oscillator stage.

Preliminary Tests

$$V_G \approx 3V \text{ (pk - pk)} \approx 2.12V \text{ (RMS)}$$

$$i_G \approx 2.12/5 \times 10^3 \approx 0.42 \text{ mA (RMS)}$$

$$\} P_{in} \approx 2.12 \times 0.42 \approx 0.89 \text{ mW (RMS)}$$

$$\text{Meter load} \approx 3V @ 0.13 \text{ mA} \approx 0.4 \text{ mW (DC)}$$

$$\text{LED load} \approx 3V @ 1.5 \text{ mA} \approx 4.5 \text{ mW (DC)}$$

$$\} P_{out} \approx 4.9 \text{ mW (DC)}$$

Therefore: Power Gain $\approx 4.9/0.89 \approx 5.5$ times

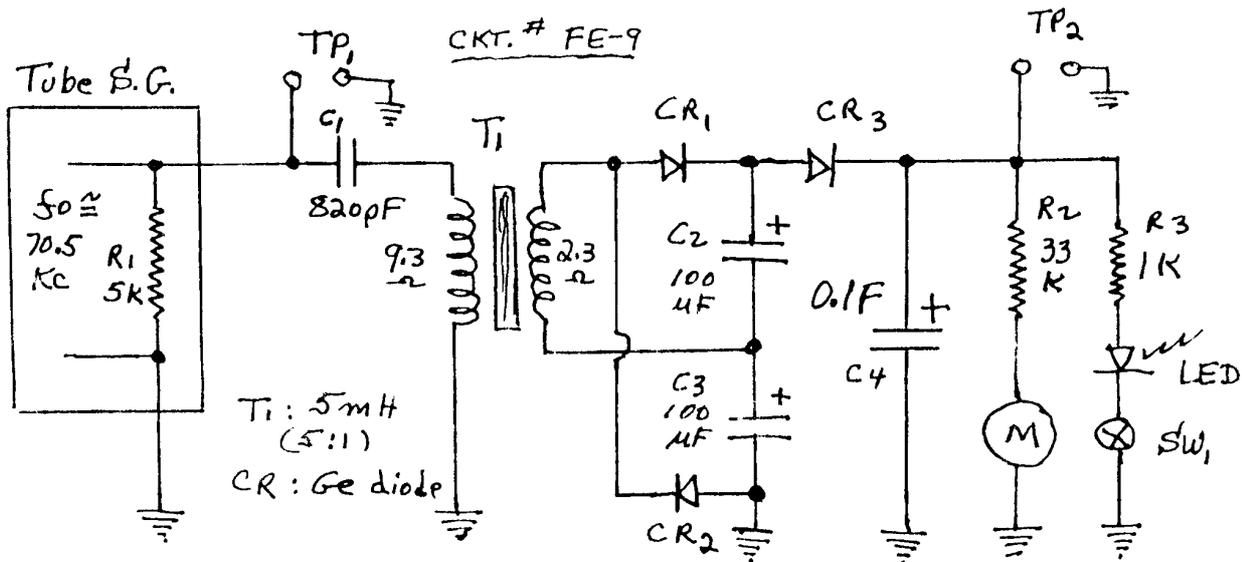


Figure (a)

II. Conclusions

1. Although the present Mini-MRA's are at "flea" power levels, the principles of operation are being established here – which could also apply at high levels?
2. Mini-MRA tests continue to show a relation to the fundamental Rhythmic frequency!
3. The simplicity of these tests should enable more of you to get "involved" and help to confirm the reality of these tests. However, all the previous "cautions" will still apply, so don't get too discouraged if your initial results are inconclusive.
4. Finally, there are many other "surplus" pulse transformers out there – some may show much better performance?

EDITORIAL IN *GLOBAL ENERGY OUTLOOK*

December 1996

While acknowledging that the world is awash in both oil and gas, the World Energy Group has continuously cautioned that the world is losing its productive capacity to meet worldwide demand. Saudi Arabia and Kuwait have little spare capacity to offer without making substantial investments to increase production. Instead, they have spent upwards of \$55 billion purchasing high-tech weapons of war, encouraged by the U.S. government and perceived as a means of maintaining the support of their autocratic governments. The U.S. must share the bulk of the blame. Whether under Republican or Democratic administrations, the U.S. has failed to achieve a sustainable energy policy. Many analysts have taken the politically correct line that world supplies would always exceed demand and that we should never again experience the gas lines or energy shocks of the 1970's. Suddenly, there is a chill in the air as world markets begin to reflect the lack of productive capacity to keep pace with world demand which is suddenly growing out of control. Hopefully, there is still time to reverse the trends and policies which portend disaster.

Gordon B. Moody, Publisher/Editor

NOTHING: Nothing is an awe inspiring, yet essentially undigested concept, highly esteemed by writers of a mystical or existentialist tendency, but by most others regarded with anxiety, nausea and panic.

(The Encyclopedia of Philosophy)

– but –

... one of the main causes of the fall of the Roman Empire was that, lacking zero, they had no way to indicate successful termination of their C programs.

– Robert Firth

Therefore, nothing must be important!

LETTERS

RECALL OF MY PELTON STUDIES

Letter from Christoph Bodner

5 Dec. 1996

Dear Sir,

Herewith I want to place a recall of my "stories" [NEN, August 1996, p 15] about the Pelton wheel due to an error which I detected now.

You will find attached a new sketch and an addendum titled "Recall of My Pelton Studies."

I'm sorry if my unfinished manuscripts may have caused you troubles.

Kind regards,

Christoph Bodner

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Germany

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Recall of My Pelton Studies

The following error has been detected in my recent studies about Pelton's turbine. The power equation of a free jet

$$P = F \cdot \delta \quad (1)$$

caused some confusion. In fact, a Pelton wheel where the trajectorial speed of the bucket is u , makes use of the thrust and reaction forces according to Newton's second and third axioms. Therefore, the power developed by the impeller equals

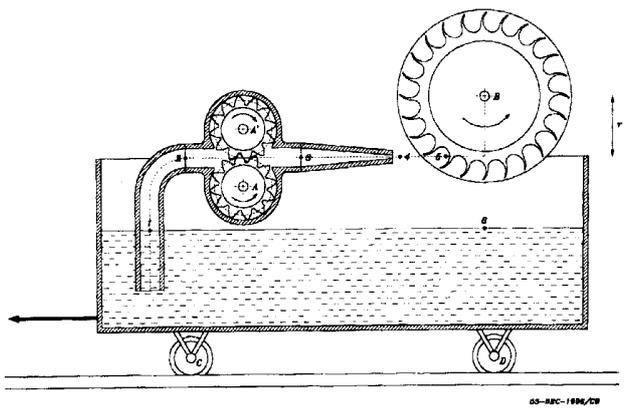
$$P = 2 \cdot p \cdot Q \cdot (\delta - u) \cdot u. \quad (2)$$

Inserting $u = \frac{1}{2} \cdot \delta$ we obtain

$$P = 2 \cdot \bar{n} \cdot Q \cdot \frac{v}{2} \cdot \frac{v}{2} = \frac{1}{2} \cdot \bar{n} \cdot Q \cdot v^2 \quad (3)$$

Then the following question remains still open: If a free jet becomes fully stopped by the Pelton wheel, it leaves the bucket with null power. However, as the impeller develops only $\frac{1}{2} \cdot p \cdot Q \cdot \delta^2$ and the power of the free jet before impinging into the bucket was $F \cdot \delta = p \cdot Q \cdot \delta^2$, where are the other 50 percent of $F \cdot \delta$ gone?

This leads to the suggestion of a vehicle with jet-recycling, see figure below where the previous construction is enhanced by rails and wheels with axles C and D. The next challenge is the computation of the propulsing power of the whole wagon.



The concept is simple: In the idealized, i.e., loss-free model the power consumed by the pump A is

regained by the Pelton wheel B through a mechanical power transmission. However, the free jet issuing through the nozzle causes a reaction force on the vehicle, a recoil like rocket propulsion, too. Therefore, how does the torque on axles C and D appear in the energy balance? Coupling C and A together in the appropriate synch rate could drive the pump and the rails could be designed as closed circles. Will this machine run eternally, delivering free energy?

Finally, learning from errors can lead to new creativity. Unfortunately, this involves investigations at increased complexity.

LETTER FROM TIMOTHY L. RANEY

Excerpt of letter to Sam Faile, forwarded to *NEN* 7 Dec. 1996

Thanks for the information you provided on your experiments with exploding wires and foils. A 25 to 30 cm fireball is definitely interesting, to say the least.

When I'm home, I have gotten in some shop time and am practicing making discharge tubes with glass to metal seals. Lots of failures, but I'm getting better at it. I now have six discharge tubes (see Fig. 2) that work with my small Tesla coil: they make a plasma beam the length of the tube at approx. 100 mm Hg (100 torr). I demonstrated one at the last Tesla Coil Builders of Richmond (TCBOR) meeting and got a good response; we also connected one to one of Richards Hulls' vacuum pumps and observed the characteristic cathode glow, Crookes' dark space and positive striations. Really neat!

I have improved on my original exploding wire apparatus (see Fig. 1). I now use an 11 mfd capacitor rated at 5 kV connected in parallel with either a regulated high voltage power supply or the "old" 3 kV power supply. In either case, the capacitor draws approximately 3 milliamperes for 20-30 seconds and is fully charged. I switch the capacitor's energy into the exploding wire by using a vacuum relay (rated at 40 kV, 250 A). These relays can be expensive (\$500.00 or more), unless you find one at a hamfest (amateur radio operators convention), then you can usually get them in the \$10 to \$20 range. I've also used the mechanical HV relays that are operated in air. These work fine.

I connect all my components using perforated copper grounding straps and all components are "wired" close together to reduce system inductance. Since the inductance is low, the impulse is short, around 5 to 10 microseconds. This maximizes the impulse energy imparted to the wire. The shorter the pulse, the higher the energy. With a 135 joule system, a 2 two-ohm wire and a 5 microsecond pulse, the detonation of the wire dissipates four megawatts (ideal case)! Of course, if you could do this for longer than a few microseconds, you'd have a serious problem.

PROTOTYPE GASEOUS DISCHARGE TUBE

Basic capacitor discharge circuit. A critical element in circuit design is to minimize system inductance. This results in maximizing impulse energy. Additionally, circuit components must withstand the high voltages used and conductors should be heavy enough to withstand the few thousand amperes the circuit will experience. Since the impulse only lasts 5 to 10 μ sec, stress on components is minimized, but still occurs. Consequently, it's better to "over engineer" the circuit than compromise with components or conductors.

Safety: the energy stored in the capacitor (135 joules) can cause death. The capacitor should have a "bleeder" resistor in parallel with its terminals to slowly discharge the capacitor after the wire detonates. If the circuit is designed properly, residual energy left in the capacitor is minimal, but can still cause an injury. Using a metal rod with an insulated handle for ensuring the capacitor is discharged is also quite useful. However, it is also good to have a 1k Ω resistor,

watts, with an insulated handle for discharging the capacitor. This will discharge the capacitors "quietly" and not damage them.

Another safety consideration is the blast from the detonating wire. Given the wire actually detonates, the blast is equivalent to a small high explosive device. The energy released by the wire exceeds that of conventional chemical high explosives. This energy, in the form of light, heat, metal vapor and combustion products, has its own inherent hazards, i.e., potentially toxic vapor and combustion products depending on the wire material; acoustic shock (blast) waves that can cause physical and hearing damage; and the flash itself can have a large ultraviolet (UV) radiation component. Safe distance from the wire detonation, goggles and hearing protection are essential.

The HV mechanical vacuum relay, either a single pole type (must then change circuit and add a charging switch) or single throw, double pole switch (shown) switches the discharge to the wire. The switch can be fabricated from hardware store parts and configured as a "drop switch" or one that is triggered with an insulated handle. In either case, high voltage design practice is a must.

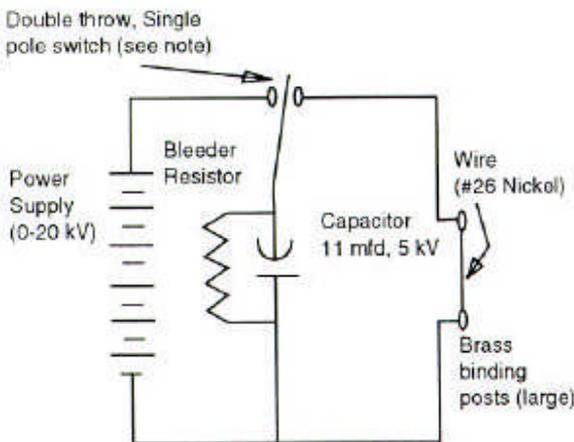


Fig. 1

Fig. 1

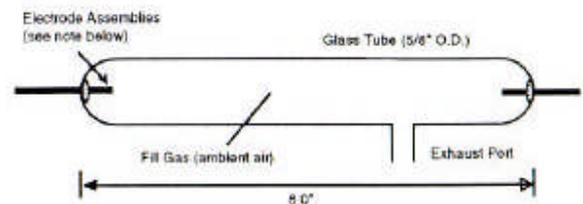


Fig. 2. Prototype Gaseous Discharge Tube

Fig. 2. Prototype Gaseous Discharge Tube

Note: Electrode assemblies consist of #12 solid copper wire with a portion beaten flat. This section of electrode is sealed into the glass. Electrode geometry compensates for the different coefficients of linear expansion of glass and copper (Strong, 1938).

The tube is evacuated to approximately 100 mm Hg (100 torr), the limit of a small, manual pump. At this pressure, the discharge takes the form of a plasma beam or streamer between the two electrodes when using a small Tesla coil.

Timothy E. Raney, 28 Nov. 1996
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 Colonial Heights, VA 23834-5031
 Home Phone 804-777-9282.

Email: timraney@aol.com

[Note: There are combinations of copper alloys and glass that have the same temperature coefficients of expansion, such as used in making microwave oven tubes. Sources and specs, readers? -Ed.]

ANTI-GRAVITY FROM FINLAND (NO DOUBTS ABOUT IT)

Martin Holwerda
11 Dec. 1996

On several occasions I explained that gravity is caused by an excess of horizontal, left-going ether vortices. Horizontal because those that have other angles have more chances of being absorbed by the earth. This is why I immediately saw the link between the Podkletnov experiment and my vision on gravity. This was also the reason why in *NEN*, vol 3, no 3, August 1995, p 12, I defended Bruce Walsh. When Mr. Walsh was young, he witnessed a P.M. based on marbles that among others passed a descending helical path. I then suggested that the track, like the gravity vortex, must have been anti-clockwise as seen from the top. This because, as I then suggested, the marble would be able to absorb more gravity energy. In *NEN*, vol 2, no 11, March 1995, p 12, 13 and on the same grounds, I defended N.A. Reiter's experiments who, after S. Seike, measured weight losses of ring-shaped electronic circuits. In that article, titled "Space Physical Reality," I introduced the French M. Pages patent, that as a basic component employs an annular chamber.

With space as a physical reality, this means that aether (space) may be seen as an hydraulic fluid with real velocities, directions of flow, etc. In other words, when space (aether) is forced through the annular ring of the Pages patent, we may call this conduction. It is exactly this annular ring that forms the equivalent of the super-cooled ring of Mr. E. Podkletnov's experiment. By cooling matter, the excitation diminishes and there is more chance for aether currents to pass undisturbed through matter.

A fast ring-shaped flow of space (aether) is a powerful means of interacting with the incoming gravity vortex. When the planes of the absorbing ring and vortex have a small angle, absorption is more efficient than at large angles. When the angle is very large or close to ninety degrees no absorption is possible. When the anti-gravity device (whether of the Pages, Podkletnov or of the Takeutchi type) is

horizontal, it's action is most effective. The Podkletnov experiment happened to be a horizontal set-up so it is best adapted to horizontal vortex absorption and as the angle of the incoming vortices increase the efficiency goes down. This is exactly what has been found in Finland.

Mr. Podkletnov told me he had no special interest or background in the field of gravity or anti-gravity, and never will have. Of course, he also had not asked for this discovery. He told me: people are afraid of the word anti-gravity. When reading my NET'93 speech he said, "You have an original and convincing approach to the mechanism of gravity and I find some confirmation in my experiments." From this it may be clear to readers that I was not too happy with the Henry F. Dart, III, article [*NEN*, vol 4, no 7], in which he expresses doubts about the experiment.

The truth is that journals of physics will never place publications in the field of anti-gravity because they don't want to write about something that does not exist. Scientists who write about anti-gravity encounter difficulties. I have seen an anti-gravity experiment in a scientific show donated by a technical college. When the donation to the technical exhibit was made, it was agreed upon that both the college and maker would remain confidential. This is not an ideal basis for scientific communication.

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3318 CG Dordrecht, Holland
Phone: 078-651-4427

Book Reviews

ASPDEN'S OVER-UNITY MOTOR DESIGN By Hal Fox, Editor

Harold Aspden, Power From Magnetism: Over-Unity Motor Design, Energy Science Report No. 9, c1996, 35 pages, 93 references, Illustrated, ISBN

0 85056 024 1, Sabberton Publications, P.O. Box 35, Southampton SO16 7RB, Fax 011-44-1703-769-830.

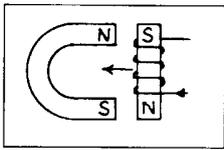


Figure 1

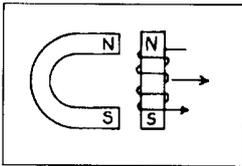


Figure 2

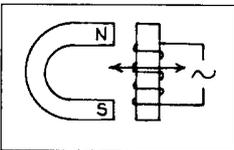


Figure 3

The basic concept of the design of a new type of motor is introduced by Dr. Harold Aspden in these three figures reproduced from the author's book. Here is the explanation: Fig. 1 illustrates a horseshoe magnet attracting a bar of soft iron (meaning that the iron would not make a permanent magnet). As anyone who has played with magnets knows, the iron bar will be attracted to the horseshoe magnet. If, as shown in Fig. 1, there is a winding on the bar with current flowing as depicted, then the bar electromagnet will be

more strongly attracted to the horseshoe magnet.

Alternatively, as shown in Fig. 2, if the current through the coil on the bar is reversed, the magnetic polarities are reversed and the bar is repelled from the permanent magnet. Fig. 3 shows that one could apply alternating current and with some proper sliding bearings could make a reciprocating motor. The power provided to the motion of the reciprocating bar stems from the electrical energy provided to the coil wound around the bar.

There is energy stored in the air gap between the permanent magnet and the bar electromagnet. That energy from the air gap is used to create a **back EMF** in half of the cycle. The key is to do something so that one uses the energy of pulling the magnets together, and also the energy stored in the air gap **without that energy going to create a back EMF**. Aspden shows how that can be done by winding a coil around the entire room in which the experiment is running: "...that winding around the room is all embracing and hardly any flux escapes as a linking flux through that winding. There is negligible back EMF induced as it [the winding] accepts the current which breaks the pull between the magnet and the soft iron. Therefore, one has the situation where power can be generated from the magnetic reluctance action as the poles come together but we input

no inductive power to weaken that attraction and so allow the poles to separate to reset them for the next action cycle. **This is the recipe for 'over-unity' operation.**"

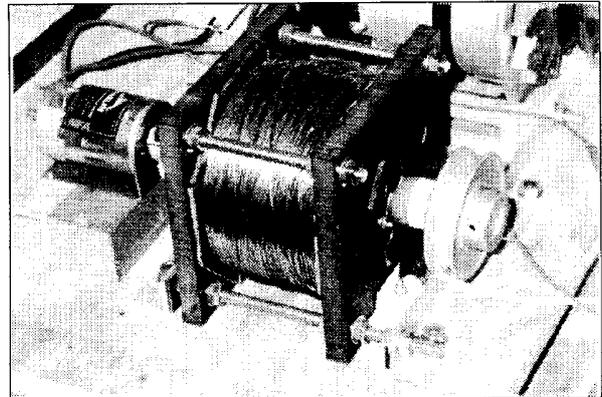


Fig. 4

Fig. 4 (taken from figure 9 of Aspden's book) illustrates how unconventional a motor appears when this outside winding is placed around the entire motor assembly. Working with a grant from the U.K government, Dr. Aspden has designed a rotary version of his concept **and the motor works!** The entire motor is quite unconventional in its design features as is well explained Part I of Aspden's report. Part II of this short book provides further discussion of the ASPDEN Motor (Asymmetric Shaded-Pole Dynamo-Electric Negentropy Motor). Aspden probably had fun dreaming up that acronym.

Part III of this book is the real technical meat of Aspden's work. Here he explains the technical details of the storage of magnetic energy and how one can design a motor to tap back this energy from the aether. If superconductive windings are used, then the heat lost through the current-resistance effect (the I^2R loss) is minimized. Under such designs with sufficiently high magnetic fields, it is theoretically possible to get five times as much energy out as input to a device, according to Aspden.

Included in this book is the patent cover page and the claims of Harold Aspden's U.S. Patent 4,975,608, issued December 4, 1990, and titled: "Switched Reluctance Motor With Full Commutation". This patent, with further patent-pending improvements, may well be the long-

sought method to produce an over-unity motor. **If you are one of the many persons working with electromagnetic motors, this book should be obtained and studied.**

The book is available for \$25 (if check drawn on U.S. bank) payable to Harold Aspden, from Sabberton Publications, P.O. Box 35, Southampton SO16 7RB, England.

END OF SUPPRESSED ENERGY DEVICES?

Bryon S. Wine, III, "Suppressed Energy Devices", *Nexus New Times*, Dec 96-Jan 97, vol 4, no 1, pp 40-42.

EDITOR'S REVIEW

Each issue of *Nexus New Times* has a variety of articles that you will not find in your local newspaper. In this latest issue, Bryon Wine shares with us his considerable list of energy devices that have not seemed to become commercial. Whether or not these devices have been suppressed or were just inventor's **also-rans**, is always a good question. Wine cites his sources and relates the successes of low-mileage devices [mainly carburetors] from Shell Oil in 1977 to the Peugeot Dieset in 1983 and asks why these fuel-saving devices are not on the road.

We believe that part of the reason is the enormous difficulty of making a single carburetor or fuel-metering system that will take a vehicle from desert heat to mountain cold in thin air without a mechanic readjusting the carburetor. For many years there have been many people who have shown how to get up to 100 miles per gallon on a standard vehicle. Some engineering college classes have annual events to see who can get the best mileage. Over 100 miles per gallon has been achieved. Slow speeds, flat roads, hard tires, and carefully adjusted lean mixtures are used to squeeze the extra miles out of a gallon.

Byron Wine also tells about other inventions: a transmission that can double (maybe?) your car mileage, the hydrogen-fueled vehicles, permanent magnet motors, and Joseph Newman's Energy Machine. The article is written to suggest that in each case there must be some type of suppression to have kept these products off the market. Wine states in his final paragraph, "I hope that this information will raise questions as to why we are so dependant on foreign oil. ... The only financial interest that I have in any of the above devices is that of a

concerned consumer who is tired of the deliberate lies and cover-ups."

Our role here at *New Energy News* is to bring to our readers information on new energy devices that, hopefully, can become practical and commercial. In terms of practical engineering, we have yet to find a good commercial product that is good enough, light enough, and inexpensive enough to break the cost-efficiency barrier that keeps fossil-fuel burners on our highways. Admittedly, there has been and there still is a reluctance of the oil-distribution industry to proclaim the virtues of the battery-powered vehicle. When two gallons of gas provides more power than 1500 pounds of lead-acid batteries, there are not many consumers who are ready to make the transition from gas-guzzlers to battery-powered cars. However, we firmly believe that there are new-energy developments that soon will be practical, cost-effective, and non-polluting.

ENERGY FORMULAS - A HANDBOOK

Courtesy of Bryan D. Kerwin

Bryan Kerwin, CEM, Editor, Publisher, Handbook of Formulae, Equations, and Conversion Factors for the Energy Professional, ©1994, third printing 1996, JOB Publications, PO Box 20121, Tallahassee, FL 32316-0121,

EDITOR'S COMMENTS

It has been claimed that if you want to be a successful engineer or technician you should learn 100 formulas. For those who would sooner look up a formula, this pocket handbook (4" x 5 1/2") of formulas will be helpful. The book is divided into several energy-related sections as follows:

1. Constants and Conversion Factors
2. Economics (meaning financial tables and formulas)
3. Electrical (including power factors)
4. Envelope (insulation and heat transfer)
5. Fuels and Steam (properties of fuels and air)
6. HVAC (heating, ventilating, and air conditioning)
7. Lighting (lamp types, illuminance)
8. Motors (horsepower, fans, air conditioning use)
9. Solar (solar insolation tables, shading)

factors)

We commend the author-publisher, for putting together a lot of good information in a pocket or tool box size book. Hopefully, for the 2nd edition, we will be able to provide some useful formulas and tables for a variety of new-energy devices and systems.

[Note: Special price for INE members. The author has agreed that he will send his book to any INE member for a flat \$20. You save \$2.45, essentially the shipping and handling charges are cancelled for INE members. Copy this page and send with your order, or call 904-531-7459 and order by credit card -- **be sure you mention that you are a member of INE.** Ed.]

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Abstracts in the area of "Innovative Concepts – Cold Fusion" and other Advanced Energy Conversion Technology areas are being accepted until January 17, 1997. Draft papers due March 1997, and Final papers are due in May 1997.

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For further information contact:
Professor A.A.M. Sayigh

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Reading RG6 4HN, U.K.
Phone: (44) 0118-961-1364, Fax: (44) 0118-961-1365
(Dialing from abroad, omit the zero.)

Commercial Column

The following companies (listed alphabetically) are commercializing cold fusion or other enhanced energy devices:

COMPANY: PRODUCT

American Pure Fusion Engineering and Supply: Information and trouble-shooting for the fusion research and development industry. Developing "Fullerene Fusion Fuel™." Salem, Oregon. The president, Warren Cooley, can be reached at 1-800-789-7109 or 503-585-6746. Email to: Coolwar@aol.com

CAI, Inc., CAI has acquired rights to develop and produce a new-type of thermal power based on the controlled production of clean nuclear reactions from micro-miniature tokamaks (provided by nature). Contact through FIC, Voice 801-583-6232, Fax 801-583-2963. Note: CAI and FIC have agreed to merge.

CETI (Clean Energy Technologies, Inc.): Developers of the Patterson Power Cell™. Dallas, Texas. Voice 214-982-8340, FAX 214-982-8349.

Clustron Sciences Corp.: New energy research consulting and information. Contact: Ron Brightsen, 703-476-8731.

ENECO: Portfolio of intellectual property including over thirty patents issued or pending in cold nuclear fusion and other enhanced energy devices. Salt Lake City, Utah. Contact Fred Jaeger, Voice 801-583-2000, Fax 801-583-6245.

E-Quest Sciences: Exploring The Micro-Fusion™ process. Seeking qualified research partners for their sonoluminescence program. Contact Russ George, FAX 415-851-8489.

Fusion Information Center (FIC): Research and development of new energy systems. The world's most complete resource depository for cold fusion research information, as well as other new energy research including zero-point energy; space energy research; electronic, electromagnetic, and mechanical over unity devices and transmutation. We are the publishers for *Fusion Facts*, *New Energy News*, and *the Journal of New Energy*. Voice 801-583-6232, Fax 801-583-2963. Contact Hal Fox.

Note: FIC and CAI have agreed to merge.

Holotec AG: Clean Energy Technology, contact André Waser, Gen. Mgr., Bireggstrasse 14, CH-6003, Luzern, Switzerland. Phone 011 41-41 360 4485, or Fax 011 41-41 360 4486.

Hydro Dynamics, Inc.: Hydrosonic Pump, heat-producing systems using electrical input with thermal efficiencies of 110 to 125 percent. Rome, Georgia. Contact James Griggs, Voice 706-234-4111 Fax 706-234-0702.

JET Energy Technology, Inc.: Design and manufacture of δ -electrode systems, calorimeters, and associated equipment and systems. Consulting regarding radiation, materials, and other scientific and engineering issues. Weston, MA. Contact Dr. Mitchell Swartz, Voice 617-237-3625. Fax 617-237-3625.

Labofex, Experimental and Applied Plasma Physics: R&D of PAGD (Pulsed Abnormal Glow Discharge) plasma technology. Applications under development include portable power supplies, electric vehicles and autonomous housing. Licensing. Ontario, Canada. Contact Dr. Paulo N. Correa. Tel 905-660-1040
Fax 905-738-8427

Magnetic Power Inc.: Solid-state, heat to electric transducers, for temperatures up to 300°F (low energy nuclear reactions, waste heat, etc.) featuring Ultraconductorstm under development by ROOTS, a subsidiary. Sebastopol, CA. Contact Mark Goldes, voice 707-829-9391, Fax 707-829-1002.

Nova Resources Group, Inc.: Design and manufacture ETC (Electrolytic Thermal Cell); EG (commercial power cogeneration module); and IE (integrated electrolytic system). Denver, CO. Call Chip Ransford, Phone 303-433-5582.

UV Enhanced Ultrasound: Cold Fusion Principle being used for an ultrasonic water purifier. Hong Kong. FAX 852-2338-3057.

"YUSMAR"- Scientific-Commercial Company: manufacture, licensing, research and development of water-based generators: thermal (5 sizes), electrothermal (up to 2 MW), and 'quantum' types. President: Dr. Yuri S. Potapov, 277012 Kishinev, Moldova. Phone and Fax 011-3732-233318.

Zenergy Corporation: Founded in 1996 to facilitate the introduction of commercially viable energy alternatives. 390 South Robins Way, Chandler, AZ

85225. Contact Reed Huish: 602-814-7865, Fax 602-821-0967, e-mail: info@zenergy.com

Note: The Fusion Information Center has been acting as an information source to many of these companies. We expect to augment our international service to provide contacts, information, and business opportunities to companies considering an entry into the enhanced energy market.

INFORMATION SOURCES

Academy for New Energy (ANE) is a subsidiary organization to the International Association for New Science, which has specific goals directed toward the field of alternative and "New" energy research. 1304 S. College Ave., Fort Collins, CO 80524. Tel. 970-482-3731

ANE Newsletter, quarterly publication of ANE, providing an open forum for discussion, and disseminating newsworthy and inspirational information on invention and new energy. Edited by Robert Emmerich.

Advanced Energy Network Newsletter, quarterly, a reprint of articles and papers from other energy publications, with book reviews and worldwide conference list. Advanced Energy Network, P.O. Box 691, Rondebosch 7700 Capetown, Rep. South Africa.

Cold Fusion, monthly newsletter, edited by Wayne Green, 70 Route 202N, Petersborough, NH 03458.

Cold Fusion Times, quarterly newsletter published by Dr. Mitchell Swartz, P.O. Box 81135, Wellesley Hills MA 02181. Home Page : <http://world.std.com/~mica/cft.html>

Cycles, a R&D newsletter, published by Dieter Soegemeier, Editor, GPO Box 269, Brisbane, QLD.4001, Australia. Phone/Fax: +61 (0)7 3809 3257.

Electric Spacecraft Journal, quarterly, edited by Charles A. Yost, 73 Sunlight Drive, Leicester, NC 28748.

Electrifying Times, 3/year magazine, covers electric vehicles extensively, magnetic motors, and battery development. 63600 Deschutes Market Rd, Bend, OR 97701 541-388-1908, Fax 541-388-2750, E-mail <etimes@teleport.com> www.teleport.com/~etimes/

***Fusion Facts* monthly newsletter. Salt Lake City, UT. 801-583-6232, also publishes Cold Fusion Impact and Cold Fusion Source Book. Plans on-line database access. Final issue Dec. 1996, but will continue to publish abstracts in JNE.**

Fusion Technology, Journal of the American Nuclear Society, edited by Dr. George Miley, publishes some

papers on cold nuclear fusion. 555 N. Kensington Ave., La Grange Park, IL 60525.

Infinite Energy, new bi-monthly newsletter edited by Dr. Eugene Mallove (author of Fire from Ice), P.O. Box 2816, Concord, NH 03302-2816. Voice: 603-228-4516. Fax: 603-224-5975 E-mail 76570.2270@compuserve.com

Institute for New Energy (INE), organization to promote and help find funding for new energy research. Home Page: www.padrak.com/ine/ contains many important scientific papers and current reports on all areas of research. E-mail: ine@padrak.com Salt Lake City, Utah. Voice 801-583-6232, Fax 801-583-2963.

***New Energy News* monthly newsletter for INE, highlighting the research and development in the worldwide new energy arena. Edited by Hal Fox.**

***Journal of New Energy (JNE)*, quarterly, presenting papers representing the new areas of energy research, leading-edge ideas in the development of new energy technology, and the theories behind them. Published by the Fusion Information Center, Inc. Editor: Hal Fox.**

KeelyNet BBS - Science and health oriented information exchange that specializes in nonstandard research, much of it on new energy. Jerry Decker, 214-324-3501 Internet: www.keelynet.com E-mail: jdecker@keelynet.com

Planetary Association for Clean Energy Newsletter, quarterly, edited by Dr. Andrew Michrowski. 100 Bronson Ave, # 1001, Ottawa, Ontario K1R 6G8, Canada. Web page: <http://energie.keng.de/~pace>

Now available: *Clean Energy Review*, a technical and scientific discussion on nuclear fuel wastes disposal. Discusses transmutation as one possible solution. \$5 U.S. and Canadian, \$7.50 other countries.

Space Energy Journal, quarterly, edited by Jim Kettner & Don Kelly, P.O. Box 1136, Clearwater, FL 34617-1136.

The above list of commercial and information sources will be growing. New listings will be added as information is received. Send information to *NEN*, P.O. Box 58639, Salt Lake City, UT, 84158.

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