



# New Energy News

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## EXTRACTING ENERGY FROM A MAGNET

By Dr. Harold Aspden

I am now sensing excess energy in my motor research and I am trying to track which of two (or even three) possible sources are applicable. One source is the quantum field that powers the electron motion of atoms in the ferromagnet. This source would deliver power in excess of the heat inflow from the ambient environment. The third would lose input power on start up and then deliver power in excess of ambient heat inflow once running. Until I design to get the operational power level higher I cannot distinguish these sources from one which relies on ambient heat inflow. The latter source will come as a new and perhaps surprising thought to *NEN* readers.

We think of superconductivity as a zero resistance state. It is not! It is a state where the resistivity is negative. This is a possible room temperature state for microscopic closed circuit current flow even in barium ferrite magnets of the kind used in my motor. These flows occur in the minute oxide formations, notwithstanding the overall high resistivity of the ferrite. Unless there is what amounts to a superconductivity in magnets, typically Alnico, there is no sensible theoretical explanation of what sustains a magnet. Commercial magnets, left undisturbed, lose their magnetism at a rate less than 1 part in 100,000 per year!

Superconductivity is the realm of quantized magnetic flux, an established physical phenomenon quite distinct from the atomic spins in the ferromagnet. Such flux quantization undoubtedly accounts for the ability of a permanent magnet to withstand moderate field excitation without loss of power.

By 'pumping' a magnet with a pulsed demagnetizing field one can replicate the phenomenon I describe as magnetic domain flux rotation which relates to those atomic spins. However, the thermodynamic effects deploy heat from the substance itself rather than from

the underlying quantum field background. One cools the test apparatus to deliver excess power and one cools the cosmic background field.

*We think of superconductivity as a zero resistance state. It is not! It is a state where the resistivity is negative.*

I can now see how the process underlying the superconductive state in a permanent magnet applies to the Hans Coler experiment, because he passed current directly through what I presume would be Alnico magnets and then on through solenoids wrapped around those magnets. I have now ordered magnets to test this effect in a solid-state configuration.

Finally, concerning my own motor research and in connection with the virtual inertia theme, I suspect that the third 'free energy' source is also present. **That source involves a quantum spin coupling with the vacuum field medium, which may involve excess heat generation in the machine balanced by cooling of the cosmic background.** In a form which does not dissipate the power as heat but develops torque directly from the spin coupling, this has to be the power source in the so-called N-machines. I tried to avoid this in a rebuild of my motor which now shows excess energy, but if that action is also still present it will make it difficult, but interesting, to resolve the issue as to which of these three energy sources has the dominant effect.

### POWER FROM ROOM HEAT!

It is well known that a magnet can convert heat into electricity (MHD, magnetohydrodynamic technology, and Nernst Effect in thermoelectricity), but **the scientific world seems to be totally ignorant of the**

**fact that regeneration of electricity from heat within a magnet is what causes it to sustain its permanent magnetism.** In fact, a magnet is a physical manifestation of room temperature superconductivity.

Nature's secret governing this phenomenon concerns gravitation and the dynamically-resonant role played by the 'supergraviton' as a mediator in conserving energy in the inertial balance of thermally-activated molecules when impacted by electron current.

The supergraviton has a mass close to 102 atomic units and this is the common denominator shared by the group-molecular compositions of warm superconductors and magnets. (see below)

*This is not technology, but science, yet science which tells us that the 'New Energy' dream of power generation from environmental heat is already with us, but we have somehow ignored Nature's message.*

By assuming that the dream can never come true, experts having the research funding have instead befriended the devil who delivers power and pollution from fossil or nuclear fuel.

Typical warm superconductors are the following:

$\text{La}_2\text{CuO}_4$  of molecular weight 405 = 4(101.25)

$\text{Sr}_2\text{CuO}_4$  of molecular weight 303 = 3(101)

$\text{EuBa}_2\text{Cu}_3\text{O}_6$  of molecular weight 713 = 7(101.85)

Typical magnets:

Caslox:

$\text{BaFe}_{12}\text{O}_{19}$  of molecular weight 1113 = 11(101.18)

Alnico: molecular weight of main atomic group:

$\text{AlNiCo}_2$  203.53 = 2(101.76)

plus  $\text{AlCuFe}_2$  202.21 = 2(101.10)

and  $\text{Al}_2\text{NiFe}_7$  503.58 = 5(100.72)

Ferromagnetic and room temperature superconductor:

Polypropylene oxide:

$[\text{CH}_2\text{CH}(\text{CH}_3)\text{O}]_7$  406 = 4(101.5)

I shall notify *NEN* as soon as my Energy Science Report on this topic is available. Meanwhile, the above information, particularly the significance of the molecular grouping, should give food for thought to those who experiment with barium titanate  $\text{BaTiO}_3$  and dopants slightly affecting its composition. We know that the 'fine-tuning' of the warm superconductors involves modifying the oxygen content very slightly, this being the 'dopant.' It is of interest to note that one additional oxygen atom shared in the dynamic resonance by 6 molecules of barium titanate gives that molecular grouping a mass of 14(101.10).

**The message I see in all this, taken in the context of what we hear about excess energy experiments using barium ferrite magnets or rare earth semi-conductor oxides and cermets (metal oxides containing fine metal particles) is that there is an underlying process involving anomalous heat generation and superconductivity which converts heat into electrical power.** Quite clearly, it needs some kind of electrical pulsing to trigger the overunity energy surge when fed to an output circuit.

The underlying principle is quite simple. An electron carrying current is more likely to collide with an atom carrying heat when the thermal motion of the latter moves in the opposite way. The collision sheds heat and, owing to the sudden local rate of change of current, converts the energy into electric potential. Inductance preserves the current flow overall and uses the EMF set up by the collision to drive an electron from an adjacent atom, this being easier if the thermal motion of that atom is in the direction of electron flow. So the new electron is driven forward, pushing against that atom and slowing it down to give further cooling as the electron takes up the extra energy. Superconductivity depends on the dissipative factor, which is only minimal when there is mass resonance, the latter being quantized in the mid 101 to 102 atomic mass unit range.

On a random basis the statistical odds of finding a resonant condition within these limits taking a molecule needing *N* such quanta are 0.01*N* to 1. In the 4 single molecule examples given above *N* is 3, 4, 7, and 11, so all those defy the odds by an enormous margin! Assuming a group of *n* molecules, the odds become 0.01*nN* to 1, and so polypropylene oxide beats the odds by a ratio of 100:28. In the Alnico type alloys the 13:10:18:2 atomic mix of Al, Ni, Co and Cu provides the (superconductive) magnet property and the remaining half of iron adds ferromagnetic body. 9 Al atoms occupy the  $\text{AlNiCo}_2$  combination and 2 Al atoms

form in the  $AlCuFe_2$  combination. For these  $n$  is 4 and  $N$  is 2, so here too the random odds are exceeded by a 25:2 factor. The remaining 2 Al atoms form  $Al_2NiFe_7$ , and this contributes weakly to conduction because resonance is poor, with  $nN$  being 50, but even so this beats the odds by a 2:1 factor.

The speculative proposal concerning barium titanate is less assuring on this count, but is worth mentioning, because barium titanate attracts the interest of some energy researchers in the *NEN* forum.

Readers may find my recently published (May 1995) GB Patent Application No. 2,283,361 enlightening as one way forward towards the new technology. It is entitled 'Refrigeration and Electrical Power Generation.'

#### Harold Aspden

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### A DEATH IN THE FAMILY

#### FLOYD A. "SPARKY" SWEET 6/26/1912 - 7/5/1995

Floyd "Sparky" Sweet graduated M.S.E.E. from MIT in 1969, at the age of 57. He received the coveted Dean's Award for his achievements in Theoretical and Applied Science. His academic level in Electrical Engineering achievement ranks third in the history of the MIT School of Science. His work in "Resonance in Subatomic Particles" predicted the neutrino, a fundamental particle, did in fact carry a charge and supported a mass. This is now recognized as a valid concept. He was awarded a scholarship to MIT by General Electric Co. because of his extraordinary achievement in the field of Electromagnetics.

Sweet was employed prior to this by General Electric Research and Development Center of Schenectady, New York, from June 1957 to May 1962 and later served on their roll of preferred consultants. He also consulted for NASA in the area of radar transmission. In Los Angeles, California, he designed the electrical motors which still power the L.A. County Gasoline-free bus fleet. "Sparky" Sweet was well known as the inventor and developer of the Sweet VTA, an enhanced energy device.

### THE INE EMAIL ADDRESSES AND WWW HOME PAGE

By Patrick Bailey, President INE

The main offices of the INE/NEN in Salt Lake City are expecting to install an email address in the near future. We do have another email address at the present time, and our own WWW Home Page! The addresses are:

E mail: [INE@padrak.com](mailto:INE@padrak.com)

Home Page: [WWW.padrak.com/INE/](http://WWW.padrak.com/INE/)

Email sent to that address is received by Patrick Bailey, the current INE President, and that mail can be forwarded to anyone else by email, FAX, or regular mail.

The World Wide Web (WWW) page currently contains the objectives, address, and NEN subscription rates. Links will soon be added to other files as they are created.

What would you like to see at our INE Web Site? Send your suggestions to me or to Hal Fox. It is very easy to create text and picture files and to create links between them within our site. It is also easy to create links to point to other WWW sites and files. I would like to see lots of the files from the KellyNet DBS be linkable via WWW in FTP form, so users could easily find and download those files.

Other sites now exist that promote the advanced energy and free energy concepts. These include:  
a KellyNet Home Page at

[www.protree.com/KeelyNet/](http://www.protree.com/KeelyNet/);

Bill Beaty's Weird Science Home Page at

[www.eskimo.com/~billb/freenrg/fnrg.html](http://www.eskimo.com/~billb/freenrg/fnrg.html); and

Fortean Times On Line at

[alpha.mic.dundee.ac.uk/ft/ft.html](http://alpha.mic.dundee.ac.uk/ft/ft.html).

I am sure that list will grow larger very fast.

One problem area is that of disk storage space. Service providers can supply a WWW site with up to about 25 mega bytes of disk storage for about \$30.00 per month, and then after that, costs increase with the mega bytes used. For all of the advanced energy references, summaries, pictures, and etc., that we could store, I am sure that we would fill up 25 mega bytes very quickly. As one guideline, we could require that all schematics be in black and white only, and pictures be limited to 16 or so colors.

What we need is a large WWW site, preferably in another country, that will allow us to store our vast amounts of text and picture files on their site at no charge. Our site here would provide links to all of the information at their site. I like the idea of one repository site to allow organization, low disk space fees, and data security. Many sites in the US, including .edu's, have already had important files "disappear" from their sites. We do not want that to happen to our files.

Please give our WWW site a call and email anytime! Let's network and make progress!!!

Pat Bailey

## Fusion Briefings

### THE COLD FUSION THEORY CONTROVERSY

By Hal Fox

The various observers/reporters who have written their impressions about the ICCF-5 conference certainly treat the idea of cold fusion theory in a variety of ways. After six years of reading over 2,000 papers on cold fusion (perhaps one-fourth of them theory papers) **it comes as a surprise to read "there is no adequate theory on cold fusion."** That finding was expressed in perhaps the best and most complete theory review paper, by Chechin, Tsarev, Rabinowitz and Kim ("Critical Review of Theoretical Models for Anomalous Effects in Deuterated Metals," *Int'l. Jnl. of Theor. Phys.*, vol 33, no 3, 1994, pp 617-670, 173 refs). To my knowledge, there is only one paper that has met the challenge of these authors, the theory paper by Dr. Robert W. Bass ("Resonant Transparency Spectrum of Deuterium Lattices in PdD·D<sub>10</sub> Cold Fusion Reactors," poster paper, ICCF-5).

Here are the essential elements: Bass uses only basic, accepted physical principles; he shows his mastery of the difficulties by his use of the Madelung equations to prove the broadening of the deuteron energy well; he cites experts in nuclear physics who prove that the long-sought huge gammas are prevented from being ejected by a metal lattice; and he calculates the Schwinger constant with high accuracy.

The only "fudge factor" at all is his suggestion that zero-point energy (which is the cause of the Lamb shift and provides the stability for atoms) as a source for a bit of energy needed to increase the energy level of the wave functions of some trapped deuterons. **However, after over 400 peer-reviewed articles on zero-point energy, this concept should be an accepted scientific feature to use in a theory.**

We need to be reminded that a theory is based on a model of reality. No model is totally accurate. Mathematical equations are based on (or define) a model. However, a good theory can often be used for the model of "if this...then...". The predictive "then..." can often provide an insight into further measurements and tests to be made. In fact, Dr. Bass does complete this concept. He proposes a relatively simple test that can be made in a well-equipped cold fusion laboratory.

*The plea is, rather than complain about the lack of a theory or about there being too many theories, let's explore what is purported to be the best (most capable of meeting all of the challenges) theory.*

### GETTING LITHIUM INTO CARBON

Staff, "Increasing the Lithium Capacity of a Carbon Electrode," *NASA Tech Briefs*, July '95, vol 19, no 7, pg 52.

#### EDITOR'S SUMMARY

Lithium added to carbon anodes can be used in rechargeable lithium battery cells. This article explores methods by which lithium can be implanted into the commercial graphite carbon electrodes. Two techniques for loading lithium into carbon have been developed. The first is to use an electrochemical with an electrolyte composed of a LiAsF<sub>6</sub>, ethylene carbonate and 2-methyl tetrahydrofuran. The cell then is taken through slow discharge/recharge cycles for four cycles. Then the lithium can be introduced (intercalated) into the carbon at very near theoretical maximum amount of 1 part lithium to 6 carbon. The second technique is similar except that different discharge cycles and rates were used.

[This article should be of interest to those who are interested in the concept of "loading" electrodes with hydrogen such as being done for cold fusion electrochemical cells. Ed.]

### SEARCHING SEEDS FOR TRANSMUTATION

M. Srinivasan, N.K. Ramaswamy, R.N. Khandekar, A.B. Patwardhan, R. Sundaresan et al. (BARC), "Search for Evidence of Transmutation of Elements during Germination of Seeds (Kervran Effect)," BARC "Cold Fusion Forum" on current research at BARC, June 22, 1995, p 20.

#### AUTHORS' ABSTRACT

A number of experimentalists have, over the last 150 years, reported obtaining evidence which seems to indicate that the content of trace elements such as Na, K, Mg, Ca, etc. of certain biological specimens changes with time suggesting the occurrence of nuclear transmutation reactions in nature. Louis Kervran of France first documented these studies systematically in his famous book Biological Transmutations published in 1962. **Kervrans's third book in the series titled Low Energy Transmutations includes apparent evidence of occurrence of nuclear reaction in non-living (geological) matter also.** An English translation of this book has recently been prepared by the Library and Information Services Division of BARC (BARC-Tr-94-95). All this work was done decades before the appearance of the cold fusion phenomenon!

Among the various studies described by Kervran is a very simple experiment which lends itself to easy verification. This is the so called 'germinating seeds' experiment. Kervran has reported that when certain seeds germinate there is an increase or decrease in the content of trace elements such as Na, K, Mg, Ca, etc. **The transmutation appears to involve the addition or removal of either a hydrogen nucleus ( ${}_1\text{H}^1$ ) or an oxygen nucleus ( ${}_8\text{O}^{16}$  for example) or a carbon nucleus ( ${}_6\text{C}^{12}$ ) from the trace elements.** In the experiments cited by Kervran, great care was taken to ensure that there was no external input (contamination) of trace elements into the system. Only distilled water was used to water the plants. The plants were grown in a clean room with filtered air. The possibility of leaching of trace elements from the petri dish was carefully studied and eliminated.

During 1992-93 similar studies were carried out in BARC. Green gram seeds (5.0 grams per lot) were grown for 6 days. Ashing of the plants and seeds as well as their analysis was done by persons experienced in trace element analysis (for environmental samples). Both atomic absorption as well as spectroscopic techniques were used to determine trace element content. The results of these preliminary experiments will be discussed during the Seminar. A new series of experiments has been initialized in June 1995.

[We have sent for the fuller report. --Ed.]

### LUMINESCENT PHENOMENA

R.K. Rout, A.B. Garg, M. Srinivasan and A. Shyam (BARC, Neutron Physics Div.), "Observations of a Strange Luminescence Type Phenomena in Palladium Hydride," BARC "Cold Fusion Forum" on current research at BARC, June 22, 1995, p 2.

#### AUTHORS' ABSTRACT

Reproducible anomalous emissions have been observed [1,2] from palladium samples loaded or reloaded either with hydrogen or deuterium. The samples used for loading are in the form of a planchet, foil, or wire. The emissions are detected by autoradiography using medical X-ray film and by  $\text{CaSO}_4$  based TLD's. The loaded samples fail to trigger any signal in solid state based detectors or even low threshold gas flow detectors. **However, the emissions seem to occur only in the presence of oxygen.** The fogging of X-ray film does not show much variation with hydrogen or deuterium loading. The intensity of fogging increases with applied field of either polarity. In a recent study with loaded palladium wires where atomic loading ratio (H/Pd or D/Pd) is ascertained through increase in wire resistance, the emissions were found to pass through a stack of ten papers of white ( $80 \text{ mg/cm}^2$ ), yellow ( $74 \text{ mg/cm}^2$ ) or black ( $60 \text{ mg/cm}^2$ ) color or thin sheet of plastic ( $25 \text{ mg/cm}^2$ ) but not through very thin sheets of aluminized mylar ( $0.3 \text{ mg/cm}^2$ ), glass ( $20 \text{ mg/cm}^2$ ), quartz ( $200 \text{ mg/cm}^2$ ), beryllium foil ( $1.5 \text{ mg/cm}^2$ ) or palladium foil ( $35 \text{ mg/cm}^2$ ). The contact image on the X-ray film shows absence of fogging just below the wire but there is intense halo-type fogging on either side. The wire once loaded (0.6 to 0.7 H/Pd) continues to fog the film even after 20 days though with reduced intensity.

The wires were initially examined for any inherent radioactivity before loading with hydrogen. The

sensitivity of the X-ray film was checked for pressure effect, thermal effect from electricity heated (at  $-60^{\circ}\text{C}$ ) Pd, Ni or Cu wires and for any contamination in the hydrogen or deuterium gas used. The analyses of the observed phenomena seems to suggest that the radiation consists of low energy (a few to a few 10s of eV) charged particles. Further studies are in progress to understand the origin of these emissions.

- 1) R.K. Rout et al., *Indian J. Tech.*, 29, 571, 1991.
- 2) R.K. Rout et al., *Indian J. Tech.*, 31, 551, 1993.

## Space Energy

### ULTRASONIC CAVITATION

S.K.H. Auluck, V.K. Shrikande (BARC), "Proposal for Replication of Stringham and George's Ultrasonic Cavitation Experiment," BARC "Cold Fusion Forum" on current research at BARC, June 22, 1995, p 16.

#### AUTHORS' ABSTRACT

When high intensity ( $1-3 \text{ W/cm}^2$ ) ultrasonic waves of 20-30 kHz propagate through a liquid having a sufficiently high vapor pressure, the phenomenon of cavitation takes place. As the pressure of the sound wave goes through the negative cycle (rarefaction cycle), the pressure at a point may decrease below the vapor pressure of the liquid or alternatively, dissolved gases may try to come out of solution. This vapor or gas or their mixture forms a spherical bubble because the surface tension tries to minimize the surface area. If this bubble forms in the initial part of the negative cycle, it starts growing isothermally by ingesting material from the surrounding liquid. In this process, it acquires momentum. Because of this momentum, it keeps growing even after the negative pressure cycle is over and the pressure is increasing. Finally, when the pressure is sufficiently high, the bubble begins to collapse rapidly, so that the collapse is adiabatic.

Depending on the symmetry of the pressure distribution, the bubble may collapse retaining its spherical shape or may collapse becoming flat like a pancake. In the former case, the bubble collapse leads to a tremendous amplification of pressure and temperature, which depends, among other things, upon the

polytropic coefficient  $\gamma(C_p/C_v)$ : the closer it is to unity, the more the amplification. **In the case of the pancake shaped collapse, a high velocity jet is formed inside the bubble, which can inject the contents of the bubble into any solid surface which may be in contact with the bubble.**

The experiment of Stringham and George optimizes the conditions for the occurrence of the pancake collapse and **the resulting jets are utilized for obtaining high loading of deuterium into palladium.** The shock waves formed during bubble collapse may additionally serve to generate a high level of phonons in the lattice which may trigger the cold fusion reaction as suggested by K.R. Rao and C.L. Chaplot. The energy released during the reaction may be deposited into the lattice phonons themselves leading to further reactions. In this way, Phonon Mediated Cold Fusion Chain Reactions may occur and lead to localized explosive melting of the material, as has been observed by Stringham and George.

It is proposed to replicate these experiments using a 250 watt, 20 kHz, 50 mm dia. ultrasonic horn system, with continuous flow calorimetry. The various components are at the planning/procurement stage.

### SOLIDIFICATION IN CAVITATION

Robert Hickling (Nat. Ctr. Physical Acoustics, Univ. Miss., MS), "Transient, High-Pressure Solidification Associated with Cavitation in Water," *Phys. Rev. Lett.*, vol 73, no 21, 21 Nov. 1994, pp 2853-2856, 21 refs, 4 figs, 1 table.

#### AUTHOR'S ABSTRACT

The very high pressures ( $> 1 \text{ GPa}$ ) that occur during the final stages of collapse of a cavitation bubble force the liquid near the bubble wall briefly ( $\sim 1 \text{ ns}$ ) into a metastable state of subcooling, relative to the equilibrium phase diagram. Estimates for water show that solidification in the form of high-pressure ice particles can occur at a sufficient rate to affect the collapse. This explains a number of different phenomena associated with cavitation in water.

Light emission from cavitation, first observed in 1933, is usually called sonoluminescence (SL), because it is detected principally in cavitation induced by sound fields in liquids. The very short duration of SL pulses was discovered following the development of a technique for observing SL from a single, stable

*There has been renewed interest in the physics of cavity collapse or implosion in liquids because recent experimental results have determined, for the first time, the surprisingly short duration (<50 ps) of flashes of light emitted by single cavitation bubbles.*

bubble. SL is generally believed to be caused by the rapid compression of gas to high temperatures inside collapsing cavitation bubbles, but the details of this mechanism have required further thought, because of the unexpectedly short duration of the SL pulses. This has led to the development of the theory of microshocks converging at the core of the gas in the bubble to create a very short-duration, high-temperature compression. It would seem that any explanation of SL and its characteristics has to be consistent with other known effects of cavitation. It is the purpose of this Letter to develop such an explanation based on the assumption of transient high-pressure solidification in the water near the bubble wall during the final stages of bubble collapse.

**...It appears anomalous that bubble collapse can generate a high-temperature spike in the gas inside the bubble, and, at the same time, transient solidification (freezing) in the water next to the bubble wall.** Estimates have shown, however, that during the short period of time involved, the amount of heat radiated and conducted from the high-temperature spike does not cause a large enough temperature rise in the water next to the bubble wall to inhibit the solidification. Another apparent anomaly is that cavitation erosion is reduced whereas the intensity of SL pulses is increased, as the water temperature approaches 0°C.

...Water is one of only a few liquids whose equilibrium phase diagram has a decrease in the solidification temperature with increase in pressure in the region immediately above atmospheric pressure. If the transient solidification hypotheses is correct, differences between the equilibrium phase diagrams of liquids can be used to explain differences in SL, cavitation erosion, and other effects associated with cavitation in different liquids.

## BOSE-EINSTEIN CONDENSATE

Courtesy of Dr. Samuel P. Faile

Phillip Yam (Staff Writer), "Coming in From the Cold," *Scientific American*, Aug. 1995, pp 18-19.

### EDITOR'S SUMMARY

Albert Einstein and Satyendra Nath Bose (Indian physicist) reasoned in 1925 that if you cooled a dense gas to very close to absolute zero, then a dense gas would condense into a giant atom. They reasoned that the atoms would lose their individual identities and act as an organized whole. Eric A. Cornell and his colleagues at the NIST (Nat'l Inst. of Standards and Technology) in Boulder and the University of Colorado have managed to create just such a giant molecule by using rubidium atoms to a record cold temperature of 10 billionth of a degree above absolute zero. "The condensate is unique among all phase transitions," say Thomas J. Greytak of MIT, who also has been working toward such experimental demonstrations. **Because it is so cold, the atoms are barely moving and "the uncertainty principle demands that their positions become virtually unknown. Their wave functions spread out and merge."**

[The latter statement has more meaning to me. Every month brings some new scientific advancement that enhance our understanding. It is a puzzle that many scientists have not allowed the reality of cold nuclear fusion to enhance their understanding. Ed.]

## A NOTE ON CAPACITOR DISCHARGE

By Hal Fox, Editor

An experiment that gives a clear indication of the nature of a dielectric is the following: Use two conductive plates, one on each side of a dielectric. Set up the experiment so that the dielectric can be removed and placed between another pair of nearby plates. Now charge the plates of this temporary capacitor. Measure the voltage (quickly) on the capacitor with a device (voltmeter or oscilloscope) that has a very low current drain. Transfer the dielectric to a position between the second pair of conducting plates. Again measure the voltage across this new capacitor. **This is an excellent teaching experiment to show a student where the energy in a capacitor is stored.**

Consider the problem involved in a high-voltage spark-discharge experiment [1]. Every type of connection

and conductor from the capacitor (or capacitor bank) to the load (including the LC of the load) will add some inductance and capacitance. The combined total inductance and capacitance of the complete assembly will determine (to a large extent) the rate at which the capacitor or capacitor bank can deliver current to the load. Normal equations can provide a calculation of the time constant.

If extremely short delivery times are required there is another factor. The dielectric is the source of the charge. An overly simplified model of the storage of charge in a dielectric is the concept that the electron orbits (around the nuclei making up the dielectric) are distorted with the applied electrostatic field. These orbits must be restored to the normal assumed circles. Another way of thinking about the "dumping of energy" from the dielectric is that the electrostatic fields have to be normalized. Admittedly, these words do not suggest a mechanism. **However, it is an experimental fact that some dielectric materials will provide a more rapid rate of the dumping of the charge than other dielectric materials.** We must mention that these differences in dumping speeds may be of the order of picoseconds. If we were to perform experiments, what type of instrumentation can we use? Any suggestions readers? Maybe we can improve the water arc experiments.

## REFERENCES

- [1] Richard Hull, "Water Arc Experiments," *Electric Spacecraft Journal*, issue 15, 15 June '95, also in *New Energy News*, vol 3, no 2, July 1995.

# Electric Vehicles

## HYPERCAR OF THE FUTURE

"Introducing the Hypercar," *Rocky Mountain Inst. Newsletter*, Spring 95, vol 11, no 1, p 5.

A supercar is a hybrid-electric vehicle capable of averaging 150 or more miles per gallon. But, "supercar" also refers to a Formula One racecar, for racing enthusiasts, or in general to a car of any type with moderately improved efficiency. So, to avoid

confusion, RMI's supercar team rechristened their 150 mpg car the *hypercar*.

An article in January's *Atlantic Monthly*, "Reinventing the Wheels," by RMI's Amory and Hunter Lovins stirred up interest in the hypercar with a vivid picture of the technology involved. More interest was raised in Aachen, Germany, last November where RMI's hypercar team organized a conference on hypercars. But things were already rolling in Europe, witness the H301, a prototype hybrid electric vehicle designed by Esoro of Switzerland. It is a practical around-town car, getting equivalent of 140 mpg.

Within two years Esoro is planning to develop a production version of the H301. But it will not be alone, Microcompact Car (joint venture of Mercedes-Benz and Swatch) and Solectria (an American car maker) will also be presenting production models about the same time. The article suggests that developers may be looking to become the auto equivalent of Apple or Microsoft. No wonder the Big Three are beginning to take notice.

## ELECTRIC VEHICLE NEWS BITS

From Helio, the newsletter of the Rhode Island Solar Energy Association.

Ford Motor Co. will now build vehicles without the gasoline engine and its components for approved companies to assemble and convert vehicles to electric power. Ford is the first of the Big Three to provide "gliders." Let the others follow.

*1995 Buyers Guide to Electric Vehicles* is available from Electric Auto Association, 2810 St. Giles Lane, Mountain View, CA 94040 for \$4.95 in USA. Included are pictorials, EV dealers, conversion services, kit sales, associations, newsletters, and organizations. It's a good buy.

France has emerged as a world leader in electric car technology and innovation. Eight companies produced over 1,000 electrics in 1994 and project over 3,000 for 1995. Wake up Detroit!

An Israeli zinc-air battery system in a van, ran non-stop at 40 mph for more than 10 hours on a dynamometer for 428 miles in one charge. The distance is typical for the average gasoline powered vehicle. So much for that argument.



Hong Kong, as an incentive for electric vehicles, removed the 100% cost of the new units as a registration cost! Electric busses and taxis are a must in an area with 6 million people in an area less than Los Angeles.

Solar '95 National Solar Energy Conference was held in Minneapolis, July 15-20, and featured the ASEA Annual and 20th National Passive Solar. Reports to come.

Germany has been testing electrics since 1970 with over 380 vehicle variations. Off-peak charging will negate present distribution of electricity.

Electric bicycle technology will practically eliminate pedaling. ZAP Power Systems will develop, design and test a low cost type, a standard version, and a high performance special lighted policy unit. Bikes will allow distant travel, but with no noise, no emission of gas.

***The Energy Policy Act of 1992 mandates U.S. electric utilities to increase the percentage of alternate fuel vehicles in their fleets from 30% in 1996 to 90% in 1999.***

About 97% of lead acid batteries currently in use will be recycled to make new batteries.

Massachusetts won a \$66,000 grant from DoE to develop a uniform standard for electric vehicle recharging stations.

## Miscellaneous

### "MAGNETIC GLAZE" OF METEORIC ORIGIN

Courtesy of Sam P. Faile

W.C. Levengood (Pinelandia Biophysical Lab., Grass Lake, MI) and John A. Burke (Bayville, NY), "Semi-Molten Meteoric Iron Associated with a Crop Formation," *J. Sci. Explor.*, vol 9, no 2, 1995, pp 191-199.

### AUTHORS' ABSTRACT

We report the unusual discovery of a natural iron "glaze" composed of fused particles of meteoritic origin, concentrated entirely within a crop formation in England, appearing shortly after the intense Perseid meteor shower in August 1993. Physical and chemical characteristics as well as spatial distributions indicated reheating to a semi-molten state at the time of crop impact, suggesting involvement with an ion plasma vortex, a mechanism previously considered the chief candidate in scientific investigations of crop formations. Abnormalities in seedling growth were also consistent with the unusual responses of seeds taken from numerous crop formations.

### VERY MISCELLANEOUS

Press Release -- for immediate release

Three Dead Trolls in a Baggie and Atomic Improv team up to bring the world:

### Cold Fusion: The Musical!

May 15, 1995 -- Comedy titans Three Dead Trolls in a Baggie and the living legends, Atomic Improv, have joined forces to bring you *Cold Fusion: The Musical*. It chronicles the biggest scientific controversy of our century. In 1989 Doctors Stanley Pons and Martin Fleischmann announced to the world that they had discovered a cheap, clean, and nearly limitless supply of energy -- cold fusion. Had they? Or had they made a monumental mistake? The agony! The ecstasy! The electrochemistry! If Arthur C. Clark had written for *Mad Magazine*, it might have been something like this. The show will be running every night except Monday at 8 o'clock, starting June 1st at the Chinook Theatre (Edmonton, Alberta, Canada). Three Dead Trolls will also be booking private shows, so school groups or other interested parties should call (403) 497-0418 for more information.

Source: *Infinite Energy*, vol 1, no 2, p 53.

Newsgroups: sci.physics.fusion

Subject: Cold Fusion: The Musical

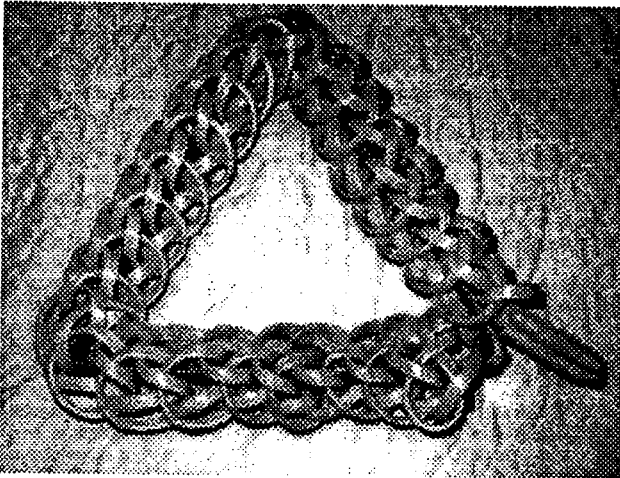
Date: 17 May 1995 16:32:47 GMT

Organization: Edmonton Freenet

### CADUSEUS BRAID KNOT ARRAY

By Dr. Sam P. Faile

Fifty feet of 16/3 gauge extension cord was configured into a Caduseus Braid Knot with three polypropylene covered rulers in the core. The yard long know was bent into a triangle with the polypropylene between the rulers acting as joints. Construction produced an energizing effect. Completion of the triangle shape resulted in some discomfort near the stomach and solar plexus region.



3 Conductor Caduseus Braid 54 (braid link) as Triangle. Unpowered biological effects. Experimental candidate for excess electricity effects in electrostatic field.

#### ON BRAIDED COILS

Suggestions from a letter from Moray King to Dr. Sam Faile

1. The electrostatic excitation of the closed loop, braid coil appears interesting. A control run using an ordinary lamp cord with a half twist connecting wire A to wire B should give us some insight:

A \_\_\_\_\_  
B \_\_\_\_\_

(Normally strand A connects to A, and B connects to B when plugged together without the twist). This will allow a polarization to occur at any point along the lamp cord between the adjacent strands because charge can freely flow from strand A to strand B. When near the Van de Graft, the strands could then have an electrostatic potential difference induced between them. (Tesla used a similar scheme in his pancake coils to

raise their capacitance). Do we see a spark in this alternative, control configuration?

It is noteworthy that your braided coil maintained a charge separation for minutes after turning off (and presumably discharging) the Van de Graft.

2. The gravitational anomaly ks exciting. If we pulse the braided coils from a large charge capacitor, will it increase the effect? Experiments with the optimal pulse repetition rate to maximize the weight change would be significant especially if we can get a large result. Your experiment would then be the simplest to create an anti-gravity type effect and consequently would be easily replicated by the scientific community. My guess would be that the sharpest and largest pulses at the greatest repetition rate would maximize the anomaly.

3. The biological effects, especially under large rapid pulsed excitation, will likely be appreciable. There are probably beneficial as well as detrimental pulse frequencies like Rife discovered.

4. It would be interesting to have your braided coil surround a thin plasma tube. The coil would be excited with pulses as in 2., and a separate circuit could drive the tube with a triangular waveform at its ion-acoustic resonant frequency. This might produce the largest effects for both 2. and 3.

5. The magnetic levitation patent was novel but did not appear to involve any esoteric physics. It seems that with sufficiently strong magnetic fields one could levitate a device, but unless we can hit on some antigravity effect, I don't think that propulsion scheme will be practical today.

You are doing a great job of supporting Hal Fox and the "free energy" researchers. I deeply appreciate your contribution. Keep up the fine work!

Sincerely, /s/ Moray B. King

#### ELECTROLYSIS HYBRID ENGINES

Hydrogen Manufacturing Systems, Inc. (HMS) is offering the "10 Pak," a compact, lightweight, efficient water electrolysis unit made up of 10 HMS Electrolyzer Cells. It produces hydrogen and oxygen gas at a ratio of 2:1 for direct injection into the air intake of gasoline powered internal combustion engines, thereby reducing the amount of hydrocarbon (HC), nitrous oxide (NOx), and carbon monoxide (CO) emissions.

The "20 Pak" is completely safe! Only water and a small percent of electrolyte are stored in a compact, easy to mount plastic tank. There is no storage of gas. As soon as power is turned off, gas production is terminated.

Their mission statement: HMS, Inc. is dedicated to the research and development of new, clean alternative energy products that provide useful "work" without the generation of environmental pollutants.

For more information contact HMS, Inc. at 15431 Chemical Lane, Huntington Beach, CA 92649. Phone 714-893-7271, Fax 714-893-6901.

## Editorial

### THIRD YEAR OF NEW ENERGY NEWS

We are now well into the third year of *New Energy News*. The Institute of New Energy was formed two years and three months ago and we began to publish *New Energy News*. The most important event that has occurred has been more rapid exchange of information among an increasing number of INE members about new energy (both its successes and failures.)

Thanks to the efforts of several organizations and publications, we are sharing information, **internationally**, more than ever before. Publications that are prominent in this continuing effort are The Electric Spacecraft Journal, "Cold Fusion", Cold Fusion Times, Fusion Facts, Infinite Energy, Space Energy Journal, The PACE Newsletter published by Planetary Association for Clean Energy, 21st Century Science and Technology, and on occasion, MIT Alumni Technology Review, and Popular Science. [add more Dineh and Robyn]

What are some of the major energy events of the past three years? Here are some that occur to us:

- ◆ The commercialization of cold fusion.
- ◆ The discovery of the Aspden Effect.
- ◆ The announcement of a major new development in high-strength magnets.
- ◆ The continued development and reported success of the Tewari N-Machine.
- ◆ The discovery and publication of the MRA (Magnetic Resonance Amplifier.)

- ◆ The over-unity measurements on the HydroDynamic pump.
- ◆ The announcement of the commercialization of the Potopov vortex cavitating device (although it appears only to produce over-unity in Moldavia.)

What can we expect for the future? We expect more stringent measurements and demonstrations of over-unity production from rotating machines such as being developed by Werjefelt in Hawaii and Harold Aspden in England. Two patents have issued in cold fusion and we expect that the barriers will be removed to the over 300 inventors awaiting proper treatment of their patent applications from the Office of Patents and Trademarks. We expect a greatly increased interest in the commercialization of cold fusion based both on light water and heavy water reactors. We expect further developments in the high-density charge cluster technology. We expect to see the dramatic improvements in the production and performance of electric vehicles. We expect an increasing amount of attention to be given to the decreasing proven oil supplies, the pollution problems of the burning of fossil fuels, and the increasing use of wind and solar energy.

We predict that the "One-Watt Challenge" will be met within the next few months. It is also predicted that the commercialization of cold fusion will advance rapidly both in the U.S. and in Japan. We also predict that low-energy transmutation will be recognized as a scientific fact **and that devices will be made and tested that stabilize radioactive elements.** The capability of cleaning up radioactive wastes may be the most important byproduct of the research and development of the new science of cold fusion.

We also predict that there will be a lot of announcements of new energy devices that are based more on optimism than on careful scientific measurements. However, the important concept is that there is space energy to be tapped and that we are learning how to tap that energy for the benefit of this world and all who reside thereon. We also predict some surprises in new discoveries in magnetism, in electrodynamics, and in cold fusion. Rather than be discouraged that we have not cited any remarkable over-unity devices during the past two years and three months, I believe that we have been able to report on some extraordinary findings that will help in "the paradigm shift" in science that is on its way. Among these are paper from Hal Puthoff, et al., on inertia, the Aspden Effect, and the commercialization of cold fusion. When you think about it, that is not too bad for a two-year plus trail of discovery. **And we know some**

other things that we can't publish just yet. In addition, there must be a lot of new discoveries that we don't know about yet. Also, we want to thank our readers for the many good items they send to us. Keep up the good work. We will solve the energy problem, one way or another.

## LETTERS

### LETTER FROM TOKYO

Dear Dr. Fox

Why don't you change the strategy of fighting with the anti-cold fusion.

What is the common sense? The reason why the ultra-high temperature should be needed for the realization of nuclear fusion seems to be recognized in both sides. It is the common sense.

Then why do they fight each other? Why is the anti-cold fusionist irritated so much by the activities of the cold-fusionist and why the latter becomes die-hard so much.

Do all the cold fusionists believe the "cold fusion" really? Do they have any reason to believe it against the common sense?

Do anti-cold fusionist can really state negative for "cold fusion" with clear reason except common sense?

Why don't you back to the G. Gamows' common sense. Is ultra-high temperature really should be needed for nuclear fusion?

Now, the obstacle is common sense!

Sincerely yours,  
Dr. Positive  
at Nowhere  
[Postmarked Tokyo]

### LETTER FROM MARTIN HOLWERDA

I was very happy when I discovered the article, written by Bruce Welsh, titled "Personal Experience with Over-Unity Toy" (*NEN*, vol 3, no 1, pp 12-13). It deals with marbles which run freely down a spiral ramp and at their arrival give the energy necessary to drive the elevator which brings the marbles back to the starting point of the spiral.

On several occasions I have expressed my conviction that ether or space moves continuously in all directions. The space surrounding matter tends to slow down these movements bending the direction of the space currents which causes vortices. Gravity is caused by an excess of horizontal vortices, obviously the result of the fact that the earth absorbs the vertical vortices.

I will now quote from my article, "Space as a Physical Reality" (*NEN*, vol 2, no 11, p. 13, left column, 19 lines from the bottom): "gravity is caused by left going vortex currents in the ether (-)." From this may be concluded that the spiral ramp must have been left going seen from the top, because this is the most efficient direction for the marbles to absorb gravity energy. Of course, I remain curious what Bruce Welsh remembers about the direction of the spiral.

Gravity energy not only plays a role in hydro-electricity, it manifests itself everywhere, it's almost impossible to isolate processes from its general presence. For this reason it must also play a role in electricity, coils, magnetism, etc.

The *New Energy News* seems capable of bringing the experiments as well as the experimenters together.

Martin Holwerda, Dordrecht, Holland

[Okay, *NEN* experimenters, construct two identical helical ramps. One ramp to circle clockwise, the other ramp to circle counter-clockwise. Now, try rolling marbles down each ramp and up an incline. Is there any difference? \_\_Ed.]

### LETTER FROM FRANCE

Yerres, July 9th, 1995

Dear Sirs,

I've been working for 15 years in a Research Lab for Electronics and Physics. Then I'm always glad to examine in depth new processes, devices and

measurements for credible proofs. So, many people are now excited about MRA amplifier and Greg Hodowanec diagrams and measurements. I'm glad hard circuits are built, but unfortunately rough estimation method is wrong.

I'm quite sure about it, sorry! Power factor, RMS figures and frequency range have been erroneously used. Please allow a simple Frenchman to explain clearly the problem. (*NEN*, vol 2, no 2, May 1995, p 8-9)

**1 - Fluke 87 Meter: RMS max frequency range: 20 kHz. But MRA frequency Oscillator range is 60-100 kHz. Then, Fluke 87 is out of range for this use!**

2 - Circuits must be tuned with sine wave and fundamental frequency with a scope for testing linearity. Nothing else for measuring of circuit quality. Loads must be pure resistance because reactive load changes tuning and non-linear load generates harmonics.

3 - LED are diodes. They are non linear elements. Then they have small V forward with current, and V reverse with I=0. Then  $P \neq 0$ . Then, V and I, not symmetrical, and diodes are loads with a shape factor or power factor (always small: here 0.1 or 0.2). Power of diodes  $\ll V(\text{RMS}) \times I(\text{RMS})$ . Perfect diodes have null power factor and absorb no power (only switches). LED have a big effect in a network but they are ambiguous loads.

Compare with reactive loads (L or C) where V and I near 90° phase, then reactive power but small active power. Phase angle phi, power factor =  $\cos \phi$ . For high quality circuits, phi varies very quickly, then bad accuracy of V and I values and also frequency tuning.

So, RMS values, only good for resistance loads and sine wave, according to definition: Root Mean Square (equivalent to a DC value producing the same power in a resistance: linear and not reactive load).

Another trap is the series capacitor in the meter input: RMS value of the AC signal only.

For elimination of doubts, it would be better:

- a) to use resistors as loads
- b) to use a bridge (of fast diodes) as rectifier
- c) to measure D.C. voltage and current. Then  $P_{\text{out}} = V \times i = R \times i^2$

Capacitor parallel with R: (*NEN*, June 1995, p 14)

- Ammeter must be series with R. Otherwise, current peaks give wrong values.
- Current peaks mean non-linear primary current with frequencies more 20 kHz.
- Capacitor 1000 $\mu$  too strong: leak in DC and AC (10 $\mu$  chemical + 1 $\mu$  mylar)

The generator impedance must be considered in series for supplying LC series. Power value in DC is correct. Q value is wrong (perhaps  $Q=64/3.6=17.8$ ).

There is no RMS Power, but only RMS voltage and RMS current for resistance loads. Reactive and non-linear loads have a small power factor, then no power gain with a tuned transformer (only impedance matching). Tuned transformers with magnets are more interesting. Measurements more difficult because distortion and harmonics and not obviously power gain!

Before publications and networking, please improve measurements and diagrams and matching of generator output for convenient use. Too fast operation and rough tests gives fanciful results and deception for everybody. Only selective voltmeters are good for these measurements. Good luck for experimenters! Best Regards.

Raymond Nectoux  
5 Rue Pierre LOT 1  
91330 Yerres, FRANCE

#### LETTER FROM P.A.C.E.

First, let me again highly appreciate your editorial work. Particularly the actual reports like the Little/Puthoff experience on the Potapov device are very interesting. Reading it just encouraged me to contribute a suggestion to them why I suppose they were not successful in making the device work like the ones being operated in Moldova.

**On behalf of P.A.C.E., I request to include in your list of Information Sources, our Newsletter of the Planetary Association for Clean Energy, whose first issue was published as early as 1st quarter of 1979!** Volume 8, issue 4 will be published soon. Four issues will regularly be published each year. The editor is Dr. Andrew Michrowski. The head office is:

Planetary Assoc. for Clean Energy, Inc.  
100 Bronson Avenue / #1001  
Ottawa, Ontario K1R 6G8, Canada  
phone Int+ 1/613 236 6265, Fax Int+ 1/613 235 5876

European Secretariat:  
 Planetarische Vereinigung für Saubere Energie, Inc.  
 Feyermühler Strasse 12  
 D-53894 Mechernich, Fed. Rep. of Germany  
 phone (49) 2443 2682, fax (49) 2443 8221  
 e-mail: 100276.261@compuserv.com

Recently we opened a Latin American Secretariat as well:

FUNDAPAC (Fundación para el Avance del  
 Conocimiento)  
 Allayme 1719  
 San Jose, Guaymallén, Argentina  
 phone Int+ 54 61 242 770

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#### LETTER FROM ROMANIA

Cluj Napoca, June 21 1995

Dear Sir,

In the beginning, some words about my job, or more exactly, about the professional activity of the team I belong to. You said in your letter: "Your work on bioelectrometry and biosensors must be most interesting." And it is so! Mainly we made studies on living plants, by measuring directly either the surface electrical potentials (U) or the impedances of their tissues (Z) and going in search of the correlations between the values from these measures and the parameters of the surrounding environment (temperature  $\Theta$ , luminosity  $\Phi$ , etc.).

Such an investigating principle is not a novelty, and the apparatus we used, were metrically modest. However, the conclusions are pertinent and promising:

1. If the measuring transducers (U,Z) are tuned within the parametrical windows, adequately chosen, then the measurements will point out not the state of the living tissues as ordinary physical bodies ("matter"), but the **global physiological state** of the plant and its evolution in time.

2. The dependence can be shown between the physiological state of the plant, respectively its evolution, and the variation of the environmental agents ( $\Theta$ ,  $\Phi$ , etc.); if the latter quantities vary periodically, the electrical parameters (U,Z having the physiological meanings) will also vary periodically, but always in a phase difference. The phase difference has physiological meaning, too.

If the plant is damaged (either mechanically: wounded, or chemically: intoxicated by poisons, venoms, pollutants, etc.) the periodical U or Z curves will not be obtained - the plant loses its natural, normal susceptibility. This fact may be used in order to detect environmental pollutants, even in extremely small amounts.

3. The results are always reproducible from a qualitative point of view, but never from a quantitative (numerical) point of view; it is always measuring something else! and the plant expresses itself paradoxically.

4. The physiological state and the behaviour of the plant are shown by the curves of the measured quantities, and not by individual numerical values, as we believed at first. I refer to the curves plotted as a time-function, and the voltamperian characteristics and frequency characteristics for (complex) impedances. So, mathematically speaking, the plant is not just a simple function  $R \rightarrow R$ , but a **functional application** ( $F \rightarrow R$ ) or an **operator** ( $F \rightarrow F$ ) [here R may be the set of the usual real numbers, and F is the set of arbitrary functions of the type  $R \rightarrow R$ ]. Such a finding is quite surprising! The instantly measured numerical values belong to variables between which is revealed subtle relationships, different from those generally accepted; so I think, the right dependences are not straight-deterministic or, simple-probabilistic in their intimate nature, and consequently the new concept of **nonstochastic correlation**, associated with functional applications or operators and substituting them at the empirical level in the tackling, is necessary. Much to be thought, much to be worked out.

5. The regular curves of the physical transducing quantities (U, Z) are obtained only for active living plants, during their full vegetation. For example, the curves are obtained in the autumn, until about three-four weeks before the fall of the leaves of a tree, and again (mysteriously) in the early spring, before the burst of the buds and gemmae. The curves are not obtained for passive living plants; so the electrical features of a vegetal organism depend on its own physiological internal life, besides the direct influence of the environment; it is suggested a **subtle, profound reality**, difficult to be grasped in usual concepts. Is this subtle, profound reality of an energetic nature? Our fundamental results in research we have gotten till now stops here.

6. The classic calorimetric studies on plants and animals are somewhat questionable, because they

ignore and hence neglect the electrical (electromagnetic) aspects in the life of the organisms as possible energy exchange (transfer) "medium-body of organism." The word "medium" is usually meant as "the surrounding medium or environment." No one tries to understand it as "quantum-medium" or much less "space-energy medium/environment." I think it not just a certain speculation to conceive a living organism like an "over-unity energetic device," in the meaning that the same physical processes which are responsible for the work of an over-unity motor/generator, could also be involved in the "constellation" of physical phenomena that are physiologically included within the organism's life. Especially, I think of a **nonlinear coupling** of (thermo) dynamical fluxes wherein at least one of them arises through the interface between the "biochemical structure" and "space-energy overall medium." The standard science recognizes for a long time that living beings are "open systems;" but conceiving them in this way as open systems, couldn't we be in front of a new approach? So, the study of the over-unity devices would be useful in fundamental biology.

Now, I pass on to the new topic of quaternions. I also started to deal with quaternions as a result of your little article, in *NEN*, vol 1, no 1 (May 1993), on quaternion-algebra. As far back as in my high-school years, I had read about quaternions; these were presented like a pure-algebraic notion, which did not allow to loom any possible physical interpretation or at least a geometrical one. The article surprised me, because it discloses the contrary. So, I have set out to look (in the libraries in my town) for works on quaternions and I came upon Hamilton and Tait -- old and rare books! The quaternions turned out to be an essentially geometrical concept and able to take over physical meanings, as Maxwell had intuited in his time.

But the geometrical approach seems (to me) to be an uncompletely substantiated and insufficiently developed theory, from the past century. Cayley applied the notion of **linear binary substitution** and reduced the quaternion-calculus to matrix-calculus-today, a matter less known by physicists. This reduction opens the gate to a connection with present tensorial calculus and at the same time to the general theory of geometrical operators (the latter theory being abandoned for a long time..) but (however!) removes the treatment from the realm of pure algebra. The pure algebra belongs to mathematicians, while the physicists need more improved formalisms!

The advantage of applying quaternions, via geometry, directly in macroscopic (laboratory) physics, instead of vectors and tensors, does not seem to be questionable; but I repeat, their theory ought to be improved on. So, Thomas E. Bearden alleges something that is, indeed, worthy of meditation on it: the Maxwell's synthesis, clumsily made by means of quaternions seems to be in its physical content equivalent to a field-theory of the type "tensorial potentials" as, it is very well known, the standard theory of the electromagnetic field rides on the horseback of the "scalar and vector potentials," as hence, the standard theory appears as being physically poorer. Again, much to be thought, much to be worked out!

For the time being, I keep on to gather up bibliography and papers about old or new facts within nonstandard electromagnetism. With regard to this, the addresses you offered are an inestimable aid. **The unipolar induction goes in the middle of my concerns. I guess, it will be the topic of my future letter, as well as the truth about the electrical cells of Mr. Vasilescu Carpen - the aboriginal scientific legend tells that Mr. Vasilescu Carpen did not believe in the second principle of thermodynamics, and that his cells ran over thirty years, without any cease.**

With many, many thanks,  
Phys. Camil Alexandrescu

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#### LETTER FROM DON KELLY

Don Kelly sent us a copy of this letter he sent to Japan:

Toyota Motor Company, Inc.  
Aero Business Dept., Business Development Dept.  
4-18 Koraku 1-Chrome  
Bunkyo-ku, Tokyo, 112 Japan

Mr. Kimio Nishino:

Thank you very much for your recent information and inclusion of the work of Osamu Ide, and his LCR circuitry project work.

It will take me a while to absorb all of this project work, but in the mean while, I will be passing this paper over to Dr. Harold Aspden in the U.K., who is specifically working in this area of E/M motor development. We have some others, over here, who may also be interested in the Ide paper, and it will be passed along to them.

I have recently been absolutely appalled to learn that the U.S. Patent & Trademarks Office [PTO] does not grant patents on "cold fusion" art -- and such practices need to come to a screeching halt, in my view.

One way to bring this about is to have most U.S. researchers in the advanced energy field pass their ongoing project work outlines to other, more enlightened and progressive societies, such as Japan, and some European nations, at this time.

I would suspect that within the year we should begin to see a policy change at the U.S. PTO, given the political climate here in the U.S., at this time. Since the U.S. public is very much fed up with the Federal government's intrusion and bungling, which is now reflected in Congressional actions, I would expect such changes at the PTO this year.

In an extreme case, it is possible that we might see the various heads of departments at the PTO rolling down Pennsylvania Ave. like bowling balls, but this would only happen if there was a very large "hue and cry" against technological stupidity!

Well, in any case, it seems to be appropriate to pass along all of our ongoing advanced energy technology to Japan, and some European countries, who are now becoming receptive to the "right stuff" as all this current project work moves.

We will be sending you a progress report of our Swiss M-L project work, shortly, in hope that you will be receptive to considering this very remarkable advanced energy technology. All of this work is self-funded here, and we are not seeking any financial commitment on your part, at this time. The Swiss M-L technology is another area where the U.S. PTO is totally wrong! i.e., no perpetual motion, and yet this system clearly demonstrates its reality!

Sincerely, /s/ Don Kelly

#### EDITOR'S COMMENTS

Don Kelly is righteously indignant about the action of the U.S. Patent & Trademarks Office in denying effective handling of cold fusion patent applications. We have had many discussions with officials in the Patent Office and finally gave up. They are being controlled by some powerful group in Washington which we believe are acting on behalf of the hot fusion lobbyists. We have recently asked all members of our Utah Congressional delegation (2 Senators and 3

Congressmen) to support a Washington demonstration of cold fusion with special invitations to the Office of Patents.

It is being suggested to our Senators and Congresspersons that there be a Congressional investigation of the U.S. Office of Patents & Trademarks. Further, those responsible for holding up patents on cold fusion be fined triple damages for the three to six years of loss of revenue to the inventors.

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#### LETTER FROM MILLENNIUM TWAIN

I saw one issue last year and was enthusiastic about the amount of physics discussion, and the contact names and addresses included to assist networking. I note there is little or no alternative physics in the current issue [June 1995] (being mostly regulatory/government stuff). **Also, sadly, few addresses to go with the names, such as the Russian conference.**

Enclosed per your interest is the world's first realistic model of the electron. Note that the electron is not a point, but is a dynamic volume, and that its radius is widely variable in size. When it expands in size it takes on atomic (and perhaps molecular) dimensions. When it shrinks in size, it takes on nuclear dimensions -- and can therefore fuse with a proton to yield a neutron.

There is one other researcher I have since discovered whose electron model approaches mine -- that is R.C. Jennison of England. When I finalize this electron paper (chapter 1 of my book) I expect to add a rendition of his "trapped traveling wave" electron model. Another researcher I will add to the reference list is C.J. Upadhyay of India. His paper, "Classical Electron Radius -- Electron Theory," correctly notes that the electron is obviously not a point, and that the radius certainly is variable.

If *NEN* finds this description of the electron both revolutionary and evocative for basic physics, I can also forward you Chapter 2 (Proton & Neutron) which reveals the *superluminal* structure of the proton.

Chapter 4 (Metric Relativity proof) is also available. Developing the very origins of space, time, mass, charge and energy -- it then reapplies them to again show the topology of light waves, and its evolution to the electron and proton. Chapter 5 (Life Without Spacetime) *applies* metric relativity -- creating the



world's first explanation of superluminal theory, experiment and observations.

The clear importance of these proofs of the nature and origin of space, time, mass, charge and energy (and the electron, proton & neutron) -- is that, of course, that is what deuterons, atoms and molecules are made of. And until we know how they are made, and what they are made of, we cannot in any rigorous manner develop models for atomic and molecular reactions -- i.e., nanotechnology, cold fusion.

Millennium Twain  
Plasmatronics, Inc.  
P.O. Box E  
Menlo Park, CA 94026

[It has not been the policy of *NEN* not to use addresses and phone numbers of contributors unless they request the listing. *NEN* will always forward any mail from readers to contributors. Soon we hope readers and contributors will talk to each other on an *NEN* bulletin board. --Ed.]

#### LETTER FROM BEN IVERSON

Excerpts from his letter:

Over the past several years, Sparky Sweet has asked me to explain "Quaternions." I have tried several times but could never quite write, to get the idea across... Quaternions are an invented virtuality -- they exist only in the world of invented mathematics.

...The New Energy people have been working hard to get a machine which the Establishment will have to accept. There will be so much opposition, from the Establishment that it will never fly. This opposition is based in: Establishment Science; in the financial world; and in the political world; all of which are dead set on maintaining the status quo....

...On the other hand, Quantum Arithmetic has been subjected to the same type of original proof as was used by Euclid 2500 years ago. Here is the one thing which the Establishment will have to accept, or go merrily down the road to extinction... **Quantum Arithmetic is the one weapon which will bring the Establishment around to our side.** One of my callers was Bert Schreiber, who was very instrumental in getting funding for the Superconducting Super Collider. He has now come over to our side. After seeing how the SSC was going (since he lives in Houston), he went back to Congress and testified against it. As I

understand it, this was a testimony which was primarily responsible for getting the SSC canceled. I call that a \$15 billion win, in addition to now having Bert with us.

The time has come to present Quantum Arithmetic to the public. It is so positively proven that the Establishment has no ammunition against it. We even have a new and absolute value for Pi. It has been around for more than 120 years, and consistently rejected by the Establishment.... Quantum Arithmetic is given to the public. Note that it covers only the first and second dimension... One dimension [needing research] dimension is the third dimension, which will include the platonic solids. The other is a sub-dimension which comes before the first dimension, and will include research into the Golden Ratio, Pi, "e", and other supposedly transcendental numbers. ...In order to get started on these projects, they will need to get a good understanding of Quantum Arithmetic, as I have it written today...

There are some real surprises in Quantum Arithmetic.... But I am directing [it] to the use of the researchers in New Energy.

Ben Iverson, P.E.

#### EDITOR'S COMMENTS

Mathematics, the queen of the sciences, is a man-made construct. There is no "primary arithmetic". There are many "arithmetics". The most used in the world is the common base-ten arithmetic followed by the relatively recent "Boolean arithmetic" (or binary arithmetic) which uses only a 0 and a 1 as the counting numbers. Quaternions are another arithmetic but rarely used. Iverson has spent several years developing his own "arithmetic" which he calls "Quantum arithmetic." Iverson makes many claims about the superiority of his arithmetic. If you are interested you may write Ben Iverson at 11466 SW Royal Villa Dr., Tigard, OR 97224. Iverson has also sent us a paper titled, "Warning! Curves Ahead!" in which he warns about zero point energy saying, "there is one point at which the energy will flash and cause great destruction if it is allowed to continue." His conclusion is based on "the seven Myriads of energy, and the seven Octaves of energy per Myriad." Because of my limited appreciation for this type of description of energy, the article is not being printed. If you are an interested member of INE and wish to have a copy of this article please send a legal size self-addressed self-stamped envelope.

## Meetings

### errata

It was brought to my attention that I had neglected to include the Russian Conference's contact address with the notice. Please excuse my oversight. - D. Torres

3rd Russian Conf. on Cold Fusion and Nuclear Transmutation  
Russian Academy of Science  
P.O. Box 169, "Erzion" Center  
105077 Moscow, Russia

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### Announcement and Call for Papers

#### INTERNATIONAL FORUM ON NEW SCIENCE September 13-17, 1995

New Science includes topics and phenomena which cannot be explained by traditional science, yet may have a potential for significant benefit to the health and conditions of humanity and the planet Earth.

#### Call for Papers and Abstracts

Scholarly papers are invited on any New Science topic. These papers should include one or more of the following:

- theories
- hypothesis
- research designs
- research results and analyses

Abstracts of not more than 400 words must be sent as soon as possible to IANS, 1304 S. College Ave., Fort Collins, CO 80524. Consideration of abstracts cannot be assured if received after August 1, 1995. Authors will be notified as soon as possible if the paper is accepted for presentation at the Forum.

#### Registration

A registration fee is \$175 from July 1 to September 1. After September 1 the charge is \$200. Daily registration fee is \$65 per person, or \$35 per half day.

Several workshops will be offered Wednesday through Sunday evenings by keynote speakers and other guest speakers for \$15 each. You may register for these individually (send for information). A banquet will be held on Saturday evening with a special program. Cost: \$22.

The Forum will take place at the Fort Collins Marriott, one of the nicest hotels in the city. Both a single and double room will be \$64 if reserved by August 30. Roommates can be arranged. Telephone the Marriott at 1-800-548-2635 or 970-226-5200 for reservations. The Inn at Fort Collins is located at 2612 S. College Ave., about one mile from the Marriott. A single room there is \$35 if reserved by August 13. Detailed housing information will be sent upon receipt of your registration.

Send inquiries to the International Association for New Science, 1304 S. College Ave., Fort Collins, CO 80524, or call 970-482-3731 or Fax 970-482-3120.

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### REDI CONFERENCE '95

The Renewable Energy Development Institute (REDI) Conference provides access to the decision making process for a broad range of participants in the fields of renewable energy and clean-air transportation. Participation includes public sector representation from government officials, administrators, researchers and agency members as well as private sector representation from manufacturers, distributors, dealers, contractors and enthusiasts. The goal of the REDI Conference is to assist in the creation of equitable and sustainable policies through the inclusion of as many vested interests as possible in the planning and creation stages. This year's conference will focus on the potential effects of electric utility "restructuring" on the renewable energy industry and how the Clean Air Act mandates, both in California and across the nation, are going to be implemented and enforced. The conference format includes panel discussions on these policy issues, technology sessions on the latest advances, "Ride and Drive" test rides in zero and low-emission vehicles and the opportunity to network with peers in a relaxed setting in the Pacific Northwest coastal redwood forest.

Registration: \$150. Meals and Entertainment: \$100  
Price includes all meals, hospitality, keynote speakers, and entertainment. (partial pricing available upon request)

Exhibit Space: \$100 - Tabletop 48" x 30" with wall space. Limited outdoor vehicle display space available also.

For registration and other information write REDI, 733 S. Main St. #234, Willits, CA 95490, or call 707-459-1256 or Fax 707-459-0366.

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**IEEE/NPSS 16th  
SYMPOSIUM ON  
FUSION ENGINEERING**

The Chancellor Hotel & Convention Ctr.  
Champaign, Illinois  
30 September - 5 October 1995

The conference explores the scientific, technological and engineering issues associated with controlled thermonuclear fusion. There will be papers, poster sessions, company exhibits, a minicourse in Fusion Blanket Technology (8/30-9/1), and a golf tournament (9/1). Cold Fusion papers will be presented for the first time in poster session. Dr. Robert Bass and Hal Fox are preparing a paper, "Cold Fusion vs. Hot Fusion Branching Ratios." Three technical tours are offered to members, to: Argonne National Laboratory, McDonnell Douglas Aerospace (St. Louis), or to a boiling water nuclear power plant in Clinton, IL, on Oct. 6.

For more information in the conference contact their office from 8:00 am to 5:00 pm by phone or 24 hours by fax. Phone: 217-352-6667 Fax: 217-352-8108

**The Commercial Column**

hasn't changed since last month. We will print it again next month. If you know any commercializations new energy systems, or information sources that we do not have listed, please share them with us. Many people can profit from shared information.

13th Annual  
**GLOBAL SCIENCES CONFERENCE**

August 10-13, 1995  
Regency Hotel, Denver CO

Twenty-two speakers will be giving presentations on a variety of subjects, including over unity motors (Troy & Evelyn Reed), physical and mental health, UFOs, magnetic healing, Near Death Experiences, Indian animal medicines, and uncovered government schemes. Workshops will be available for more in-depth study. There will be approximately 100 tables with a unique variety of exhibits and products available. Reservations are \$150 for the entire conference, day or single session rates also available.

Reservations: 1-800-625-8748 (out of state)  
1-303-458-0808 (in CO)  
between 9:00 am to 5:00 pm (MDT)

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