



# New Energy News

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## THE WARM SUPERCONDUCTOR MYSTERY

By Dr. Harold Aspden

I continue to be mystified by the ability of scientists in general to look away from relevant facts that do not fit the pattern of orthodox belief. We well know that scientists who make discoveries can attract media attention and the greater the technological potential for its future development, the more the scientific establishment reacts to dampen interest. In effect, where energy and thermodynamics are concerned, they fear change and delight in throwing cold water on the project, not believing that there is anything yet to be said about what can be cold and not hot, or hot and not cold.

In the U.K. Institute of Physics journal *Physics World* (pp. 23-24, August, 1994) there is a report from Denmark entitled 'Metals Blow Hot and Cold' and in the September, 1994 issue at pp. 25-26 another report headed 'New Waves in High Temperature Superconductors.' There is something in these reports that has a bearing upon my theme 'Magneto-thermodynamics: A progress report', pp. 1-3 of *New Energy News* (September, 1994).

The first of these reports reviews the findings of many researchers in Russia, U.S.A., and Japan, from which it appears that the electrons in a conductor can become much hotter than they should from their theoretically predicted equilibrium with phonons; meaning the energy interface with the metal lattice. Even a new theory in which fitted semiconductor materials still gave results which 'were not so clear cut' in relation to what was observed in metal films, nickel being singled out for special mention.

**We are therefore told that for some unknown reason heat is being seen in the electron temperature in excess of what is expected! I**

note that in the third report just referenced the prototypes tested by Strachan all incorporated a nickel film and I interpret the test findings on those prototypes as involving an anomalous thermal activation of the electrons in the nickel. [Note the use of nickel in cold fusion devices. Ed.]

Concerning the second report on warm superconductivity, this report begins with the statement that the current record of the highest superconducting transition temperature stands at 153K for a mercury-based cuprate  $\text{HgBa}_2\text{Ca}_2\text{Cu}_2\text{O}_{8+\delta}$  and the words 'It is natural to ask if, seven years after their discovery, we are also halfway in our understanding' of that phenomenon. That 153K temperature is halfway to the commercial prospect of room temperature superconductivity but the mystery of the underlying theory remains.

Warm superconductivity came a little ahead of the discovery of cold fusion and both concern a thermal phenomenon in metals that promises much but still keeps its secrets. [Dr. Robert L. Carroll predicted that bismuth filaments would be superconductive at room temperature and that prediction has been verified. Ed.]

My purpose by this communication is to draw attention to something I wrote in 1988 under the title 'The Supergraviton and its Technological Connection', published in *Speculations in Science and Technology*, 12, pp. 179-186 (1989). The Appendix at pp. 185-186 (included here), which concerns cold fusion, was added in July 1989 when the paper was being proofread. Its theme was that heavy molecular forms needed dynamic balance by supergravitons in the zero-point energy field and that deuteration of a metal could affect that dynamic

balance by adding to molecular mass and so bring about graviton-supergraviton transitions which could result in anomalous heat generation, whereas the associated electron-phonon collisions could cool the metal lattice and add energy to electron motion. However a specific nucleon quantity could optimize the action in a tuned or resonant mode.

The theory I presented drew attention to and explained the physical basis of what I saw as a 'curious numerical nucleon property' evident empirically from the warm superconductors discovered at that time (1988). I stressed that the magic of the composition formulae of these materials resided in 'a common characteristic in being near multiples of 101 or 102 nucleons'.

I now invite readers to calculate the molecular mass of the mercury-based cuprate just referenced, taking Hg as 200.59, Ba as 137.34, Ca as 40.08, Cu as 63.54 and O as 16.00. The result is 810.51 with  $\delta = 0$  which corresponds to 8 units of that magic nucleon 'supergraviton' state between 101 and 102. The 6 terms means a marginal excess of oxygen in the average molecular composition, perhaps needed to optimize the resonance.

So, while researchers into warm superconductivity look for theoretical understanding and confine their awareness to the primary peer-reviewed literature, the published 1988 answer sits forgotten among the heresies of 'new energy' background noise, perhaps awaiting the breakthrough that we can predict emerging from cold fusion research or related excess energy investigations involving new ways of probing heat activity in metal.

H. Aspden  
6 September 1994

#### AUTHOR'S NOTE:

Warm superconductivity can be a combination of two physical effects, one known and one unknown, namely (a) normal conductivity with heat generated by normal resistance and (b) a 'new energy' property by which heat energy carried by heavy lattice ions in metal is regenerated as orderly electron motion contributing to sustained current flow by cooling the lattice.

The following is quoted from p. 182 of my 1988 'Supergraviton' paper:

Imagine electrons colliding with atoms in their migration through a conductor. They will tend to collide most often with positive atoms moving in the opposite direction. The effect of these collisions is that some of the kinetic energy of such atoms will tend to transfer into the back EMFs that accompany the arrest of the electron. These EMFs power the emission of electrons from other atoms so as to sustain the current flow *via* the inductive action. Such electrons are released in greater numbers by atoms moving in the electron direction. Therefore, again, some of the kinetic energy of the atom can find its way into the energy of the ordered electron motion.

In short, there is reason to think that thermal energy associated with the disordered motion of atoms might find its way into the ordered electron motion. This would lead to superconductive conditions if the photon losses are less than the energy transferred in this way. Now, there is less chance of loss of energy if the collisions involve atoms that are dynamically balanced by a coupling with a "ghost" mass that moves about the same center of jitter. The reason is that, otherwise, the couplings between adjacent atoms and molecular groups are strained. An atom is then less likely to conserve energy so as to help electrons on their way when released as carriers of the sustained **current** flow.

With this in mind, it is of interest to note the following nucleon quantities, which apply to the molecular composition of "warm" superconductors.

$\text{EuBa}_2\text{Cu}_3\text{O}_6$	number of nucleons 711
$\text{La}_2\text{CuO}_4$	number of nucleons 405
$\text{Sr}_2\text{CuO}_4$	number of nucleons 303

These show a common characteristic in being near multiples of 101 or 102 nucleons. A generic formula for a "warm" superconductor has been suggested comprising a rare earth atom, two barium atoms, three copper atoms and just below a mean of seven oxygen atoms. Note that Ba at 137 and Cu at 63 or 65 nucleons combine to give 2(100) or 2(101). Also the six to seven oxygen atoms combine to add a unit of approximately 102 nucleons.

#### Appendix

[This note was added in July 1989 when the paper was in proof form (pp 185-6)]

Since the submission of this paper and the subsequent reports of the discovery of "cold fusion" by Fleischmann of the University of Southampton and Pons of the University of Utah, it has become evident that the supergraviton theory of the above paper is very relevant to this new technological advance.

Note that these fusion experiments involve the entry of light atoms (deuterium) into the body of an electrode composed of heavy atoms (palladium). The graviton inflow has to adjust to supergraviton form, because palladium has an atomic mass in excess of 102 mu.

As noted above, the normal "free space" graviton group, which also applies to deuterium gas or heavy water, comprises a 2.587 GeV graviton plus two tau leptons, each of 1.781 GeV. The basic graviton cluster form has an energy of 6.149 GeV, a mass equivalent of 6.60 mu. The supergraviton form of energy 95.18 GeV has a mass equivalent of 102.18 mu. Imagine an atom of mass  $A$  mu, somewhat greater than the supergraviton mass. It will have dynamic balance with its own dedicated supergraviton and just enough of a transient association with a supergraviton shared with other atoms so as to assure perfect balance. For *optimum resonance*, which allows the state to survive longer in an independent mode, the atom should be in near perfect balance with its own graviton systems.

Now suppose that a light atom of mass  $M$  mu can enter into molecular association with the heavy atom, bringing with it its graviton cluster. Indeed, for generality, suppose that  $n$  such light atoms form a union with the heavy atom. Then, the graviton resonance has to be such that

$$A + nM \approx 102.18 + 6.60$$

where  $nM$  is necessarily less than 6.60. If enough such resonant atoms can survive long enough to act in a concerted decay adjustment as the graviton clusters transform in supergraviton states, then conceivably there is sufficient transient energy involved in the background field fluctuation for fusion of the  $n$  light atoms to occur. Note that 31 graviton clusters will develop two supergravitons and shed more than 1 MeV per atomic mass unit of the light atoms involved. This energy is in transit to the equilibrium background state, but 4 MeV can suffice to trigger the fusion of two deuterons en route. For two atoms in the same

molecular unit to undergo fusion  $n$  must be 2. Note also that the substance of atomic mass  $A$  must be inherently capable of absorbing and becoming densely populated by the light atoms. In applying the equation above, it should also be noted that  $A$  relates to the atomic mass of the isotope and this is about 0.1 mass units lower than the nominal isotope value.

Ignoring fusion of hybrid combinations of light atoms, the only possible nuclear reactions involving catalyst  $A$  in the graviton-supergraviton transition are:

$M \approx 1$  (hydrogen)  $A = 106.78$ : only silver has the 107 isotope

$M \approx 2$  (deuterium)  $A = 104.78$ : only palladium has the 105 isotope

$M \approx 3$  (tritium)  $A = 102.78$ : only rhodium has the 103 isotope.

The technological conclusion to be drawn from this simple analysis is that the supergraviton is involved in the Fleischmann and Pons discovery and that the fusion activity might well be enhanced if the palladium electrode used with deuterium electrolysis is enriched by the isotope 105. The "cold fusion" catalytic stimulus of supergraviton resonance is further discussed in the author's UK Patent application.

## Editorial

### LET'S DECLARE WAR!

By Hal Fox, Editor

What if we declared a war and no one came? That is about what we have done with Haiti. The war I want to declare is a war on ignorance, especially energy ignorance.

On September 20, 1994, I visited with Vladimir Zabolotski, deputy chairman to the parliamentary committee on Science and Technology of the Republic of Belarus. After telling me that less than ten percent of the children of Belarus were healthy

(90 percent suffer from radiation poisoning from Chernobyl), he related that the problem still continues. The hasty erection of a concrete barrier around the Chernobyl nuclear reactor will not contain the violent radioactivity of this terrible accident. Inside this tomb, where bodies of some of the workers are sealed, the voracious radioactive pool from the reactor is still moving through the underground soil. Zabolotski believes that this pool of radioactive elements will gradually creep into the water table and continue to damage the environment.

The Chernobyl reactor (one of four working power-generating reactors) that exploded is located in Ukraine about ten miles south of the border of Belarus. The wind, on that fateful April 1986 day, was blowing northerly over Belarus. "This is not a Belarussian problem," said Zabolotski, "This is a problem for the world!" "Why isn't the world doing something about it?", he asked. Zabolotski also strongly believes that this is not the last nuclear accident that will happen. "Such accidents will happen in many parts of the world," he predicts.

What happens when such an accident occurs? Radioactive materials are carried high into the atmosphere. The varying directions and velocities of the wind then carry the radioactive particles downwind with the heavier particles descending first. No one, no animals, no plants are immune. The radioactive debris settles on everything. People are evacuated as soon as the officials in charge can assess the damage, make plans, and carry them out. Workers are sent in to take radiation measurements. In the case of Belarus, hundreds of thousands of acres of farms and villages were evacuated. People took some of their belongings and moved into cities where they were placed with other families until additional housing could be constructed.

Then the rains, snow, and wind start their work and begin to spread the radioactivity deeper into the soil, into the creeks, streams, and rivers. All kinds of wild life and all kinds of domestic animals ingest radioactive materials. Milk becomes too radioactive to feed to growing children and good milk has to be imported from other areas. Those who were in the worst part of the radioactive fallout begin to suffer ill health, hair falls out, the immune system is weakened, cancers increase by several hundred

percent, and those who were exposed the most begin to die. That is the continuing legacy of Chernobyl. Many have died. An estimated twenty million will die early from the results of this single accident, **the worst peace-time man-made disaster in the history of the world.**

**How do you clean up thousands of acres of radioactive debris?** Conceptually, one could remove several inches of top soil, separate out the worst chemicals, such as Cesium-137, and replace the soil. If you just wanted to remove the soil and replace it, where would you store millions of cubic yards of contaminated soil? Where would you get new soil to replace the soil removed?

When I first learned (in March 1992) of the terrible cost of the Chernobyl explosion to the children of Belarus and the Ukraine, I decided that this problem must be solved. The contaminated lands must be restored and people must be allowed to move back onto their lands. Since that time I have talked to many scientists and engineers about the problem. There is a possible solution. **If we can add a proton to a radioactive element, it will most likely change to a stable (non-radioactive) element.** At least one patent application has been filed to accomplish that task. This invention occurred in a meeting of the Scientific Advisory Board of FEAT about two years ago. Those scientists who have

*...a new science that provides us with a possible method by which damaging radioactive elements can be stabilized!*

been working with light water electrochemical reactors in the study of cold fusion have proven that just such a process can take place. During the electrolysis, the water is changed into hydrogen and oxygen ions. The hydrogen ion is called a "proton". It has been found that under the right conditions (specifically, in the presence of a nickel cathode) some of these protons can combine with the nucleus of many elements to change that element into a new element. The so-called alkali elements are especially suited for this type of nuclear reaction. The alkali elements include lithium, sodium,

potassium, rubidium, and cesium. One of the most damaging radioactive elements is Cesium-137 (an unstable isotope of cesium) because, like potassium, cesium can be absorbed into the body and end up in the bones.

**We have a new science that provides us with a possible method by which damaging radioactive elements can be stabilized.** We are willing to spend billions on health research related to cancer caused by smoking (an avoidable disease) and on AIDS (another avoidable disease). Let's spend a few million on the development of equipment that will extract cesium from the soil, stabilize the cesium, and return it to the soil.

Chernobyl is not the only radioactive problem. There are huge accumulations of radioactive waste products that need to be stored or made non-radioactive. Tons of radioactive materials are being created every month that the nuclear power plants continue to operate. These plants are generating potential death threats to life on this planet. Even some of the most brilliant minds in the American Physical Society are working on yet another generation of power-plants that will produce more radioactive contamination. **It is scarcely believable that sane scientists would willingly become merchants of death and, especially, would deny new science that can both produce clean, plentiful energy without radioactive contamination and (conceptually) help to reduce the current levels of radioactive contamination.**

**LET'S DECLARE WAR ON THIS ABYSMAL IGNORANCE OF NEW ENERGY SCIENCE.** First we must demonstrate conclusively to the world that there are new energy production methods, including cold nuclear fusion. Then we must join in an effort to teach the children of the world about these new discoveries. In addition, let's put together some of the world's best scientists, engineers, and technicians, and solve the problem of making some of the contaminated lands of Belarus and Ukraine fit again for human consumption. **The next nuclear disaster might be in your neighborhood.**

## Fusion Briefings

### WHATS HAPPENING WITH "COLD FUSION"?

Statement on the Status of "Cold Fusion" Magazine.

This statement was released on 12 September, 1994 by the former Editors of "Cold Fusion" Magazine (Eugene F. Mallove, Editor; Stu Norwood, Managing Editor; Contributing Editors: Lawrence Forsely, Jed Rothwell, and Christopher P. Tinsely):

Three issues of "Cold Fusion" Magazine have appeared: May, June, and July/August, 1994.

In June 1994, internal disagreements between the editorial staff and the publisher (Wayne Green, Inc. of Peterborough, New Hampshire) reached a point at which the editorial staff concluded they could no longer work within the Wayne Green, Inc. organization.

The editors wanted to continue with the excellent 80-page magazine format, supported by the cold fusion industry and the growing readership of the publication. The publisher wanted to reduce it to a newsletter with a fraction of the information content of the magazine. Consequently, all of the editors severed their relationship with Wayne Green, Inc. They are seeking financial backing to start a new magazine in the field of cold fusion.

Wayne Green, Inc. has issued a "Cold Fusion Update" newsletter designated as a September issue. The former editors have reviewed a copy of this newsletter and consider it to be entirely substandard in its presentation of information on the field of cold fusion. There is no designated editor of this newsletter, so we assume that Wayne Green is himself acting as Editor.

The former editorial staff had no ownership position in the magazine. The editors were paid as either salaried employees, or contractors. Consequently, despite the profound concern of the former editors for the rights of those who in good faith subscribed

to the magazine, the responsibility for subscription fulfillment resides with Wayne Green, Inc.

Those current subscribers of "Cold Fusion" Magazine -- or future subscribers of the planned new publication -- who wish to contact the former editorial staff of "Cold Fusion" Magazine may write to:

Cold Fusion Technology  
P.O. Box 2816  
Concord, NH 03302-2816, USA.

Correspondence may also be faxed to 603-224-5975. Editorial and news items for the new planned cold fusion publication are now being solicited. Potential investors in the new publication are also asked to contact them.

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## TRANSMUTATION & RADIOACTIVITY

R. Bush and R. Eagleton (Phys. Dept., Cal. State Polytechnic Univ. and ENECO), "Evidence for Electrolytically Induced Transmutation and Radioactivity Correlated with Excess Heat in Electrolytic Cells With Light Water Rubidium Salt Electrolytes," Proceedings ICCF4, Vol 3: Nuclear Measurements, pp 2-1 to 19, 6 refs, 12 figs.

### AUTHORS' ABSTRACT

Two separate mass spectrometric analyses (SIMS and ICPMS) of 1.0 amu discrimination preceded by an ion-exchange column separation of strontium and rubidium, performed by two independent laboratories on the pre-run and post-run cathode material from a light water based rubidium carbonate cell and a rubidium hydroxide cell) provide strong evidence for the electrolytically induced transmutation of rubidium to strontium originally hypothesized by Bush in connection with his CAF hypothesis ("Cold Alkali Fusion"). The SIMS analysis showed that the abundance ratio of  $Sr^{86}$  to  $Sr^{88}$  shifted from the normal abundance ratio of about 0.12 in the pre-run cathode sample to essentially the same value, 2.6, as the natural abundance ratio of  $Rb^{85}$  to  $Rb^{87}$ , where the latter are the respective parent isotopes hypothesized by Bush. Proof that this shift by a factor of about 22 from the natural abundance ratio for the strontium isotopes could not have been a spurious SIMS result, due to rubidium hydride formation, was demonstrated by additional mass

spectroscopy, ICPMS, preceded by an ion-exchange column separation of the strontium and the rubidium. In the ICPMS tests, the post-run cathode material from both cells demonstrated a shift in the strontium isotope abundance ratio by an amount that is more than 600 standard deviations away from the normal ratio (pre-run sample). In addition, for a third rubidium carbonate cell, strong preliminary evidence is presented for electrolytically induced radioactivity. The experimental work provides strong initial support for Bush's LANT hypothesis ("Lattice Assisted Nuclear Transmutation").

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## COLD FUSION OVERVIEW

Michael McKubre, Steven Crouch-Baker, Alan Hauser, Nada Jevtic, Stuart Smedley, Francis Tanzella (SRI International, Menlo Park, CA), "An Overview of Excess Heat Production in the Deuterated Palladium System," A Collection of Technical Papers, Proceedings of 29th Intersociety Energy Conversion Engineering Conference, Aug. 7-11, 1994, Monterey, CA, pp 1478-1483, 6 refs, 4 figs.

### AUTHORS' ABSTRACT

An experimental program sponsored by the Electric Power Research Inst. (EPRI) was undertaken at SRI International to explore the central idea proposed by Fleischmann et al. that heat, and possibly nuclear products, could be created in palladium lattices under electrolytic conditions. Unaccounted excess heat has been observed in these experiments in an accurate and stable isothermal mass flow calorimeter. The appearance of excess power is apparently to be correlated with three criteria: the degree of deuterium loading (specified as the atomic ratio D/Pd), the time for which high loading is maintained, and the interfacial current density. The correlation between excess heat production and the three variables, loading, time and current density, is being explored in experiments ongoing.

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## SCIENCE OR SCIENCE MAFIA?

Editorial "Science, or the Science Mafia? You Decide!" *21st Century Science & Technology*, vol 7, no 2, Summer 1994, pp 2-3.

## SUMMARY

When the ABC television show, *Good Morning America*, aired on May 31st, it presented its viewers with good objective reporting of current cold fusion research. It includes an interview with Pons and Fleischmann and a look at their design for a new distillation cell that makes evaluation of heat production more accurate.

Science reporter Dr. Michael Guillen, who hosted the program, told the audience that the producers of the show had been pressured **not** to cover cold fusion so favorably. He noted that chemists do not so uniformly condemn cold fusion, but the U.S. physics community is still extremely hostile. Just as journalism demands a free press, "Science has to be allowed to flourish in an atmosphere of academic freedom," Guillen said. Pons and Fleischmann left the U.S. exactly because they did not find that freedom, he reported. They see the U.S. sliding downhill technologically precisely because of the present tendency to reject innovative science.

The editorial also mentions the cover story in *Technology Review's* May/June issue, which was written by Dr. Edmund Storms. The article reviewed the 5 years of CF research evidence leading to **"one of the most intriguing scientific puzzles of this century."** This article was immediately blasted by *Science* magazine, attacking both cold fusion and *Technology Review* for allowing the publication of the favorable article. *Science* approvingly quoted MIT plasma physicist, Paul Lindsay, who commented on Storms' article, "It reads just like nothing has happened in 5 years."

Since the truth is exactly opposite, the *21st Century* editorial comments that what has changed is new developments in the field, but what hasn't changed is the ignorant abuse thrown at cold fusion researchers. The editorial ends: **"If such abuse is allowed to dictate the course of future research by creating a witch-hunt against scientists who pursue innovative science -- and against the media who choose to honestly report on it -- then, indeed, the U.S. will go downhill, not only in science and technology, but in morality as well."**

## IMPROVING CELL DESIGN

H.E. "Chip" Ransford, III and S.J. Pike (Nova Res. Group, Inc., Denver, CO), "Apparatus for Safely Extending Cold Fusion Investigations to High Temperature, Pressure and Input Power Regimes," (final abstract significantly changed from preprint material reviewed in *Fusion Facts* Jan. 94), Proceedings ICCF4, Vol 2: Calorimetry and Materials, July 1994, Hawaii, pp 20-1 to 6, 1 fig, 5 refs.

## AUTHORS' ABSTRACT

To assure continued and expanding funding in an increasingly cost-conscious, results-oriented world economy, "cold fusion" needs solid proof of commercial feasibility. Excess heat calculations are of little use in convincing nonscientific skeptics. Heat alone, at low temperatures, does not have the "medium of exchange" value of electrical power. Proof of commercial viability has three critical dimensions which must meet certain minimums:

- The temperature must reach 175 to 200°C - high enough to allow reasonably efficient (in the range of 15-20%) conversion to mechanical/electrical power.
- The system power levels must reach at least 5 to 10 kw of thermal output to demonstrate conversion to self power plus provide useful electrical energy for other functions.
- The system must operate continuously for weeks to months with short lag times to start up or shut down.

To date, world wide, most cold fusion investigations have been attempts to confirm and expand understanding of the Fleischmann-Pons Effect (FPE) at its basic levels. This research to corroborate FPE - with notable exceptions - has three common characteristics:

- Most FPE experiments have been conducted at or near ambient conditions of temperature and pressure, many in open cells.
- The experiments have been small in scale with minimal standardization of design.

- These experiments produced small thermal outputs and low excess energy ratios.

Despite the many technical (and other) obstacles in this field, the research now has clearly revealed these empirical facts:

- Nuclear reactions can indeed occur in electrolytic systems;
- The energy released in these reactions occurs primarily as heat;
- The major by-product in Palladium-Deuterium systems is ordinary helium;
- Excess energy ratios exceeding 10:1 are possible;
- The energy density can exceed three kilowatts per cubic centimeter;
- The reaction rate increases nonlinearly with increasing temperature.

These results hint at the potential power yields from cold fusion. They also show that safety precautions developed for electrochemical research can no longer be considered sufficient for FPE studies. The various accidents and events arising from open cells have led Fleischmann, Pons and others to issue warnings emphasizing the danger of closed systems.

However, if cold fusion is to ever reach its potential, closing and pressurizing the research cells is necessary. This calls for a much greater ability to contain and control cold fusion events. Safety must be the highest priority in the laboratory and thus, in the design and construction of experimental equipment. Good design must allow for radioactive products, high pressures and high temperatures, coolant circulation and the ability to easily maintain experimental protocols.

### KEEPING LEADERS UPDATED

Dana Rotegard (Irish Holdings Ltd.), "Letter on Cold Fusion," *Future Trends* (Minnesota World Future Society), vol 25, no 5, Sept. 1994, p 2.

Letter to Representative Karen Clark, (*FF*, Aug. 1994, p 21), reprinted in this Minnesota newsletter.

### SCIENCE WRITERS AND SKEPTICS

It began with an offering letter before the first issue of "*Cold Fusion*" Magazine came off the presses. This letter introduced the new magazine to readers who were interested in scientific research and development. Timothy Ferris, a science writer and professor of journalism at the University of California, and a member of the National Association of Science Writers, Inc. (NASW), responded to "*Cold Fusion*" Magazine's letter with a satirical magazine offering of his own, for "*Toads 'n Warts* the magazine of curing warts by applying toads", which mocked the legitimate magazine. In a short article about scientists' verbal fencing over issues, published in *ScienceWriter* (the NASW quarterly), spring 1994 issue, editor Howard J. Lewis wrote disparagingly about the field of cold fusion and mentioned the new "*Cold Fusion*" Magazine in the same breath. He included a copy of Ferris' *Toads 'n Warts* letter in his article.

In the summer issue of *Science Writer*, Eugene Mallove, editor of "*Cold Fusion*" and member of NASW, wrote the following letter to the editor:

Dear Mr. Lewis:

Your printing Timothy Ferris' *Toads 'n Warts* mocking attack on our magazine together with your own associated commentary, disparaging in tone, was reprehensible. It may interest fellow NASW members that our magazine publishes accounts of serious research and commercial development in a new field of unparalleled significance--solid state nuclear physics. Other media have now begun to take note of the continuing vitality of this field, particularly in Japan, where the MITI program is called "New Hydrogen Energy." Witness MIT *Technology Review*'s cover story on cold fusion (May/June 1994), the recent BBC and CBC one-hour documentary co-production on cold fusion, "Too Close to the Sun," increased coverage of cold fusion by Ira Flatow of NPR, and Dr. Michael Guillen's "Good Morning America" (ABC) interview with Drs. Fleischmann and Pons and this writer on May 31, 1994.

A host of scientists, scientific institutions, and publications will be forced to admit that they were



completely wrong in dismissing cold fusion out of hand in 1989, and thereafter making a mockery of the scientific process. Science journalists who examine the facts presented in "*Cold Fusion*" Magazine will soon be abandoning the hot fusion and high-energy physics "authorities" who have stood science on its head these past five years. Yes, there is no general agreement in the field on the nuclear-atomic explanation for the diverse phenomena of "cold fusion." This does not make less real the now fully reproducible excess energy, which is orders of magnitude beyond chemical explanation, or the nuclear reaction products that have been confirmed and reproduced time and time again.

Eugene Mallove, Sc.D., Editor  
 "*Cold Fusion*" Magazine

Enclosed were two issues of "*Cold Fusion*," the BBC/CBC videocassettes, the "Good Morning America" interview, and copies of cold fusion cover articles from *Popular Science*, August 1993, and *London Sunday Times*, 27 June 1993.

In response, Howard Lewis answered that "To a degree, I regret the flippant tone in my commentary on Timothy Ferris' letter mocking the magazine you edit, but it is difficult to resist." He went on to say that he did read the materials that Mallove had sent him, along with the other side of the story, Gary Taubes Bad Science book. According to Mr. Lewis, he has been loosely following the cold fusion trail since its beginning, but that "recalling the shadowy circumstances of the initial announcement and publication," the elusiveness to early questions, and other early events, he admits "to a powerful negative bias." The context of the rest of the letter was not overtly negative, but highly skeptical in tone, comparing cold fusion's survivability to, not polywater, but homeopathy.

In August, Eugene Mallove sent the following letter to Mrs. Diane McGurgan, Administrative Secretary of the National Association of Science Writers:

I am sorry that I have delayed with this note as long as I have, but I have been debating what course of action to take on my NASW membership. NASW is a good organization of noble purposes. Some of my most pleasant times have been the several gatherings with science journalists and scientists at New Horizons

meetings. Regrettably, I must tell you that I no longer wish to be a member of NASW.

Though I am still involved in one of the most difficult science publishing and writing areas, I have to acknowledge that I consider myself more an engineer-scientist than a science writer. So that is one reason for my departure.

Sadly, I have also concluded that science journalists--by and large--are far too unwilling to diverge from the mainstream to take on the challenges that they should have been [undertaking] all along. In my own scientific and technology field of cold fusion I have seen the journalistic pack-mentality at its ugly worst. Certainly there are a handful of journalists who have tried their best to accept the challenge of reporting on the major physics paradigm shift that is facing us, but these are surprisingly few. I believe that science journalists, in general, will learn in the coming several years a very harsh lesson about the hazards of pack-mentality. This will not only concern cold fusion; there are many other topics that should be explored by science journalists, but which are not or are routinely mocked in predictable fluff pieces.

Science journalists, as a group, will eventually realize the very serious consequences of allowing the editorial leadership of scientific publications, such as *Science* and *Nature*, and mockery by the *Skeptical Inquirer* crowd, to so strongly govern their work. Perhaps there is yet hope for a "paradigm shift in science journalism," and perhaps some day thereafter I will return to NASW. I am now a member of the Society for Scientific Exploration, which fosters a spirit of open-minded scientific inquiry that is so distasteful to the high-priests of the science establishment and their science journalist acolytes.

Let me note two specific incidents connected with NASW that made my decision firm. First was the attack on "*Cold Fusion*" Magazine by NASW member Timothy Ferris that was published in *ScienceWriters*, Vol.42, No.1. The weak regrets by Editor Howard Lewis published in Volume 42, No. 2 were wholly inadequate, and he went on to add insult to injury. His published reply confirmed my assessment that he, like far too many in the science journalism field, have a completely inadequate understanding of what science is all about. It is about measurements and data, not

about personalities, historical circumstances, or which "authorities" and how many "authorities" believe something to be nonsense. If time allows, I hope to prepare a point-by-point response to Lewis's letter, which you may wish to publish.

My second immediate reason for leaving NASW was the receipt of this fall's program for New Horizons. For several years I have suggested to the NASW conference leadership that it would be wise to have as speakers scientists working in the cold fusion field; there is no dearth of such people. There have been polite nods about this, but no action. For five years since the March 1989 announcement there has been no scientific speaker on cold fusion at a New Horizons meeting. Now I see that this fall's program has a speaker from the hot fusion community who will likely rehash what most people already know or suspect about that program. This is unacceptable. The facts are clear: One new science and technology, "cold fusion," has solved the energy breakeven problem in spades. Science journalists could easily find this out by examining the data instead of listening to the high-priests who have nothing better to say than, "It must be wrong because our theories don't support it." An old science and technology, hot fusion, is going to continue to talk up its "successes" on the road to oblivion. How much longer are science journalists going to continue this farce of reporting on the one and inadequately or inappropriately reporting on the other? That is a question of great import to the future of the NASW. For their own sake, your colleagues should consider it well.

Sincerely,  
Eugene F. Mallove, Sc.D.

P.S. I encourage you to publish this letter in its entirety.

Summary by D. Torres

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#### NICKEL FIBREX CATHODES

R. Bush and R. Eagleton (Phys. Dept., Cal. St. Polytechnic Univ. and Future Energy Applied Technology, Inc. (FEAT), "Calorimetric Studies For Several Light Water Electrolytic Cells with Nickel Fibrex Cathodes and Electrolytes with Alkali Salts of

Potassium, Rubidium, and Cesium" Proceedings ICCF4, Vol 2: Calorimetry and Materials, pp 13-1 to 22, 27 figs, 27 refs, 1 table.

#### AUTHORS' ABSTRACT

Results are reported for calorimetric studies with light water cells with alkali salts of K, Rb, and Cs employing nickel fibrex (fine nickel mesh) electrodes. Highlights: (1) An experiment showing that the light water excess heat effect is not the result of contamination by D<sub>2</sub>O. (2) A sequence of six "transmission resonances" in a cell with two cc of D<sub>2</sub>O added to 43cc of 0.57 M RbOH. (3) Heat bursts showing time-scale invariance for a Rb and two Cs cells. (4) Cu is shown to be a promoter, or co-factor, of the light water excess heat effect.

## *Space Energy*

#### WEAPONS OF UFOS?

Y. Egorov (Russia), "Energy Generator as Blaster," *Izobretatel i Ratsionalizator*, 1992, no 5-6, p 30.

According to information published in Russian magazine *Izobretatel i Ratsionalizator* (Inventor and Developer) the scientists at one of the secret Russian Research Institutes are experimenting with a device capable of trapping zero-point energy. They created plasma convertors (blasters) generating kilowatts of energy at efficiencies as high as 150%. The scientists themselves refer to an invention of Tesla and Morrey, who are believed to have created a generator of free energy that powered a car, using no other fuel. The publication states that perpetual motion has been realized at last, but the scientists didn't want to disclose the secret of their invention, for the time being.

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## PRESS RELEASE

For Immediate Release September Publishing Date

**THE HOMOPOLAR HANDBOOK:  
A DEFINITIVE GUIDE TO N-MACHINE AND  
FARADAY DISK TECHNOLOGIES**

by Thomas Valone, P.E.

The rotating, magnetized disk dynamo has mystified every scientist since Faraday discovered it in 1831. Also called a unipolar generator (or **N-Machine** by Bruce DePalma), it is unique among all other forms of generating electricity. It's efficiency is often known to be *above 95%*, even in commercial models. The homopolar generator does not require commutation to make electricity. It is so simple that the **earth's magnetized iron core** functions as a gigantic homopolar generator. It is so powerful that military railguns, submarines, and even the **Searl levity disk** use them.

In this book, the *history of the technology* is traced from the time of **Michael Faraday** onwards. The 19th century development of the "field rotation paradox" and the "torque controversy" are two historical highlights. The 20th century experiments, including those of Zelany and Page, Cramp and Norgrove, Das Gupta, Tewari, Wilhelm, DePalma, and Trombly are reviewed. Theories of homopolar electricity generation, reaction, and back torque are included. Experimental analysis of the author's own "**one-piece Faraday generator**" (the book's former title) is detailed with *pictures, diagrams, and graphs*.

In the extensive Appendix, papers on **Nikola Tesla's unipolar designs**, Tewari's Space Generator, Bernard's Space-Energy Generator, armature reaction, DePalma's analysis of the **Trombly-Kahn closed-path homopolar generator**, and the complete Trombly patent, are all included. Can the homopolar generator become a self-running free energy machine? The *Homopolar Handbook* provides all the technical details for the serious researcher. **160pp. ISBN 0-9641070-1-5 \$20 postpaid.**

Order from Integrity Research Institute, 1377 K Street NW, Suite 204, Washington, DC 20005, 202-452-7674, 1-800-295-7674

[Readers: Neither this new book nor *NEN* has all of the answers. Read, study, experiment, and share your findings with us. Ed.]

## Electricity

### NEW ELECTRIC TRANSMISSION

Y. Egorov (Russia), "Can't it exist?" *Izobretatel i Ratsionalizator*, 1992, no 5-6, p 1. Translated and Summarized by Igor Goryachev.

According to the information published in Russian magazine *Inventor and Developer*, a new opportunity to transmit electric energy has been discovered. As it was demonstrated by scientist Vladislav Avramenko at the Russian (former All-Union) Electro-Technical Institute in Moscow, it is now possible to transmit electric energy through just a single wire (instead of two) almost without any loss of energy (similar to superconductivity at room temperature). The article does not disclose the details of the method. It does say that the primary power source generates electric energy in oscillating form in the range of sound frequencies. This energy is then transmitted in a regular way to a small monovibrator (which is the inventor's secret). Only one wire goes out of the monovibrator. The wire extremity is connected by means of this single wire to a small (match-box size) box. The box has a regular double contact outlet thus providing power supply for electric bulbs and other devices. It is disclosed that the energy transmission through a single wire occurs when the appropriate frequency (not specified) has been adjusted at the input to the monovibrator. If the single wire has been cut there is no need to solder the ends of the wire: it is sufficient to tie the separated ends with a bow knot in order to restore the line. They measured the loss of energy in the single wire when transmitting relatively high power over the distance of 100 meters. It was reported to be almost zero.

The phenomenon disclosed contradicts contemporary accepted science. But the article claims it works!

### EDITOR'S COMMENT

This information, if accurately presented, suggests that some type of scalar-wave transmission might be involved. A normal electric sonic frequency signal would be unlikely to travel (or be guided) along a conductor of 100 m without significant losses.

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### BETACELL: A MICROENCAPSULATED NUCLEAR BATTERY

Edward F. Divers III (Elec. Engr., Dept. Defense, Ft. Meade, MD), "Betacell: A Microencapsulated Nuclear Battery," A Collection of Technical Papers, Proceedings of 29th Intersociety Energy Conversion Engineering Conference, Aug. 7-11, 1994, Monterey, CA, pp 1444-1447, 12 refs, 3 figs, 4 tables.

#### AUTHOR'S ABSTRACT

This paper describes the Betacell, a power source or photovoltaic cell array that microencapsulates tritium with phosphors to provide 50uA at 5 volts for 12+ years. It has been designed specifically to fill the niche in lower power security monitoring but can be used in other applications as well, including satellites in space, beacons in the sea, drones at the earth's poles, and in other scenarios involving harsh environments where traditional batteries fail. It also finds use as a trickle charger for secondary batteries.

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### POWER SYSTEM

John Dahlman, Steve Girard, and Greg Miller (Eagle-Picher Industries, Inc., Joplin, MO), "Nickel-Hydrogen Battery Based Terrestrial Power System," A Collection of Technical Papers, Proceedings of 29th Intersociety Energy Conversion Engineering Conference, Aug. 7-11, 1994, Monterey, CA, pp 1457-1461, 3 refs, 9 figs.

#### AUTHORS' ABSTRACT

Eagle-Picher has developed a nickel-hydrogen battery charger that integrates a constant current modular DC-DC converter with a microprocessor based charge controller. The nickel-hydrogen battery charger is fully programmable and utilizes

multiple inputs and conditions to determine the most efficient charge regime. Different charge modes can also be implemented based on preset programming. Complete system monitoring and battery diagnostics are preformed and reported to maintain operational status. This arrangement provides solid state circuitry in a modular form for flexibility.

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### NEW VIEWS ON LITHIUM ION BATTERIES

James Glanz (science writer in Chicago), *Science*, vol 264, 20 May 1994, p 1084.

Since the mid-70s when researchers discovered that individual battery cells based on lithium were capable of producing higher voltage than either NiCad or lead-acid batteries, lithium has become a front line contender in the rechargeable battery race. It would have the advantage of higher voltage for less weight, which is particularly applicable if batteries can be made large enough or grouped to power Electric Vehicles (EVs).

But there were drawbacks, such as lithium being highly reactive to moisture, having to use nonaqueous electrolytes which have their own inefficiencies (high current resistance), and the necessity of being hermetically sealed (and dangerous when breached).

Now, Wu Li and Jeffery Dahn of Simon Fraser University in British Columbia and D.S. Wainwright of Moli Energy report research toward overcoming the deficiencies of lithium ion batteries. Their aim is to restrain the lithium so it won't react with water, and then use a simple electrolyte consisting mainly of distilled water. To do this they use two solutions: the use of manganese oxide-based intercalation compounds that bind the lithium more tightly than the carbon in earlier lithium-ion batteries, and lithium hydroxide dissolved in the electrolyte. Lithium hydroxide is what results when lithium reacts with water, so loading the electrolyte with the compound is effectively saturating the system, ruling out further reactions.

This is a big advance as far as safety goes, and would enable the batteries to generate larger currents. But since water breaks down at the high voltages of earlier lithium cells, they had to lower cell

voltages (and energy densities) to levels only slightly better than NiCad batteries could produce. But this may be offset by the relatively low cost of the new battery, possibly less than 25% of the nickel based cells. Since it took 10 years for alkaline cell batteries to be perfected, don't expect to see these lithium batteries on sale this year. But the research goes on, coming closer to a commercial product all the time.

## Miscellaneous

### THERE LIES HUMAN DESTINY

When you think of the good that the development of new energy might mean here is a challenge to all of us:

At a recent White House ceremony honoring astronaut Neil Armstrong (first man on the moon), Armstrong said the following:

"We have only completed a beginning. We leave you much that is undone. There are great ideas undiscovered, breakthroughs available to those who can remove one of the truth's protective layers. There are places to go beyond belief. Those challenges are yours -- in many fields, not the least of which is space, because there lies human destiny."

### MAGNETIC AIR GAP ENERGY

Harold Aspden, "Energy Science Report no. 1 - Ferromagnetism," reprinted in *Space Energy Journal*, vol V, no 3, September 1994, pp. 27-35, 5 figs, 1 table.

### EDITOR'S COMMENTS

Dr. Harold Aspden describes a simple experiment using a transformer with an air gap that, if properly interpreted, demonstrates that there must be a aether that can store energy. The experiment is

carefully described and illustrated and should be of strong interest to anyone working with new energy devices. At the end of this article, Aspden cites a 1959 text book which comments on this unusual magnetic effect but fails to properly explain the effect. Aspden then states the following:

I only became such a 'discerning reader' after nearly 30 years possession of this book, when I heard of 'crank' claims that certain forms of homemade switched reluctance motors, which, when the magnetization was switched on only for a period before pole closure, could deliver more power output than is absorbed as power input. It was no easy task to turn one's formal education around. I, therefore, urge readers to pay attention and repeat the experiment I describe. My earlier communications on 'The Law of Perpetual Motion' and 'The First Law of Thermodynamics' were not based on ignorance or philosophy but were intended to pave the way forward to something of major importance now developing in the alternative energy scene. This 'energy from magnetism' theme, as it evolves into technology, need not take those who teach physics by surprise, especially when so simple an experiment can put one's physics education back on track.

We commend this article to you. You or your group will want to actually perform the experiments described so that you more fully understand the nature of this magnetic anomaly that has been known and ignored for 40 years or more. (See also Aspden's article "The World's Energy Future" in *International Symposium on New Energy*, April, 1993, pages 1-19.)

### REMARKABLE MAGNETIC EFFECTS

A. Berikhin (Russia), "A Unique Project of Black Sea Cleaning and Sanitation Using Magnetic Technology", *Moscow News*, no 36, 1994, p 14.

It has been announced that the stock scientific and manufacturing company "Russian Crown," located in the city of Sochi on the Black Sea, is close to realizing its unique project of cleaning the Black Sea of hydrogen sulfide with the use of magnetic technology. This Black Sea ecological problem is caused by a layer of hydrogen sulfide rapidly rising to the surface, and thus threatening to kill all sealife.

Now the upper boundary of the lifeless zone lies at the depth of 200-300 meters and continues to rise.

Yuri Tkachenko, scientist, inventor and president of the Russian Crown Company, approached the idea of sea cleaning as the result of his research and development in the field of using magnets in agriculture, industry and construction. The scientists of the Russian Crown company have been experimenting for several years and the wonderful results obtained have been utilized in many enterprises, farms, construction sites and boiler-houses.

One of the developments of their invention is represented by a regular tubing with a permanent magnet nozzle, rated at 40 milli-tesla. Using thus magnetically treated water for cattle watering, the daily cattle weight gain increased by 30%. Potato harvest increased by more than 30%. Grain seeds, after being wet in magnetized water, sprouted 20 days earlier. If concrete is prepared using magnetized water, its firmness increases 20%, cement consumption decreases 10%, frost-resistance increases, watertightness improves. When a magnetic device is mounted on a car fuel pump or oil tubing, the fuel mileage increases, fuel octane number increases, engine life span increases, oil cleaning improves. The magnet field improves the quality of wine, beer, beverages, and vodka. It increases several times the duration of their safe keeping (without adding any preservatives). The scientists of the Company are running now 371 projects in many fields of industry and agriculture.

All those results obtained are peer reviewed and confirmed by experienced specialists. A special decision of the Government of the Russian Federation was issued committing to the development of the scientific and manufacturing activities in this field. Nevertheless, the company experiences lack of funding. They are in urgent need of getting funds, especially with regard to the main goal of their activity - the Black Sea cleaning and sanitation. The prototype of the appropriate technical system has been already designed and tested. Now it is in the interests of not only Russia, but of all the countries of the Black Sea basin. Yuri Tkachenko is inviting all those interested to take part in the project.

### A LITTLE LIGHT ON THE SUBJECT

Felix Ehrenhaft (University of Vienna), "Diffusion, Brownian Movement, Loschmidt-Avogadro's Number and Light", International Glasnost Journal on Fundamental Physics, vol. 3, No 12, 1994, pp 56-61, refs.7.

Smoluchowski and Einstein have launched the idea that Brownian motion is due to thermal hits of the single molecules. Bourbaki objected that the masses of single molecules are too small with respect to the masses of the suspended microscopic particles and thus cannot be the cause. According to Felix Ehrenhaft, Brownian motion is evoked partly or completely by the action of the light with which the suspended particles are illuminated.

***Brownian motion may  
be a reaction to light***

The Austrian physicist who first had observed Brownian motion in gases had noticed this dependence at the beginning of the century, but in the time lag of forty years nobody paid attention to his observations. Felix Ehrenhaft found that when an uncharged particle is irradiated by intense light coming from any direction it moves in a homogeneous electric field in or against the direction of the electric lines of force (electrophoresis) and in a homogeneous magnetic field in or against the direction of the magnetic lines of force (magnetophoresis) like a single north or south pole "magnetic ion"). The magnetophoretic force in intense light is so great that motion occurs even in the weak geomagnetic fields, in or against the direction of the geomagnetic lines of force.

Thus, Brownian movement and diffusion in light consist of at least two components: (1) the mere statistical, in sense of A. Einstein's and M.Smoluchowski's theory, and (2) magnetophoresis in the geomagnetic field; sometimes perhaps also electrophoresis. Consequently diffusion taking place in nature all by itself depends upon the intensity of the light falling on the diffusing matter.

[This is a dramatic change from what we have been taught in school for several decades. Ed.]

## SOLAR ENERGY CONVERSION

J.H. Bloomer (Discraft Corp., Portland, OR), "Conversion of Solar Energy via New Aerospace Technology," A Collection of Technical Papers, Proceedings of 29th Intersociety Energy Conversion Engineering Conference, Aug. 7-11, 1994, Monterey, CA, pp 1462-1467, 25 refs, 11 figs.

### AUTHOR'S ABSTRACT

Aerospace technology today would access solar energy in space in any practical desired quantity, and beam it down to earth for unlimited use in manufacturing, agriculture, housing, education, recreation science, astronautics. Questions are, though: How to access solar energy in space? Satellite mirrors driving heat turbogenerators? Satellite solar cells? Sunpumped lasers? And how to deliver the energy to earth's vicinity? Through atmosphere? Microwave beam? Laser beam? Power cable? And how to pick the energy up on the ground? Antenna farm? Collector mirror? Cable downlink? At what cost? Cost to whom? And when available?

This author respectfully submits that a mixture of new and old technologies can satisfactorily solve all problems, provide all answers.

### A NEW CONCEPT IN FLIGHT

From *World Harmony News-Australia* and *New Zealand March 1994*, as reported in *Space Energy Journal*, vol 5, no 3, sept 1994, p 19.

Imagine yourself cruising at 200 kms/hour over land or water in a three meter diameter craft being safely guided by the NAV satellite navigation system to a destination of your choice - anywhere on the planet. You are only using one ninth the amount of fuel of any known aircraft, with five people on board and a large payload totaling three tons in weight, and it only cost you the price of a family car to buy. What would be your response? Perhaps one of suspicion, disbelief or fantasy, right? Be careful with your

disbelief. Reportedly, this technology exists and has been brought to us through a series of amazing events that led us to its inventor - Dr. Brian Collins who just happens to live in Perth, the current home base of World Harmony.

*"...a new principle of  
non-linear physics"*

Brian established his credibility through one of his inventions - the Collins Motor, a culmination of two decades of research, most of which has been done overseas. The Collins Motor Corporation has as its major shareholder TNT (A "blue chip" public company). Relinquishing control of this company enabled Brian to free himself for even more exciting areas.

One of his endeavors has lead him to what he is currently embarking on - what he described in a recorded meeting with World Harmony on the 10 January this year, as "a new concept in flight". During a visit to his research establishment in the UK in December, Brian was contacted by a team of Russian scientists - the team who put Major Uri Gagarin, the first man into space in the early 1960's. The team had been researching what is generally known as the "ground effect" - a phenomenon that enables an albatross to fly across water for days without flapping its wings to do so. They discovered what Brian calls "a new principle of non-linear physics". **The phenomenon gives 30 units of lift for every unit of down thrust and models have been built that have proven the phenomenon.**

Production prototypes are the next phase of development and this is where Brian and his team come in. An agreement has been made that production should start in Australia rather than in Russia because of the turmoil there.

The plan is to build a number of craft in the Perth area within the next twelve months. The craft described above will be the first, with four others currently on the drawing board, to follow. The largest will be 60 meters in diameter and will carry up to 1500 tons, fly at 600-750 kms/hour and only cost a fraction of conventional aircraft. This payload is five times that of a Jumbo Jet and uses only one ninth

the fuel, one ninth the power and less than one twentieth the pollution because of the use of another invention of Brian's - the "Microniser".

Brian explained excitedly how his new company had recently signed a multi-million dollar contract to supply Athens, Greece, with fuel "Micronisers". The microniser reduces fuel consumption by 20%, unburnt hydrocarbons by some 60% and increases power by some 10%. Tests were carried out on a FIAT 128. The Microniser is a 20-minute retrofit device. They are to be manufactured in NSW (New South Wales) and air-freighted to Athens on a monthly basis. The money from this venture will give Brian and his dedicated group a guaranteed cash flow to enable them to carry on with their work.

## HEAT TRANSFER

C.W. Forsberg and J.C. Conklin (Oak Ridge Nat. Lab., Tennessee), "Temperature-Initiated Passive Cooling System (TIPACS)," A Collection of Technical Papers, Proceedings of 29th Intersociety Energy Conversion Engineering Conference, Aug. 7-11, 1994, Monterey, CA, pp 1448-1456, 5 refs, 5 figs, 2 tables.

### AUTHORS' ABSTRACT

The Temperature-Initiated Passive Cooling System (TIPACS) is a recently invented passive cooling system that transfers heat from a hot, insulated system to a cooler, external environment. TIPACS has four defining characteristics: efficient heat-transfer, passive with no moving components, thermal switch mechanism that allows heat transfer only above a preset temperature, and one-way (heat diode) heat transfer. Example applications include cooling (1) buildings attics, (2) electrical sheds, (3) chemical reactors, (4) utility-load-leveling batteries, and (5) nuclear reactor containments. TIPACS was evaluated for cooling a modular high-temperature gas-cooled reactor (MHTGR) cavity. The evaluation indicates potential performance and economic advantages.

## INERTIAL PROPULSION

Thomas Valone (Integrity Research Inst., Washington DC), "Inertial Propulsion: Concept and Experiment, Part 2," A Collection of Technical Papers, Proceedings of 29th Intersociety Energy Conversion Engineering Conference, Aug. 7-11, 1994, Monterey, CA, pp 1484-1489, 5 refs, 12 figs.

### AUTHOR'S ABSTRACT

"Inertial" propulsion (IP), a novel principle using force from rotating inertial masses, produces movement in one direction only. Applications include the transportation industry and satellite maneuvering. Today's most successful IP drive has, in one videotaped test, powered a 360 pound canoe across a swimming pool at 40 ft/min. Taking the smallest demonstration model of that (Thorson) IP engine, whose F/P ratio has been calculated to be 20 times more efficient than a DC-9 jet engine, this author assigned three engineering interns to correct Engineering Project #1 summarized in Part 1 of this report and to create a computer simulation of the IP model. The corrections involve a kinematic analysis of the planetary gear's eccentric mass. Force and acceleration components are calculated. A further enhancement involves the freely swinging eccentric mass, as well as the unique mechanical trap. The physics of inelastically transferring momentum to the common vehicle is briefly outlined.

## LETTERS

### LETTER FROM DR. INOMATA

20 June 1994

From: Shiuji Inomata, PhD  
President, JPI, Japan

[Reprinted courtesy of *Space Energy Journal*.]

On 17 June, there was a "Space Energy Seminar" in Tokyo, which was organized by MITI-related organization. About 50 people from government, industry, academia, and press participated. I talked



1.5 hours and demonstrated JPI-I N-machine which crossed the Pacific Ocean in May, 1994.

This seminar was organized to accentuate the government budgeting of the super-conducting N-machine project. The Japanese version of the design considerations were distributed to all attending.

Our government people commented to us that Japan has spent around 10 billion US dollars for hot fusion and about 30 million US dollars on cold fusion research.

Also, I studied the Los Alamos work on the variable inductance motor. Although the authors didn't comment on it, I feel that the "Space Energy" is involved in this kind of system. If so, your national lab is already doing the "Space Energy Research", although unnoticed.

Editor's note: This following letter is in response to the article from the New Energy News.

From; Shiuji Inomata, Ph.D., 3 August 1994

As to Mr. Thomas Valone's article, I think it is not a scientific article, but rather an article of misunderstanding and personal attack. Happily I was not attacked.

Firstly, the N-machine was not suppressed in the May 1994 meeting. I have noticed that there have been conflicts between Mr. Valone and Mr. DePalma-Tewari line.

Also Mr. Valone does not consider the efficiency for the drive motor in his N-machine measurement. If the efficiency, say 80%, is taken into account, his experiment confirms the incremental over-unity phenomenon.

On the other hand, the magnetic shielding of the conducting wire is necessary to minimize the back-torque.

Our involvement with the superconducting magnetic N-machine is not altered by Mr. Valone's article.

15 August 1994

From: Shiuji Inomata, Ph.D.

One more comment on Mr. Valone's article. He talks about whether the N-Machine rotates or not when big current is supplied from conducting wire, brushes and to the copper disk.

Our experiments with the JPI-I, using a car battery, did show that it really rotates. The current seemed to exceed 100 AMP and the brushes were destroyed. In this sense, Mr. DePalma's assertion "If you put electricity into this N-Machine generator, all you get is a short circuit!!..." is not correct.

However, this rotation occurs by the interaction between big current and the magnetic field of a disk magnet. So if we could magnetically shield the big current, or use superconducting wire, this rotation will become minimum. In the ideal case of the complete shielding, "short circuit" situation, as Mr. DePalma described will be realized. We must realize, this is, in fact, a 'no back-torque' situation.

From: Shiuji Inomata, Ph.D., 8 August 1994

We anticipate that the superconducting magnet N-machine (4-Tesla)-super-conducting Faraday motor (3-Tesla) combination, of 50cm (20inch) diameter, will produce 500 KW electrical power in self-rotating state basis without fuel. It is in fact a minimum estimate.

One day (24 hours) it will produce 12,000 KWH. One month it produces 360,000 KWH. One year it produces 4,320,000 KWH, without fuel.

I don't know how much it costs in your country for 1 KWH of electricity but in Japan, it costs about US\$0.20 for 1 KWH home use. So, the device produces US\$ 864,000 equivalent of electricity energy without fuel a year.

*Science is a cracked and sagging edifice  
built upon the constantly shifting sands  
of theory.* Dr. William O. Davis

## LETTER FROM RICKY BUTTERFASS

Dear Colleagues,

I am writing to you in regard to Don Kelly's letter to Dr. Hal Puthoff at the Institute for Advanced Studies; indirectly to all of us and including his reference to Tom Valone, Wingate Lambertson, Searl, Inomata, Tewari, etc., et al.

I agree with Dr. Lambertson, "a call for an International Plan is needed," it is twenty years overdue. The following paragraphs will contain some of my thoughts on the directions INE may want to travel with the planet and its people... I believe human rights, civil rights, equal rights and equal access should be incorporated [in our plans and policies]. I believe the first rule of science and the scientist should be followed, without ego. That rule, of course, being "Keep an Open Mind."

Remember that at one time the horse had priority over the automobile. We must never forget Dr. Goddard's rockets that were debunked as useless, how the Germans used them in W.W. II, and how we got our second chance with Dr. von Braun, as he took us to the Moon.

Keep these points in mind:

- KEEP AN OPEN MIND!
- An overall vision of INE, as a large institution linked with colleges, universities, and other research groups around the world.
- We must develop adequate funding.
- Keep the Macro-view, as well as the Micro-view, in mind.
- The inventor has the right to succeed or fail and to make mistakes.
- What may seem as smoke and mirrors may be valuable, and may be marketed to earn further funding.
- New science and new energy will challenge our current beliefs.
- We must guard against explaining away a new reality because it is an unknown.
- Be diplomatic and create a Win/Win environment.
- Give the freedom and ability to initiate.

Referring to Dr. Lambertson's paper, I agree with his approach. Indeed, we must be active on the national level. However, because of special interest

lobbyists, we may have more success with regional state governments. I suggest the mountain states, from Alaska through Mexico and South America, because: our headquarters are there, abundant resources, low population density, demonstrable Planned Development with Ecological Harmony, NAFTA is in place.

The following information is part of a project proposal that I offer to the International Association for New Energy. I know that a "New Economic and Industrial Revolution" propelled by new energy industry, is at hand. This industry is the vanguard of new science and leading-edge technology.

I gave an international presentation of the "Theory and Design of a Three Stage Fusion Electromagnetic Ramjet Drive Unit/Aerospace Vehicle" at the International Association for New Science 1991 Forum (p 171 of the proceedings). I hope that the IANS Ramjet Project will be adopted as a goal, just as landing a man on the moon was adopted by the U.S. as a goal. I believe government and industry are receptive and more so with IANS and INE credentialed support.

Sincerely, Ricky C. Butterfass  
V.P., Inst. for New Energy

## EDITOR'S COMMENTS

This publication agrees that a **New Economic and Industrial Revolution** is at hand. But first we must unequivocally demonstrate a repeatable device or system that unquestionable produces the required clean, available energy. Many of our readers are seriously involved in just such searches and/or experiments. We strongly believe that both cold fusion and space energy are sources of those new energy devices. Continue to send us the latest information on any new energy developments. Ed.

## LETTER FROM NICK REITER

Thank you for your recent letter and copy of *NEN*. I am pleased to hear that you are interested in my experiments with the Nieper/Seike transistor ring. Currently the status of this project is thus:

I had, since July 1994, constructed two transistor ring circuits. The first was a dinky low-powered version using TIP31 NPN transistors. The second was larger and was built with 200-watt ECG87s. In

a nutshell, I observed three phenomena which agreed with Nieper's (Seike's) claims:

1. The circuits go into a stable oscillation.
2. The frequency of oscillation slowly and slightly decreases with time; typically about a 5 - 10 % drift over about 20 minutes. This effect seems to stabilize after 20 - 40 minutes. I have not observed any drop in frequency after T+1 hour.
3. A total of six trials, with both circuits, APPEARED to show losses in weight over the time of oscillatory shift. These negative changes ranged from 20 milligrams to about 50 milligrams (the latter being observed during a high power run with the large circuit).

HOWEVER --

1. I found that on the small circuit, after heat sinking the TIP31s, the weight loss effect vanished!
2. Shortly after I spoke to Sam Faile about 2 weeks ago, I ran two more trials with the large circuit, which is laid out on an 8" diameter lexan disk. One trial was with the circuit on end, the other was with the circuit flipped upside down. In the case of the on-end trial, absolutely no weight change was noted. The upside down trial showed an opposite effect, an apparent weight gain of up to 700 milligrams.

I seems to me now that during the weight loss trials of both circuits, there was a thermal or "warm air" factor at play here. On the small circuit, transistors were the hot components (until heat-sunk). On the large, three collector resistors were running at about 85 C. In both cases hot components were on the "topside" of the arrangement, in the trials where weight loss was noted.

I therefore now find myself having to re-run all weight loss trials in a different arrangement which would remove any thermal/convective factor. I hope to start anew on this after next week. I have been keeping an ongoing summary of all activities and trials, and will continue to do so whatever the outcome may be. When I feel that I have acquired enough data for a thorough summary, I will be very happy to forward a copy to *NEN* as well as *ESJ*.

Nick Reiter  
541 W. Stone Street, Gibsonburg, Ohio 43431

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