



New Energy News

Monthly Newsletter of the Institute for New Energy

VOLUME 2, NUMBER 10

ISSN 1075-0045

FEBRUARY 1995

DISCOVERY OF "VIRTUAL INERTIA"

By Dr. Harold Aspden

I report an anomalous energy phenomenon found in my motor experiments.

Imagine an electric machine having no electrical input itself and which, when started on **no load** by a drive motor and brought up to speed (3250 rpm), thereafter runs steadily at that speed with the motor drawing a little extra input power with a time decay rate of about two minutes. The machine rotor has a mass of 800 gm and at that speed its inertial kinetic energy together with that of the drive motor is no more than 15 joules [to overcome friction], contrasting with the excess energy of 300 joules needed to satisfy the anomalous power surge [to spin up from rest.]

Imagine further that when the motor, after running five minutes or more, is switched off and the machine is stopped, **you can restart it in the same or opposite direction** and find that it now has a memory in the sense that it will not now ask for that 300 joules of excess input. 30 joules will suffice provided the time lapse between starting and restarting is no more than a minute or so.

This is not a transient heating phenomenon. At all times the bearing housings feel cool and any heating in the drive motor conductors would imply an increase of resistance and a build-up of power input to a higher steady state condition.

The experimental evidence is that there is **something spinning of an ethereal nature coextensive with the machine rotor**. That 'something' has an effective mass density 20 times that of the rotor, but it is something that can spin independently and take several minutes to decay, whereas the rotor comes to rest in a few seconds.

Two machines of different rotor size and composition reveal the phenomenon and tests indicate variations with time of day and compass orientation of the spin axis. One machine, the one incorporating the weaker magnets, showed evidence of gaining strength magnetically, as the tests were repeated over several days.

I will soon be reporting in detail on these findings, after further work and evaluation of the implications. The phenomenon was something I should have been prepared for, having regard to my years of theorizing, but **this discovery was unexpected as it has crept in loud and clear in a project aimed at testing a motor principle totally unrelated to 'vacuum spin'**. It has appeared obtrusively and I do not yet know whether, in adapting to its presence, it can serve in improving machine performance or become detrimental.

Readers who are curious about my more general research endeavors may find interest in the specification of U.S. Patent No. 5,376,184 granted to me on December 27th 1994. In connection with the subject of this particular communication I quote from lines 3 to 28 of column 21 of that patent:

"Extract from US Patent 5,376,184:

Now, in a practical device, one can similarly set up electric fields in a metal rotor by displacing those charge carriers, either by inertial action or by the action of a magnetic field directed along the spin axis. However, even here physicists have problems understanding the phenomena they observe, as one may see from the scientific paper by James F. Woodward: *Electrogravitational Induction and Rotation, Foundations of Physics*, 12, pp 467-478 (1982). On page 472 one reads, after a statement that machine operation produced induced charge in evidence from a voltage:

Plainly, an effect of some sort is present. Since a negative charge appears during spindown, we may infer either that (1) an initially present positive charge disappears during spindown, or (2) some process drives the sample case to negative potentials during spindown. The genuine disappearance of charge from the sample/sample-case assembly would be, of course, prima facie evidence for the existence of electrogravitational reduction.

"What this means is that electric charge can be held displaced within a metal to set up electric field gradients

in that metal. Woodward did this by inertial spin action, possibly affected by extraneous magnetic fields, such as the earth's field, but a similar result can be obtained by building a series-connected capacitor stack."

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THE ASPDEN EFFECT

By Hal Fox

The discovery of "Virtual Inertia" (which in Aspden's honor, we name **The Aspden Effect**) is, in my judgement, the type of fundamental discovery that may force dramatic changes in our understanding of physical reality. There may be others who have noticed this effect, but Dr. Harold Aspden immediately initiated a series of events: he observed a new and unpredicted anomaly, he did not reject it, he added to his experimental knowledge by replication (different times, different motors, different magnetic orientations), he made some preliminary attempts to tie this new evidence into his understanding of the physical world, and he disclosed the information to his friends (in this case including the pages of *New Energy News*). **These are the actions of a true scientist.** One of the most important attributes of a true scientist is that he/she does not allow theory to get in the way of the experimental facts. Another important attribute is the willingness to share his/her findings.

Because of the importance of this discovery, this is my attempt to describe and understand this discovery:

Aspden is apparently working with permanent magnet rotors (he writes: "One machine, the one incorporating the weaker magnets, showed evidence of gaining strength magnetically..."). The rotor weighs 800 grams. There is a resistance to spinning up the rotor (science/engineering uses the term inertia) so that it requires energy to get the rotor up to speed. This energy is measured at 300 joules (one volt at one amp = one Watt. One Watt for one second = one Joule/sec of power).

When the machine is rotating at the speed of 3250 rpm, the **inertial kinetic energy** of the 800-gram rotor, plus the drive motor rotor, needs no more than 15 Joules to continue rotating. Apparently, that energy is being used to overcome air friction, bearing friction, and any other losses that might be occurring.

Now run the machine for, say, five minutes. Dr. Aspden found that **if the machine is started up again within a minute, from rest, only 30 Joules is required to bring**

the machine back up to rated speed! I invite you to ask any high school science teacher or any college professor of physics or engineering if this observation can be explained by current physical principles. I am quite sure that you will not find anyone who will agree that these experimental results are even possible. **Therefore, it is an anomaly**, a deviation from the normal rule.

Aspden states, "The experimental evidence is that **there is something spinning**" [with the rotor, and he adds] "of an aethereal nature coextensive with the machine rotor." That something of an ethereal nature implies, **strongly implies**, that this experiment is a dramatic demonstration that there is an ether and that our scientific model of the real world **has been wrong for over 75 years!** Unless someone can come up with an explanation based on the current model of nature, then this experiment is one of the simplest methods to demonstrate to students, of all ages, that there is an ether.

Aspden further discovers and reports, "...variations with time of day and compass orientation of the spin axis." My interpretation would include the assumption that if the ether spins with the rotor, **then there is a big chunk of ether that is spinning with the earth.** [That information could explain why the most famous negative experiment in scientific history -- the Michelson-Morley experiment measuring light speed -- did not find a difference in the speed of light with and perpendicular to the earth's motion.] Also, if there is a rotating ether around the earth, then there could be an interaction between rotor-ether spin and earth-ether spin. Therefore, suggesting some interesting new experiments that could be made to find out precisely how much interference one could measure between differently oriented ether spins.

If our understanding of the ether is correct, it is the sum total of the universe's electromagnetic radiations and it has the characteristic of not being discernable **except from a rotating frame of reference.** We also understand that the energetic ether is the ultimate source of that effect which we label as inertia. (See Puthoff's report, *NEN*, February 1994). What is so fascinating about this discovery is that "something" that is affiliated with electromagnetic fluctuations (moving at the speed of light) can maintain an imparted motion **"and take several minutes to decay"**. One might ask, "If you introduced a strong stationary magnetic field into this space, would the effect dampen quickly?" In other words do ether effects interact or would it be like trying to get two beams of light to interact?

Aspden says the following: "...you can start it in the same or opposite direction and find that it now has a memory in the sense that it will not now ask for that 300 Joules of excess input." **If it is true that the effect is non-**

directional, then the implications could be that for a period of a few minutes some ether effect has become a part of that rotor. Because this effect appears to be related to inertia, could the effect also be related to gravity within that local region?

A CHALLENGE TO OUR READERS

Many of you have asked for something that you could replicate. Here is a good one. One of our friends suggests that you use a stepping motor as the driver because it would be easier to track the input power. It was also suggested that you might want to use a flat belt pulley system to lower the speed and rotate larger masses. I hope that some of you will rotate both magnetic and non-magnetic masses of the same size and report on your results. We also ask any of you theorists, such as Tom Bearden, to give us some help to begin to understand the **Aspden Effect**.

COMMERCIALIZATION OF NEW ENERGY - NOW?

[Information courtesy of Dr. Robert Bass, Dick Liebel, John Eriksen, information received Jan. 27, 1995.]
By Hal Fox, Editor

Giant Bay Resources Ltd., of Vancouver, B.C. under the direction of Catherine Stauber, President, has entered into the **New Energy Age**. Here is the story: Giant Bay has acquired the Sam Leach patent on "Electric Arc Plasma Steam Generation" (U.S. Patent 4,772,775, issued Sept. 20, 1988). Here are excerpts from their latest letter to shareholders (courtesy of Dick Liebel):

"Giant Bay Resources Ltd. has had a very eventful and interesting year. The main focus of the Company is now dedicated to the development and commercialization of our new technology so we can focus on earning income.

"Steam Power Generation Technology - H₂O as Fuel. Many shareholders are already familiar with our involvement in this exciting technology, however; as few of us have a degree in Physics the description and potential of this process has now been simplified for easier understanding.

"In our more technical literature this process has been referred to as **Electric Arc Plasma Steam Generation**. This technology performs a highly efficient method of producing super-heated steam (thermal energy) using electricity and water as a primary fuel. The super-high temperatures achieved (over 10,000 - 20,000°F) compare to fossil fuel flames in the 3600°F range. These high temperatures can only improve the existing speed, efficiency and drastically reduce pollution levels of the steam-making process. This process should prove to be highly efficient and very economical.

"...After achieving encouraging results, Giant Bay has engaged Crossbow Electronics Inc. of Toronto, Canada to perform an independent study of the technology in California. Crossbow has enthusiastically embraced the technology with confidence and stated **with their professional expertise Giant Bay can have a working proof of principle prototype in just 60 to 90 days. ...**"

"Sincerely /s/ Catherine Stauber, President.

Excerpts from the December 6, 1994 News Release:

"...Crossbow Electronics Inc. of Toronto, Ontario has conducted an independent on-site testing and review of the technology's development to date. With encouraging results, Crossbow has now agreed to a contract development agreement to complete a proof in principle prototype in Toronto. **The goal is to complete and design the system to operate in an efficient, non-polluting closed-loop manner and generate more electricity than it consumes.**"

Editor's Note: I talked to John Eriksen, President of Crossbow Electronics. He confirms the statements attributed to him. He also stated that tests of a much cruder system were made at Georgia Tech with the preliminary results indicating that the thermal power measured 157 percent more than the input power. Eriksen expects that the improvements will provide additional **efficiencies**. To meet their stated goal of being able to create more electrical output than used on the input, the conversion to steam and then back to electrical output would imply that the steam-generating process is providing thermal power from two to three times the input electrical power.

COMMERCIALIZATION?

In addition to Giant Bay Resources the following companies are also involved in new energy systems: Hydro Dynamics Inc. in Georgia is manufacturing and installing electric-powered **Hydrosonic (t.m.) pumps** which have been measured to be over 100 percent efficient **not including losses**. The HydroCatalysis Power Corporation of Lancaster, Pennsylvania is developing an electrolytic cell that produces excess power. ENECO, Inc. of Salt Lake City, Utah has obtained rights to intellectual property representing over thirty patents pending in the cold fusion and enhanced energy areas. UTAHKOMET is a joint venture manufacturing company in the Republic of Belarus which has been established to help provide a manufacturing base for new energy devices and systems.

Conclusion: **Commercialization has begun.**

ELECTRIC ARC STEAM GENERATION PATENT

Inventor: Sam L. Leach, "Electric Arc Plasma Steam Generation," U.S. Patent No. 4,772,775, Date of Patent, September, 20, 1988, 19 claims, 7 figures.

Abstract: An electric arc plasma steam generator includes a pair of electrodes for generating the arc plasma, and a housing for enclosing the arc plasma. Jets of water are directed into the arc plasma to convert the water into steam and to ionize the hydrogen and oxygen components of the steam. Arrangements including coils and water jackets are provided for circulating water in proximity to the arc plasma and for super-heating the water contained in the water jacket and/or the coils, which are preferably mounted within the housing. An expansion chamber is connected to receive both the super-heated water, and also the superheated steam from the arc plasma, as the hydrogen and oxygen recombine to form steam once again. The arc plasma in one embodiment may be formed by electrical conduction through a spray of water containing an electrolyte; and in another embodiment electrodes may initially form the arc plasma in air or other gas, and as the electrodes are consumed, they may be advanced by a suitable mechanical arrangement including threads on the electrodes, keyway slots on the electrodes, and stepping motors which serves to advance the electrodes as needed.

CURRENT STATUS OF FREE ENERGY INVENTIONS

DECEMBER 1994, extracts printed with permission from *Space Energy Journal*, vol 5, no 4.

by Jim Kettner, Don Kelly, and Chuck Toftness

The Space Energy Association has years of research and files of documents on Free Energy. ...

If we all work together, we have many reasons to believe that 1995 can bring us a marketable F/E unit. Read through this synopsis of F/E research and inventions and feel free to further update and educate all of us with any information you may have on this subject. And if we missed or forgotten any, please let us know so we can add it to the list for further publications:

[Note: Please refer to the original article for more details. Each unit is discussed under the following headings: Inventor, Type of Device, Basic Principle, Evidence of Workability, and Current Status.]

1. SWISS M-L CONVERTOR

INVENTOR: Paul Baumann of Methernitha Community, Switzerland.

CURRENT STATUS: Still held in secret by the Swiss Methernitha communal group.

2. POD-MOD

INVENTOR: Scott McKie of Seattle WA, USA

CURRENT STATUS: Scott McKie is continuing to attempt to bring this Pod-Mod concept to a practical and commercial stage and development.

3. SWEET VTA

INVENTOR: Floyd Sweet of Sherman Oaks, CA, USA

CURRENT STATUS: The testing of several VTA's in operation has shown that the output varies per time of day and the substantial operation has not been achieved.

4. "WIN" ENERGY CONVERSION

INVENTOR: Dr. Wingate Lambertson, Holmes Beach, FL, USA

CURRENT STATUS: While most of the major operating problems have now been resolved, the switching problems remain as a persistent snag in the final R & D stage, but are slowly being resolved.

5. "N" MACHINE - HOMOPOLAR GENERATOR

INVENTOR: Dr. Shiuji Inomata, JPT Nigata, Japan

CURRENT STATUS: R&D continues on Dr. Inomata's twin rotor small "N" Machine in Japan.

6. "N" MACHINE HOMOPOLAR GENERATOR BOTH D.C. AND A.C. TYPES

INVENTOR: Dr. Paramahansa Tewari, Nuclear Power Group, India.

CURRENT STATUS: The D.C. and A.C. machine development work continues in India, under the authority of the Atomic Energy Agency. [May be more accurate to say, "using the facilities of the Atomic Energy Agency." Ed.]

7. "S" MACHINE - SIBERIAN COIL

INVENTOR: Stefan Marinov, Graz, Austria

CURRENT STATUS: The "S" Machine is still under study by Marinov and he hopes to make continuing improvements on it.

8. JENSEN TRANSFORMER

INVENTOR: Paul Jensen, Santa Barbara, CA, USA

CURRENT STATUS: The project work seems to be slowing down as promising results are not showing up.

9. PLASMA BEAD PROJECT

INVENTOR: Ken Shoulders, CA, USA

CURRENT STATUS: Research and development efforts are continuing.

10. ENERGY CONVERSION SYSTEM (BETATRON TYPE)

INVENTOR: Robert Spence, United Kingdom
CURRENT STATUS: Spence was offered approximately 1 million dollars to develop his system in 1986, but his lawyers queried [sic] the deal, and the US investor left, totally bewildered.

11. GAS PLASMA ENGINE

INVENTOR: Josef Papp, deceased.
CURRENT STATUS: At least one of these Papp engine projects is being continued, maybe two. We have no details available on their progress. [One type is reportedly being developed in China. -Ed.]

12. SUPER EFFICIENT E/M MOTOR

INVENTOR: Bob Blood, HI, USA
CURRENT STATUS: This project work status has now been distributed to key F/E researchers for their evaluation. The project work in Hawaii is now dormant. Contact person in Hawaii is Dan Danforth.

13. CENTURGY PROJECT

INVENTOR: Nick Leibowitz, Ft Lauderdale, FL, USA
CURRENT STATUS: Still in progress and now has or is about to receive financing for the R&D on this project.

14. JOE NEWMAN ENERGY MACHINE

INVENTOR: Joseph Newman, of Laredale, MS, USA
CURRENT STATUS: Apparently Joe Newman is continuing with the project work but his present status is unknown. [Model built by Vincent Coon in Salt Lake City, UT, shows high efficiency, not net over unity. -Ed.]

15. PERMANENT MAGNET MOTOR

INVENTOR: Howard Johnson, of Blacksburg, VA, USA
CURRENT STATUS: This must now be considered a failed PMM project, but did help to show the way to other possibilities with PMM'S.

16. ARIZONA SUPER EFFICIENT D.C. MOTOR

INVENTOR: Earl Davenport, Bullhead City, AZ, USA
CURRENT STATUS: Unknown

17. CALIFORNIA SUPER EFFICIENT D.C. MOTOR

INVENTOR: Gilbert Erickson, Corona, CA, USA
CURRENT STATUS: Unknown

18. P.M.M. PROJECT

INVENTOR: Don Kelly, Clearwater, FL, USA
CURRENT STATUS: R&D continues as per the research funding project reviewed in this issue.

19. ADAMS MOTOR

INVENTOR: Robert Adams, New Zealand
LATEST INFORMATION: It has been reported that the Japanese firm (developers of the new superior magnet) has agreed to provide magnets to Adams.

20. WATER FUEL CELL

INVENTOR: Stanley Meyers, OH, USA
CURRENT STATUS: [Development funds being sought. Products have been promised to his many investors. Added by NEN Editor.]

21. HYDE'S GENERATOR - Failed-Bad E/S concept

22. BARBARA HICKOX [Added by NEN: Barbara was asked for operational data. NEN was refused.]

23. REED MAGNETIC MOTOR

INVENTOR: Troy Reed
CURRENT STATUS: It is reported that he has received funding but current status is unknown.

[For further information, see the letter in this issue to Jorg Ostrowski, from Hal Fox.]

Fusion Briefings

BRIEF MEMO ON IAP COLD FUSION DAY AT MIT

January 21, 1995

by Eugene F. Mallove, Sc.D., meeting organizer

The Cold Fusion Day IAP (Independent Activities Period) meeting at MIT on Saturday, January 21, which I organized, was in my view, a spectacular success. About 150 attendees in rapt attention for about 10 hours in the main Physics Lecture Hall (Room 6-120). Several high points came at the end of the day:

(A) Jim Griggs of Hydrodynamics, Inc. (Rome, Georgia) gave a magnificent presentation with new data on "massive melting" that has occurred on the periphery of his Hydrosonic Pump aluminum rotors on several

occasions. He also described re-welding of melted material to the rotor surface -- an even higher-temperature effect, he said. He had one such rotor unit there and you could see and feel it. Fantastically high temperatures would be required to do that and this is NOT ordinary cavitation. Among other observations, if it were simple cavitation, why would that not occur as a regular feature of Hydrosonic Pump operation? -- it does not. Cavitation experts at Georgia Inst. of Technology have now become involved. They say it is NOT cavitation. Griggs presented some stunning photomicrographs. Meanwhile, the over--unity effect continues to be seen, even as Griggs continues to sell in recent months several hundred thousand dollars worth of Hydrosonic Pumps for standard applications up to 250 HP.

(B) Bert Werjefelt from PolyTech(USA) in Hawaii spoke about his work on magnetic motors and the theory behind them. He reported that experiments have seen output powers of 450 watts electric, with only 150 watts electric going in. Attempts at self-sustaining have been successful for periods of minutes. The company now thinks it knows how to make a self-sustained operation continue indefinitely and is building one right now, expected to be ready in the next month or two. He showed gorgeous CAD diagrams of the 100-200 watt "self-sustainer" now under construction in Hawaii. He explained how it worked (the precise balancing of repulsion and attraction systems to substantially reduce torque). It was obvious that many, if not most, in the audience accepted his apparently very solid experimental conclusions -- even some I would have thought would have left in disgust. Werjefelt put forth his theoretical ideas, which are based, in part, on suggestions made by several (now) Nobel laureate physicists in the 1950s regarding nuclear magnetic spin systems (Pound, Purcell, and Ramsey). Others in the audience were extremely excited by this report, and put forth their theoretical ideas. Werjefelt is a solid mechanical engineer, whose company manufactures pioneering FAA-certified safety equipment. He is deeply involved in aviation safety issues and would have much credibility to lose if he were not on absolutely solid ground with this magnetic energy technology. He has been working quietly in this field for about ten years. On the advice of his patent attorneys, he published his general ideas in an article titled, "Magnetic Battery," in that counter-scientific culture journal, "Extraordinary Science" (Tesla Society), May/June/July 1993, which is available in places like Barnes & Noble book stores. Don't let your prejudices about the Tesla Society fool you, this is a very carefully crafted scientific article with some excellent possible avenues to explain concrete experimental results.

The 8-minute video tape of the Japanese developments in this area of "Dream Energy" (Magnetic Energy) was shown. This had aired on FUJI TV in Japan on October

20, 1993. There are four major corporations involved under MITI aegis: Sumitomo, Hitachi, Mitsubishi, and Matsushita. Werjefelt's company appears to have a very strong patent position in his area, however. The chief engineer of the Aerospace Division of Sumitomo has visited Werjefelt and told him that this discovery is "the greatest discovery of the 20th century."

Gene Mallove, who has been working with others who are getting similar, related results with smaller units, will co-author a paper with Bert Werjefelt that will be presented at the Fifth International Conference on Cold Fusion (ICCF5) in Monte Carlo, Monaco (April 9-13, 1995). This paper will present both experimental evidence and a suggested theoretical framework. It is expected that several working self-sustaining units will be brought to ICCF5. There is a possible (likely!) connection with cold fusion thermal effects that have been seen.

The MIT IAP proceedings of 1/21/95 were professionally videotaped. An edited full-version of the day-long program (8-10 hours) will be distributed by Cold Fusion Technology. Also, a shorter version summary (less than two hours) will be prepared by Mallove, working with a video production corporation in Manchester, NH. Due to schedule overload, it may be another 4 weeks before the tapes are available. Every effort will be made to accelerate the process. A transcribed version of some of the talks is also being planned by Cold Fusion Technology.

This is only the "tip of the iceberg" of the incredible events at MIT Cold Fusion Day. In retrospect, this was an extremely historic meeting. It was the first time that present and imminent commercial-level power production from cold fusion/free* energy was discussed in a completely scientific manner at a major university. The message was apparently very well received. Mallove received numerous compliments on the decorum and solidity of the sessions.

The former editors of "Cold Fusion" Magazine have joined forces and put out an interim "Cold Fusion/New Energy Technology" (CFNET) Update, a 36 page compendium -- mostly on cold fusion. This was distributed free of charge to attendees at the MIT IAP meeting. Others wanting this document should send a nominal \$5.00 to Cold Fusion Technology to obtain a copy for themselves:

Cold Fusion Technology
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Concord, NH 03302-2816
USA

Phone: 603-228-4516
Fax: 603-224-5975

This CFNET Update is a precursor to the continuation of a **reliable** Cold Fusion/New Energy Technology magazine (title yet to be finalized).

National Public Radio aired a one-hour cold fusion program (1/20/95) the day before the MIT IAP program, as part of the Ira Flatow "Science Friday" show. Featured for the "pro" side were Dr. Edmund Storms, formerly of Los Alamos National Laboratory and Dr. Eugene Mallove of Cold Fusion Technology, who gave a brief overview of what the next day's MIT Cold Fusion program would be about. Also on air were two members of the "Flat Earth Society"-- Gary Taubes, author of "Bad Science: The Short Life and Weird Times of Cold Fusion" and Professor David Goodstein of Caltech, neither of whom obviously knew what they were talking about in the matter of cold fusion. Neither have been seen at any cold fusion conferences in recent years, but that did not stop them from calling cold fusion research "lousy science." A copy of this tape can be obtained from National Public Radio in Washington.

Sincerely,
Eugene F. Mallove, Sc.D.
Cold Fusion Technology

COLD FUSION WITH ACOUSTICAL WAVES

Courtesy of Carol White

Carol White, "Achieving Cold Fusion with Acoustical Waves," *21st Century Sci & Tech*, Winter, 1994-95, pp 57-59, 3 refs.

EDITOR'S SUMMARY

Roger Stringham and Russ George of E-Quest Sciences in Palo Alto, California are melting some palladium targets in their acoustically-driven microfusion experiments. Ultrasound beamed into heavy water creates highly-energetic cavitation bubbles (akin to the bubbles that exhibit sonoluminescence). When the bubbles collapse a local temperature of at least 5,000 degrees Kelvin is produced. Challenged to show some kind of **nuclear ash**, Stringham and George submitted samples for testing for helium. Helium-4 was found and, in one case, an anomalous helium-3/helium-4 ratio was found. If the helium came from the environment (contamination) the helium-3/helium-4 ratio would be about 1 part in a million. However, a ratio of more than 1,000 times that amount was measured. This result suggests some type of nuclear reaction. Lately, experiments with titanium have produced superior results. Stringham and George state that the amount of heat energy produced is consistent with the amount of helium produced. Typically excess heat from 30 to 100 percent is achieved. These results occur only

with the use of heavy water and do not occur when using ordinary water.

50% SURE COLD FUSION FORMULA

Courtesy of Carol White

Carol White, "Storms Issues a Cold Fusion Challenge," *21st Century Sci & Tech*, Winter, 1994-95, pp 60-1, 3 refs.

EDITOR'S SUMMARY

Dr. Edmund Storms has issued a protocol for creating a successful Pons-Fleischmann type electrochemical cold fusion cell such that **"success will be achieved at least 50 percent of the time."** The essence of the protocol is to effectively determine the characteristics of the palladium sample. This process is accomplished by the use of precision micrometers, a highly-accurate scale, and optic equipment to view the surface structure of the palladium. A sample of the palladium to be used (Storms favors plates rather than rods) is carefully measured, weighed, and viewed for surface micro-cracks. The next step is to load the sample with deuterium in a standard heavy-water electrochemical cell (following all of the current well-published protocols to avoid contamination that could poison the process).

After the palladium has been loaded, hopefully to about 0.75 D/Pd ratio, as can be determined by accurately weighing the sample, then the sample is measured and inspected. Storms has a formula for guidance. If the palladium has expanded more than 2 percent beyond the expected amount (as determined by the equation), then it is wise to reject that sample. In addition, Storms' protocol included how the palladium should be treated. He suggests oxidizing by heating in air to about 600°C for a few minutes. The subsequent reduction of the oxide by electrolysis enhances the absorption of hydrogen/deuterium ions. Storms also discusses the role of impurities. The end result is a better (probably better than 50%) chance of having a successful cold-fusion experiment. Storms also suggests that the sheath of hydrogen or deuterium ions around the cathode may be a mechanism by which neutrons created by a fusion event are being absorbed and, therefore, are not measurable.

[Send \$3 for postage and handling and *NEN* will mail you a copy of this issue of *21st Century* magazine.]

Hydrogen Energy

HYDROGEN IN COSMOS, METALS AND LIFE

By C. Warren Hunt

The atomic universe is built on a base of hydrogen, a one-proton, one-electron combination that comprises 97% of all matter in the universe. Other elements are composites of this pair, and their chemical and physical behavior result from interactive attractive and repulsive forces between the components.

Of the forces involved: gravity, the weak and strong atomic bonds, Coulomb forces, electromagnetism, and magnetism, nothing fundamental is understood in science. All of these forces appear to act at a distance; and no one knows how they are transmitted from one component to another. Scientists have devised ways to deal with the forces and thus to predict them; and this understanding has led to the much-vaunted technology of our day. But we still know little of the fundamentals behind these forces, which is the same as saying, **"we do not understand the source of the energy of the universe!"**

Neither do we understand the fundamentals of the matter in the universe. The simple proton-electron combination of hydrogen is just a start on what makes up the protons, electrons, their neutral and opposite-sign counterparts, and the menagerie of variously-stable disintegration products. However, the rules for prediction seem to work.

Essential factors for confidence by scientists rest with the laws of thermodynamics. "Everything obeys the laws of thermodynamics!," says a physicist-colleague of mine. "But does it?" I respond, thinking of life forms. Primitive bacteria abhor oxygen and live on energy they extract from hydrogen. But out of their environment these creatures produce the sustenance for "more advanced" forms that not only tolerate oxygen but wither and die without it. The great chain of life then starts with a building process, a seemingly purposeful assembling from previously lifeless but often complex and supposedly randomized dispersions, new molecular compounds that sustain further forms that do similar things. And, so forth, it goes in an endless chain of improvement. It all starts with the essential energy of primordial hydrogen, from which the most "primitive" forms extract useful components and fashion new combinations, composites that are often ingeniously contrived, astonishingly

functional, and ultimately supply the entire requirements of self-conscious organisms.

Hydrogen is key. Elemental hydrogen is the most energy-packed material of our universe. It has twice the energy of its nearest rival, acetic acid; triple that of light metal hydrides (like LiH); four times as much as most metal salts; six times as much as methane and water; fourteen times as much as nitrogen; and fifteen times as much as oxygen. Nothing can touch hydrogen as the primal energy carrier.

Now we are reading about the strange experiments called *cold fusion* in which heat is released when hydrogen nuclei, protons that is to say, "fuse" spontaneously in other metals, notably palladium, but more recently using common metals such as sodium and potassium, and light metals such as lithium. Such an addition of a hydrogen proton entering the atomic nucleus is considered to be "fusion" (as distinct from the case of atomic hydrogen permeating the crystalline lattice of the metal, which is merely diffusion). Adding a proton to a metal atom changes the metal into something else, generically, we may say, into an "intermetal," the phenomenon is truly *transmutation* in the classical definition of that long-discredited term, an element made from another. Unavoidable consequences of adding a proton (which carries a positive charge) to an atomic nucleus are first that the diameter of the atom shrinks in response to the added attraction between the nucleus and the orbiting negative charges of the electrons and second, that the compressive action of the shrinking perimeter gives off heat.

The source of the heat in this kind of fusion is not known but may be analogous to the heat given off during the compression of gas. Orthodoxy says the latter heat is the sensory result of the gas molecules bumping each other more frequently after compression. But I am not aware that this has been demonstrated. And, even if it be true, what is radiant heat, photons vibrating at infra-red frequencies? There is nothing tangible here, only conceptions of convenience.

I would pose the question "What, if any, is the common link between, on the one hand, the extraction of heat from ambient hydrogen by primitive organisms, and on the other hand, the heat released by the *fusion* of a proton into an existing metal atom?" On the one hand, latent heat holds a key role in energizing the construction of something that did not exist previously, something that ultimately is conscious and self-motivating. On the other hand, we have heat release after *fusion* that happens spontaneously.

Light is shed on the fusion process by the USSR research of Vladimir N. Larin [1]. **Larin showed that it takes high pressure (4GPa+ [about 64,000 tons/in²]) to force hydrogen protons into potassium, but that continuing to raise the pressure injects more and more hydrogen in a straight-line relationship up to the limit of the experimental equipment.** Larin's injunction would be consistent with thermodynamic theory (the cold fusion injunction, which only occurs under special conditions that are difficult, to the point of chaotic, to reproduce, would violate it). Presumably fusion must give off heat, due to the occurrence of compaction, and the emitted heat should be comparable in quantity to the heat given off by gas compression. [The author apparently is not taking into account the exothermic properties of the proton-metal nuclear reaction. -Ed.]

The aspect of cold fusion that bears further attention is the difficulty of reproducing results. Large and reputable laboratories have reported no positive fusion results. Others turn up new and interesting positive results in an ongoing stream. Many different metals and processes are being tried. In one interesting report, it has been said that different batches of palladium made under, apparently, the same process behave differently in the laboratory, one giving fusion results, the other not. Quantum dynamics theory might suggest that this is a function of the "observer," in this case a worker in the preparation or in setting up the cold fusion experiment. [A tongue-in-cheek suggestion.]

What, then, is the difference between, on the one hand, unseen *primitive* microbes working on disordered debris to produce sustaining heat and apparently willfully storing some of it in complex amino acids for future use, and on the other hand, spontaneous transmutations that only happen in defiance of thermodynamic law (entropy) and evidently with input from human operators, for the benefit of human operators. Which is the more creative? Could it be that life is defined as the will and ability to manipulate hydrogen nuclei?

[1] V.N. Larin, Hydric Earth: the New Geology of our Primordially Hydrogen-rich Planet, 1993, Polar Publ., Calgary, ISBN-9695406-2-1 [Will be reviewed in March.]

EDITOR'S COMMENTS

We suggest that the author read the following reference:

Hisatoki Komaki (Biological & Agricultural Research Institute, Shiga-Ken, Japan), "An Approach to the Probable Mechanism of the Non-Radioactive Biological Cold Fusion or So-Called Kervran Effect (Part 2)," Proceedings: Fourth International Conference on Cold Fusion, Volume 4, pp 44-1 to 44-12.

Perhaps we could change Hunt's last sentence to: "Could it be that life has the will and the ability to catalyze both chemical and nuclear reactions based on hydrogen nuclei?"

We asked Hunt if the atom which when "adding a proton to an atomic nuclear are first that the diameter of the atom shrinks" necessarily had to shrink. He faxed, "I took the collapse idea from Larin, who poses it as the reason for negative isostasy - oceanic trench formation - among other things." We asked if there was laboratory evidence of elemental transformation under the high pressures. Hunt faxed, "The idea of intermetal formation - fluidic metals - is anathema to that of new, stable isotopes or transmutations to other elements. The + charge, as I see it, is the reason intermetals behave like free ions, i.e. fluidically. They are inherently unstable, and lose the extra proton with pressure decrease. I have explained low pH(3-4) waters, which we encountered in the transformed granite terrain at Ft. McMurray, Alberta, as carrying these escaped protons (H⁺ ions). I cannot see any other source for such pHs in natural environments."

We are grateful to C. Warren Hunt for bringing to our attention another view of hydrogen from the technology of geology. The basic concept that the earth (and other planets) were formed by the accretion of hydrogen-rich elements and that the high pressures result in dramatic changes (possibly nuclear changes) denotes a new cosmic chemistry. Add to this another concept that shows that a solar mass rotating in a thin plasma can transfer its momentum to the fingers of the solar plasma by electromagnetic forces and we have an engaging view of how the solar system could have been formed. See the review on The Big Bang Never Happened in this issue.

Solid-State Space-Energy Generators

EVALUATION OF MAGNETIC RESONANCE AMPLIFIER (MRA)

Done by Inst. for Advanced Studies / EarthTech International, Inc., H.E. Puthoff and Scott Little, 20 January 1995

ABSTRACT

An MRA device provided by Joel McClain and Norman Wooten was tested for power efficiency. The MRA is

essentially a power converter, driven by an audio frequency AC voltage and producing a DC output. Our tests included meter measurements, made in the manner employed by McClain and Wooten, and digital oscilloscope measurements, which provided high-resolution recording of input voltage and current traces. Our meter measurements duplicated the results reported by McClain and Wooten, which would appear to indicate over-unity (>100% efficiency) performance at certain frequencies, but only because the reactive behavior of the system is not properly taken into account by this measurement procedure. The digital oscilloscope measurements, which correctly account for the effects of circuit reactance, yielded a nearly constant 50% efficiency at all frequencies.

Introduction:

The MRA device we tested consisted of a piezoelectric transducer connected in series with the primary of a specially constructed, hand-wound transformer. The transformer has a ferrite core and the secondary is connected to a full-wave bridge whose output is connected to a load.

McClain and Wooten computed AC power by determining an equivalent resistance R of the MRA, and then substituting that value R , and the closed-circuit MRA input voltage V , into V^2/R to calculate an input power. They determined this equivalent resistance by substituting a decade resistance box in place of the MRA to find the resistance that would yield the same connected-circuit driving voltage. (Such a procedure is appropriate for purely resistive loads.)

In their most recent tests, McClain and Wooten used a small DC motor as a load for the MRA. We used the motor initially to confirm proper operation of our MRA testbed, but replaced it with a 130 ohm resistor to eliminate commutation noise for the tests described below. We also attached a 30,000 microfarad filter capacitor across the load resistor to smooth out the DC to ensure accurate measurement with common digital meters. We used two Micronta 22-185A meters, one in series with the load to measure current, and one connected across the load and the other meter to measure total voltage delivered to the load and current meter. Total output power is the product of these quantities.

To generate the 34 kHz signal needed to drive the MRA, we used a TEK FG504 Signal Generator amplified with a Pioneer H100, a modern solid-state 160-watt audio power amplifier without output transformers. To duplicate the performance of McClain

and Wooten's Radio Shack MPA-45, 35-watt amplifier, we had to add series L (34 microhenries) and R (11.68 ohms) to our amplifier. Without the series R we only observed a 0.10 volt drop when driving the MRA at resonance (McClain and Wooten's amplifier exhibited a 1.58 volt drop under this loading). Without the series L the anomalous effects were still present but substantially lower in magnitude than those observed by McClain and Wooten. With our amplifier thus modified by the addition of these elements, we have duplicated the McClain-Wooten driver amplifier setup precisely.

We used a LeCroy ScopeStation 140 100MHz digital oscilloscope with simultaneous sampling on 2 channels to measure MRA input voltage and current. Current was sensed as the voltage drop across the 11.68 ohm resistor placed in series with the amplifier output. This resistor was made by placing two 22 ohm, 2 watt carbon comp resistors in parallel to provide the desired resistance with a minimal inductance.

Procedure:

We conducted a series of measurements at different frequencies. At all times the MRA was connected to the 130 ohm load resistor. At each frequency we made the following measurements with the MRA connected to the AC signal source:

f	source frequency (measured with a Fluke 87)
$V_{in,MRA}$	voltage across the source terminals with the MRA connected (Fluke 87)
V_{out}	DC voltage across the 130 ohm load resistor and current meter (Micronta)
I_{out}	the DC current through the 130 ohm load resistor
V_{in}	digital recording of the input voltage trace covering about 4 cycles
I_{in}	digital recording of the input current trace simultaneous with V_{in}

At each frequency we also disconnected the MRA and measured:

V_{open} the open circuit voltage of the source

We then connected a decade resistance box across the source terminals and by trial and error determined:

R_{equiv} the resistance required to produce the same driving voltage as with the MRA connected

Results:

The following table shows these measured quantities for four different frequencies, beginning at resonance and then decreasing.

f(kHz)	V_{nMRA}	V_{open}	R_{equiv}	V_{out}	I_{out}
33.24	21.06	23.36	140	18.68	.1324
33.56	23.84	24.04	1900	15.02	.1068
33.34	24.20	24.10	negative	9.75	.0696
32.47	24.58	24.26	negative	5.28	.0377

The first entry in the table is at resonance and is characterized by the highest V_{out} value. The second entry has V_{out} at approximately 85% of the maximum value as suggested by McClain and Wooten. The digital data for V_{in} and I_{in} are not presented in this table in the interest of brevity. The several pages of digital data generated for each line in this table are, however, available upon request.

The next table shows the results of the power calculations, both by the V^2/R_{equiv} method used by McClain and Wooten, and by the averaging of V_{in} times I_{in} using the digitized data. Also tabulated are efficiency figures for each method (i.e., output power divided by input power).

f(kHz)	DC output	V^2/R_{equiv}	Avg $V_n * I_n$	Mc-W eff	$V_n * I_n$ eff
33.84	2.473	3.168	4.566	.78	.54
33.56	1.604	.299	3.265	5.36	.49
33.34	.679	negative	1.467	negative	.46
32.47	.199	negative	.401	negative	.50

The figures in columns 2-4 are in watts. The last two columns contain ratios. The column labeled "Mc-W eff" is the power efficiency calculated by dividing the DC output by the McClain-Wooten input power V^2/R_{equiv} .

Discussion:

The second row in the table shows the condition that McClain and Wooten interpreted as over-unity performance (e.g., an efficiency of 5.36). The problem lies in the value of 1900 ohms for R_{equiv} . This value was obtained because of the small voltage change between open- and closed-circuit conditions (24.04 to 23.84) measured at that frequency. Note that at even lower frequencies, the source voltage was observed to actually increase above the open circuit voltage when the MRA was connected ... a condition that McClain and Wooten also observed but did not attempt to analyze. At first glance this could be interpreted as evidence that the MRA was now feeding power to the source.

However, this behavior is exactly what is predicted by classical AC circuit analysis when a load with a net capacitive reactance is driven by a source that has a net inductive reactance. Since the MRA is essentially a series LC circuit, at frequencies below resonance it will exhibit a net capacitive reactance. The audio amplifier used by McClain and Wooten has an output transformer which, at the MRA operating frequency (substantially higher than the middle of the audio range), will exhibit a noticeable inductive reactance in its output impedance.

With such a combination of reactances one cannot, using only the magnitudes of voltage and current, determine the actual power being transferred to the MRA device. In particular, the R_{equiv} method fails as one detunes from resonance because it ignores the effect of reactance. Such reactance creates a phase shift between voltage and current, a fact well-known in the electric power industry as "power factor." For example, if both voltage and current are sinusoids, true power is given by $V * I * \cos(A)$ where A is the phase angle between the voltage and current waveforms. An equivalent method, which is more general because it is applicable to any waveform, is to average the product of the voltage and current waveforms over an integer number of cycles. This is the method we used to obtain the values in the second table in the column "avg $V_n * I_n$."

Conclusion:

Based on the results of our experimentation and analysis we find that the MRA device provided by McClain and Wooten does not produce over-unity-efficiency results. The MRA circuit behaves instead as one would expect of a loaded transformer with a series capacitor in the primary circuit. When the MRA is detuned from resonance to frequencies slightly below resonance, the observed changes may give the impression that the MRA then draws unusually little power from the source while nonetheless maintaining a healthy output. This impression is false. True power measurements show that the MRA continues to draw about twice as much power from the source as it delivers to the load.

[Note: This report by Hal Puthoff may not be the last word, *NEN* has heard that over-unity results were obtained when the power into the signal generator was used as "power in." In any event, we commend McClain and Wooten for their efforts and **especially for their willingness to give this development to the world.** -Ed.]

Space Energy

INFORMATION ON SUPER MAGNETS

Courtesy of Takeo Sawai, Corporate Secretary

Yasunori Takahashi, president of Sciex Co, Ltd. in Tokyo, Japan is the inventor/developer of the Y.T. Magnets. Takahashi graduated from Tokyo University in 1963 and had post-graduate engineering studies at Washington University. He has worked for Sony Corporation, Murata Manufacturing Co., and Automeix. In 1984 he resigned from Sony and Founded Scitek Co., Ltd. (name changed to Sciex in 1986.)

The Y.T. Magnet is based on a new magnet concept proposed by Kneller, etc. in 1991. The magnet consists of a two-phase magnetic materials. One phase is a hard phase and maintains magnetic strength. The other phase material is a soft magnetic phase. The combination provides the basis for this superior magnet. The soft phase is based on Fe or CoFe. The hard phase is proprietary but is based on the use of FeNdB plus other ingredients.

Takahashi states the following about the characteristics: "I have obtained crystal compositions of the attached drawing for heating the doping materials with very small needle state crystals. This manufacturing process is very simple with good characteristics and is suitable for bi-directional bonded magnets."

These new magnets are about twice as strong as the previous best magnetic materials. The company was kind enough to send us the following plotted characteristics of the magnet as shown on Fig. 1. In this plot the magnetizing forces is Oersteds (x-axis) is plotted versus the retained magnetic force in Gauss (y-axis.) As a magnetic material is exposed to a series of strong magnetizing forces beginning at zero and going to high positive forces. The magnetizing forces are then reduced back to zero and then continued in a negative (opposite polarity) for high negative x-axis values. At the same time the magnetism appears in the magnetic material under test. Normally the magnetic material reaches a degree of magnetization and stays at some maximum level (y-axis) as the

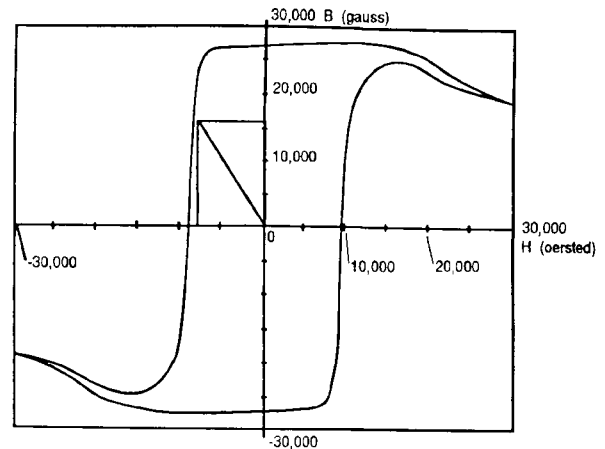


Fig. 1 Plot of B versus H

magnetizing forces (x-axis) increases. **The unusual curve shown in Fig. 1 can be interpreted by assuming the presence of a paramagnetic material that, at very high magnetizing forces, begins to effectively reduce the magnetic field retained by the magnet at the highest magnetizing forces.** You will note that the B-H curve is highly symmetric as the magnetizing forces go to maximum (plus x-axis) to high values of opposite polarity (negative x-axis).

Magnets are normally fabricated and stored before they are magnetized. The magnets are magnetized just before shipping to the customer. Otherwise, they are very hard to handle when they have high magnetic fields. Usually a strong electromagnet is used to magnetize the magnets before they are shipped.

Readers of *New Energy News* who desire to do some experimental work may want to make some of these B-H curves on selected magnetic materials. It is suggested that super strong magnets may play a big role in the future development of enhanced energy systems.

New Energy News commends Yasunori Takahashi and his staff on this remarkable development. We have been told by Takeo Sawai that the first production of magnets from their new plant will all go to Japan to fill back orders. Initial production from the new factory in the U.K. is expected about the middle of 1995.

PLEA FOR HELP FROM AUSTRIA

Stefan Marinov, "Editorial", *Deutsche Physik*, Vol 4, No. 13, Jan-Mar, 1995, pg 3.

EDITOR'S SUMMARY

Deutsche Physik is a journal **open** to all physical problems. Every established physical law or concept is open to critical examination. The only requirement is that the logic has merit and **that the experiments support the assumptions**. However, there must be **impeccable mathematical basis and sufficient experimental confirmation**. The current journals are highly mathematical but often are lacking in having a substantial axiomatic basis for the established theories. The result is that much of the current journal articles present physical science as a maze of scholasticism. Marinov writes, "It is enough to ... look at the so-called **relativistic papers** to see the abyss in which physical science has fallen: For almost a century the physics journals are inundated by voluminous papers, with hundreds and thousands of formulas, dedicated to a theory in which one cannot find where is the beginning and where is the end, and which can be demonstrated to be wrong by childish simple experiments." Joseph Alsop is quoted as saying, "A man who has bought a theory will fight a vigorous rear guard action against facts." The editorial concludes with "...DP is not a journal for old problems, it is a journal for new solutions."

EDITOR'S COMMENTS

Stefan Marinov is both an experimenter of note and a competent mathematical analyst. He was to have received support for some of his experimental work by funds raised from a group of German shareholders. A lawsuit was filed against the company and the president, a German citizen, was sentenced to four years in prison for fraud (although none of the shareholders complained). The basis for the fraud was that the company was going to use the funds for "over-unity energy device." **Stefan Marinov is pleading with anyone who has a working "over-unity" energy device to provide him with information so that he can get his friend out of jail!**

MAGNETIC ANOMALY

Stefan Marinov, "Two Experiments of Rimily Avramenko," *Deutsche Physik*, Vol 4, No. 13, Jan-Mar, 1995, pp 55-60, 4 refs, photograph.

AUTHOR'S ABSTRACT

I give a short information on two important experiments carried out by Avramenko which contradict two

fundamental concepts of conventional physics. Avramenko demonstrated with the first experiment the physical reality of the magnetic potential which is denied by conventional physics. Avramenko demonstrated with the second experiment that a rotating magnet does not generate an electric intensity, in contradiction to the assertion of conventional physics.

EDITOR'S SUMMARY

Avramenko is using a large torus (about 3 meters diameter as judged from photograph) made of high-frequency soft ferrite material. A primary coil around one part of the torus is supplied with high frequency alternating current (in the range of MHz). An electric bulb with two wires about 20 cm. long is placed near the center of the torus and the bulb illuminates. Quoting from the article: "According to the present electromagnetic concepts, the bulb can be lit up only in the case where its circuit **encircles** the torus, so that there will be a change of the magnetic flux through the surface spanned on the circuit." Avramenko performed another interesting experiment. He placed a secondary coil around the torus so that the coil could be moved along the torus (moving it farther from the primary). Avramenko observed that the phase difference as seen on an oscilloscope was zero. If that is an accurate observation, then the velocity of magnetization along the torus exceeded the speed of light, according to Avramenko. Rimily Avramenko is an academician with the Russian Academy of Natural Sciences.

In his second experiment, Avramenko used a cylindrical magnet rotating at high rotational speeds around its magnetic axis. "Avramenko observed that there was **no** force acting on the near-by electric charges at rest." However, the authors Landau and Lifshitz (*Electrodynamics of Continuous Media*, Moscow, Nauka, 1982) provide formulas for computing the electric field caused by a rotating magnetized sphere rotating about its axis of magnetization. Marinov comments as follows: "Hundred years the relativists assert that a rotating cylindrical magnet (or spherical magnet) must generate an electric field but nobody has done an experiment to see whether really there is an electric field. Avramenko did such an experiment: There was **NO** electric field." Comments anyone?

BARIUM FERRITES AVAILABLE

By Samuel P. Faile

I called Les Adams (501-856-3041) of AZ Industries, P.O. Box 250, Ash Flat, AR 72513. He said the sale of the Barium Ferrites, the ceramic magnets, that contain the oxides of barium iron and silicon are legal. They sell them under the designation of Ceramic 5. They cut the material that is shipped in from Brazil. Now with greater environmental regulations involving toxic barium powder, where the waste powder costs \$350 per barrel to dispose of, the manufacturing has been shifted abroad where the regulations are not as stringent. The formed material is safe, is not water soluble, and this is allowed to be sold. Most people have now switched to the strontium material because the magnetism is more stable. The alternative energy inventors are different in their reference in some cases because they believe the barium atom rings longer during special oscillations and also the lower or virtually non-existent conductivity of the barium containing material may be important.

AZ Industries has handled a few orders for electromagnets, but generally handle permanent magnets. Les Adams says the laws regarding the manufacture of the barium ferrite electromagnets is the same as for permanent magnets.

Miscellaneous

ELIMINATING BLACK HOLES

Courtesy of Dr. Samuel P. Faile

Faye Flam (Staff Writer), "Theorists Make a Bid to Eliminate Black Holes," *Science*, Vol 266, No. 5193, 23 Dec 1994, pg 1945.

EDITOR'S COMMENTS

John Moffat of the University of Toronto has developed a modification of Einstein's general theory of relativity in which the singularities disappear. As Moffat states, the beauty of his theory is, "There's no singularity anywhere--there are no black holes--all of that disappears." The article cites other work being done to help resolve some of the problems with Einstein's theory. Einstein has been so highly respected,

especially in the West, that few theorists would consider trying to make changes to his theoretical work. However, that taboo has been breached, according to this article. The general approach is to modify the theory to alleviate some of the troublesome problems but not to abandon the theory altogether. In other parts of the world, especially in Russia, there is not the same reverence for Einstein's theory and much of it has been discarded, especially the basic concept of no ether and the idea that the speed of light is the same in all directions from an accelerating body.

In this issue of *New Energy News*, we also report on a book, The Big Bang Never Happened. The evidence that there are stars circulating invisible objects that have mass and density expected of a star-sized black hole has alternative explanations. See page 17 for more information on this alternative concept and what it might mean to cold fusion.

SONNE WARD'S N MOTOR AND THE ACCURATE INJECTION SYSTEM

by Toby Grotz

Sonne Ward of Hamer, Idaho, has invented a motor generator device that is used to power a hybrid electric car. The invention came out of his concern for the environment and a desire to help reduce the pollution caused by fossil fuels. The N-Motor system consists of two electric motors connected in parallel and driven by a one or two cylinder portable generator. In the preferred embodiment, used to power a hybrid electric car, the generator is electrically connected in parallel to two motors. One of the motors is unloaded, the other is coupled to the transmission with a V-belt. Between the motor and the generator, a specially designed switch, activated by driving conditions, connects and disconnects the motor from the generator. Using this scheme, Sonne is able to drive a 1500 pound car at moderate speeds using a small one cylinder engine as the prime mover. The switch, which is the key to the success of the system, is used in one of Sonne's other inventions, the ACCURATE INJECTION system.

WHERE'S THE WATTS?

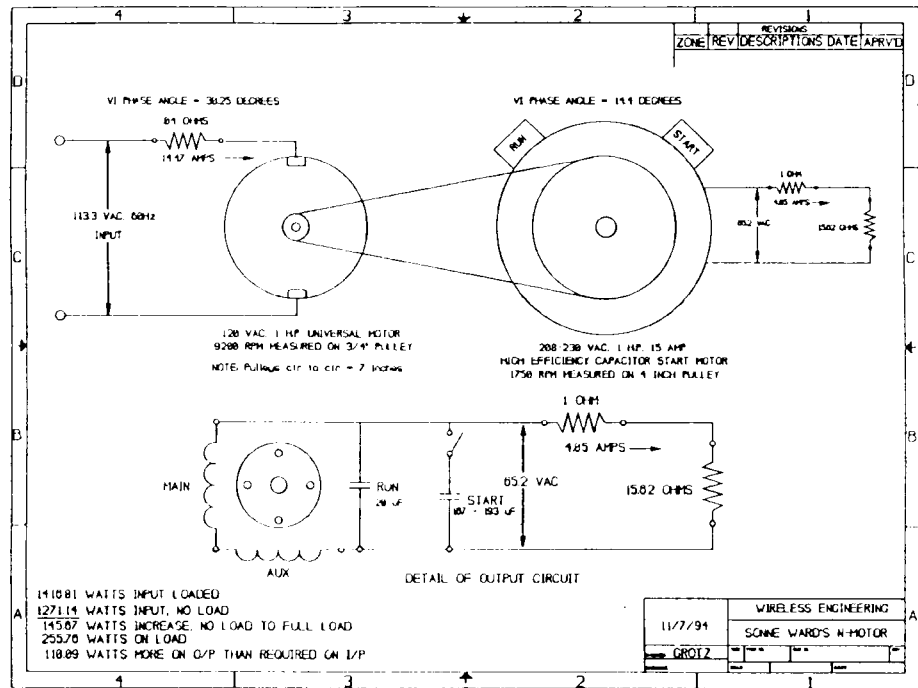
The N-Motor system provides an interesting study in motor theory. Sonne provided us with a set of two motors for testing. A 1 hp two pole universal motor is connected with a V-belt to a 208 - 230 VAC, 15 amp, single phase, 3450 rpm Magtek (cat# 177595-20) motor. The normal input to the Magtek motor is used as an output to drive a load. In other words, the first

motor is used to drive the second motor which now acts as a generator.

At a recent demonstration during a workshop in Fort Collins, Sonne powered a Sears model 315, 7.5 inch circular saw electrically connected to the Magtek Motor. The 62.5m 4 amp output to the saw was enough to make it sound dangerous.

We were fortunate to be able to borrow the motor setup, and although we only had three evenings to study it, we found an interesting phenomenon. When the capacitor start/run motor was loaded it delivered 255.76 watts but there was only 145.67 watts increase in power required to drive the universal motor. In our tests, 110.09 watts was unaccounted for.

At first this seems to be a phenomenon that has been described by Inomata, as incremental over unity, in tests of his JPI N Machine.



Condition	watts
Input power, no load	1271.14
Input power with load	1416.81
Delta input, no load to full load	145.67
Output to load	255.76
Unaccounted for increase in wattage	110.09

By studying the diagram of the test setup, it is not clear as to the source of the extra wattage. Bear in mind that this system is not used per se for the effect noted, but as an integral part of a hybrid electric vehicle. Power engineers will recognize an unloaded motor in parallel with the line as a synchronous capacitor used for power factor correction. In conjunction with the Accurate Injection Switch the motor also acts as an energy storage and transfer device.

The ACCURATE INJECTION SYSTEM: ENDING VEHICULAR POLLUTION

Sonne Ward and his wife Paula Jo have invented, and are currently marketing a pollution reduction, gas mileage improving device for multi port fuel injected

vehicles. The device is called the Accurate Injection system. The device will work on most of the newer Fords, Mitsubishis, Toyotas, Hondas, GMC, and since 1973 all Volvos. Beginning next year all cars will have multi-port fuel injection. Multiport Fuel Injection is designed to meter the gas individually and directly to each cylinder.

The most striking aspect of the Accurate injection device is its ability to reduce tail pipe hydrocarbon (HC) emissions by up to 98%. The test results I saw showed reduction of HCs from 225 ppm down to as low as 5 ppm. The results are presented in a chart accompanying this text.

Along with drastically reduced emissions, comes another benefit, an increase in gas mileage from between 30 to 50%. Using a 1993 Honda Civic CX, with a 4 cylinder, 1500 cc, 8 valve, multi-port fuel injected engine, Sonne and Paula Jo recently obtained 85.47 miles per gallon. This test was documented by Channel 6 News, KOIN TV in Portland, Oregon. On April 4th, 1994, they obtained a record 88.54 mpg at an average speed of 75 miles per hour. This record was documented by Channel 6 TV, KPVI, Idaho Falls, Idaho.

SONNE'S LAWS

LAW I

When electrons of high potential are displaced by implosion they always form a sphere...ALWAYS. The formula is always about 30% but more like 31 - 33% in vacuum energy. Above this ratio electrons seem to accumulate thereby upsetting the harmonic balance. In the two, either electrons (electricity) or gases (inertial combustion engine), there appears to be no difference in flow.

LAW II

Because it is a sphere if it is composed of interlocking rings in electrons, in close proximity it will actually change ends (they will lock up or stop). This effect occurs in vacuum tubes, spark plugs, electrical circuits in computers, internal combustion engines and electrical motors.

MORE INFORMATION

Sonne and Paula Jo can be contacted for more information at Future Free Transportation, PO Box 235, Hamer, Idaho, 83425. Ask for a price list of literature and videos describing their products and inventions.

MAXWELL'S EK FORCE

Jorge C. Curé (Ramsey Laboratories, Delray Beach, Florida), "Action and Reaction in Electrodynamics," *Deutsche Physik*, Vol 4, No. 13, Jan-Mar, 1995, pp 5-10.

EDITOR'S COMMENTS

Maxwell's Electrokinetic Force is given by the following equation:

$$F = K(qq'/r^3)[r\{A(v*v') + B(r*v)(r*v^3)/r^2 + Cv(r*v^3) + Dv'(r*v)\}]$$

where A, B, C, and D are shown in bold but are coefficients, **not** vectors.

The author provides the following table:

Author	Date	Values A,B,C,D
1. Ampere	1823	-2,3,0,0
2. Gauss	1835	-2,3,0,0
3. Grassmann	1845	-1,0,0,1
4. Weber	1848	-2,3,0,0
5. Riemann	1875	-1,0,1,1
6. Maxwell	1873	A,B,C,D
7. Clausius	1877	-1,0,0,1
8. Lorentz	1892	-1,0,0,1
9. Liénard-Schwarzschild	1903	-1,0,0,1

10. Einstein*	1905	-1,0,0,1
11. Ritz	1908	A,B,C,D
12. Whittaker	1912	-1,0,1,1
13. B.B. Brown	1955	1,-6,6,6
14. Aspden	1987	-1,0,1,-1
15. Marinov	1993	-1,0,½,½
16. D.E. Spencer	1994	-1,0,1,1

* Present Maxwell-Lorentz-Liénard-Schwarzschild-Einstein relativistic electrodynamics. This is the formulation, according to the author, that Peter Graneau has substantially demonstrated is inadequate.

The reader should be strongly amazed that after 172 years of studying electrokinetics, our best minds do not agree on the values for the A,B,C,D coefficients in Maxwell's equation. Readers should be even more surprised that we do not teach this fact in most of our college classes in science and engineering physics. It must be noted that some of these theories stemmed from **electrokinetics** and some from **electrodynamics**. The author notes "In this field of knowledge we are the spectators of the eternal dispute between the **continuum** versus the **void**." The author later discusses the difference between mathematical descriptions of **nature** using ordinary differential equations and partial differential equations. In one case the "**visible discreteness of the universe** is synthesized in the **invisible wholeness of the same universe**." Maxwell made the following observations: "*I found that, in general, the results of the two methods coincided, so that the same phenomena were accounted for, and the same laws of action deduced by both methods, but that Faraday's methods [electromagnetics] resembled those in which we begin with the whole and arrive at the parts by analysis, while the ordinary mathematical methods [electrodynamics] were founded on the principle of beginning with the parts and building up the whole by synthesis.*"

The author also cites the controversy of **action-at-a-distance** and **instantaneous interactions** versus the establishment of a proper **field theory**. Curé quotes Newton about the concept that **the force** propagates with an **infinite** velocity between particles, "so great an absurdity, that I believe no man, who has in philosophical matters a competent faculty of thinking, can ever fall into it." Finally, Curé pleads, "...we must completely ignore the present **Relativistic Establishment** and concentrate on creating a truly relativistic electrodynamics for future generations. **It is imperative we no longer waste intelligence and consume our time by beating a dead horse.**"

Book Reviews

THE BIG BANG THAT WASN'T

A New View on Cosmic Energy

Review by Hal Fox

Eric J. Lerner makes a strong case that the **Big Bang** didn't happen [1]. In this book is an excellent, in my view, alternative cosmology based on some of the work of Ilya Prigogine [2]. The following is my summary of Lerner's description [page 295ff in Reference 1]:

The Early Plasma Sea (Power Density: 10^{-34})

Instead of a "Big Bang" out of nothing, assume that much earlier than the hypothetical "Big Bang," there was a relatively uniform, vast (infinite, if you like) **sea of hydrogen plasma** (protons and electrons) characterized by some motion and energy and, therefore, there would be magnetic and electric fields. Any small perturbation in such a plasma (plasmas are, generally, unstable) would result in some localized combinations of vortex and filament flow. As shown in the laboratory, such plasma instabilities can be expected to combine with other perturbations moving in the same direction. Over time, say one trillion years, these low level plasma filaments of energy would tend to collect, increase in size, and become locally highly energetic. Based on Maxwell's equations, it can be expected that huge webs of large filamentary structures would eventually be formed. The largest of such rivers of energy could measure five billion light years in radius. These structures would not be inconsistent with the size of large galactic clusters observed in our universe. **If Maxwell's law of electromagnetics were the only forces involved, such a universe would run down eventually.**

Energy From Gravity (Power Density: 10^{-6})

About one trillion years later it would be expected that some new elements should have been developed within these plasma bodies and, together with the hydrogen, would have been the source of gaseous clouds from which suns and planets could develop. **Now a new source of energy is available: the energy from gravitation.** As matter compresses, energy is provided locally and the power density increases. If gravitational energy only were involved, again we could expect an ultimate decay of this

universe. This evolving universe could consist of galaxies after about 1 billion years, galactic clusters after about 10 billion years, and super clusters after about 100 billion years. However, another force is needed.

Nuclear Reaction Energy (Energy Density: 1,000)

The energy from the collapsing of matter into large bodies (fueled by gravity) now enables nuclear reactions to take place in the center of large bodies. **The enormous energy (from nuclear reactions) creates sun-like radiation, X-rays, and eventually the huge explosions from the occasional supernovas.** These explosions provide the debris from which some of this process can begin again. Energy increases, new elements are formed, suns, planets, moons, galaxies, and clusters of galaxies, continue to be produced and evolve. These rotating galaxies become enormous electrical generators and ribbons of energy flow out axially from the centers of rotation (as has been observed in the heavens). Now the universe is more highly energetic. **What else can increase the energy?**

Biological Energy (Power Density: 30,000)

Regardless of how life was formed or evolved, it is interesting to note that life is an ordering process. The energy provided within a cell of a mammal is far higher, in terms of Power Density, than the power density of energy within our sun. The decay of, or the "running down," that is characteristic of some systems (increasing entropy) is reversed within a biological structure. These life forms become sources of energy and contribute to the production of new compounds (even new elements according to some sources). **Now consider how else the local energy density might be increased.**

Social Energy (Power Density: 10^{31})

Some life forms, especially humanoid, have gathered into social organizations, have developed a better understanding of the universe (at least locally), and have become creators of energy. Energy creation and use has grown from animal power, to fossil fuels, and to nuclear energy. At this time we have been able to increase the local density of energy to a remarkable 10^{31} ergs per second per square centimeters in a plasma-focus device. Who knows what may happen next?

New Forms of Energy (Power Density: ???)

Not covered by Eric Lerner in his book is the question of radiative energy. As the ordering process in the universe has occurred over the past two trillion years (of the above scenario), and assuming our location within a very large universe, we should consider what has happened to all of the energy that has been emitted as electromagnetic radiation. According to scientists like Boyer, Wheeler, and Puthoff [3] this energy is the Lorentz Field Vacuum Energy (also known as ZPE or zero-point energy) which exists throughout all space, including around and within us. **After two trillion years of an "ordering process," we are now capable of giving serious consideration to tapping this enormous source of cosmic energy. First, we had to acknowledge that it existed.** The discovering of new sources of energy and the reporting of results are the ongoing tasks of *New Energy News*.

Note: For those of you who have been concerned about the "Big Bang" that could end in a "Big Collapse," you may be comforted by this more rational cosmological view of the universe. Happy New Year!

REFERENCES

- [1] Eric J. Lerner, The Big Bang Never Happened, Vintage Books, New York, c1992, 466 pages, 140 refs, 59 figs, indexed.
- [2] Ilya Prigogine & Isabelle Stengers, Order Out of Chaos, Bantam Books, New York, c1984.
- [3] Harold E. Puthoff, "Source of Vacuum Electromagnetic Zero-Point Energy," *Physical Review A*, Vol 40, No 9, Nov 1, 1989, pp 4857-4862.

THE HOMOPOLAR HANDBOOK, a Definitive Guide to Faraday Disk and N-Machine Technologies by Thomas Valone, Integrity Research Institute, 1377 K Street NW, Suite 204, Washington, D.C. 20005, c 1994, 180 pages, illus., indexed.

Review by Hal Fox

In the 1980s, Valone became very interested in the homopolar motor, first discovered by Faraday in 1831. The result has been both experimental and investigative research. Valone ends his preface with "The first few years of the 1980s were very exciting to me. As our collective knowledge continues to grow, stretching the boundaries of science and awareness,

the future has to improve." In between, Valone has written forthrightly and without the flurry of emotion that often attends discussion of past relics and future promises. In his 37 pages of discussion, Valone covers an Introduction, the Historical Development, the History of the Torque Controversy, The Classical Theory of the Faraday Disk Dynamo, "Unipolar Induction is Fundamentally a Relativistic Effect", General Relativistic Approach for Rigorous Scientists, The Theory of Armature Reaction and Resulting Back Torque, and Experimental Results with Different Homopolar Generators. The rest of the book is devoted to appended material which includes copies of a variety of papers about homopolar machines, some of which are papers by the author.

For anyone who would be involved in the development or the financing of homopolar motors or generators, this book should be carefully studied. Valone does not predict that this type of machine will provide over-unity energy, nor does he deny future developments. He does note that no one, to his knowledge, has proven that such a device can generate more energy than used to drive the device. In his final paragraph he states the following:

"Naturally, the area of unipolar, homopolar, or Faraday generators will continue to grow as DC power comes back into use on a large scale. In the near future, superconductors will reach room-temperature and thereby make DC power much more efficient, safer, and less costly to transmit. Superconducting power transmission cables will be designed to carry large amounts of current without loss and the homopolar generator/motors will play a big role in power generation, utilization and possible inverting for AC output. Possibly we will then see developments in the efficiency of these generators, beyond what is achieved even in the highly-tuned research laboratories of today."

This reviewer's only fault-finding was Valone's unnecessary negative comments about Stefan Marinov. Unfortunately, for those who know Marinov well, the comments unfairly reduce Valone's credibility. The readers should ignore this faux-pas and accept the excellent contribution Valone makes to this subject.

NIKOLA TESLA LECTURE

Courtesy of Leland Anderson, author.

Leland I. Anderson, Editor, Nikola Tesla: Lecture before the New York Academy of Sciences - April 6, 1897, c1994, 122 pages, illus, index, published by

Twenty First Century Books, Breckenridge, Colorado, paperback, \$12.95.

Book Review by Hal Fox

For those interested in scientific history or who are collectors of Tesla's work, this book should be in your library. This previously unpublished lecture given before the New York Academy of Sciences on April 6, 1897 provides an insight into the development of X-ray equipment and its use. One of the more interesting parts is the honest way in which Tesla lays out his experimental observations of tissue damage from some types of X-rays.

One of the more interesting discussions involves the concept that particles (or rays) can develop a hot spot in the glass envelope of certain types of single-electrode tubes and subsequently be resealed as related by Tesla. A by-product of this operation appears to be a lower pressure in the bulb. As noted by the editor, this effect should be explored. It would probably give us additional information about the nature of discharges and of the transport of charged particles through glass. See book page 24-25.

According to Tesla's lecture, if his lab had not burned down, causing him some delay in his experiments, he might have been the one to discover the X-rays rather than William Conrad Roentgen (for which he received the Nobel prize for physics.) One notable part of Tesla's lecture was his admission that he listened carefully to "the kind spirit who then communed with me ..." Page 32.

The discussion of how best to make high voltage capacitors and coils and to protect them from internal arcing by the use of beeswax and paraffin (the best insulating materials available a hundred years ago.) Also on page 40 is Tesla's comments about pressure in tubes: "Namely, in the usual commercial bulbs the vacuum gets higher when the current is passed through the primary in a certain direction and is lowered when the direction of the current is reversed." Would anyone like to try that?

Tesla reports on damage from X-ray radiation and its alleviation: "Fortunately, frequent warm baths, free application of Vaseline, cleaning, and general bodily care soon repaired the ravages of the destructive agent, and I breathed again freely." He then warns that at a shorter distance, "a serious, perhaps irremediable, injury might have resulted.

Except for some practical advice of how to insulate capacitors and coils with 100-year-old materials and the comments on changing the degree of vacuum by altering the current direction, there is little that is new Tesla technology. When you consider what Tesla did a hundred years ago, you must admit that he was an extremely capable experimenter, builder, and inventor.

One of the most important concepts that I have learned during the past few years, serving as editor of two energy-related publications is this: **There are several new geniuses who are alive today and working on far-more advanced technology than Tesla did.** That statement in no way is meant to downgrade Tesla's important contributions. With the enormous developments made in mathematics and science over the past 100 years, it would be foolish not to expect many new and better inventions. **The important concept is that we should help support the modern Teslas and solve today's energy problems.** The biggest challenge is to separate the fakes from the geniuses and then to get the scientific and investment community to recognize the new discoveries that appear to be non-scientific.

LETTERS

LETTER FROM WESLEY BRUCE

I've recently obtained a copy of the German patent no. 4244016 mentioned in NEN DEC 1994 page 18. I've shown it to three people who read German they found it impossible to decode. German thermodynamics terminology seems as difficult as English scientific language but the few words we could understand indicate a similarity to the work of Mr Dennis Lee of C.O.N.S.E.R.V.E Investment. You've run an add for Mr. Lee's Information Kit. The add ran under the Better World Technology title as a letter from Alison David. I got a copy of the kit from Alison David and believe that it would be a good idea to do a careful investigation of the claims in the kit. I am too far away to verify the information myself.

Mr Lee developed a super-efficient heat pump technology and a heat engine that he calls a "low temperature phase change" technology. Dr. Schaeffer's "retrograde condensation" technology has some similar components (assuming my reading of the

German is correct). Both seem to be using rotary valves to communicate between high pressure boilers and low pressure feed lines. Both seem to use working fluids with very low boiling points at high pressure so that they are liquid at room temperature. Mr. Lee uses a Heat pump to take heat from the environment and create an artificial heat flow, 200 degrees Celsius down to the ambient temperature. I don't know how Dr Schaeffer heats his working fluid up to a significant temperature above the environment's temperature. A mechanical or absorption heat pump solution is probable. My little team of translators couldn't find the heat gradient creation mechanism.

Please check to see if Mr. Lee's heat engine technology is patented or if it is public domain. I can't find out what company name the device is lodged under.

The comment on page 18 of NEN Dec 91 that 'Carnot is dead! Schaeffer disproves 2nd "law"! may be premature. If my reading of the science literature is correct then the Carnot equations on their own can't prove the second law of thermodynamics. Most thermodynamic processes are now known to have more variables than the Carnot equations take into account. Brodowicz Kuzimierz in his book on heat pumps argues that heat pumps require a more complex multi-axis analysis not the simple two-axis Temperature and Entropy graph. Some of the newer working fluids behave in a manner very different to steam or the almost fictitious "perfect gas". If Carnot is not totally applicable to these fluids in heat pumps then it may not apply to heat engines with the same working fluids.

The simple Carnot equation does allow 100% efficiency, i.e. an efficiency of 1. The equation is $T_1 - T_2 / T_1$. If T_1 is 308 K (room temperature) and the efficiency is 1, then T_2 must be zero degrees Kelvin. Impossible right, but in terms of Joules all the energy is going to do work and there is no energy actually going to T_2 . Delivering zero Joules to a zero degrees Kelvin heat sink can't be an impossibility. [The problem is the heat capacity of the T_1 heat sink. It is extraordinarily difficult to have a heat sink at zero Kelvin and maintain the heat sink at that temperature while pumping heat into it. Ed.]

The Energy losses in the condensation cycle of a heat engine occur when the expanded temperature and pressure exceeds the boiling point of the fluid forcing us to waste energy recompressing the fluid. Most heat engines built so far have been built with the pressure

of the expanded working fluid at or near one atmosphere. If the expanded working fluid is at a pressure where its boiling point exceeds the ambient temperature then it can be condensed.

Yours sincerely, Wesley Bruce

LETTER FROM JEANE MANNING

This month's issue of *NEN*, brimming full of interesting articles, contains very promising news from Joel McClain and Norman Wootan, courtesy of Jerry Decker, Keelynet. (The Magnetic Resonance Amplifier, a preliminary report on an experimental circuit based on the work and theories of John Ernst Worrell Keely and offered into the public domain in his memory.)

Most of your readers have probably not studied Keely's concepts in great depth. Dale Pond, who put many years and his financial resources into the effort of understanding Keely and putting his concepts into plainer language, will have a book out later this month and another following in a couple of months. I don't know the price of the book -- under \$20 I understand. The title of the first one, containing new photographs, etc., is something like Universal Truths Never Before Revealed: Keely's Secrets. Published by James Berry, The Message Company, RR 2, Box 307-MM, Santa Fe, NM 87505. (Phone 505-474-0998)

Dale told me recently that the second book, available in spring, explains a lot of the fundamental principles that Keely used.

Congratulations to *NEN* on another important monthly issue, and to Norm Wootan and Joel McClain for their discovery. Thanks to them and Jerry Decker for sharing.

Sincerely, Jeane Manning

LETTER FROM MORAY KING

Congratulations to Joel McClain and Norman Wootan for sharing what seems to be a successful over-unity energy experiment using barium ferrite and a piezoelectric transducer. Floyd Sweet likewise has demonstrated a closed loop, free running energy device using specially conditioned barium ferrite. Don Watson claimed a successful replication of Sweet's

work and disclosed three important steps for conditioning barium ferrite at the 1994 I.N.E. conference:

1. Electrostatic Stimulation - This is the most important step. Both Watson and Sweet subjected their barium ferrite to a 5 to 20 KV D.C. field. Watson sandwiched his between two plates at 20 KV for 20 minutes. This could stretch the crystalline lattice and permanently change its state like a ferroelectric material. The barium ferrite crystal contains a site of a loose iron nucleus, which is an unusual phenomenon in crystals, and it has attracted scientific investigation [1]. Lattice stretching could free the nuclei in these sites to undergo rotational and/or precessional motion. If many iron nuclei are stimulated to undergo synchronous motion across the entire barium ferrite ceramic, they could induce a zero-point energy coherence.

2. Frequency Entrainment - The barium ferrite is then subjected to an A.C. magnetic field at the frequency desired for its operation (50 or 60 Hz). Sweet used a coil (600 turns of no. 28 wire) at 1 to 2 amps to impress a characteristic frequency of 60 Hz.

3. Magnetizing Pulse - A large magnetic pulse is impressed across the barium ferrite that aligns the magnetic domains near the edge of the ceramic block opposite to the direction of the domains in the center of the block. Sweet reportedly used a pulse from a 6500 microfarad capacitor bank at 450 volts through the 600 turn coil in his early experiments. The pulse is timed to fire at the peak of the 60 Hz entrainment signal.

Steps 2 and 3 are often used by magnet manufacturers to erase (step 2) and create (step 3) permanent magnets. Step 1 is novel and is probably the key to producing highly active barium ferrite. It might well enhance the output in McClain and Wooten's experiment, perhaps sufficient to allow a closed loop, free running energy machine.

Sincerely, /s/ Moray King

Reference:

[1] X. Obradors, et al., "X-Ray Analysis of the Structural and Dynamic Properties of $BaFe_{12}O_9$ Hexagonal Ferrite at Room Temperature," *Solid State Chem.*, 56, p 171 (1985).

OPEN LETTER TO JORG OSTROWSKI

To Jorg Ostrowski, President
A.C.E. (Alternative & Conservation Energies), Inc.
9211 Scurfield Dr. N.W.
Calgary, Alberta, Canada T3L 1V9

Thank you for copies of letters that you have sent to other sources requesting information about enhanced energy devices. Your questions give me an excuse to review where we are in this exciting and much-needed energy technologies. [See also extracts from *Space Energy Journal*, in this issue. Ed.]

There have been a lot of promising suggestions, experiments, and even working inventions that for one reason or another do not seem to live up to their initial forecasts. Rather than to "damn them with faint praise", the role of *New Energy News* is to gather and report to our readers those new items, new improvements, and new discoveries that, **insofar as we can determine**, are honest reports of devices or systems that are important to the new energy field.

The following is a list of devices or systems that appear to have commercial potential:

1. Cavitation Phenomena. For example, James Driggs has a commercial product called a Hydrosonic Pump. This system is manufactured by Hydro Dynamics, Inc. of Cartersville, Georgia. When the pump is properly designed and installed, it provides hot water or steam with measured thermal power up to twice the input electrical power. They are currently marketing systems that provide ten percent or more of excess thermal power **not counting any losses**.

2. Cold Fusion. This new technology has expanded to about seven methods by which nuclear reactions can be initiated and controlled in relatively simple experiments. Thermal output power of two to ten times input power have been achieved. Considerable research has been done. (The staff of *Fusion Facts* have gathered, read, and published reviews on over 2,000 papers in this area. Cold fusion is a reality and is being commercialized to provide lower-cost thermal power. However, no one has announced that a commercial product is currently available.)

3. Wingate Lambertson Circuit. This circuit has been measured as providing up to four times the amount of electrical power input to the circuit. Independent verification is being conducted.

4. High-Density Charge Cluster Phenomena. This is patented technology that is now being improved. The initial inventor is Kenneth Shoulders (patent 5,018,180). In our judgement, this technology has great promise for electrical-in, electrical-out systems. The charge clusters, according to the patent description, appear to tap the energy of space (vacuum-point energy).

5. Rotating Magnetic Machines. A lot of work has been done in this area. No non-secret machines are currently demonstrated as being commercial prototypes. Several projects are known, **which appear to have over-unity potential**. One such machine is scheduled for announcement in the near future and will be reported in *New Energy News* as soon as the information is released (probably within 30 to 60 days.)

6. Secret Processes. We know about several projects that are being kept secret ("the world is not ready for this") or that are being processed for patents before making them public. We do not advertise devices that are being withheld from the world. We also respect the intellectual property rights of any new inventions and have agreed not to publish information until patent protection has been achieved. In several cases, we have counseled the inventor on how best to protect his/her intellectual property rights.

[Last minute addition: See article, page 3, about a soon-to-be manufactured system.]

Jorg, we are very interested in the **Alberta Sustainable Home** that you and your group are building. Our advice is to leave room in the basement or utility room for a furnace-size home power unit. It will not be long before your home will be able to be **off the grid** for both electrical and natural gas energy sources. I would even predict that with inexpensive power available, that many people (**especially in their mountain cabins or recreational property**) will even make their own water either by cooling to condense water from air or by boiling to make pure water from any source.

Please keep *New Energy News* informed as to the progress of your **Alberta Sustainable Home**.

Hal Fox, Editor

Meetings

CALL FOR PAPERS 1995 INE/PACE CONFERENCE REPORT and CALL FOR AUTHORS

Patrick Bailey, President INE

It appears that the joint INE/PACE conference scheduled for October 1995 in Germany has run into funding problems and may not occur. Wolfram Bahmann in Germany has written: "Other causes enhanced the problem. The personal support inside the German P.A.C.E. community has been too small to organize such an event. And I finally was not successful in finding a financial source willing to invest a considerable amount of money, necessary for a professional organization of the meeting." Wolfram will continue to look for funding, and we shall wish him success.

INE is looking at the possibility of hosting a 1995 INE conference in Mesquite, Nevada, during Thursday through Saturday, June 8-10, 1995; or possibly in Ft. Collins, CO,. Ken MacNeill, Toby Grotz, and I are looking to see what speakers could be invited, and also what the break-even attendance would be to host the conference at either site. Speakers (or their employers) would pay for their own transportation and hotel expenses but would not be charged for the conference fee nor for Proceedings. We currently envision about 20 to 25 speakers within three days with no overlapping presentations. Any one interested in suggesting speakers or assisting in the planning of the conference should contact Hal Fox or myself. As we are running out of time, a decision whether or not to announce this conference and its speakers will have to be made by mid-February. The results will be announced in the March, 1994 issue of *NEN* (to be mailed March 1, 1995).

We also need more information on the various researchers and devices that are receiving attention this year. Please contact Hal Fox or myself if you can offer any additional information.

1995 INE Board Summary Report
Patrick Bailey, President INE

The Members of the INE Board were asked to summarize their 1994 progress to date and status report, in writing, and return their reports by January 20, 1995. Responses were received from: Patrick Bailey, Ricky Butterfass, Ken MacNeill, Brian O'Leary, Jeanne Manning, Janet Meisinger, and Wolfram Bahmann. Hal Fox's report is also included. These reports are available by request from NEN. Please send a SASE with two stamps (\$0.62 postage) to NEN with your request. NEN will pay the postage for requests from members who reside overseas.

**The FIFTH INTERNATIONAL CONFERENCE
on COLD FUSION-ICCF-5 9-13 April 1995
Monte Carlo, Monaco**

We are pleased to announce that the Fifth International Conference on Cold Fusion (ICCF-5) will be held from 9 April (Sunday evening) - 13 April (Thursday) in Monte Carlo, Monaco.

Five years of intensive investigation have uncovered a wide variety of unexpected phenomena occurring in reactions of deuterium in condensed matter under ambient conditions. Further progress has been made in many laboratories during the last few months in experiment design, reliability and reproducibility.

The purpose of this conference is to provide a forum for scientists engaged in active research on the subject to interchange ideas, present recent results and consider the significance of these new results, demonstrations and developments in the theory. We would like to extend our warmest invitation to all of you to join together in this discussion of the research.

Registration was due on January 1, 1995, but you might write or call for information to:

Mr. Jacques Payet, ICCF-5
c/o IMRA EUROPE S.A., Centre Scientifique
B.P. 213, 220, rue Albert Caquot
06904 Sophia Antipolis Cedex, France
Tel: (33) 93 95 73 37 Fax: (33) 93 95 73 30

FIRST CALL

**1996 INTERNATIONAL WORLD
ENERGY SYSTEM CONFERENCE**

June 19, 20, 21, 1996
Toronto, Canada

"The World Energy System: The Transition from Local, National, Regional, to Global Energy Philosophy"

The aim of the conference is to define the requirements and evolution in new key areas of world energy system.

THEMES: Global and long term views on energy resources; infrastructure; conservation and efficient use of energy; new technologies; forecasts on future developments; models & management of energy systems.

SPONSORS: Faculty of Engineering and Applied Science, Ryerson Polytechnical University and the Canadian Institute World Energy System, both of Toronto, Ontario, Canada.

DATES: Participation notice: June 30, 1995; Date to submit papers: December 31, 1995; Registration of participants: June 18, 1996; Conference: June 19-21, 1996.

For information contact the Canadian Institute World Energy System, 5 Strathgowan Crescent, Toronto, Ontario, M4N 2Z6 Canada, Tel: (416) 487-0479, Fax: (416) 489-4413, E-mail: WES@acs.ryerson.ca

The **New Energy News** is a monthly newsletter for the Institute for New Energy, and is mailed free to its members. Yearly subscription rate to individuals is \$35 in the U.S., \$40 to Canada & Mexico, \$50 world wide first class. Rate to corporations, libraries and universities is \$60 anywhere. Contact **New Energy News** for subscription and submissions information at P.O. Box 58639, Salt Lake City, UT 84158-8639. Phone 801-583-6232, Fax 801-583-2963.

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