



New Energy News

Monthly Newsletter of the Institute for New Energy

VOLUME 1, NUMBER 1

MAY 1993

WELCOME TO FOUNDERS AND NEW MEMBERS OF INSTITUTE FOR NEW ENERGY

This is Volume 1, Number 1, of *New Energy News*, the monthly newsletter for all members of the **Institute for New Energy (INE)**. The Officers and Founders of INE welcome you to the INE and ask you to invite your energy-aware friends to become members.

The main purpose of *New Energy News* is to provide unifying communications that will serve to promote the use of **new energy systems to help resolve the world's environmental problems**. There are in existence, in various parts of the world, working models of clean energy devices and systems based on **hydrogen, cold fusion, rotating space-energy machines, solid-state space energy generators, or space-energy devices**. In addition, there are new developments in theoretical science that can now explain how some of these new-energy systems work. Therefore, *New Energy News* will publish summaries of the latest developments, sources of information, and abstracts of technical papers that are related to the research, development, and commercialization of new-energy devices.

Because our readers may have their own special fields of interest, we will print information in this newsletter under the following **departments**:

***Fusion Briefings**

Solid-State Space Energy Generators

Hydrogen Energy

Rotating Space-Energy Machines (also known as N-Machines)

Miscellaneous

*Previously published as a newsletter

IANAS SPONSORS ENERGY RETREAT & CONFERENCE

With financial sponsorship from Bill & Lynda Beierwaltes, the International Association for New Science sponsored a **new energy** retreat and conference in Colorado. Some twenty scientists, inventors, and writers from various countries gathered for a two-day retreat and exchange of information on **new energy**. Subsequently, members of this group were the speakers at a two-day **new energy conference** held in Denver on April 17 & 18, 1993.

Cold fusion, over-unity energy machines, solid-state excess energy devices, and zero-point energy devices were the subjects of the retreat and conference. This gathering of the world's leaders in new energy devices was an historic

first. Some of the major results were as follows:

Dr. Paramahansa Tewari (Chief Project Engineer of the Kaiga Project, Karwar, India) showed videos of his motor-generator machine that reliably produces three times as much electrical output as used to power the driving electrical motor.

Dr. Harold Aspden, an electromagnetics scientist from England, was able to show how his new space-energy theory allows one to write the equations that substantiate Tewari's experimental data.

Troy Reed discussed his new over-unity magnetic motor.

The group decided to form the Institute for New Energy (INE) under the auspices of the

International Association for New Science (IANS). This first issue of *New Energy News* is the direct result of that decision. The INE steering committee asked Hal Fox to be the editor of NEN. Hal Fox is currently the Editor-in-Chief of *Fusion Facts*. *Fusion Facts* is credited for much of the continuing world-wide interest in cold fusion. "With NEN, we will do the same for **Space Energy**", Hal declared.

ESTES PARK TWO-DAY RETREAT

The following persons (listed alphabetically) were invited as guests at a two-day retreat held in the Stanley Hotel in Estes Park, Colorado on April 14-16, 1993:

FOUNDERS OF THE IANS

Maurice Albertson, Professor of Civil Engineering, Colorado State University. Co-founder of the Peace Corp.

Brian O'Leary, former Apollo astronaut, former professor in astronomy and physics at Princeton and Cornell.

Thomas Bearden (unable to attend), a conceptualist in new energy technology.

Robert L. Siblingud, O.D., M.S., environmental physiology researcher with Rocky Mountain Research Institute, Inc.

MEMBERS OF THE STEERING COMMITTEE

Patrick Bailey, nuclear engineer and solar energy researcher.

Harry Braun, M.S. (unable to attend), President of Hydrogen Engineering Associates.

Toby Grotz, B.S., electrical engineer, founder of the International Tesla Society.

Morey King, M.S., system engineer, author, zero-point energy researcher.

OTHER INVITED GUESTS

Harold Aspden, former patent manager for IBM in the U.K. Retired and founder of Thermodynamics Limited in England.

Frano Barbir, associate editor for *International Journal of Energy *Environment Economics**.

William Baumgartner, director of New Energies Foundation. He has thirty years' experience in scientific and engineering

programs in the field of power, water, and wastewater.

Robert Beutilch, television engineer. He has held several offices in the U.S Psychotronics Association including president.

Timothy A. Binder, graduate of National College of Naturopathic Medicine, Western States Chiropractic College, and North American College of Acupuncture. Now president of the University of Science and Philosophy.

Hal Fox, editor of *Fusion Facts* & author of *Fusion Impact in the Enhanced Energy Age*.

Peter Graneau, retired professor and world-recognized authority on Ampère forces in electrodynamics.

Donald A. Kelly, founder of Space Energy Association and publisher of *Space Energy Newsletter*.

Stefan Marinov, theoretician and writer, publisher of *Deutsch Physik*.

Roy E. McAlister, founder and president of TransEnergy Corporation. He is an expert in solar-to-hydrogen conversion and use.

Henry C. Monteith, a teacher of mathematics and science at the Albuquerque Academy while carrying on private research on a vastly superior microscope.

Dale Pond, founder of Delta Spectrum Research, Inc., expert on the work of John Ernst Worrell Keely.

Troy G. Reed, president of Reed Technologies and inventor of the "Reed Magnetic Motor." His wife, Evelyn, was also present.

John C. Stover, Ph.D. at Purdue, president of TMA Technologies, a company that manufactures optical measuring instruments.

Paramahansa Tewari, Chief Project Engineer of the Kaiga Project for the Nuclear Power Corporation in India.

Charles A. Yost, aeronautical engineer, and publisher of the *Electric Spacecraft Journal*.

HIGHLIGHTS OF THE TWO-DAY RETREAT

The objective of the retreat was to get the world's top scientists, inventors, and writers in the new energy field together. The most

significant result of the retreat was the face-to-face meeting, the sharing of information, and plans for the future. The outcome of the meeting was the decision to form an **Institute for New Energy**, publish the *New Energy News* newsletter, and to hold future retreats, workshops, and conferences. In other words, to facilitate communication.

All of the attendees at the retreat were selected because they were associated with new or non-standard methods of producing energy. Some were theoreticians with splendid credits for technical publications, e.g. Harold Aspden, Peter Graneau, and Stefan Marinov. Others could be counted as dogged and determined experimenters who had some evidence of being able to get energy from space, e.g. Don Kelly, Troy Reed, and P. Tewari. Others could be classified more as reporters or writers such as Hal Fox and Moray King. Some of the group were dedicated to recovering or building upon historic work that never made it into the august halls of science, such as work of Keely, Tesla, Edwards, and Russell. Others were working in scientifically-acceptable fields such as hydrogen energy and fuel cells where current technology could replace environmentally-costly fuels. All were gentlemanly, courteous, and in the environment of the retreat ready to play a supportive role in achieving maximum benefit from this historic meeting.

Under the direction of the IANS staff, the participants each introduced themselves, told about their interests and their works. The participants were asked to select what they would like to accomplish at this first retreat. The end result was that the group split into four workshops: Cold Fusion, Rotating Over-unity Devices, Solid-State Over-unity Devices, and a Hydrogen group. [This choice was the natural genesis of the departments of this first edition of NEN.]

After the workshops, the group met as a committee of the whole and discussed the outcome of the workshops. Later, the participants spent some time in answering the question, "Where do we go from here?" The

consensus of the group is summarized as follows:

1. This meeting was an historic first and should become a periodic event. However, there are some important new energy experts who should be present.
2. The most important activity was the meeting with others who are working in new energy; the exchange of information; and the group acceptance of work that is sufficiently important to each participant that he/she is willing to devote time and money to such projects.
3. The recognition that the various projects are based on real science (but, in many cases, not readily accepted science). This is the message that must be communicated. [Which is the main objective of NEN.]
4. The importance of establishing modes of communication among new energy workers. Therefore, it was unanimously agreed that the IANS should establish the **Institute for New Energy** and publish this newsletter. Other methods of communication should be established such as conferences, workshops, and computer bulletin boards.
5. It was unanimously agreed that a valid, proven, and demonstrable over-unity device should be built and verified. Then a proper press conference should be called to tell the world about the demonstration device.

THIS NEWSLETTER IS FOR YOU

We at **NEN** have used the basic committee structure that was selected at the Estes Park retreat to create the four departments that you will find in the following pages. The four departments are **Fusion Briefings, Hydrogen Energy, Rotating Space-Energy Machines, and Solid-State Space-Energy Generators**. For this first issue, we begin each department with a copy of the committee reports from the retreat.

We at NEN want this publication to be the best source of factual information for each of these departments. This publication, if aided collectively by all of our readers, can provide an excellent vehicle for the rapid exchange of information. Four years ago, *Fusion Facts* was faced with the same challenge. The idea of fusion reactions being produced at room temperatures and in a glass bottle was an almost unacceptable new idea. *Fusion Facts* provided a rapid means by which new data, new theories, and new facts could be disseminated to and from various parts of the world. The end result has been the acceptance, among many important segments of our scientific society, of the reality of cold fusion.

We are now faced with a similar problem: the acceptance of space energy, aka (also known as) zero-point energy. However, we have a much better foundation to start with than we did with cold fusion. We have the stalwarts who founded the International Association for New Science. We have the book, [Tapping the Zero-Point Energy](#) by Moray B. King. We have a large number of friends of cold fusion, of zero-point energy, of Tesla's work, of Bearden's work, etc. These are our resources by which we will change the way the world thinks about the reality of space energy.

Each one of you is an important part of this concept of changing the present scientific paradigm (model of reality). With your help, we can do it.

Please let us hear from you about what **NEN is doing and how we can do it better.**

COMING IN JUNE 1993

The next issue of New Energy News will contain a brief review of papers presented at the International Symposium on New Energy. This Symposium was another important historic event and is planned to be repeated annually.

PAPERS TO BE REVIEWED IN JUNE NEN

Here is a partial list of some of the papers presented at the International New Energy Symposium that will be reviewed in the June issue of NEN:

Harold Aspden, "The World's Energy Future."

Patrick G. Bailey, "A Unique Class of Alternative Catalysts for Fuel Cell Applications that Replace the Need for Precious Metals."

Frano Barbir and Nejat Veziroglu, "Hydrogen Energy Technologies: Pathway to Commercialization."

William Baumgartner, "Energy Extraction from the Vortex."

T.E. Bearden, "The Final Secret of Free Energy."

Timothy Binder, "Transmutation of the Elements, a Modern Alchemical Team's Experiments with the Concepts of Walter Russell."

Hal Fox, "Impact of Cold Fusion and Other Enhanced Energy Systems."

Peter Graneau, "Concept of a Capillary Fusion Reactor."

Toby Grotz, "Working Models of Free Energy and Transmutation Systems."

Don Kelly, "The Status of Free Energy."

Moray King, "Fundamentals of Zero Point Energy."

Roy E. McAlister, "Improved Energy-Conversion Efficiency will Spark Transition to Hydrogen in Commercial Applications."

Stefan Marinov, "The Generator *Venetin Coloiu* Produces Free Energy."

P. Tewari, "Generation of Cosmic Energy and Matter from Absolute Space."

Charles A. Yost, "Possibilities for Electric Field Propulsion."

George D. Hathaway, "Experiments with a Unipolar Dynamo of Novel Construction."

A. Michrowski, "Vacuum Energy Developments."

Fusion Briefings

FUSION / TRANSMUTATION

Report by Chairman Timothy A. Binder

The Cold Fusion group at the retreat was chaired by Tim Binder with members being Hal Fox, Peter Graneau, Dale Pond, and William Baumgartner. The topics that were discussed was the present status of cold fusion, capillary fusion, and transmutations. Two of the group had been involved in transmutation experiments following some of the work of Walter Russell, Louis Kervran, and George Ohsawa. The outcome of the discussion was an understanding of the type of transmutation that is being produced by cold fusion nuclear reactions. In addition, there was a better understanding of the scientific work that had been done leading up to capillary fusion and the strong longitudinal forces that can be exerted on matter by large electrical currents. Also, there emerged an appreciation for the work done by Walter Russell that has been essentially abandoned in the progress of science.

Our various projects were described and ideas shared. Hal Fox shared his 1,200 cold-fusion references and the newsletter covering the cold fusion research field. Fox also provided copies of *Fusion Facts* to all attendees at the retreat and at the Denver Symposium.

Two action plans developed from our meeting:

1. Dale Pond, William Baumgartner and Tim Binder volunteered to submit articles and ideas for novel ways to consider cold fusion / transmutation from the Russell Cosmogony and Keeley work perspective and Hal Fox volunteered to publish successful reports in *Fusion Facts* and in *NEN*.

2. Peter Graneau described his research ideas in cold fusion and volunteered the use of his \$100,000 capacitor bank for any research in transmutation / fusion that the group might want to perform. Peter also revealed his ideas on how cold fusion could be accomplished in capillary filament tubes designed to withstand the pressures generated and how to calculate the amount of energy change from electrical to mechanical (and heat) energy. Tim Binder and William Baumgartner suggested that centripetal - centrifugal aligned

capillary filament tubes be considered in tube design. Peter suggested the use of pulsed capacitor discharge in the transmutation work in place of magnetic fields.

NEWEST PAPERS ON COLD FUSION

Fusion Technology, a journal of the American Nuclear Society, under the intrepid leadership of George Miley (Univ. of Illinois, Fusion Studies Laboratory) prints cold fusion articles in each issue. In the May 1993 issue are the following articles:

1. Bruce E. Gammon (Texas A&M), "Cathode Colling by Expansion of Hydrogen in Calorimetric Tests for Cold Fusion," pp 342-345, 1 table, 11 refs.
2. Michael Bittner, Andreas Meister, Dieter Seeliger, Rainer Schwierz, and Peter Wüstner (Dresden Univ.), "Observation of D-D Fusion Neutrons During Degassing of Deuterium-loaded Palladium," pp 346-352, 3 tables, 10 figs, 10 refs. [Due to the successful politicking against cold fusion, this is one of the few positive cold fusion papers to come from Germany.]
3. Peter L. Hagelstein (MIT), "Coherent and Semicoherent Neutron Transfer Reactions III: Phonon Frequency Shifts," pp 353-361, 49 refs. [Read between the equations unless you have a strong math background. Hagelstein is one of the world's leading cold fusion theorists. Look for more developments in cold fusion from MIT.]

PEER-REVIEW PROBLEMS

Dr. Melvin H. Miles (Naval Air Warfare Center, China Lake, CA) and friends have an elegant experiment that proves that hydrogen-4 is a byproduct of the successful operation of a Pons-Fleischmann type of cold fusion electrochemical cell. The paper of Miles et al. was recently rejected by the *Journal of Physical Chemistry*. The paper was submitted for peer review. Although this work by Miles et al. is one of the most

important experimental works in cold fusion, three of three "peer-reviewers" made the judgement that it should not be published in the journal.

Miles writes, "...scientists in this field are being criticized for the fact that only a few journals will publish positive papers relating to anomalous effects in deuterated metals. This situation can only be corrected by the commitment of the editors of the various journals to scientific objectivity."

[Peer-review decisions should not be made for political purposes, such as the fear of loss of funding from DOE.]

TESTIMONY ON COLD FUSION

As we go to press, The House Subcommittee on Energy of the House Science, Space, and Technology Committee has scheduled a hearing to be held Wednesday, May 5, 1993. Edmund Storms, recently retired from the DOE-supported Los Alamos National Laboratory, will present testimony and provide documents to the committee relative to the new science of cold fusion.

Most of the other speakers at the hearing represent the hot fusion community, especially the ITER (International Thermonuclear Experimental Reactor) hot fusion project. After \$20 billion spent, the hot fusioners are still 20 years away from commercial applications. [They've been 20 years away since they started, an excellent record for consistency.]

The witnesses that are testifying before the committee include: Dr. N. Anne Davies, Associate Director for Fusion Energy, DOE; Dr. Harold Forsen, Sr. Vice President for Research and Development, Bachtel Corp.; Dr. Paul-Henri Rabut, Director of International Thermonuclear Experimental Reactor (ITER); Dr. Charles Baker, ITER U.S. Home Team Leader, Oak Ridge Nat. Labs.; Dr. Ronald C. Davidson, Director of Princeton Plasma Physics Lab.; Dr. Klaus Barkner, Associate Lab. Director of Operations, Lawrence Berkeley Lab.; Dr. Bogdan C. Maglion, Chief Scientist, Advanced Physics Corp.; and Dr. Edmund Storms, Staff (retired), Los Alamos National Lab, [also a member of the Science Advisory Board for Future Energy Applied Technology, Utah].

LETTER FROM SAMUEL P. FAILE

I believe that as experimental efforts strive for more intense or powerful cold fusion effects, new phenomena will arise involving gravitron-like or anti-gravity effects that will demonstrate to the scientific community a need for a more fundamental comprehensive new theory.

It is suggested that techniques that might intensify the cold fusion process should be tried especially if they require only a modest investment in time and money. Non-inductive coils (active) wrapped around a cell may be worth a try.

Also tests can be tried to reveal new cold fusion phenomena, again if they require only a modest investment in time and money. One that could reveal a non-Hertzian wave feedback mechanism would be a modified vapor tube of a Geiger-Muller counter.

Best Regards, Samuel P. Faile

COLD FUSION IMPACT IN THE ENHANCED ENERGY AGE

Enthusiasm is contagious. Cold Fusion Impact in the Enhanced Energy Age is full of enthusiasm about a great discovery that has the potential to make the world a better place. For four years Hal Fox has been gathering an impressive collection of cold fusion literature. He is an authority in the subject and is now sharing with the reader his far reaching vision of all the changes that low-cost, clean, abundant energy will bring to the whole world. Written in a simple, non-technical style, Cold Fusion Impact is a clear and concise book that everyone needs to read. It is addressed to the layperson that needs to understand and be ready for the changes that will certainly come as a consequence of the commercialization of enhanced energy systems. **Also includes a extensive 1200+ entry bibliography of Cold Fusion papers and articles, on IBM computer disk, with INFOFIND search and retrieval program.**

Book and Disc together: \$24.95

Hydrogen Energy

THE HYDROGEN COMMITTEE REPORT

Report by Pat Bailey

Attending: Patrick Bailey, Frano Barbir, Roy McAlister, Maury Albertson and Marv Sager.

- The use of hydrogen as an energy source is not well understood.
- 2 page handout of facts should be prepared.
- Hydrogen is very safe - very economical.
- No one on the Hindenburg was harmed by H₂ gas fire (but by a diesel fuel fire.)

H₂ Storage Options:

1. Tank Storage hydrogen gas. Use Kevlar (fiber plastic or graphite fiber) as an outer surface, allows safe H₂ gas storage at 3,000 psi.
2. Carbon - H₂ contained in the carbon matrix. H₂ is released by lower pressure or higher temperature. For instance, store in the roof of a car, store at night.
3. Metal Hydride - A metal matrix holds the hydride.

H₂ Energy Applications:

Transportation, Food Industry/Production, Appliances, Petro-chemicals, Iron Smelting.

Major Pluses:

H₂ is a clean fuel.

When burned, it cleans the air of nitrous-oxides.

Use in fuel cells - creates electricity and water.

Major Minuses:

A clean non-polluting energy system is needed to produce the hydrogen gas.

Use in Automotive:

Tank H₂ - by using a conversion kit in your car.

Fuel cell - need electric motor or use an electric (battery) car, or buy a whole new car.

Farming Production:

Farmers could use crop left-overs to create the hydrogen gas.

Store in conventional natural gas facilities.

Byproduct is carbon, another cash crop.

Water Creation:

(It is easy to transport H₂ and burn it to get H₂O)

Water creation from H₂ gas is more economical than a desalinization plant.

Water can be created at remote water production facilities.

Group Objectives:

1. To provide a pollution free energy production facility.
2. Create summary review papers for public information and education.
3. Create better carbon and hydride H₂ storage systems.
4. Fuel cell designs: Optimize designs that can use less pure H₂, develop catalysts to remove H₂ impurities. [One method being used commercially is thin-walled Pd-Ag alloy tubes. Only H₂ passes through the tubes. Ed.]

Short-Term Strategy and Tactics

1. Identify important data and important portions of existing papers for references.
2. Create new papers that tell the whole story, written for high school level and government officials.
3. Create press interviews.
4. Marketing: Papers, Magazines, TV shows, Science fair projects - How-to-Build-It Plans.
5. Create an accounting paper to show that the H₂ economy is cheaper and much more profitable than existing technologies. [Be sure to include the cost of capital.]

Long-Term Strategy and Tactics

1. Provide better summary papers.
2. Increase public awareness.
3. Demonstrate the H₂ gas station concept.
4. Create Super Natural Gas: Encourage development by gas companies and geology

departments (has to do with certain geological formations).

5. Document a plan for donating your 2nd car to an organization (like a high school) that would then refit the car for the H₂ economy, and then would sell or donate the H₂ powered car to local or civic use. (The donated car is tax deductible at present value.)

6. Plan and have future conferences, such as "Implementing Hydrogen Energy."

7. Stay involved with standardization activities such as the "International Standards for Hydrogen Committee" (DC-197 committee), and the United Nations International Development Organization (in Vienna). Coordinate with the American Hydrogen Association (Roy McAlister, Pres.).

[Until another form of low-cost energy is proven, the use of hydrogen is the best approach to clean up our cities. However, hydrogen use will be limited as long as oil can be pumped out of the ground cheaper than hydrogen can be produced.]

WATER FUEL

Courtesy of Stephen A. Roen

The Rudolph Gunnermann patented Water Fuel (55% water, 45% gasoline or diesel) is being tested by a major European automotive manufacturer. Gunnermann's absence from the U.S. has delayed the planned "Clean-Air Rally" for A-55 fueled autos and autos using normal gasoline. However, representatives of the *Oil Market Listener* (our source for this story) have been promised a two-week driving test in May. The use of A-55 requires that a catalyst be added to the engine, but the pollution output is considerable reduced, says the inventor.

ULTIMATE SOLUTION FOR MAKING HYDROGEN?

Courtesy of Mike Guss, Hong Kong

The *Far Eastern Economic Review* (Dec 10, 1992, page 62) reports that Chinese scientists have made a breakthrough in the production of hydrogen from water. The technique uses neodymium as a catalyst. Sunlight is used to trigger the reaction. The article relates that the Chinese scientists involved are very tight-lipped about commenting

further on their work. This may be an improved method of using solar power to provide hydrogen.

ON-DEMAND HYDROGEN GENERATOR

Courtesy of Mark Goldes

The patented on-demand hydrogen generator is an autoelectrolytic hydrogen generation system consisting of one or more similar cells immersed in salt water. A galvanic arrangement of aluminum and magnesium plates is employed as the anode, and stainless steel is employed as the cathode. A voltage develops between anode and cathode (as would be expected of dissimilar materials in a battery.) The combination of anode, cathode, and sea water as the electrolyte, causes current flow and the result produces hydrogen on demand by electrolytic action at the cathode. Additional hydrogen can be developed by electrochemical reaction at the anode. The system can even develop surplus electric energy which can be used to produce hydrogen by an optional additional conventional electrolysis cell.

This invention represents a breakthrough in the production of hydrogen, its distribution, utilization, and safe natural storage. The hydrogen is stored in the sea water (or locally-made salt water) until the hydrogen is required. This hydrogen co-generator produces only the amount of hydrogen demanded by the throttle setting of the boat (or other vehicle) engine. This system provides strong competition for the hazardous pressurized and expensive cryogenic or hydride systems now used.

The hydrogen produced is 99.8% pure. **The quantity of hydrogen generated is about four times the amount that would be expected from textbook calculations. The fact that more hydrogen is produced than would normally be anticipated has been firmly established by independent laboratory tests and is mentioned in the most recent patent as a "principal and very important part of the invention."**

[It will be interesting to learn if the extra production comes from the energy stored as chemical energy in the aluminum and magnesium plates. These plates do have to be reconstituted. The process for reconstituting the plates may provide the energy that provides the additional hydrogen.]

For more information, please write or fax NEN.

Rotating Space-Energy Machines

ROTATING SPACE-ENERGY MACHINES COMMITTEE

Report by Evelyn Reed

Attending: Moray King, Troy and Evelyn Reed, Stephan Marinov, Paramahansa Tewari, Harold Aspden, Brian O'Leary and Henry Montief.

Goal: Create a free running over-unity machine for experimental replication by the scientific community at large.

Candidate Machines:

- Reed Magnetic Motor - not yet ready for disclosure
- Tewari N-machine - might be free running within 6 months by adding low-voltage electronic circuitry to transpose d.c. output to a.c. input.
- Marinov - predicted his machine will be free running and ready for complete open disclosure by June. Good Prospect!
- Aspden - his U.S. patent #4,975,608 (1990) is very similar to Adams motor. Adams wishes massive replication of his technology. Troy Reed felt he could replicate the Adams motor within two weeks and improve it if necessary. The motor / generator must be free running before any type of public announcement would be made. If successful, the Reed version of Adam's motor would be documented on computer CAD and plans would be immediately shared. Troy would then help others who also wish to replicate the Adams motor.

Harold Aspden suggested that his patent provides theoretical explanation of Adam's motor.

If the replication of a free-running device is successful, the scientific community will have **THE experiment** that is necessary to cause scientists to shift the paradigm. ["shift the paradigm" = replace the model. The scientists' new model will have to accept the reality of space energy (zero-point energy).]

HIGH-CURRENT ELECTRICAL BRUSHES

Courtesy of Mark Goldes

A new type of electrical brush and its method of manufacture has been developed and tested against standard brushes. One of the major problems in the RSEMs (N-machines) is that the voltage generated is low (1 to 3 volts) and, therefore, current output from

the machines must be high to generate commercial amounts of electrical power.

In standard brushes the constriction of the current flow lines causes an excess resistance. To reduce this resistance requires added pressure and therefore, additional friction between the brush and the commutator. In this invention the contact surface is achieved by the use of very small diameter fibers. Tests using fibers of copper, gold, niobium, platinum, and silver have been made. In addition, the funding institution developed suitable manufacturing techniques. The most favorable test results were made with a brush pressure of several thousand Newtons per square meter, a copper rotor with a gold-carbon surface treatment, and a moist argon atmosphere. The total losses about 0.1 watts per ampere per brush. Further work is contemplated to use low-cost materials and ambient air atmosphere.

[For those of you involved in building or developing rotating space-energy machines, this brush technology can solve one of your biggest problems. Please write to NEN for further information.]

INFORMATION NEEDED

There are a relatively large number of rotating over-unity machines. Many of them have been patented. Some of them run at 110% output power. The inventor of such a machine can calculate how many dollars would be saved in the world if only people would use his/her improved device. By contrast, the Tewari machine appears to produce 3 kW for 1 Kw of input. **NEN** believes that there are only a few basic types of rotating over-unity machines. It is our desire to obtain as much information as our readers are willing to provide so that these machines can be classified and explained.

There are at least two basic theories that may be used to explain the observed effects of rotating over-unity machines. In both cases, the ultimate source of energy is the tapping of the structure of space. One case is the Tewari machine which rotates coils and produces low-voltage electrical energy. The second case are machines that use high voltage and various types of commutators (often with corona discharges.) It is proposed that at least some of these over-unity, high-voltage machines can be explained on the basis of the production and dissolution of high-density charge clusters. (See the Shoulders patent under **PATENTS** in this issue.)

Solid-State Space-Energy Generators

SOLID-STATE SPACE-ENERGY GENERATOR

Committee Report by Toby Grotz

Based on the reported past achievements of a number of inventors, whose devices have a number of common features, and whose operation has been well documented, Solid-State Space Energy Generators have achieved proof of principle. These devices have achieved outputs as high as 600 watts with energy densities measuring one half million watts per pound.

The basic need in the development of the SSSEGs is to define the cause of the intermittent operation of the most promising device, the Sweet VTA. This device outputs over 600 watts with only 300 microwatts of input stimulation yielding a power amplification of over 2 million. [Has anyone personally measured the operation of the Sweet VTA? If so, please write to us. -Ed.]

Theories about the operation of such devices need to be developed. The research and design will focus around bifilar and non-inductive coil winding techniques, properties of magnetic fields that are not well understood. A repository of relevant theoretical papers is also planned. [NEN will try to identify and summarize the operation of SSSEGs. Please help by sending information, especially for patented devices.]

RESULTS OF DONALD KELLY'S DROP TESTS

This electromagnetic drop test plate contains sixteen small electromagnets, and weighs 2 pounds 14.8 ounces excluding the electrical leads to the parallel circuit electromagnets. A total of twenty test drops were made for this plate, the average drop times (digital counts) were 084 for the unenergized plate and 112 for the energized plate. The relative drop times in digital form are a clear indication that an electrical flow (EMF) into multiple, small electromagnets is causing a reaction against gravity. The energized test plate fell at approximately 25% slower drop time compared to the unenergized test plate, as indicated. This is the

second test of its kind, and supports the findings of the earlier E/M drop test.

Another test was made, the first in a series of all-electric field to Gravity drop tests. The total weight of this drop test plate is about one pound, excluding the electrical leads which supply the EMF to the flat, Hooper type electrical windings, which are in a full series connection.

Twenty test drops were also performed then. The relative drop times in digital form (118 for unenergized and 135 for energized) are an indication that an electric flow (EMF) into a flat, Hooper type of continuous coil causes a reaction against gravity. The energized test plate fell at approximately 13% slower drop time compared to the unenergized test plate.

In addition, it is now clearly seen that the two E/M drop test plates receive the anti-gravity support of the all-electric field, in addition to the basic E/M field reaction.

--Donald Kelly

PATENTS

ELECTRIC/MAGNETIC MOTOR

George Fred Bode, "Electric Motor Utilizing Permanent Magnets," US 3,895,245, granted 15 July 1975, filed 23 May 1974, 5 claims, 11 figures.

Invention Abstract: An electric motor is composed of two counter-rotating discs having intermeshing gearing and each carrying a plurality of permanent magnets radially arranged with the same poles at the periphery of both discs. A shield of magnetic material is provided at one side extending partly around the periphery of each of the discs and into substantially the bite of the discs. An electromagnet is arranged with one pole adjacent the bite of the discs, with means to energize the electromagnet as each of the permanent magnets reaches the bite of the discs to create a field of such polarity as to make the magnetic poles of the adjacent permanent magnets move away from the

bite of the discs in the direction away from the shield, utilizing the combined forces of the electromagnetic force and the repelling force of the permanent magnets to effect rotation.

SOLID-STATE ENERGY CONVERSION

Kenneth R. Shoulders, "Energy Conversion Using High Charge Density," US 5,018,180, granted 21 May 1991, filed 3 May 1989, 42 claims, 97 drawings.

Invention Abstract: Disclosed are apparatus and method for obtaining energy from high electrical charge density entities. The energy may be received by the conductor of a traveling wave device positioned along the path which the propagating entities follow. Multiple traveling wave devices may be combined. Energy output from a traveling wave device may also be directed to the generation of a subsequent such entity. Thermal energy may also be obtained from an EV.

EDITORS' COMMENTS

On page 68 and 69 of the patent "Energy Converters" are discussed as an embodiment of the invention. The following comment is made: "With the input pulse length reduced to 5 ns, for example, the corrected energy conversion factor becomes $(16/5)/30 = 96$ [sic, it should be $\times 30$]. That is to say, with the input pulse length reduced as noted, energy available at the output of the helix of the traveling wave tube is ninety-six times the energy input to the traveling wave tube, in addition to the energy consumed within the traveling wave tube and the energy available in the form of collected particles at the collector electrode. ... The EV is a mechanism for tapping a source of energy and providing that energy for conversion to usable electrical form. ... In any event, energy is provided to the traveling wave output conductor, and the **ultimate source of this energy appears to be the zero-point radiation of the vacuum continuum.**"

THERMOELECTRIC DEVICE

Harold Aspden, "Thermoelectric Energy Conversion," US 5,065,085, granted 12 Nov. 1991, filed 31 Oct. 1989, 15 claims, 1 drawing.

Invention Abstract: A thermoelectric energy converter incorporates thermocouples in a circuit carrying A.C. current via capacitors which provide

electrical coupling but obstruct heat transfer between hot and cold junctions. The cyclic current oscillations through the capacitors are diverted by special circuits so as to be rendered asymmetric as current oscillations through the thermoelectric junctions. One such circuit includes the use of a diode configuration regulating current flow through different thermoelectric junctions spaced apart in the thermal gradient. Another involves the action of a unidirectional magnetic field having a polarizing effect on a three-metal thermoelectric junction.

HOW TO: FROM AN EXPERT

Several participants at the International Symposium on New Energy (Denver, Colorado, April 16-18, 1993) indicated reluctance to seek patent protection, fearing that official U.S. secrecy orders may be imposed to block the disclosure of their inventions. One speaker urged open and free disclosure of inventions on the grounds that patents were, in general, worthless paper documentation which did not justify the risk of being blocked by unwarranted restrictions.

Dr Harold Aspden, a correspondent for *Fusion Facts*, who is also an European Patent agent, spoke against this position. He suggested that where an inventor is **under no work obligation to his employer or a funding body, whether a corporation, government or university**; then, upon deciding to disclose the invention, for example at a future symposium*, the inventor could secure a U.S. Post Office certification of mailing the patent application to the U.S. Patent Office on the same day. This way the rights to apply for foreign patents would not be lost, as there would be no prior disclosure before the official patent filing date and a secrecy restriction would be difficult to implement in such circumstances.

From discussion with Dr. Aspden following the meeting, he said that if the inventor were to explain in his filing letter to the patent office that the filing was made just in advance of U.S. disclosure at the symposium in order to safeguard his position for foreign filing, then the officials in the Patent Office would find it appropriate only to impose a standard restriction on premature foreign filing for a period well within the grace period provided by international treaty.

[*Plan to hand out about 100 copies of your paper to attendees at the Symposium to discourage unwarranted secrecy classification.]

EDITORIAL

NEW ENERGY, WHERE DO WE START?

The gathering of over 20 of the world's top scientists, inventors, and writers at the April 14-16, 1993 retreat was an historic first in seeking new alternative energy sources. The following International Symposium on New Energy held in Denver April 16-18, 1993 provided additional information. We start with greatly improved communications, which started with the retreat and will continue with this publication.

What are the best candidate new energy (clean, non-polluting) systems? **Hydrogen** is the only technology that can be adopted immediately. Hydrogen can be easily produced from water by the use of energy, **however, if that energy comes from the burning of fossil fuels, then the use of hydrogen is not non-polluting.** NEN welcomes information about solar-production and other non-polluting ways of producing hydrogen.

The Tewari **Rotating Space Energy Machine** is reportedly producing three kilowatts of electrical power (at about 3 volts) for one kilowatt of input power. Can we look for commercialization of the Tewari machine? P. Tewari says "Yes." Handling the commutation of high amperage, low-voltage electrical current and the transformation of that current into standard power grid voltage and frequency is a problem that will be resolved within six months.

Cold Fusion devices are proliferating in the laboratory. Heat output of over five times the power of the electrical input is being achieved. Over \$50 million has been allocated for further cold fusion research and development over the next five years (most of it by Japanese government and industry.) The staff of NEN is closely linked with the staff of *Fusion Facts* and will bring you the latest information on the commercial potential of cold fusion developments.

Solid-State Space-Energy Generators are being proposed but, as yet, not delivered. One of the most promising of the SSSEG devices is based on a U.S. patent (5,018,180) where Ken Shoulders is the inventor. Hal Puthoff et al. have also been awarded a U.S. patent which may develop into a commercial device that will tap space energy (aka

zero-point energy) to produce clean, inexpensive energy. NEN will welcome the latest reports on all working SSSEG devices.

Developments are occurring rapidly and NEN will get the latest information to you in the shortest possible time. **Send us facts.** The staff at NEN will listen to (but probably not publish) rumors or promises of what is expected to occur "within six months." Facts and the communication of facts will be the topics for the future NEN monthly newsletters. **We welcome your factual words and pictures.** Send them to NEN, P.O. Box 58639, Salt Lake City, UT 84158 or fax to 801-583-6245. [Hal Fox, Editor]

ARTICLES

QUATERNION ALGEBRA

By Hal Fox

In the field of space energy the name of Thomas E. Bearden is often cited. Tom Bearden is a retired military tactician (Lt. Colonel), a nuclear engineer (Georgia Tech.), war games analyst, with a degree in math (Northeast Louisiana Univ.) He is well known for his many papers that attempt to extend the understanding of difficult concepts in energy, hyperspace, UFOs, parapsychology, and paranormal phenomena.

Although there seem to be few who appear to thoroughly understand his interpretations of physical phenomena, he seems to be often cited and less often understood. From reading several of his papers, I am impressed with his knowledge of the references he cites, less impressed with his conclusions. However, he must be credited with the ability to capture the attention of those of us who are struggling to understand some of the scientific concepts involved in space energy. In particular, I am indebted to Tom Bearden for introducing me to the concept that James Clerk Maxwell had a more complete mathematical description of electromagnetism than those that were later provided to us by Heaviside and Gibbs. Maxwell expressed his understanding of electromagnetism by using quaternion algebra whereas his contributions were modified and expressed in equations using vector algebra (which has been much more widely accepted by mathematical physicists.) The purpose of this paper is to acquaint the reader with the invention

and development of quaternion algebra and compare it with the better known vector algebra.

Sir William Rowan Hamilton (1805 - 1865) was an Irish linguist, lover of the classics, and mathematician who specialized in dynamics and optics. His contribution to equations of motion that expressed the duality between the components of momentum and position-determining coordinates was not fully appreciated for 100 years. Now this concept is embedded in quantum mechanics. In 1835 he made his discovery of quaternions. Quaternions are ordered sets of four ordinary numbers that satisfy special laws of equality, addition, and subtraction. **Quaternions are especially useful to express magnitude and direction of quantities in three-dimensional space.** Earlier, Hamilton had worked to put algebra on an axiomatic foundation as had been done with geometry. He was familiar with the geometry of complex numbers ($a + bi$, where i is the square root of -1) and how these numbers could be related to vector rotation in a plane. He desired to develop a similar concept for three-dimensional space.

For several years Hamilton struggled to solve this three-dimensional problem by the use of triplets. After several years, on October 16, 1843, the solution came to him suddenly while walking to Dublin along the Royal Canal. He was so excited about this discovery that he carved the fundamental formulas of quaternions into the stonework of Brougham Bridge: $i^2 = j^2 = k^2 = ijk = -1$. His development of quaternions, as the name indicates, is based on the use of quadruplets rather than triplets. The choice of quadruplets can be explained: while doublets can be used in the plane, moving into 3-space adds two more numbers to determine both the additional direction and also the tilt or orientation of the plane itself. Other equalities in quaternion algebra are: $ij = k$, $ji = -k$, $jk = i$, $kj = -i$, $ki = j$, and $ik = -j$. The quaternion hyper-complex number is expressed, in general, by $a + bi + cj + dk$ (a , b , c , & d are real numbers.) The sum of two quaternions is defined as follows: $(a + bi + cj + dk) + (a' + b'i + c'j + d'k) = (a + a') + (b + b')i + (c + c')j + (d + d')k$. According to an article in my 1974 Britannica (Volume 1, page 775) certain laws of arithmetic are satisfied, and subtraction and division (except by zero) are possible. An important fact is that **any polynomial equation with quaternion coefficients has a quaternion root.** The same article states, "**For many years quaternions were widely used in solving physical problems.**"

The big modification in algebras, by Hamilton's quaternions, was that multiplication is no longer commutative (in other words $b \cdot a$ is not longer = to $a \cdot b$.) For the rest of his 22 years of life, Hamilton developed the algebra of quaternions. This work was published posthumously in 1866 under the title, The Elements of Quaternions. Hamilton firmly believed that quaternions were especially useful in expressing and solving problems in applied mathematics. Later, however, a simplified version developed by J. Willard Gibbs became adopted by mathematical physicists. Gibbs version is known to us as vector analysis.

James Clerk Maxwell (1831 - 1879) is best remembered for his Treatise on Electricity and Magnetism (1873) which included over 200 equations expressed in quaternion algebra. Although we talk about Maxwell's equations, most of us have never seen Maxwell's equations. We have been trained on a simplified version developed by Heaviside and Gibbs where the same fundamental concepts are expressed in vector algebra. The important point made by Bearden and others is that some important concepts advanced by Maxwell were lost by being expressed in a more simplified form (using vector algebra) by Heaviside and Gibbs. That is the concept that I will attempt to explore. Not being a noted mathematician, I will be seeking help from skilled mathematicians. Mathematically-skilled readers, please help. Here is the first question: "Is it true that if I expressed a physical motion and position in quaternions, that I would not be so concerned by the Heisenberg uncertainty principle?" In other words, does a quaternion expression of the motion and position of a particle handle the concept of increased accuracy in the determination of both velocity and position? If Heisenberg had been using quaternion algebra would he have had the same need to invent the uncertainty principle? Stay tuned.

LETTERS TO THE EDITOR

Retreat Members

IANS International Symposium of New Energy
April 14-16 and 16-18, 1993

Toby and I would like to add our thanks to that of IANS in expressing our deep appreciation for your contributions, what you have done, and what we all have accomplished. We feel that what we have begun at the ISNE Retreat and Conference is a very

big step in the continuation of the positive advancement of mankind.

We also would like to formally thank the entire IANS staff of Maurice Albertson, Carol Wagner, Karen Mohler, Robert Sibley, and Brian O'Leary; as well as the remainder of the conference Steering Committee, Harry Braun and Moray King, for their dedication and contributions that made the International Symposium on New Energy possible, eventful, and successful.

It is up to each of us to carry forth the profound sense of networking and support that we have developed at the Retreat. We stand ready to assist you in any way that we can to forward your work, network with other researchers, and report your results. Our vision is a cooperative network of dedicated researchers that work together with high integrity to create a better future with a win-win attitude and philosophy.

We also want to again remind you of the creation of the Institute for New Energy and its newsletter. Membership is \$25 per year, or \$40 per year for joining both the INE and the IANS. Also, it was announced at the Conference Luncheon that the 2nd International Symposium for New Energy will be held again in Denver in 1994, probably sometime in May to July, so please begin to think of what experimental results and major breakthroughs you can request, create, and report then.

Together we can do anything. Let's just do it.

Sincerely,

Patrick Bailey and Toby Grotz

WANTED: FOR FUTURE ISSUES OF NEN

INTERNATIONAL CORRESPONDENTS. NEN is designed to be an international English-language newsletter for new energy developments. We need to hear from our friends abroad. NEN will pay the postage for overseas mailings to those international friends who submit a monthly energy news item to be published in NEN.

REPORTS WITH DATA & PICTURES: Please send experimental data and/or black & white glossy photographs of devices or experimental equipment. Pictures of principal workers are also requested.

TECHNICAL PAPERS FOR NEJ: In the near future INE expects to publish the *New Energy Journal*. Please submit titles, authors, and abstracts for papers you plan to write. If you have a paper that is already written please send us a copy. The journal editor will be responsible for sending papers for peer review. You will be given the names of those who review your paper. In some cases, in the interest of getting important information out quickly, the editor may use a special **urgent** peer-review procedure. The NEJ will do its best to publish quality technical papers on both theory and experimental results within three months of submission of the papers. Papers on cold fusion will be published. The NEJ will permit NEN to publish abstracts as soon as papers are accepted. The combination of these two publications will assure rapid communication of important new energy concepts.

MAILING LISTS: Please help us expand our mailing list. If you publish or subscribe to another energy newsletter, please help us obtain copies of potential new subscribers. We will be pleased to exchange mailing lists with other non-profit organizations and/or other energy- or environment-related publications.

NEN PUBLISHING POLICY: NEN publishes facts, theory, experimental data, patents, reports on conferences, short letters to the editor, and short editorials. The primary purpose is to communicate the facts about alternative energy systems that will be environmentally benign. [Information within brackets are editorial comments.] NEN seeks to exchange information with other publications. Rights to reprint NEN information is usually granted upon request provided NEN is cited as the source. The NEN source text uses the Word Perfect (t.m.) word processor.

NEN DATABASE: NEN is building a database of patents, books, published technical articles, and copies of referenced papers that are closely related to the NEN departments. Contributions to the database are gratefully received. Only new energy related articles are sought. Dowsing, UFO's, channeling, and politics are not NEN topics. News of political action in support of alternative energy are acceptable. If funds are available, the NEN database will be made available on computer media, through modem access, or by other modern means of communication.

DONATIONS ACCEPTED: Donations of funds for the printing of NEN and for gathering a modern

database of technical information will be received with rejoicing. Any such donations, for which tax-free receipts are requested should be made through the International Association for New Science at 1304 South College Ave., Fort Collins, Colorado 80524 (Phone 303-482-3731). Corporations are asked to subsidize the annual or monthly printing costs for the NEN newsletter. The name(s) of such corporate donors will be prominently displayed on the front cover of the NEN newsletter.

TESLA AND THUNDERSTORMS

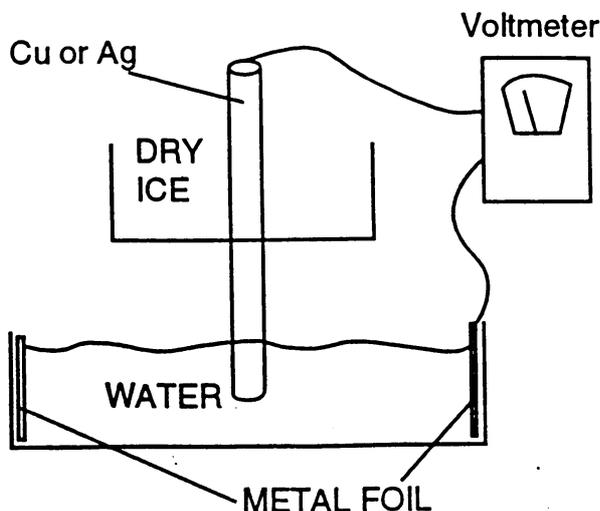
By Hal Fox

In Tesla's article on page 200 of *Century* magazine for June 1900 [1] he writes that he has found two facts:

Fact one is that there is an electrical gradient between earth and an upward direction such that a small current flow in a vertical wire can be induced, particularly if the upper end of the wire is attached to a surface with lots of pointed spikes.

Fact two is that the upper air strata is permanently charged with respect to the earth's surface.

It is now well known why these facts are true. If you take an insulated pan of water, a central metal rod that can be rapidly cooled (such as with dry ice), and a conductor on the outer rim inside of the pan so that the conductor is in contact with the water you can observe an interesting effect. Place one voltmeter lead on the center metal rod and the other lead on the outer conductor. As the dry-ice cooled rod begins to freeze the water there will be a voltage difference established between ice and water.



In a thunderstorm with its vertical upward air motion, moist air is carried into colder regions where it freezes. The moving air acts like a huge generator (nature's Van de Graff generator) so that a strong charge separation occurs. Although some of these megavolt charge clusters discharge by lightning within the cloud, many of the lower charge centers discharge to ground. The upper charge cluster is then free to carry its charge into the high levels of the atmosphere. In this manner the 1,000 cumulonimbus (thunder clouds) that are operating somewhere in the atmosphere at any time (on the average) are the generators that create and maintain the charge distribution between earth and the upper atmosphere just as Tesla observed almost 100 years ago. Can you tap this energy? Sure, why not? Benjamin Franklin did it with lightning rods and made bells tinkle when a thunderstorm was imminent.

[1] Oliver Nichelson, "Nikola Tesla's 'Free Energy' Documents," *Extraordinary Science*, vol 5, no 1, Jan/Feb/Mar 1993, pp 11-13.

LATE NEWS - A PUBLISHING FIRST

Courtesy of Harold E. Puthoff

Publishing history is in the making. A paper entitled, "**Extracting Energy and Heat from the Vacuum**," by Daniel C. Cole and Harold E. Puthoff has been accepted for publication in *Physical Review E*. The paper presents an analysis of the concept that energy and heat can be extracted from the zero-point electromagnetic radiation by use of the Casimir force. This paper analyzes the thermodynamics that are involved.

Hal Puthoff wrote to the NEN editor, "Breakthrough! We are now as legitimate as thermonuclear fusion or solar energy as far as the basic concept goes. It is only a matter of engineering now (as with the others)!"

ENERGY SYMPOSIUM PROCEEDINGS

Copies of the proceedings from the **International Symposium on New Energy** are available for \$45 (price includes handling and postage in the U.S.). Foreign orders please add \$10 for handling and airmail postage. Order directly from:
International Association for New Science
1304 South College
Fort Collins, CO 80524
Phone (303) 482-3731 if you have any questions.

CONTENTS FOR MAY 1993

IANS Energy Retreat and Conference	1	ROTATING FREE ENERGY MACHINE	9
Retreat Highlights	2	Committee Report	9
Coming in June	4	High-Current Electrical Brushes	9
FUSION BRIEFINGS	5	SOLID-STATE SPACE-ENERGY GENERATORS	
Fusion/Transmutation Committee Report	5	Committee Report	10
New Papers on Cold Fusion	5	Results on Don Kelly Drop Tests	10
Peer Review Problems	5	PATENTS	10
Testimony to Congress	6	How To: From an Expert	11
Letter to Samuel Falie	6	EDITORIALS	12
HYDROGEN ENERGY	7	ARTICLES	12
Hydrogen Committee Report	7	Quaternion Algebra	12
Water Fuel	8	Letters	13
Making Hydrogen	8	Wanted for NEN	14
On-demand Hydrogen Generator	8	Tesla and Thunderstorms	15
		Late News: A Publishing First	15