

New Energy News

Monthly Newsletter of the Institute for New Energy

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INE BYLAWS APPROVED By Patrick Bailey, INE President

The INE-Bylaws sent out with the last issue (November 1995) have been overwhelmingly approved by the INE membership, via the count of the voting forms that have been returned. As of this publication date (November 30, 1995) the percentage of approval votes is 95% and only a few minor changes to the Bylaws have been suggested (5%). All changes received will be voted upon at the next INE meeting of the Board.

Congratulations to the INE membership for approving YOUR INE BYLAWS! Now, actions will be quickly set into motion to formally and legally solicit and receive funding from various funding sources for specific INE projects. Several of the projects and devices that you have been reading about in *NEN* appear very promising, and there are also a few devices that need to be further researched and publicized in *NEN* in the near future.

If you know of any devices or experiments that you feel would be worthy of financial attention, please tell me or Hal Fox. If the developers wish to remain unidentified, one knowledgeable person would need to be the public point contact for that project and the inventors and researchers would then be shielded. However, formal win-win contractual agreements must be made between funding party(s) and the project owners.

SO HERE WE GO! Let's all work together in a positive, supportive manner to bring in these new energy technologies as they are discovered, researched, funded, proven, and commercialized!

AUSTRALIAN GROUP SEEKS INE AFFILIATION

Dieter Soegemeier of GPO Box 269, Brisbane, Queensland, 4001, Australia is the leader of a non-profit membership group. The current seventy-five members are mostly professional people with a strong interest in new science and new energy. They have inquired about an affiliation with INE and whether they might reproduce and distribute *New Energy News* in Australia.

Dieter assures us that he will be sending periodic information on new energy developments to *NEN* from their group. We look forward to a mutually energetic association with Dieter and his members.

Editorial

REPLACE THE POLLUTING AUTOMOBILE By Hal Fox, Editor

Dr. Hans Nieper, Sekretariat, The German Association of Vacuum Field Energy, has sent us documentation on the medical problems associated with the use of catalytic converters. An article in the German publication *raum & zeit* (no 78, 1995, pp 84-86), titled "Kat-Autox Schädigen das Immunsystem" by Dr. Hans A. Nieper details the problem. In a personal letter from Dr. Nieper, he summarizes the problem as follows: After citing the problems of nerve gas production of phosphoric acid esters and phosgene from catalytic converters, Nieper adds, "but especially by the tremendous depositing of platinum in the dust along the roads [of the heavily-traveled autobahns]. This [pollution] must well lead to a high lung cancer risk. I rang the alarm bell because of the platinum risk 10 years ago, publishing a book..."

Nieper continues with reports from Germany and Switzerland showing the high concentration of platinum dust along highways, "...and this after less than 10 years of extensive catalyst use!" Nieper continues, "To my opinion the consequences shall be that all platinum and rhodium catalysts be unmounted immediately." Although there is present work on non-platinum and non-rhodium catalysts, it is not soon enough. Nieper has this important warning, "Considering the platinum catastrophe and the nerve gas emission, the entire situation is certainly heading to a potentially major law suit."

Zero-pollution vehicles are the only sensible answer to the problems of automobile pollution. The problem is no longer the lack of engineering or science. The problem is one of unwillingness to change at all levels of government and industry. All of the standard learning of the automobile fabrication industry that deals with the fabrication of the body, frame, and interior are valid. All of the technologies relating to steering, wheels, bearings, brakes, and drive train remain valid. All of the electrical and electronic systems (except for engine ignition system) are still needed. What we need to strip out and replace are fuel tanks, fuel distribution, internal combustion engine, engine coolant system, and all of the pollution control and engine exhaust systems. The replacement parts required are an electric motor, motor controller, batteries, and battery charger. Some modification of heating and cooling the interior of the automobiles will be required.

INTERNATIONAL CONCERN: Not only are there concerns in Germany but also the problems are expressed in a copy of letter from Marosli Ghazalli, CEO of Ventrigates Sdn. Bhd. of Kuala Lumpur, Malaysia. Ghazalli writes, "The environmental issue is gaining momentum, and we ourselves are campaigning nationally for a clean-up of environmental pollution at all levels, in all industries. Working with the national party, particularly with the powerful Women's Movement, may give us an opportunity to apply pressure to the oil companies here and to the government in applying the same emission safety standards that is applied in Western Europe and the U.S."

NATIONAL CONCERN: The publication *MASSPIRG*, published in Boston by the Massachusetts Public Interest Research Group has the following two headlines in their Summer, 1995, and Fall, 1995, issues: "**Automakers Intensify Attack On Clean Air Law,**" and "**Detroit Fails to Gut Clean Air Standards**". The battle on Beacon Hill, where the state officials meet, was begun after the legislature passed a Clean Air Law requiring that 2% of vehicles offered for sale in Massachusetts by 1998 be electric. The publication reports that in a June letter from the vice presidents of the three big automakers, they threatened to drop their voluntary clean car plan (an effort to reduce the pollution in automobiles that are not sent to California under California's even more severe clean-air requirements) unless Massachusetts and New York drop their requirements for the offering of electric cars for sale in these states. Apparently, the governors of these two states did not agree to reduce the requirements for zero-emission vehicles. And the health of the citizens of these states is thereby somewhat potentially improved.

In a public awareness flyer, MASSPIRG showed that the Clean Car Plan will mean 36% less smog in the Northeast over the next 25 years than with the automaker's plan. **We have news for the automakers. The rapidly-changing technology will not take 25 years to be implemented.** This author predicts that in 15 years the use of internal combustion engines in a family car in the U.S. will not be socially acceptable. This same flyer reports that a recent poll by the American Lung Association determined that 75% of all people in the Northeast favor cleaner cars, including zero-emission electric cars.

The American Lung Association in Washington, D.C. has published a booklet, "Why We Need Cleaner Cars For Public Health and Economic Development". This booklet makes the following pointed statement: "**...scientists with the Harvard University School of Public Health have reported that air pollution may kill an estimated 60,000 people per year.**" **The figures for deaths in traffic accidents is about 40,000 per year.**

We need zero-emission vehicles. Zero-emission vehicles means electric-powered vehicles until someone invents another type of zero-emission engine. The automotive industry should be directing more of its efforts toward the production and sales of electric vehicles.

WHAT ARE THE PROBLEMS? Current electric motors are heavy. Current lead-acid batteries are heavy and a pound of battery does not store near as much energy as a pound of gasoline. Current electric motor controllers are expensive. Battery-chargers are designed for plugging into the electrical grid. Opponents state that the pollution is just being moved from the automobile to the local power plant. To get suitable mileage from a charge, the automobile must be light weight and therefore, less safe.

Here are the answers:

HEAVY MOTORS: New developments in super high strength magnets allow for the design and manufacture of lighter, more powerful, and more efficient motors. A new Japanese patent includes test data showing that the motor being patented is 317% efficient. [See *NEN*, Nov. 1995, p 1] The combination of these technologies means smaller batteries and less weight.

BATTERIES: The new nickel-hydride battery (so-called Green Battery™) is about twice as good as the lead-acid battery. The new lanthanum-nickel battery from Belarus is equally as good. Planned new battery technologies will provide further improvements. Better batteries mean less weight.

MOTOR CONTROLLERS: Motor controllers, and other parts for electric cars are expensive mainly because they are being bench-produced and not assembly-line produced. Some new developments in special integrated circuit technology will greatly reduce the cost of these electronic motor controllers.

Space-age structural materials and design techniques can provide as much or more safety than we have when driving along with a tank full of flammable gasoline.

BATTERY CHARGERS: There are some new developments that will increase the effectiveness of battery charging, including the use of on-board battery chargers. One of the candidate systems for on-board battery charging is the use of the Patterson Power Cell™ technology coupled with high-efficiency closed-loop turbine generators. Of course, immediately available are off-the-shelf battery chargers that plug into the standard electric grid. On-board battery chargers reduce the amount of batteries required and therefore reduce the overall weight.

POWER PRODUCTION: The current type of electric vehicles get their charge from the standard electric power grid. It is not a completely true statement that the use of electric cars merely transfers pollution from the highway to the power plant. The rest of the story is that there are stringent EPA requirements for the power plants to reduce pollution and they do so much more effectively than we do with highway vehicles using internal combustion engines. The latest developments of **new hydrogen energy** devices produce over fifty times as much thermal power as consumed electrical power. Therefore, this new technology can greatly reduce pollution while providing the thermal power for the generation of required power for electric vehicles.

SAFETY CONSIDERATIONS: It is well known that Cadillac passengers have less serious injuries than the passengers of light-weight compact vehicles when the cars are involved in similar accidents. **With improved electric motors, improved batteries, and the use of on-board battery chargers, the electric vehicle does not have to sacrifice safety by using light-weight construction.** In addition, the effective use of modern space-age structural materials and design techniques can provide as much or more safety than we have when driving along with a tank full of flammable gasoline.

SUMMARY: It is not the need for scientific breakthroughs that is holding up the development of

zero-emission vehicles. The holdup is the lack of commitment to design engineering, to gearing up for high-volume production, and funding the marketing of the electric vehicles.

Those of you, who are old enough, will remember that all electric and all gas stoves came with legs and stood on the kitchen floor. Not one major manufacturer initially adopted the revolutionary concept of built-in (slide-in) kitchen stoves. Several small companies began manufacturing "built-ins". Most of them experienced rapid growth. All of them were then bought out and all major manufacturers of kitchen ranges became builders of "built-in" ranges. **The electric automobile industry is now being developed by many small companies who, it is predicted, will later sell out to major automobile manufacturers or disappear because of inability to compete.**

The technology is here. The time has come. We highly recommend that all of our readers, support the zero-pollution vehicle market. In my garage, I have an electric red (the name of the color), Ford Ranger pickup truck with the engine removed and replaced with batteries (lots of batteries) and a 30 horsepower electric motor. We plan to use this electric pickup as our testbed for newer types of motors, controllers, batteries, and battery chargers. Currently, this pickup gets 40 miles to a charge. Our design goal is to have an on-board battery charger that will provide the freedom to go anywhere, anytime (with reasonable stops for the batteries to become recharged).

[We wish to express our thanks to Dr. Hans Nieper for the latest information from Germany and also to Dana Rotegard for sending us copies of the MASSPIRG and American Lung Association publications. We also urge our readers to support the American Lung Association in their annual drives for funds. Editor.]

**What Media Knows About Science...
or about the future.**

"I have traveled the length and breadth of this country and talked with the best people, and I can assure you that data processing is a fad that won't last out the year." --The editor in charge of business books for Prentice Hall, 1957.

Fusion Briefings

I KNEW IT ALL ALONG

**Oh Truth! Be Frank, how Close are we
To when cold fusion true will be?**

**Old Father Time this fact unrolled:
Fusion is better when it's cold.**

**And now we'll hear this joyous song --
"I've supported it all along."**

[This verse is in honor of a talented and dedicated energy scientist and the author of Too Hot to Handle: The Race for Cold Fusion, published in May 1991 but died in infancy. In a radio debate between Frank Close and Eugene Mallo'v'e, March 8, 1991, Dr. Close said, "I'm a theoretical physicist and nothing would have given me more joy than if some really clear cut evidence had come out that here was an utterly new phenomena that would overthrow science as I knew it. Because we all want to be in there to staff a new revolution and be a part of the excitement of it." **If the rumor is true**, Dr. Frank Close, a former cold fusion skeptic, has now achieved his dream and embraced cold fusion. We welcome him to the ranks of those who have discovered that cold fusion is, indeed, a new revolution. Welcome in to the cold, Frank. Ed.]

WASHINGTON D.C. COLD FUSION LECTURE

Lecture: "Whatever Happened to Cold Fusion?" *Cold Fusion Times*, vol 3, no 3, Fall 1995, p 10.

David Nagel, Superintendent of the Condensed Matter and Radiation Sciences Division, U.S. Naval Research Lab. (NRL), scheduled a lecture on cold fusion at The Philosophical Society of Washington, D.C., on Friday, 20 October 1995. The Society took a quantum leap in its knowledge of this field in this second talk on the subject. The first had been a previous talk by Talbott Chubb.

Excerpts: "Cold Fusion is now ignored, disdained and even mocked by scientists and the public. This is due to a variety of mistakes by scientists and the government, and the unwillingness of journal, magazine and newspaper editors to pay attention to this topic. But, does this mean that nothing is being done, or should be done, in response to questions raised by work on cold fusion? Several hundred people worldwide are spending full or part time trying to get to the bottom on the mysteries which followed from the 1989 announcement by Pons and Fleischmann. The fifth international conference in Europe earlier this year attracted 200 people, half of them with industrial connections, mainly from Japan, Italy, France, and the U.S."

"There are active programs in Russia, India, and China. A framework for organizing work on cold fusion will be presented, along with some of the data which cannot, in the opinion of the speaker, be attributed to fraud or error. If correct, these data would strongly indicate that nuclear reactions are behind some of the observations."

"They do not support the view that such reactions are ordinary fusion; hence, "cold fusion" is merely a label and not an assertion of what is happening. It will be argued that government funding of work in this area would not be wasteful, since hydrogen science and technology are accepted fields of inquiry. They form the basis of a large and growing industry in the U.S. and abroad."

THE DEVELOPING PATTERSON POWER CELL™

By Hal Fox, editor

In April, 1995, at Monaco, during the ICCF-5, the Patterson Power Cell™ (PPC) that was demonstrated was a feeble, small-wattage device demonstrating two to eight times more thermal power output than electrical power input. In October, 1995, in Champaign, Illinois, at the SOFE '95 conference, the PPC was more robust. Although less than a ten-watt kid, the PPC was producing **thermal power equal to seventy times the input electrical power**. In California in December 1995, at the Anaheim Convention Center, during the PowerGen-95 conference, a yowling teen-sized PPC was churning out several hundred watts of thermal power. **My, how this kid has grown!** And all of this was accomplished without putting pressure on the kid.

The change from a cell operating at atmospheric pressures to a pressurized cell is expected to create a commercial product. Here are some selected data points taken from my steam tables:

Temperature deg F	Pressure Needed deg C	psi, absolute
212	100	14.7 psia
300	149	67.0 "
400	204	247.3 "
500	260	680.8 "
600	316	1543.2 "
700	372	3104.6 "**Reasonable maximum

(* Much above 700°F, the liquid-vapor phase no longer exists in water, there is only saturated steam. The action of a PPC is not defined for a saturated vapor phase. Note that the above data is for pure water, the electrolyte will be a few degrees different depending on concentration.)

It is important to note that at these temperatures you can fry eggs, boil water, cook a roast, and provide heat for many industrial processes. However, you can't melt iron or calcine cement at these temperatures. Therefore, it will be important to efficiently convert thermal energy into electrical energy by the use of some suitable conversion process, such as using steam turbines to drive electrical generators.

[psia = per square inch, absolute, i.e. with reference to vacuum. The normal psi reading is really psig, or per square inch, gauge, i.e. with reference to current atmospheric pressure.]

RUSSIAN GEOLOGIC COLD FUSION

G.V. Fedorovich (Rus. Acad. Sci., Theoretical Problem Dept., Moscow), "The Possible Nature of Cold Fusion in the Earth's Mantle," *Fusion Technology*, Nov 1995, vol 28, no 4, pp 1749-1762, 34 refs, 7 figs, 1 table.

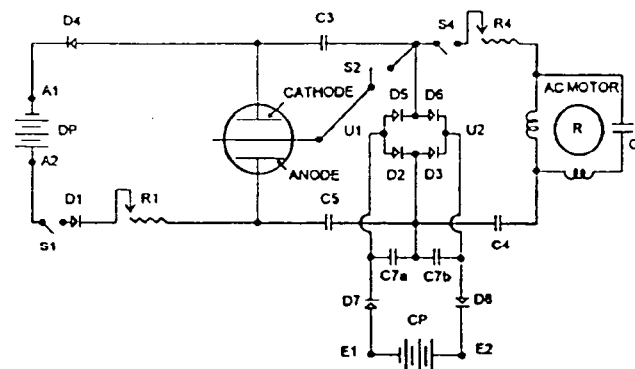
AUTHOR'S ABSTRACT

The effects that accompany mechanical deformations (intensive slip, crack, and break formation) of crystalline media are considered. Using the concept of parametric resonance in deuterium nuclear layers, the mechanism is shown whereby processes characterized by energies ≤ 1 eV can lead to effects that are characterized by energies ≥ 100 eV. These processes take place in a zone of concentration of shearing stress at the moment of the formation of a tangential break of the media movement. The electron-ion interactions provide an added source of ion heating. Electrons are heated in an oscillation force field in the same manner as ions. The effect can be outlined as the formation of the plasma-like state on the crack boundary under mechanical fracture of crystals. This can be a possible cause of deuterium-proton fusion at room temperature in crystalline media.

Space Energy

PATENTS

US 5,449,989 "Energy conversion system;" Paulo N. Correa, Alexandra N. Correa; 12 Sep 1995; 15 Apr 1993. An energy conversion device includes a discharge tube which is operated in a pulsed abnormal glow discharge regime in a double ported circuit. A direct current source connected to an input port provides electrical energy to initiate emission pulses, and a current sink in the form of an electrical energy storage or utilization device connected to the output port captures a least a substantial proportion of energy released by collapse of the emission pulses. [See following article by Dr. Aspden]



Aspden Electrical Motor Generator Patent

GB 2 282,708; Electrical Motor-generator; Harold Aspden; 12 April 1995; 30 Sept 1993. An electrodynamic motor-generator has a salient pole permanent magnet rotor interacting with salient stator poles to form a machine operating on the magnetic reluctance principle. The intrinsic ferromagnetic power of the magnets provides the drive torque by bringing the poles into register while current pulses demagnetize the stator poles as the poles separate. In as much as less power is needed for stator demagnetization than is fed into the reluctance drive by the thermodynamic system powering the ferromagnetic state, the machine operates regeneratively by virtue of stator winding interconnection with unequal number of rotor and stator poles. A rotor construction is disclosed. The current pulse may be such as to cause repulsion of the rotor poles.

ENERGY FROM A COLD-CATHODE DISCHARGE: A 30-YEAR SAGA

By Dr. Harold Aspden

The experimental discovery reported in U.S. Patent 5,449,989 (Inventors: Paul N. Correa and Alexandra N. Correa) affords me great personal satisfaction because it confirms my efforts on a related theme. *FF* readers may find the following reminiscences of interest.

Thirty and more years ago, I was researching the connection between the force of gravity and electrostatics and in 1966 was ready to report a significant advance in that research. I published in that year the second edition of my book The Theory of Gravitation with a concluding chapter on the 'Electrodynamic Law of Force'. It discussed the anomalous forces discovered in the cold-cathode arc discharge and though saying that a full discussion was beyond the scope of that book it justified reference to the topic by explaining that this was "because the law of electrostatics has the most immediate practical implications, and that these were as important to mankind as understanding gravitation."

I knew that the secret of linking gravity with magnetism was wrapped up with the anomalous energy activity that powered those very powerful anomalous forces. I also knew (as one can see by reading about mercury vapor lamps and discharge processes on pp. 6-59 to 6-61 of Condon and Odishaw's 1967 second edition of the Handbook of Physics) that such "discharge tubes have a negative current-voltage characteristic; hence the current will increase without limit for a constant applied voltage and the tube will be destroyed unless some means are taken to limit the current."

From my onward reading I found that physicists did not really understand the processes underlying these discharge phenomena and in 1977 I became bold enough to express my revolutionary opinions on the subject in a paper which, after close referee scrutiny and extension upon revision, was published in the *IEEE Transactions on Plasma Science* (p. 159, September 1977). To back up that publication and merely to assure independent publication of certain further practical implications I filed a U.K. patent application on August 18th 1977 which was later published as GB Patent Application No. 2,002,953.

It showed how the anomalous electrodynamic action could be harnessed to generate heat in an ion discharge chamber to yield power and how ions could be accelerated in a 'free energy' electrical charging process. I was then employed by IBM and it was not appropriate

for me to venture into such a controversial technological diversion, even in my private time and at my own expense, but my conviction took precedence on that occasion and I assured IBM that I was merely aiming at a publication in my own name for the public record.

I am glad I did this because later I heard of the experimental breakthrough by Geoffrey M. Spence (U.S. Patent No. 4,772,816, issue date September 20, 1988). He generated electric power on an 'over-unity' basis by using an ion accelerator that allowed an electrodynamic build-up of energy to grow as a space charge which was then tapped to draw electrical power output. The device in its broader sense accorded with one of the claims of my earlier 1977 patent application. Perhaps, Spence's research, though sponsored, may be in limbo owing to his problems of electrode burn-out after several hours operation of the devices he built.

Also, I was further encouraged when the Russian *Novosti Press Release* in 1989 (No. 03NTO-890717CM04) drew attention to Professor Chernetskii's discharge device which had been verified as generating 3 kilowatts of power with a 700 watt input. I have been awaiting further news on that Russian research, but that news release also stated that a one megawatt sub-station at the Moscow Aviation Institute was 'burned-out' when the discharge currents in a 'powerful plasma unit' reached criticality and set up a superstrong current that went back into the network. Maybe that has deterred onward research!

More probably, however, much of the difficulty with this subject vests in the question put in the summary of that news release: "Where does this mysterious energy come from?"

So now we are confronted with the Canadian breakthrough and I am mindful also of the recent reports on Dr. Win Lambertson's apparatus, which I see as quite closely related. Also I well recall the 1988 New Energy Technology symposium held by the Planetary Association for Clean Energy (Quebec, 1988), where I met Leon Dragone, now deceased, who I understood to be a college science teacher. He there described his experiments which demonstrated the energy anomalies of setting up an oscillatory discharge through an inductor connected to feed a load through an arc discharge, the anomaly being that of negative heating or cooling transferring energy into an enhanced current activity in the cool (white arc: anomalous oscillation) discharge but not in the blue (hot arc: no oscillation) discharge. Dragone, I know, did other research on an over unity electric motor, which I believe warrants special scrutiny in our onward efforts.

Unquestionably, on the gas discharge theme, over-unity energy generation by a gain factor well exceeding 3:1 is in evidence from these various independent research pursuits. At last I can, from the data in U.S. Patent 5,449,989, begin to match experiment with the theory disclosed in my GB Patent Application No. 2,002,953.

The relevant formula on page 3 of that specification shows that ions tap 'free energy' to become accelerated 'anomalously' to speeds which increase with ion current i but are 10^7 cm/s when i is of the order of 5 or so amps. A discharge carried by ions (mass of the order of 10^{-23} gm) moving at such a speed and conveying the current i , would then represent power (as kinetic energy to be absorbed against a back EMF) increasing in proportion to i^3 , but of kilowatt order at 5 amps. The data in the Correa patent fit well with this interpretation and I am indeed gratified to see that my theoretical work is referenced in the patent specification as highly relevant background support.

I really believe that, after 30 years, the link between 'free energy' and gravitation is now emerging.

That Russian news release included the words "What if vacuum energy shows the road at last to the long-awaited Grand Unified theory?" I really believe that, after 30 years, the link between 'free energy' and gravitation is now emerging. Meanwhile, however, let us focus on the primary task of exploiting the new energy resource.

Harold Aspden
Sabberton Research
P.O. Box 35, Southampton SO16 7RB, England.

GRAVITY & ETHER THEORY

John E. Chappell, Jr., "A Brief Discourse on Gravity and Ether Theory," The Great Cosmic Cover-Up (Proceedings of Association for Pushing Gravity Research National Conference, Huntington Beach, California, 1981) Austin, Texas; APGR, pp 1-4.

For many years I have been a rather quiet advocate of the general concept of pushing gravity. I have taken note of Newton's belief that gravity must be transmitted by "some subtle medium;" have learned a bit about the original pushing gravity theory of LeSage in 18th century France; and have been exposed to the writings of Hugh A. Brown, a prolific writer on the subject in the 1960s.

But only very recently, after overcoming by chance the divisive barriers imposed by the censorship in today's orthodox science, did I become aware of the APGR and its very useful work. This is the first scientific meeting I have ever attended at which the majority of participants and listeners were convinced of the need to go far beyond, and even to contradict, the weak and irrational theories of 20th century physical science.

I address briefly several selected topics related to pushing gravity theory, as follows:

1) Accounting for the Gravitational Effect of the Sun's Radiation. Among various possible objections to the LeSage pushing-gravity approach mentioned in Mr. Camahan's 1977 "Mutual Aid Edition"(1), I did not see mentioned the one problem that has troubled me the most: that if the earth's gravity is caused by gravity-ether particles impinging on it from distant regions of space, and as many suppose these particles are primarily photons, then what about the effect of photons emitted by our sun, which should be much more influential because of its much greater proximity, in accordance with the inverse square law? It is easy enough to suggest that some previously imparted momentum toward the sun could keep the solid earth itself from being pushed out of the solar system; but why is not the air and the water on its surface pushed away, just as is the loose material in a comet when it approaches the sun? Why, in other words, does the "solar wind" not have an effect on the earth's surface?

Most likely, the answer lies in the rotation of the earth, which is involved in establishing a magnetic field, or magnetosphere, around itself; this field in turn is pushed away from the earth in the direction opposite the sun, while being compressed on the side nearest the sun. Undereath this magnetic shield, the rotation and the forces it establishes serve, in effect, to distribute the sun's gravitational influence more or less equally on all sides of the surface. Perhaps we need new studies of "gravity anomalies," made with an eye to looking for day-to-night differences in gravitational force, in order to clarify this matter.

At any rate, it is no new idea to associate rotation with attractive or repulsive forces. The association is commonly made for electrons and other subatomic particles. I strongly suspect that when all these kinds of attractive and repulsive forces have been fully analyzed, they will all be found to have a common explanation in terms of Bernoulli's Principle, which deals with changing force due to relative motion.

2) The Third Function of the Ether. Contributors to APRG publications show a remarkable degree of agreement to the effect that the same ether serves as a medium for the propagation of electromagnetic "waves" and also for the propagation of gravitational force. I have long held this view myself. But I have also concluded that the ether performs a third function: that of stimulating the molecules within it into motion, which in turn is recorded as heat. The ether, then, is also the "caloric" - the substance supposedly responsible for the sensation of heat according to many 18th century theorists. Since the abandonment of the concept of the caloric in the 19th century, after the work of Count Rumford and others made clear that heat is associated with molecular motion, precious little worry has been exerted to try to find the ultimate cause of that motion. A rapidly-moving gaseous ether, bumping into and imparting motion to much larger, lumbering molecules, can well be that cause.

Several contributors to this conference have expressed concern over how we might extract energy from the ether. If the above concept is basically correct, we already are extracting energy, in the form of the heat in our environment. This is not, of course, to say that still more could not be extracted, once the nature of heat is better known.

3) How Photons Move Through the Ether. My previous work in physical theory has been devoted largely to finding alternatives to the jumbled irrationalities of special relativity theory. It strikes me that some of my results in the area are quite relevant: in particular, my theory of indirect light paths in the ether.

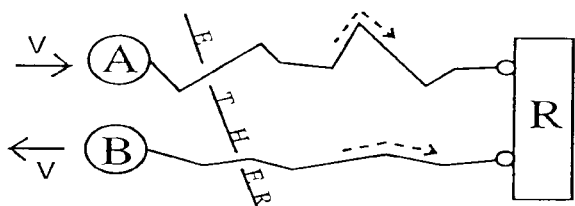
Since 1965 I have sensed the necessity of allowing for both a luminiferous ether, which was discovered by Sagnac in 1913 and since then by several other workers including the Michelson-Gale team in 1924 (2); and the addition of the velocity of the source of a light beam to the velocity of the beam itself. Usually these two concepts, these two kinds of theories, are considered diametrically opposed, and there are therefore two schools of thought among opponents of special relativity: one advocating an ether theory and the other advocating an additive or ballistic theory of light propagation. My discovery was that the two approaches could be harmonized if one allows for indirect light paths.

If photons do not move from source to observer in perfectly straight lines, they must be impelled away from straight lines by some force, some kind of collision or push, in accordance with Newton's Laws of Motion. These collisions are probably mainly with the particles of the electromagnetic ether, which could consist mostly of

smaller particles of "long-wave" radiation, occurring in great abundance all around us, for the most part too weak to be sensed by measuring devices.(3) [see Editor's comments] In this view, photons are considered to be smaller, the lower their energy; very small "long-wave" photons penetrate considerable thicknesses of matter without colliding with any molecules, in contrast to very large "short-wave" photons, which often penetrate matter by pushing molecules out of the way, perhaps damaging them. The passage of light is analogous to the movement of a speedboat over water: the boat (photon) moves in a wave-like path, bouncing off the particles of the medium; and simultaneously it sets up waves in that medium - so that the wave theory of light is not fictitious, but just a subsidiary feature.

In order to explain satisfactorily all the experimental results relevant to special relativity theory without invoking that theory, it is necessary to concede both that light travels from A to B in a given medium at the same net velocity, regardless of the motion of the source of the light; and that when light reaches an observer, its velocity is modified by the velocity of its source. This apparently contradictory situation is not actually contradictory if one looks very closely at what is actually measured in each type of experiment: in the first type, only the time of flight is measured; and in the second type, only the velocity at completion of the flight is measured. It is possible to have equal times and different concluding velocities, but only if the photons move over different path lengths, varying in direct proportion to their velocities. Thus, a photon speeded up by an approaching source, which yields a blue shift due to its added energy, would take a longer path, being forced into a wavy or zigzag course of greater amplitude than that of a slower photon. Several natural phenomena suggest that this kind of photon behavior is to be expected: for example, a stone thrown into water zigzags over a path of greater amplitude and length, the harder it is thrown; but for any velocity, it seems to sink to the bottom of the pool in a time depending only on the density of the medium. What we have here is Newton's Third Law in action: the greater the force impressed upon a medium (the ether), the greater the force exerted by that medium back upon the impinging object - at least, after a brief time of adjustment to the impinging force.

This concept is illustrated in the diagram below. A is the source approaching observer R; and B is the source receding from R, both sources moving at velocity v. The actual speed of the photon along its indirect path is termed b, while net point-to-point velocity is termed c (the value now given as the speed of light).



What appeals to me most about this indirect light motion theory is its ability to include within its scope all experimental results, and also both main alternatives to special relativity theory. And the harmony thus achieved is both rational and empirically-based, unlike the solution to apparent discrepancies suggested by special relativity theory, whose supposed experimental support is in reality a thin tissue of assumptions and of questionable logic. I have written more on this subject in my contributions to the new journal Speculations in Science and Technology.(4)

4) Limitations of the Second Law of Thermodynamics. I suggest that the views of most of you on the nature of gravitational force imply, at least indirectly, that the Second Law of Thermodynamics does not have universal significance. I have suspected as much for some time, and now I see the context into which this idea fits best. If gravitational impulses originate with the emission of radiation by stars, and only far away do such impulses come together in such a way as to push objects down against a surface, then it seems clear that what can be interpreted as a decrease in order and an increase in entropy in one place (where the star emits radiation) does not necessarily prevail at all other places (where gravity acts against a surface). For in the second place, radiation is coming together, not emanating outwards; order ought to be increasing. [see Editor's comments]

A surface may not be necessary for this to happen, but only a region in space. The situation is analogous to that in meteorology, whereby the clockwise circulations around several cells of descending, diverging air (anticyclones) can be shown to produce naturally, by a kind of geometric necessity, cells of counterclockwise-moving, ascending and converging air, somewhere in their midst - much like the gears of a machine which intermesh as they move in opposite directions. If instead of air above the earth we visualize the sea of ether particles, we can see that somewhere in it, too, there must be areas of convergence. These areas would be where new stars are born; where order increases and entropy decreases. Although we live in an area where the opposite tendencies prevail, as suggested by the Second Law, even here there can be eddy circulations

where order will increase; how else, for instance, could one explain the growth and evolutions of life forms?

Presumed universal validity of the Second Law is reinforced by current beliefs. But if we dispense with special relativity theory, we find no barrier to explaining red shift from distant galaxies in terms of decreasing velocity of light, resulting in some way from increasing numbers of collisions with ether particles. Without universal expansion, we would expect to find many areas of convergence of other photons - the same particles that transmit gravitational force.

5) The Wisdom of Looking Far Away for Ultimate Causes. In all areas of science I have studied, it seems that the greatest breakthroughs occur by stretching one's perspective far beyond oneself, and straining to reach "the edge of objectivity," as Charles Gillispie called it. Thus, Copernicus and Galileo led us away from the geocentric universe, and Darwin led us away from a homocentric view of living nature. None of these advances need be interpreted as denying the subjective importance of the human race and its immediate environment; but subjective values usually differ from the objective truths, often more difficult and painful to locate, that are the intended goals of science.

In climatic change research, to which most of my scientific work has been devoted, causes are sought both in human activity and in nature; and both in nearby nature and well beyond the earth. The preference has most often been to look for causes nearby; and yet the best answers are usually found when looking far away: to short-term solar cycles in the case of historical climatic changes(5), and to long-term changing earth-sun relationships for the causes of glacial oscillations. Similarly, it seems most promising to look for the ultimate causes of gravity outside the earth, even outside the solar system; in so doing, we are placing ourselves and our immediate home in proper perspective: a tiny, humble spot on the map of the known universe, which in turn may be only a tiny amount of all that is.

[The above text was slightly revised in 1995]

References

- 1) W.G. Camahan, ed. Gravitation, based on Dynamic Pushing Converging Stellar Radiations and Reactions Verifying Conservation Laws. Austin, Texas; Association for Pushing Gravity Research, 1977.
- 2) J.E. Chappell, Jr. "Georges Sagnac and the Discovery of the Ether," Archives Internat. d'Hist. des Sciences, vol 18, 1965, pp 175-190.

3) 1995 Note: During his talk at the Norman meeting of the Natural Philosophy Alliance in May 1995, pioneer radio astronomer Grote Reber affirmed that his observations show that the less energetic and the longer in wave length radiation is, the more abundant it is in the cosmos.

4) J.E. Chappell, Jr. "Towards a Logical Electromagnetic Theory," *Speculations in Sci. and Technology*, (Elsevier, Lausanne), vol 2, no 3, 1979, pp 313-322 and 338-340; also "Letter to the Editor," *ibid.*, vol 3, no 4, 1980, pp 488-495. [1995 note: After its first three volumes, this journal became much more reluctant to accept criticisms of special relativity.]

5) J.E. Chappell, Jr. "Climatic Pulsations in Inner Asia and Correlations Between Sunspots and Weather," *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol 10, 1971, pp 177-197.

EDITOR'S COMMENTS

The author and *NEN* readers are referred to the papers by Harold E. Puthoff on the nature of the aether as a special "field" that can only be sensed from an accelerated frame of reference. Also, Puthoff has shown that gravity is a natural byproduct of an energetic aether. If my understanding of Puthoff's work is correct, the so-called "gravitational attraction" is a form of a push that tends to cause two massive particles to exhibit an attraction. See the following references:

Harold E. Puthoff, "Gravity as a Zero-Point-Fluctuation Force," *Phys. Rev. A*, vol 39, no 5, 1 Mar. 1989, pp 2333-2342.

Bernard Haisch, Alfonso Rueda, Harold Puthoff, "Inertial as a Zero-Point-Field Lorentz Force," *Phys. Rev. A*, vol 49, no 2, Feb 1994, pp 678-694.

AWAKENING IN GERMANY

12 November 1995

(An excerpt from a letter from Dr. Hans A. Nieper, President of the German Association of Gravity Field Energy, and Director of the American branch of the same association, written to Mrs. Hanke of the A.K. Brewer Science Library)

Hell has opened its gates - for workaholics (like me).

Last week the prestigious business journal *Wirtschafts-Blatt* brought a 3 page cover story on vacuum field

energy conversion which was very correctly and competently written.

The entire serious press is now summoned to follow. My co-members of the German Association of Vacuum Field Energy worked excellently. Thanks also to you!

The greatest revolution in the history of mankind has eventually started.

Solid-State Space-Energy Devices

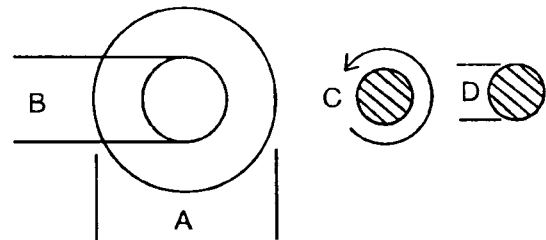
RODIN COIL DESIGN

by Bill Ramsay

Several years ago I learned of Marco Rodin's theoretical design for an unusual coil. I got a copy of his book "Aerodynamics. The Dandelion Puff Principle: Point Energy Creation Physics." (1) and wound a few coils based on his design. Only a few nondefinitive tests were run at the time.

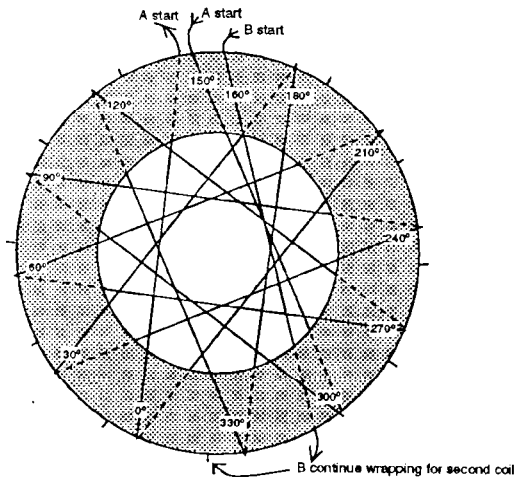
Recently I felt inspired to delve further into the potentials of this design and a number of simple coils were made and simple tests run. None of the coils, so far, match exactly the proportions Rodin feels are necessary for the most profound results but do show some interesting attributes and a few surprises suggesting more to come. Perhaps some of this will be of interest to others and find applications.

Most of the coils wound here so far use as forms readily available plastic "rings" which are part of the "Fisher-Price" child's toy, "Rock-a-Stack". There are five different sized and colored forms in this set priced at about \$4.00 at Walmart. The approximate dimensions of these are: (all in inches)



	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	one <u>R* wrap</u>	one <u>R* turn</u>	one <u>conv. turn</u>
Blue	4.8	2.25	3.9	1.1	5.563	66.75	3.896
Green	4.5	2.06	3.8	1.1	5.292	63.5	3.802
Yellow	4.13	1.8	3.6	1.06	4.920	59.0	3.604
Orange	3.8	1.7	3.38	1.0	4.542	54.5	3.375
Red	3.5	1.5	3.2	0.94	4.167	50.0	3.198

In the Rodin design two equal coils are wound in the same direction of rotation with each wrap (12 wraps per tum) passing through the center to connect with its 150° separated neighbors. This results in 12 wraps; semi-loops; with as many crossover wires for each of the two equal turns. These center crossover wires form a distinctive pattern Rodin calls "the magic circle." The two equal windings are shifted 10° from each other.



I have a good stock of #24 enamel wire so used this throughout. Each completed winding consists of a number of turns laid side-by-side around the outside each connecting segment crossing over the previous ones as it passes through the center. This is necessary to insure the outer turns progress in the same direction for each wrap, to the left or right of each preceding wrap.

The hollow plastic forms are not very rigid so wires should be snug but not too tight or they distort the form and loosen previous wraps. Some forms were split and stuffed with foam which helps some.

Before winding each form was prepared by using a sharp knife to trim off the raised lettering and to rough up the slick finish. Templates with the 10# segments were used to mark the outside with a felt tipped pen. The segments thus formed were numbered as to winding order.

I first wound the wire on a common round pencil, using this as a shuttle to pass the wire through the center.

The known per-turn-lengths were used to figure amount of wire needed.

Even with great care the finished windings are a bit loose so household glue and/or tape was used to tidy these up. [Could do a first wrap with double-sticky scotch tape. Ed.] The white fiberglass tape I used is available from electric motor rewinding shops, which are also a good source for the enamel wire. I paid \$4.00 a pound (about 800 ft. per pound) for the #24 wire. Tape and glue were used at the start and finish of each winding.

Tests were run to see the 1st order attributes and how these compared with conventional winding methods. It seemed to me logical that a toroid wound solid with wire in the usual way ought to yield the highest L (inductance) since its field would be the more concentrated than a Rodin style, where a good portion of the wire would be "wasted" going through the center. Not so, as shown!

<u>Form</u>	<u>winding style</u>	<u>total wire</u>	<u>total turns</u>	<u>total wraps</u>	<u>L</u>	<u>comments</u>
Yellow	conv.	79'	263	s/a turns	242 μH (Q 0.6)	one layer
Yellow	Rodin	79'	16 (8x2)	192	370 μH (Q 1)	+53%
Blue	conv.	122'	402	s/a turns	480 μH (Q 0.9)	one+ layer
Blue	Rodin	122'	22 (11x2)	264	780 μH (Q 1.5)	+62.5%

(All tests, including Q, at 1KHz of "vintage" GR 650-A L bridge. Rodin style Coils connected series-aiding)

Obviously the center crossover region is active. But how active? A 1/2" diameter by 7" long ferrite rod placed through the center of the Rodin style coils yielded 890 μH (Q 2.4) or +141% for the Yellow and 1,680 μH (Q 3.2) or +115% for the Blue one. As expected, this rod had no effect on the conventionally wound ones. So, the center region in Rodin style coils is quite active! But why?

To try to help answer this, a coil with 24 separate 10-turn conventional windings bunched at 10° intervals on a Yellow form was made. These separate windings were first connected every other one together (12 sets x 2), then each set connected series-aiding. It is done this way to get the same groupings around the outside as in Rodin style windings. The L was 222 μH (Q.58).

Next these windings were connected through the center, Rodin style (150° intervals), using same lengths of wire as first configuration. The L increased to 270 μH (Q.7) or +22%! Adding the ferrite had no discernable effect.

So, it seems there is some "Magic" in the geometric form alone of the Rodin design! I doubt this will surprise Marco, who expects much more startling results with properly proportioned and wound coils.

- (1) This book may be ordered for \$30.00 Ppd from Marco Rodin, PO Box 90302, Honolulu, HI 96835.

Bill Ramsay, 251 Asa Hall Road, Iva, SC 29655.
803-296-3200.

Rotating Space-Energy Devices

THE TAKAHASHI MAGNETS AND MOTOR Mark Goldes (CEO, Magnetic Power Inc.)

I had the honor to meet in London with Yasunori Takahashi, CEO of Sciex Corp. in early November 1995. Takahashi has invented new magnets with by far the highest energy values ever announced, as well as other desirable characteristics. The meetings were arranged by, and took place at the home of, Takeo Sawai, Secretary of Sciex (UK).

Using the latest versions of his extraordinary magnets, which data indicates are rated at 144.7 MegaGauss Oersteds (MGOe) - he has built a second, improved prototype of a motor scooter using his permanent magnet Self Generating Motor (SGM). Once started, using a battery, it appears to require no further input energy. The magnets and SGM are the subject of patent applications world-wide.

The September '94 issue of the British Broadcasting Company's *Top Gear* magazine described the earlier version of a similarly modified electric scooter that used less powerful, bonded, magnets (44.4 MGOe). The 144.7 MGOe magnets are sintered.

Once started, using a battery, the motor appears to require no further input energy.

The BBC's magazine article describing the first scooter prototype stated: "The motor was retrofitted with the magnets and the original batteries were replaced with four small 12 volt batteries (a 48 volt starting system).

The scooter arrived in London with its batteries almost discharged. It was driven on a freeway at an estimated 70 mph. It was also reported that acceleration from zero to 30 mph took about 4 seconds.

The earlier scooter was demonstrated to a Senior Engineer at Nissan's European Technical Center who said that this invention: "If it checks out in our own tests, has huge implications for everything which uses a motor - it could revolutionize the world." He was given to understand that the batteries were only used to spin the motor up to a speed where it would continue to run without input. A video was shown by the inventor during my London visit which showed a prototype with a drive belt turning an alternator. The motor was connected to a battery for starting and the battery was then disconnected. Two headlights remained illuminated after the battery was disconnected.

Another invention demonstrated by Takahashi was an extremely powerful small capacitor. This unit, rated at 20 Farads at 25 volts, has a volume of about one cubic centimeter. Panasonic and three other companies have licensed this invention in Japan. A hot water thermos incorporating one of these capacitors was connected to the grid until the water boiled. For the next 24 hours, Takahashi stated it would bring the water to a boil again by pressing a button that released energy stored in the capacitor. It was on the table for several hours and boiling water was produced for tea a number of times.

Takahashi has also invented a magnetic device Sciex calls a Battery Doubler™. Attached to a battery used for a cellular telephone, laptop computer, or a camcorder, during the charging process the data supplied indicates it will extend running time by a multiple of between 1.5 and 2.5. Magnetic Power Inc. will introduce the Battery Doubler™ into the U.S. market as the initial stage of a Joint-Venture between the two firms. Magnetic Power Inc. can be contacted at 707-829-9391, Fax 707-829-1002.

MORPHING THE ELECTROSTATIC GENERATOR

R. Steven Hall (Electric Spacecraft, Inc.), "Morphing the Electrostatic Generator for Flight... and Other Experiments," *Elec. Spacecraft J.*, issue 16, pp 20-23, 11 figs.

AUTHOR'S ABSTRACT

On Dec. 3, 1994 Electric Spacecraft Labs (R. Steven Hall and Charles Yost) completed a redesign of its Holtz/Wimshurst generator (Dynamic Systems, Inc.)

which would assist with experiments directed toward the goal of developing electric spacecraft propulsion. The purpose of the redesign was to totally enclose the active charging parts in order to see if conditions inside the machine could be controlled, and if electricity could be generated internally without arcing while transferring a large potential to the outside surfaces.

ELECTROSTATIC FORCE FLOW

Charles Yost, R. Steven Hall (Electronic Spacecraft, Inc., Leichester), "Electrostatic Force Flow Visualization," *Electric Spacecraft J.*, issue 16, Oct 1995, pp 7-19, 36 figs.

AUTHORS' INTRODUCTION

Experiments with the Dynamic Systems, Inc. Holtz/Wimhurst generator that provide flow visualization and microscopic details of electric forces. A fine, coherent thread of air motion emitting from a negatively-charged electrostatic point, has been discovered here using sensitive, Schlieren optical visualization techniques.

The thread emission remains stable for 8" to 10" in length, and coherent within a 0.01" diameter. It resembles a tiny stream of water issuing from a small hole. It appears related to the phenomenon of "electric wind," differing, however, in that it is extremely coherent as a threadlike chain.

Microscopic examination of the emitting electrode suggests that the coherent stream is created and accelerated in a 0.001" dark gap (deep violet in color) between the aluminum point electrode and the bluish-red coronal brush.

[This editor suggests that these authors are visualizing a flow of high-density charge clusters (alá Ken Shoulders).]

ELECTROKINETIC ROTOR EXPERIMENT

Larry Deavenport (engineer), "T.T. Brown Experiment Replicated," *Elec. Spacecraft J.*, issue 16, 1995, pp 34-36, 5 figs.

AUTHOR'S INTRODUCTION

While still a student at Denison Univ. in Granville, Ohio, Brown noticed movement from wires of opposite polarity which would come in close proximity to one another. These wires had a tendency to attract while in the presence of very high voltage. Brown reported his

observation to his physics professor, Paul Biefeld, who encouraged him to do further experiments. The research that followed led to the Biefeld-Brown effect and six U.S. patents for Brown.

In one of his experiments, Brown mounted condenser plates on a rotor. When voltage was applied, the rotor turned a set direction. If the polarity of the voltage was reversed, the rotor would spin in the opposite direction. During the summer of 1994, I decided to replicate rotor Brown's experiment.

Miscellaneous

INE WORLD WIDE WEB (WWW) SITE

By Patrick Bailey. INE President

The INE has its WWW site at: www.padrak.com/ine/.

This site currently has over 25 text articles, including: information on the INE, the IANS, and PACE; various letters written by Paul Brown. Bruce dePalma. William Hyde, and Stefan Marinov; a complete listing of all of the papers in the Proceedings of the 1993 and 1994 International Symposiums on New Energy (ISNEs), and which presentations are still available on videotape, for how much (cheap), and where to get them; a report on the T. Townsend Brown Conference held in April 1994 in Philadelphia; a sample issue of *NEN*, the October 1995 issue; a complete Table of Contents FOR ALL *NEN*'s to date, in six month's issues per file size; several papers recently presented at the Intersociety Energy Conversion Engineering Conference (IECEC); several important speeches given at past IECEC's; a large file of paper, report, and book references, other interesting data; and other important and related files. We have not yet included any pictures, and we plan to use B&W pictures (and text replacements for Lynx) as much as possible to save WWW disk space. A revision file has also been included to show when any of the site files were last added or updated.

Note that all the information that you can see on any WWW site is available for easy downloading, so the INE site will be used only for releasing information to the general world-wide public. All you need to access this site is a computer, modem, phone line, a service

provider, and the ability to connect to the Internet through your service provider (AOL, Compuserve, Netcom, etc.). Check your local internet companies for these services and costs as well as checking with the largest companies. Once your computer is set up, the internet is easy to access and use.

We also have an e-mail site address at: ine@padrak.com.

Send any articles or papers that you would like included on the INE web site to that e-mail address as "text only" files, and they will be posted to the general public within a week. Otherwise, send them on IBM or Mac 3 1/2-inch floppy disks in "text only" format to INE.

Private, confidential, or proprietary information SHOULD NOT be transmitted via e-mail, unless it is encrypted. There are several examples of e-mail misuse, including one recent interesting case where a person's mail went from one state in the US to another, after going first to Virginia and then to Israel. Such cases are real. Be careful what you sign and what you do. Always keep your word.

U.S. IS ENERGY REVOLUTION DROPOUT?

Future Technology Intelligence Report, vol 7, no 9, Sept. 1995, p 2-3.

SUMMARY

Severe myopia causes the DOE, establishment science-media and much of "orthodox" science to view the energy future in ways of using fossil fuels more efficiently. They have considered some new energy sources, but except for wind and water and solar power, most have only been passing curiosities not worthy of investing research money.

Long term (50 year) plans include hot fusion, Tokamak style only, being useable somewhere down the road. But working prototypes are still 30-40 years away! And they have been working on it for over 40 years now, with about \$12 billion of our dollars. Not an impressive record. Why are they being so short sighted?

This article, like many others, puts the blame on politics. Whether it be the pork-barrel government outlook, or the orthodox scientific community that lines up at the grants trough, the technological choices were narrowed and locked in far too early, and now they don't want to change.

Japan didn't have such a disadvantage. They saw something that could be promising and went about figuring out how to make it work. Their scientific theories were more malleable: in view of new phenomena they were willing to adapt their technological expectations and be open minded. Sure, profit is a strong incentive, but if it works...

The U.S., on the other hand, generally seems to be locked into a mechanistic mindset that only allows straight-line extrapolation from the 19th and 20th century technologies, physics and concepts. Orthodox scientists seem unable to accept that while they might not have had all the answers, they at times didn't even see the directions that new knowledge could come from, or accept them as legitimate. Like demanding that "cold fusion" MUST play by hot fusion's physics rules, or it was a hoax. "This is ideology, not science." Its aim is to preserve the status quo of the scientific hierarchy.

In 1989, Huizenga and the ERAB committee, with only partial information (and most of that wrong), advised the DOE against investment into cold fusion research. In Japan, scientists like Inomata, Arata and others took the view "we have to find out what is happening, and if it can be useful." Japan financed Pons & Fleischmann at a new lab in France, and allocated millions for research in modern facilities in Japan.

"By contrast, in U.S. official science dominated by physicist John Huizenga and his hot fusion friends, there is desperation to show that cold fusion does NOT exist. (Regardless of the logical fallacy of trying to prove a negative case.) Huizenga went so far as to have the University of Rochester publish Cold Fusion: The Scientific Fiasco of the Century. Huizenga makes the most unscientific argument -- that cold fusion CANNOT exist because it violates the principles of physics; and Huizenga is the "expert" at the Department of Energy giving advice precisely the opposite to that given by Japanese advisers to their government."

Is the spirit of scientific discovery being lost for self-serving goals of a few scientists? "The U.S. [previously] led the world in the fossil fuel-atomic age. That age has passed. We are entering a new period." If the U.S. desires to remain a leader in scientific and commercial research and development, they must learn new tricks, and change with the changing paradigm. Innovation has long been the hallmark of American science. Economic and scientific survival is a good incentive to make innovation and objective science a prime goal.

Summary by D. Torres

FOR YOUR INFORMATION--**Over Unity is Recognized in Conventional Science**
Courtesy of Delta Spectrum Research

FLUOROSCOPY: When a phosphor or other luminescent substance emits light, in most cases, it gives an emission according to a fundamental law known as Stokes' Law. This law states that the wavelength of the fluorescent (emitted) light is always greater than the wave length of the exciting radiation. It was first observed in 1852 in the memoir "On the Change of Refrangibility of Light" by Sir G.G. Stokes. In terms of energy the relationship states

$$\epsilon_{em} < \epsilon_{ab}$$

While Stokes' Law holds true for the majority of cases, it does not follow in certain instances. In some cases the wave length is the same for both the absorbed and emitted radiation. That is, the efficiency appears to be perfect or unity. This is known as resonance radiation. In the other case, Stokes' Law does not hold where *energy emitted is greater than the energy absorbed*. This is known as Anti-Stokes Emission. In 1935 Prileshajewa showed that there is an energy difference as much as 1.1v between the exciting light and the fluorescence of aniline vapor. This added energy is attributed to additions from the internal energy of the molecule. [1]

[1] H.C. Dake, & Jack DeMent, Fluorescent Light and Its Applications, Chemical Publishing Company, Inc., 1941, Brooklyn, New York; pp 51-52.

CAVITATION: "The collapse of the smaller vapor filled cavities (during cavitation) causes many extreme results as the *intensity of the resulting shock wave may be considerably greater than the originating action.*" [1]

"Cavitation is mainly known for its harmful effects, namely, loss of performance, erosion, and noise. [2] However, attempts to induce and harness cavitation for useful purposes have been increasingly successful. For instance, in high-pressure jets cavitation has for some time now been purposely induced in order to increase their drilling, cutting, and cleaning capabilities." [3]

"... *pressure of thousands of atmospheres* may be developed at the moment when the cavity collapses to a small fraction of the original diameter. Such collapses are, therefore, bound to cause *enormous effects, as high kinetic energies* are being concentrated at very small spots." [4]

"To give an idea of the amazing effects of cavitation, it may be pointed out that after a destroyer had rushed for

several hours at maximum speed, the armor plates above the propeller were pierced by a hole of the dimension of about one square foot." [5]

"If the cavities are larger than about 10⁻⁴cm in diameter, the pressure at the solid (boundary) is about 1000 atmospheres (14,000 psi), while smaller bubbles give rise to increasingly higher pressures." [6]

"While denucleated liquids may have a number of practical applications such as their use for a transmission medium in high intensity ultrasonic equipment, the use of enhanced nucleation in liquids could have far reaching possibilities. If it were possible materially to reduce the power necessary for active cavitation, many of the actions utilizing the phenomenon of cavitation would become more economic and practical from the point of view of commercial exploitation." [6]

[1] Alan E. Crawford, Ultrasonic Engineering with Particular Reference to High Power Applications; Butterworths Scientific Pub., 1955, London, p 26.

[2] F.G. Hammitt, Cavitation and Multiphase Flow Phenomena, McGraw-Hill Int'l. Co., 1980.

[3] V.E. Johnson, Jr., G.L. Chahine, W.T. Lindemuth, A.F. Conn, G.S. Frederick, and G.J. Giacchino, Jr., "Cavitating and Structured Jets for Mechanical Bits to Increase Drilling Rates," *ASME Journal of Energy Resources Technology*, vol 106, 1984, pp 282-294.

[4] Satya Prakash and Ashim K. Ghosh, "Ultrasonics and Colloids," *Scientific Research Comm.*, Allahabad, India, 1961.

[5] Satya Prakash and Ashim K. Ghosh, *ibid.*

[6] Alan E. Crawford, *ibid.*, p 40.

SOUND WAVES: "The mean force acting on a rigid sphere placed in a progressive spherical sound field has been obtained by integration of the individual contributions from the velocity potential and particle velocity acting on each element of the sphere's surface. Motion of the sphere under the action of the first order pressure variations in the sound field has been taken into account. The radiation force has been expressed as an infinite series of inverse powers of the source distance, each term of which is multiplied by an infinite power series in terms of sphere radius. *At very large distances from the source the radiation force obeys an inverse square law of repulsion. As the source of the field is approached, the repulsion decreases to zero and then becomes a force of attraction.* The extent of the region of attraction is determined both by the frequency of the sound field and by the size of the detecting sphere; lower frequencies and smaller spheres both extend the region. Even when allowance is made for an inverse square law,

the attractions may be many times greater than the repulsions in the same sound field."

[1] T.F.W. Embleton, "Mean Force on a Sphere in a Spherical Sound Field I & II," *J. of the Acoustical Soc. of America*, vol 26, no 1, January 1954, pp 40-50.

HEAT PUMPS: It is well known and accepted that 'off-the-shelf' heat pumps generally put out 3 to 4 times the energy it takes to operate them.

PHASE CHANGE: Three of the four above mentioned processes involve phase changes. Perhaps the fourth is also a phase change phenomenon.

This information supplied from the research files of
Delta Spectrum Research
 P.O. Box 316
 Valentine, Nebraska 69201

WATER ELECTROLYSIS WITH UNIQUE FEATURES

By Michael Randall

Energy Researcher, 2nd Jud. Dist., Sierra Madre, CA

Due to the general lack of information in the field of the generating and uses of a mono-atomic stoichiometric gas mixture of hydrogen and oxygen called Watergas (WG) I observed the need for writing this report and to inform other researchers the verification of some of its unique features even though still in the experimentation stage.

Summary:

Verification of the following unique water electrolysis features of experiment to date(10/15/95):

1. Large volumes of WG produced at little power input.
2. No heating of electrolytic cell.

The third unique feature, the analyzing of the WG and its ignition into a flame, have not been tested as yet.

Brief Description:

A testbed electrolytic cell of electrodes connected in parallel is used to try two different power supply designs. The cell is without a membrane to separate the anode and cathode and the gases are freely mixed. This mixed gas called WG has unique features. The electrodes are given DC pulses at 120 pulses/sec. from standard wall plug AC electricity (60 hz USA) that was full-wave rectified. The electrolyzer also has unique features. (A

complete electrolyzer design and procedure are given in Ref. 1 and will not be repeated in this paper.)

Observations on Electrolytic Cell:

The purpose of this exercise was to reproduce an electrolyzer as described in Ref. 1 and observe what happened.

Two different power sources were used and connected to the same electrolytic cell, having 22 parallel spaced stainless steel (1" X 4" X 1/16" thick at 1/8" min. spacing) electrodes, connected in parallel. Power sources used were (A) Capacitor Power Design (as described in Ref. 1), and (B) a Variable Transformer Design.

The electrolytic cell voltage was between 1.75 to 2.2 volts DC and was dependent on amount electrolyte (NaOH) used. The more electrolyte used the less voltage required for electrolysis. The surface area of the cathode determined the current amps flowing through the cell, between 1 amp. per sq. inch to 1 amp per 4 sq.in. The more area the higher the current.

One design goal was to keep the electrode voltage below 2.2 VDC (above which di-atomic bonding could occur which would lower gas volume efficiency and also cause heating of the electrolyzer). This was easily achieved.

The spacing between plates needed to have room for the gas bubbles to rise to the surface otherwise it would increase resistance by blocking the electrolyte. The gases also need surface area to escape from, so a shallow depth and wide cell design is preferable to a tall skinny cell design.

Verification of Feature 1:

Capacitor Power Design: The electrolytic cell current, of pulsing DC current (120 pulses per sec.), was dependent on capacitor size used. At each 24 mf AC capacitor, 1 amp flowed through the electrolyte to the plates. Used three 24 mf capacitors in parallel or a total of 72 mf capacitors, and got three amps to flow. Could not find larger capacitors so this power design observation was limited to 3 amps.

Variable Transformer Power Design: Used a Variac, variable transformer (140 VAC, 15 amp.), without capacitors, to a 300 VAC, 25 amp. full wave bridge rectifier. With the power available at the wall electrical outlet plug, got 15 amps of pulsing DC current (120 pulses per sec.) flowing to the electrodes. The Variac was adjusted (2.75 to 3.5 VAC) so as to provide 1.75

VDC to 2.2 VDC to the electrodes from the bridge rectifier. Could not test over 15 amps due to wall plug electrical circuit breaker rated at 15 amps. Again, the cell voltage was mostly dependent on the amount of electrolyte used and the current dependent on surface area of cathode electrodes.

In both power designs, observed the electrolyzer WG evolving from stainless steel electrode plates through the clear polyethylene (PE) container. In one set of plates, 75% of the gases formed at the edges of the plates. Electrons like to flow to edges and sharp pointed surfaces. So then made groove cuts in a cross-hatched pattern on flat surfaces of electrodes and found that lots more gases were created for the same electrode plate area. The gases generated in the cell came in steady pulses of bubbles as observed in the flashback container.

By visual observation estimate, the WG volume from the electrolytic cell through the flashback (PE) container were as follows:

Capacitor design at 3 amps:
 - sized each WG bubble at 1/2" to 3/4" cubic inch
 - counted a WG bubble every 5 to 7 seconds

Variable transformer design at 15 amps:
 - sized each WG bubble, 3/4" to 1"
 - counted a WG bubble every 1 to 3 sec.

WG Volume Calculation for Variac Design:

2.2 VDC cell voltage X 15 amps = 33 watts per hr.
 3/4 in³ per 3 sec X 20 per min. X 60 min. = 900 in³ per hr. = 14.7 liters/hr.

Conventional electrolyzer:
 16.8 liters per Faraday (26.8 amp/hr.)
 2.2 VDC X 26.8 amps = 58.96 watts per hr.
 at 33 watts = 9.4 liters/hr.

Gas Volume Efficiency: 156.8% in worst case, 2.2 VDC and a 3/4 in³ WG bubble every 3 sec. For a detailed explanation of the above calculation see Ref 1.

Verification of Feature 2:

In both power designs no heat increase of the electrolyzer unit was felt for voltage under 2.2 VDC. The electrolytic cell was running for over a thirty minute period with no heat being generated either in the fluid or electrodes.

Future Verification of Feature 3:

With ignition of the WG a flame is created that has unique properties still to be determined. The electrolyzer design output of Ref. 1 can be used as a small gas welder.

Have not yet made containers vacuum tight, for the electrolytic cell or flashback container, to evacuate the air out of these containers. If air is present in these containers and mixed with the WG generated, then ignition of this combination causes an explosion. Verified this in the flashback container. This is also how you run a car engine with this gas (future work).

Conclusion:

Observed more WG was generated than would have been with conventional water electrolyzer design. This would mean that a portion of the gas was atomic moles, which is twice the volume of di-atomic moles for the same amount of water electrolyzed. Also no heat was generated in the electrolyzer which means that it was an endothermic (energy added) reaction only. Conventional electrolyzers get hot due to the forming of di-atomic bonds into H₂ and O₂ which is an exothermic reaction and releases large amounts of heat. [Heat can also be generated by current flow through the electrolyte - standard ohmic heating. Ed.]

The more current flowing the more WG was generated and the lower the voltage the less power used and therefore the higher the efficiency. The more edges and cut groove cross hatches on the electrodes plate surface the more gas was generated.

To increase the design for more WG, series connected electrolyzer cells would be more practical with low current and high voltage like the typical building wall plug electrical circuit. At 15 amps and 125 VAC (2.1 VDC X 60 cells = 125 VDC), that is bridge rectified to DC, a series connected cell design can be plugged right into the wall without a transformer. This would have maximum power input of 1,875 watts. And for even higher GW generation, 220 VAC could be used with 110 separate electrolyzer cells in series.

Questions and Theory:

Why the atoms do not recombine to form di-atomic atoms while still in the electrolyzer is unknown due to the lack of research. One theory is it could be due to the DC pulsing action (120 pulses/sec.) to the electrodes from the full wave bridge rectifier of the 60 hertz AC waveform. There could even be a 'best pulse' rate, and this is an area still to be explored.

[It is known that H₂ and O₂ combine only in presence of a catalyst, usually a metal catalyst. Design is important so as not to recombine.]

Reference:

1) Brown's Gas Book 1, by George Wiseman. Published by Eagle Research, Box 145, Eastport, ID 83826 USA.

EDITOR'S COMMENTS

A great deal of work has been done over the past 160 years since the original work in the 1830's by Faraday. Careful experimenters, where they have access to a good library, like to study the past literature before planning and performing experiments. However, there is no good substitute for careful experiments as an educational tool. For example, Randall found that an apparent an apparent increase in efficiency of gas evolution occurred when he used cross-hatched plates.

This editor did not have the time to do come literature research, but I believe that the evolved O⁻ and H⁺ ions readily combine into O₂ and H₂. Readers are requested to write and cite the literature for *NEN* on that topic.

News Release

FOR IMMEDIATE RELEASE

CONTACT: Dr. Nick Begich

Phone: (907)694-1277 Fax: (907)696-1277

Angels Don't Play This HAARP, a Ground Breaking Book by Nick Begich and Jeane Manning.

EAGLE RIVER, ALASKA; SEPTEMBER 13, 1995 - Dr. Nick Begich of Eagle River, Alaska, son of the late Congressman Nick Begich, Sr., is co-author of a book which has international attention even before its release. Angels Don't Play This HAARP: Advances in Tesla Technology, by Begich and Jeane Manning of Vancouver, Canada, will be excerpted in the winter issue of the *Earth Island Journal*. An Australian magazine, *Nexus*, is quoting the book extensively in their December-January issue, HAARP was a front cover story in September's issue of *Popular Science* and was recently described as a new weapon in *Jane's Defense Weekly*. Television producers for BBC and Fox have arranged to come here and interview Begich and fellow researchers. In addition, a number of national and international radio appearances are being scheduled on this very controversial book.

The topic is the implications for us of the military's High-frequency Active Auroral Research Program (HAARP). HAARP is an ambitious experiment in beaming billions of watts of energy from powerful antennae in the Alaskan bush near Gakona, to the upper atmosphere. (HAARP is

to explore uses of the air waves, but the project has exotic military goals as well, according to its documents.)

Unlike the topic of another Alaskan's book about The Firecracker Boys, scientists who wanted to use atomic bombs to blast harbors out of our coastline but were stopped -- HAARP's military contractors are going ahead in their plan to massively disturb parts of the upper atmosphere. Without splitting atoms or building a bomb, physicists say the developing technology could create an equally powerful electromagnetic pulse. Angels Don't Play This HAARP explains that this year's mandate for HAARP, however, is to work toward a system which will provoke longwave radiation in the upper atmosphere and rain it down upon the earth to look for hidden tunnels or other military installations.

Independent scientists told Begich and Manning that the result of deliberately altering the ionosphere could be global vandalism, and that such experiments could affect people's moods and mental functions; the radiation which the HAARP transmitters bounce off of the ionosphere and into the ground are at the same frequencies as predominate human brain waves.

The book is timely as well as thorough. This month the U.S. military continues its experimentation in the first phase of the HAARP program. Extremely powerful beams of radio-frequency energy will pulse into the upper atmosphere and return to spray the surface of the planet with electromagnetic radiation. The military insists that all of this is safe; however, the authors of Angels Don't Play This HAARP have shown the risks through careful research involving hundreds of source documents. (The book contains over 350 footnotes detailing the source of each significant fact.) Questions have arisen in the research...Could these manmade disturbances trigger destructive weather? And as the radiation bounces back to Earth, what will it do to our health? What will be the effect on salmon or other species which rely on the naturally occurring geomagnetic fields for direction?

The HAARP topic was judged by a panel of distinguished journalists to be among the Top Ten Under-Reported News Stories of 1994, and was included in a book entitled Project Censored.

Angels Don't Play This HAARP can be purchased for \$14.95 from Earthpulse Press, c/o Dr. Nick Begich, P.O. Box 201393, Anchorage, Alaska 99520 or by phoning (907) 249-9111 (voice mail); or (907) 696-1277 (fax orders).

FTL DRIVE - FANTASY OR REALITY

Courtesy of Dr. Harold Puthoff

Michael Szpir (staff writer, *American Scientist*), "Spacetime Hypersurfing," *Am. Scientist*, vol 82, Sep-Oct, 1994, pp 422-3.

SUMMARY

Miguel Alcubierre, a physicist at the Univ. of Wales at Cardiff, describes in his paper "The Warp-Drive: Hyper fast Travel within General Relativity," in *Classical and Quantum Gravity* (May 1995, pp L73-77) a space-travel scenario that bears an uncanny resemblance to the warp drive of science fiction. Theoretically made possible by the subtleties of Einstein's general theory, the process would make use of exotic matter (matter with a negative charge density) to fold space both before and behind the space vehicle. This could make interstellar travel possible without time dilation. Alcubierre came up with this in his spare time and has no plans on following up on it. The "techies" can do that. The rewards could be astronomical.

LETTERS**LETTER FROM DR. COLLIS, ITALY**

12 November 1995

The long awaited international patent WO 95/20816, relating to Piantelli's energy generator has finally been published. In the absence of detail in the original paper (S. Focardi, R. Habel, and F. Piantelli, "Anomalous Heat Production in Ni-H Systems", *Il Nuovo Cimento*, vol 107, p 103, January 1994), the patent contains fascinating specifications of how to duplicate the phenomenon.

The energy generating process is based on 4 steps. The charging step loads the active core (for example pure nickel, nickel plated on copper, nickel alloy etc.) with natural hydrogen containing the usual 150 ppm deuterium. The heating step raises the temperature above the critical Debye temperature. The patent lists these Debye temperatures for a range of pure metals and alloys. The startup step induces vibrational stress and activates Cold Fusion of the hydrogen isotopes. Six startup methods are documented - thermal stress, mechanical impulse, electric striction, laser pulse, radio-frequency, ultrasonic-vibration. If the active core is

ferromagnetic, for example nickel or steel, a 100 millisecond pulse can be applied to the heating coil to initiate fusion. Once fusion is underway, the ultrasonic vibrations of the core sustain themselves without external stimulation forming stationary waves in the core. This forms the heat exchange step. The shutdown step can be brought about by either reducing the temperature to below the critical Debye value or by disorganizing the oscillations in some way. The reaction would also cease if the temperature were raised sufficiently to destroy the crystalline structure of the core. The patent vaguely notes that unspecified radio-active isotopes result from shutting down the reaction.

Yours sincerely
/s/ W.J.M.F. Collis

LETTER FROM CANADA

10 November 1995

I was fascinated by a book you advertised and offer the following for print, if you wish, as a review of Newton vs. Einstein by MIT physicists Peter and Neal Graneau. Carlton Press, 1993. These authors explain every advance [and retrogression] in physics from Aristotle to their 1993 publication date - all in English text; not a diversionary formula in the whole book. What a demolition job! On Einstein, Lorentz, and all the pretty boys including Hawking, even the sainted Feynman, right up to our day, the whole crowd teaching "field theory," and thus retrogressing to the *contact-action causality* of Aristotle. *Contact-action* was Aristotelian teaching, an ancient idea that was set aside by Newton for 100 years, only to be revived by the mechanists of the 19th century, picked up by Einstein as an essential to his mathematical inductive reasoning, and carried on as ultimate truth into our time. These teachers of bunkum cannot abide *action at a distance* on ideological principle, despite that such is clearly apparent - gravity, inertia, magnetism, electro-magnetism, electrostatics - all of these are *action at a distance*. The alternative, wave function theory - gravity waves, ether, curved space/time, etc.- all go under in the flood of counter evidence.

Some quotations will give the flavor of this book:

- Aristotle: The purpose of observation and experiment [is] to confirm theory (p 205).
- Author, quoting Newton: The moon and the ocean attract each other. There is nothing more to it. The space between earth and moon does not participate in the attraction (p 13-14). There must be a drawing power in matter ... that we here call gravity (p 19).

• Author: Newton's great theories of mechanics and gravitation rest on the direct and distant interaction of particles of matter, without reference to fields (p 14).

• Mach: When the subway jerks, it's the fixed stars that throw you down. After the subway jerks, there is no time for the fixed stars to accomplish our observed and experienced downfall, if those stars must act at speed c (velocity of light) in a causally retarded fashion - as modern physics teaches of all distant actions (p 90).

• Author: Vacuum is "nothing". How else could space have remained inaccessible to experiment? Scholars of field theory are free of the shackles of Gallilean empiricism (p 91).

• G. Bumiston Brown: Why should we not admit that, sometimes, what appears to be happening *is* happening? The refusal to accept action at a distance has led to all the difficulties and tortuous explanations connected with ether-vortices, waves, twisted space-time, and many others - together with abortive experimental efforts to detect the aether. The time has come (for) abolishing all the ethers, abandoning the attribution of physical properties to nothing, and rejecting purely mathematical constructions like space-time (p 93).

• *Nature* magazine's editor had given G. Bumiston Brown to understand (letter dated February, 1983) that criticism and counter-criticism was not helpful to his readers. They had to be told what was right [p 97].

• Author: The muddy ideological conflict between far-actions and field-contact actions is unlikely to be resolved by polemics and mathematics. *Nature* communicates with us through experiment, not via equations (p 143).

• Author: Too much mathematics makes a smokescreen [p 89].

Best wishes, C. WARREN HUNT

EDITOR'S COMMENTS

C. Warren Hunt is the "editor on translation" of Vladimir N. Larin's book, Hydridic Earth, the New Geology of our Primordially Hydrogen-rich Planet, reviewed for our readers in our *NEN* March 1995 issue. We enjoyed these comments by C. Warren Hunt. Just to present some current "other views", we call everyone's attention to the following: Gravity has been explained by Harold Puthoff as a byproduct of matter and space energy. If I read it correctly, action at a distance is not the explanation. Inertia has been explained several years

ago by Harold Aspden (see March 1994 issue of this newsletter), and more recently Haisch, Rueda, and Puthoff have explained inertia as a byproduct of an energetic aether (see the review in *NEN* March 1994). The phenomena of magnetism, electromagnetism, and electrostatics are probably subjects for papers by Puthoff and his friends.

For those who see strong magnetic fields, they related that the forces seem to be an interaction within the structure of the energetic aether. In other words, it might not be action at a distance but forces formed within the highly-energetic **space energy** that permeates everything. However, many scientists, especially abroad, have discounted Einstein's Special Theory of Relativity. If Puthoff is correct, the space between the earth and the moon consists of an incredibly energetic aether and perhaps does participate in the attraction between earth and moon. I liked what Ken Shoulders said, "The moon doesn't throw fish hooks."

This friendly controversy will continue. However, with motors being built that are over 200 percent efficient, there must be a source for that energy. Maybe the vacuum is permeated with an energetic aether which is **nothing in terms of matter, but is something special in terms of energy**. An energetic aether explains a lot of anomalies that have plagued science for some time. **The purpose of theory is to explain experimental evidence**. Experimental evidence is clearly in the lead these days. Hopefully, theory will catch up. *NEN* strives to present both sides of substantial discussions and firmly believes that the truth will be found by appropriately designed experiments.

LETTER FROM DR. FILIMONOV, RUSSIA

14 November 1995

I want to pass some information about 3rd Russian Conference on Cold Fusion and Nuclear Transmutation held in Dagomys near Sochi at October 2-5, 1995. It was organized by SRC "Erzion" (Dr. Yuri Bazhutov) under scientific sponsorship of Russian Acad. Sci., Russian Physical Society, Int. Nuclear Society (Moscow), Russ. State Committee on Higher Education and Moscow State University. This time it was carried out in good living conditions due to sufficient support of sponsors.

There was 40 participants from Russia and also NIS: Belarus (Dr. A. Bulyga), Ukraine (Drs. V. Zelenskii and P. Golubnichyi); U.S.A. (Drs. M. McKubre, T. Chubb and Mr. R. Smith); Japan (Drs. H. Kozima, K. Fukushima, T. Itoh and R. Kubota); France (Dr. J. P. Millot). I wasn't in

attendance, but Dr. Alexey Bulyga shared information with me. 32 reports were presented (9 - theory, 19 - experiment, 4 - reviews and applied aspects) about an hour in duration. Translation from Russian to English (and vice versa) was provided. Foreign guests mentioned high level of presented reports. It was decided to carry out next conference at May 1996.

Being not a participant, I don't want to discuss presented contributions, though there was much new and interesting results, due to Dr. A. Bulyga and H. Kozima, who shared their impressions with me. I only want to mention a talk by Dr. Yu. Bazhutov "Registration of neutrons, tritium and radiocarbon production under operation of hydroaggregate YUSMAR [Potapov's engine]", that linked once more Cold Fusion and (presumably) Zero Point Energy, exhibiting that your intention to consider these topic together is wise one.

Recently one more note about this topic appeared in Belarussian press. It was an article by Dr. Vladimir Bocharov about James Griggs's engine "It is warm from water, as it is from fire" (*Vechemiy Minsk* newspaper of 23 Oct. 1995; earlier, 25 Apr. 1995, the same author [Bocharov] published similar article about YUSMAR).

Author uses information from "*Cold Fusion*", vol 1, no 2, June 1994, but erroneously calls it "The Magazine of Water-Fuel Age" considering a header as magazine's title. He gives brief description of Hydrosonic Pump and supplies his own version of its principle of operation. Due to V. Bocharov (Cand. Sci. in Chemistry), "excess heat generated is chemical and originates under recombination of some parts of broken water molecules with composition of new substances. Part of water somehow 'burns' and hydrosonic pump become a some sort of furnace that produces heat without air, fire and smoke." He writes that "J. Griggs has his followers [evidently, Dr. Yuri Potapov] who have created their heat generators absolutely non-similar to American version but also reproducing is phenomenon reliably. The common point of all these furnaces is following: they are related to hydrodynamical devices which provide tremendous quantity of 'hammers' for water disintegration. V. Bocharov speculates that such type of generators uses input energy extremely inefficiently: energy "is spent mainly to friction of water (sic!) that yields physical heat but just quite a little [of energy] is spent to breaking molecules yielding additional (chemical) heat under recombination of some fragments." He gives an example of new invented method of water 'splitting' in supercritical state by strong magnetic field (inventor A.G. Bakayev, Perm, Russia) as a basis for prospective excess heat devices of next generation. Below, the author speculates about using 'additives' to

water: "some of them may provide breaking molecules executing a role of knives, others being not combustible in usual sense of this word may 'burn' altogether with water and so on."

My comment: author's hypothesis is entirely incorrect. No combination of water molecules' parts can yield more energy that is needed for H₂O destruction, and chemist Bocharov knows it deadly. Such irresponsible speculations having a goal either to exhibit author's crudition or to make a fool of public appear when and where correct scientific explanation is absent or suppressed. So true information about New Energy is urgently needed anywhere in the world in spite of obstruction of conservative scientific community and officials.

I wish you every success in your noble task of delivering this information from "the cutting edge" of modern science and technics through your *Fusion Facts* and *New Energy News*.

Very truly yours, /s/ Ben Filimonov

LETTER FROM LEE TRIPPETT

Nov 17, 1995

Related to my interest in magnets I have made several attempts to find a way to convert 'space energy' into useful work. All have provided interesting and good experiences and it might be appropriate to share some of that with you. Perhaps by sharing we can save time for others or stir some new insights and suggestions for further investigations.

First: Bearden's theoretical research into 'space energy' recently resulted in a functional block diagram which I translated into an electronic circuit. The circuit's performance was not understood by several electronic professionals as it allowed a small battery to remain at open circuit voltage for many weeks while continuously supplying the manufacturer's rated current. The mystery and wonder of it all did not subside until the circuit was analyzed by a high speed digital scope using non-invasive probes. The circuit functioned according to Bearden's theory but missed the essence of the intent because it turned out to be current amplifier and not a 'power amplifier (converter)'.

Second: A group in Seattle visited Yul Brown in California a few years ago. They published notes and a mathematical argument to the effect that the Brown's gas generator could demonstrate excess energy by igniting the gas in a sealed chamber. This was to allow the gas

to recombine to form water. The resulting vacuum was, in theory, to be near perfect and the resulting mechanical energy was to exceed the original electrical energy needed to break down the water into its component parts. (By the way, there are several references to this in the literature, but none of the references point out the fact that there is first a very violent explosion.) By applying a vacuum to the residual piping, pressure/vacuum gauges, cylinder chambers and then injecting a small pressure of Brown's gas generated by his model BN 200 into an industrial quality air cylinder, the formation of water was observed but no vacuum exceeding the original. The constraints placed on the piston did not reveal any energy in excess of the electrical energy used to generate the gas needed for the experiment.

Third: Puharich's patent 4,394,230 outlines a method and apparatus of splitting water molecules at exceptional efficiencies. Printed comments by respected people in the field indicate there is a resonance frequency in which water would break down into its component gases with a resulting energy efficiency above 100%. I created a hydrolysis device in which one could measure the rate of gas generation by means of a precision air flow rate meter. The required sharp pulsed direct current waveform was applied to carbon electrodes over the full range of frequencies found in the patent and other related literature. Not the slightest variation was found in the rate of gas generation over a wide range of frequencies.

Fourth: The MRA or magnetic resonance amplifier is basically a tuned circuit using very special non-linear passive components. The reactive passive components cannot work alone. They need an input alternating signal to function and so the computation of energy ratio must include the energy required for the required signal source! This point has been consistently overlooked. Therefore, I assembled a very simple and small signal generator with some limited capacity for variable frequency energized by a single small battery. Also, in this way, the confusion of measuring power factor or current/voltage phase relations for a high Q circuit are omitted. The DC power gain was found to be far less than 100%.

Fifth: Over 15 years ago Dennis Lee found a way manufacture and install low temperature phase change machines with 4 times the efficiency than that of the common consumer and industrial products. This is not the same as converting 'space energy' but of capturing, condensing, and moving the ambient air temperature energy. The obvious advantage is the reduction of the daily heating bill by a factor of four in many parts of the

country. (And many are enjoying this advantage at the expense of the unhappy electric utilities.) The disadvantage of this technology is the very large and numerous heat exchange panels needed, along with the need for a major custom installation. Of course another disadvantage is the phase-out of the current CFC's. Some commercial substitutes are either expensive, corrosive, explosive, or poisonous. However, with efficiencies of air motors and electric generators some really 'free' electrical energy could be realistically produced with this technology. Research is required to find a safe and inexpensive low temperature phase change material. Also needed are adequate seals to use it in an air motor.

The ideal would be to replicate those devices demonstrated and proven by Tesla, Hendershoot, and Moray. My work has been limited to 'attempted replication' of something that is within my background or understanding and the use of off-the-shelf components in a small shop. Of course time and money always seems scarce, but as I look back over these projects, it is amazing what patience and innovation can accomplish. For the benefit of increased freedom and our environment I am willing to share any details of my experience. Perhaps with more unity and cooperation we can find a useful solution to alternative energy.

By the way, there needs to be a term to identify the process of converting 'space energy', 'vacuum energy', 'ZPE', etc., into some other current textbook recognized form of energy. Possible verb synonyms for convert are: metamorphose, transfigure, transduce, translate, transpose, transform, transmogrify, transmute. The central meaning shared by these verbs is "to change into a different form, substance, or state". Possible related nouns are: inverter, fuel cell, glycolysis, rectifier, transducer, and motor. From this collection of words a committee could arrive at some consensus on appropriate terms.

Sincerely, /s/ Lee Trippett

[Lee Trippett sent us a clever working demonstration model of a magnetic paper-clip spinner. *NEN* will be supplied with funding to manufacture and distribute this "executive play-toy." More later. Ed.]

Commercial Column

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

COMPANY: PRODUCT

American Cold Fusion Engineering and Supply: Information and troubleshooting for the fusion research and development industry. Sacramento, California. The president, Warren Cooley, can be reached at 916-736-0104.

CETI (Clean Energy Technologies, Inc.): Developers of the Patterson Power Cell™. Dallas, Texas. Voice (214) 458-7620, FAX (214) 458-7690.

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

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

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

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

Magnetic Power Inc.: Introducing the Takahashi Battery Doubler™, which extends the charge release 1.5 to 2.5 times battery normal, to the U.S. market. Sebastapol, CA. Contact Mark Goldes, Voice 707/829-9391, Fax 707/829-1002.

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

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

Note: The Fusion Information Center has been acting as an information source to many of these companies. We expect to augment our international service to provide contacts,

information, and business opportunities to companies considering an entry into the enhanced energy market.

INFORMATION SOURCES

Fusion Facts monthly newsletter: Salt Lake City, UT 801/583-6232, also publishes Cold Fusion Impact and Cold Fusion Source Book. Plans on-line database access for later in 1995.

New Energy News monthly newsletter, edited by Hal Fox. Salt Lake City, UT 801/583-6232

Cold Fusion Times, quarterly newsletter published by Dr. Mitchell Swartz, P.O. Box 81135, Wellesley Hills MA 02181.

Infinite Energy, new bi-monthly newsletter edited by Dr. Eugene Mallove (author of **Fire from Ice**), P.O. Box 2816, Concord, NH 03302-2816. 603-228-4516.

Fusion Technology, Journal of the American Nuclear Society publishes journal articles on cold nuclear fusion. 555 N. Kensington Ave., La Grange Park, IL 60525.

21st Century Science & Technology, P.O. Box 16285, Washington, D.C., 20041. Includes cold fusion developments.

Planetary Association for Clean Energy Newsletter, quarterly, edited by Dr. Andrew Michrowski. 100 Bronson Ave, # 1001, Ottawa, Ontario K1R 6G8, Canada.

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

Space Energy Journal, edited by Jirn Kettner & Don Kelly, P.O. Box 11422, Clearwater, FL 34616.

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

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

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