New Energy News
Monthly Newsletter of the Institute for New Energy

VOLUME 6, NUMBER 7 ISSN 1075-0045 JANUARY 1999

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ENERGY PRODUCTIVITY COMPARED

By Hal Fox, Editor-in-Chief, *New Energy News*

An acceptable method for measuring productivity of workers is to divide the number of workers into the gross dollar volume of the goods or services provided. The January 11, 1999 issue of *Business Week* provided figures for a number of industries in the United States. The figures used in this article were taken from that issue. [These following 1999 figures are estimates.] For example, the 1999 output for energy is estimated at $250.73 billion. The number of workers is estimated at 510 million. Using these figures, the calculated productivity is $491,627 per worker.

In the current energy industry, the number of workers that were required to build an existing, electrical-generating plant would not be counted. The plant is built and the costs are being paid off by income received from energy sales. The productivity rate does not count the costs that will be charged off to taxpayers for the cleanup of nuclear power plants when they are closed down and dismantled. However, the productivity for energy workers at a large hydro-electric, power-generating facility would be very high. The productivity of maintenance workers who have to repair storm-damaged power lines would below. (See Utilities.) Overall, the productivity of the energy industry is relatively high as compared to other industries. It can be argued that the existing energy industry productivity is artificially high because it is based on the one-time use of natural resources such as oil, natural gas, and coal. No deduction from productivity is made for the use of the non-renewable resources. One of the purposes of this article is to provide a comparison of productivity among sevreal sectors of the nation's economy.

In terms of which United States industries are the largest (see charted categories, next page), here are the top five: (output in billions $)

Retailing	$2073.95
Real Estate	$1754.00
Health Care	$ 807.08
Food	$ 698.73
Energy Plus Utilities	$ 513.38

As a young student, we often talked about necessities of Food, Clothing, and Shelter. From today's society (in the United States) we would say Personal Goods, Shelter, Health, Food, and Energy.

In terms of productivity (thousands $/worker), the top five categories are the following:

Energy Plus Utilities	$ 442.6
Drugs & Biotech	$ 369.2
Autos	$ 365.9
Computers & Chips	$ 363.0
Telecommunications	$ 269.6

Note that except for “Energy Plus Utilities,” all of the high-productivity categories are related to categories other than the five largest product categories. It is interesting that the lowest productivity is for education and food. However, the farmers in the United States lead the world in agricultural productivity.

What does all of this mean for the future of energy. As we develop the lower-cost, new-energy devices and systems, we will not have the productivity advantage of pumping oil, or transporting natural gas. The new-energy

PRODUCTIVITY COMPARISONS:

Industry	Output in Billions $	Workers in Millions	Productivity in Thousands $/worker
Manufacturing Sector			
Energy	250.73	0.51	$ 491.6
Autos	351.27	0.96	$ 365.9
Aerospace	140.41	0.59	$ 238.0
Metals	182.11	0.71	$ 256.5
Information Sector			
Computers & Chips	221.4	0.61	$ 363.0
Software	273.24	1.90	$ 143.8
Telecommunications	339.68	1.26	$ 269.6
Media and Entertainment	250.17	1.71	$ 146.3
Life Sciences Sector			
Drugs & Biotech	99.68	0.27	$ 369.2
Agriculture	289.98	3.63	$ 79.9
Health Care	807.08	10.49	$ 76.9
Distribution Sector			
Retailing	2073.95	12.38	$ 167.5
Food	698.73	12.10	$ 57.7
Transportation	390.37	3.45	$ 113.2
Services Sector			
Education	110.85	2.39	$ 46.4
Travel	233.92	3.04	$ 76.9
Real Estate	1754.0	9.43	$ 186.0
Utilities	262.65	0.65	$ 404.1
Energy Plus Utilities	513.38	1.16	$ 442.6

Note: In the manner in which this author thinks about energy it would also include the distribution of energy. However, it is probable that the distribution of energy for automobiles is included in Retailing.

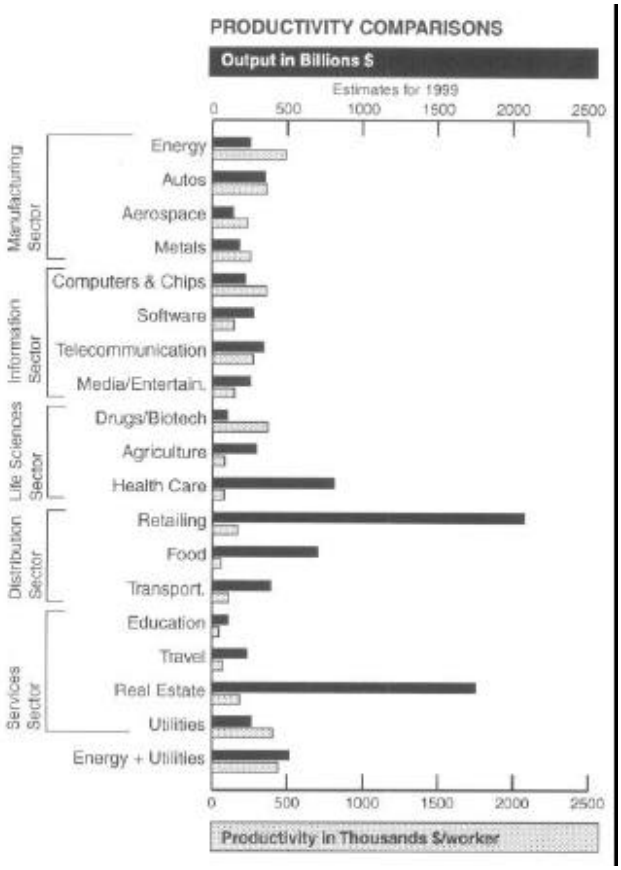
infrastructure will be more like the computer industry or the communications industry. We will be turning materials like ceramics, copper, plastics, and silicon into high-tech manufactured products. Initially, the productivity will be relatively low, such as with the aerospace industry. However, productivity should approach the productivity of the computer or auto industries.

This means that the talk of **free energy** is a whole lot of wishful thinking. Just as the old rural farmer said when he first saw a giraffe, "There ain't so such animal!" In the first months of high-volume production of new-energy systems and devices, there will not be substantial cost savings. **However, there will be substantial savings in environmental costs because these devices and systems will be pollution free (except for thermal pollution).** However, we can radiate excess thermal energy into space on any cloudless night. As the technology progresses, the costs of energy are expected to decrease to about one-third to one-fourth of our current energy costs.

In case you don't recognize what new-energy technology is being commercialized, it is the high-density charge cluster technology now being investigated by five different groups in four countries and with one U.S. government agency planning support for flat panel displays.

Knowledge is not chunks of information, it's a belief about how the world works, a belief we can embody in machinery – like green for go and red for stop. Knowledge becomes obsolete when the world changes.

Arno Penzias



Fusion Briefings

N. V. Antonenko, G. G. Adamian, W. Scheid, V. V. Volkov (Inst. Theor. Phys. der Justus-Liebig-Univ., Giessen, Germany), "**Competition between complete fusion and quasifission in reactions with heavy nuclei**," *AIP Conf. Proc.*, 425 (Tours Symp. on Nuc. Phys. III, 1997), pp 51-60 (English) 1998
and
N. V. Antonenko, G. G. Adamian, W. Scheid, V. V. Volkov (Inst. Theor. Phys. Justus-Liebig-Univ., Giessen, Germany), "**Competition between complete fusion and quasi-fission in binuclear system**," *Nuovo Cimento Soc. Ital. Fis., A,* 110A(9-10), pp 1143-1148 (English) 1997

A model based on the dinuclear system concept is suggested for the calculation of the competition between complete fusion and quasi-fission in reactions with heavy nuclei. The fusion rate through the inner fusion barrier in mass asymmetry is found by using the Kramers-type expression. The calculated cross sections for the heaviest nuclei are in good agreement with the experimental data. The experimentally observed rapid fall-off of the cross section of the cold fusion with increasing charge number Z of the compound nucleus is explained.

T. Aoki, Y. Kurata, H. Ebihara, N. Yoshikawa (Isotope Ctr., Univ. Tsukuba, Japan), "**Search for nuclear products of the D + D nuclear fusion**," *Int. J. Soc. Mater. Eng. Resour.*, 6(1), pp 22-25 (English) 1998

A search was made for nuclear products from the D + D nuclear fusion reaction in electrolytic cells and in the gas phase of Pd + D systems. Measurements of nuclear products were made for gamma-ray, neutron, tritium and helium. To detect neutrons, liquid scintillation and 3He counters were used. For gamma ray measurements, a NaI detector was used. For tritium concentration measurements in the gas phase, a gas proportional chamber was fabricated and operated at low background level. The signals of those detectors were fed to a pulse height analyzer and recorded as energy spectra which were carefully compared with background spectra. Different types of neutron searches were also tried in the instants of pressurizing and depressurizing the deuterium gas in a crystal. A large size crystal of tungsten bronze was prepared for the experiment.

Vyach M. Bystritsky, V. M. Grebenyuk, S. S. Parzhitski, F. M. Penkov, V. T. Sidorov, V. A. Stolupin, T. L. Bulgakov, G. A. Mesyats, A. A. Sinebryukhov, V. A. Sinebryukhov, S. A. Chaikovsky, A. V. Luchinsky, N. A. Ratakhin, S. A. Sorokin, V. M. Bystritskii, A. Toor, M. Filipowicz, A. Gula, E. Lacki, J. Wozniak, E. Gula (Joint Inst. Nucl. Res., Dubna, Russia), "**A new approach in the experimental studies of nuclear reactions at ultra low energies**," *Nukleonika*, 42(4), pp 775-793 (English) 1997

A new experimental approach in the study of strong interactions between light nuclei at ultra low energies (100 eV - 3 keV) is proposed. The method is based on the use of nanosecond ion beams. This approach will allow one to obtain information about characteristics of nuclear reactions in the indicated energy region. The use of classical accelerators is difficult because according to theoretical calculations the range of the cross section values for the studied reactions in this energy region is $10^{-43} \pm 10^{-32}$ cm^2. The method of measurement of the cross section is

described and the first result of experiment on measurement of the (d-d) reaction cross section at deuteron collision energies 220 eV is presented.

Warren Cooley (Salem, OR, USA), "**The fullerene fusion engine**," *Cold Fusion*, 21, pp 56-57 (English) 1997

The possible fullerene fusion engine is discussed with use of an aerosol fuel mixture

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F. P. Hessberger, S. Hofmann, V. Ninov, P. Armbruster, H. Folger, A. Lavrentev, M. E. Leino, G. Munzenberg, A. G. Popeko, S. Saro, Ch. Stodel, A. N. Yeremin (Gesellschaft fur Schwerionenforschung mbH, Darmstadt, Germany), "**GSI experiments on the synthesis of superheavy elements**," *AIP Conf. Proc.*, 425 (Tours Symp. .Nucl. Phys. III, 1997), 3-15 (English) 1998, 39 refs..

A review. The results of a series of previously reported experiments on evaporation residue production at SHIP in cold fusion reactions of Pb- and Bi- target nuclei with projectiles of elements between Ti (Z = 22) and Se (Z = 34) leading to compound nuclei ZCN = 104^{-116}. The isotopes ^{269}110, ^{271}110, ^{272}111, and ^{277}112 were unambiguously identified for the first time in bombardments of ^{208}Pb and ^{209}Bi, with ^{62,64}Ni and ^{70}Zn. Excitation functions for ^{50}Ti + ^{208}Pb and ^{58}Fe + ^{208}Pb were measured with high precision, and three new spontaneous fission (sf) activities ^{253}104, ^{254}104, ^{258}106 were identified. A small α-decay branch of the even-even nucleus ^{256}104 (b_α = 0.003) was confirmed, allowing mass excesses Δmc^2 to be estimated for N - Z = 48 nuclei up to ^{264}Hs (Z = 108). An analysis of the α-decay chains observed in a bombardment of ^{209}Bi with ^{58}Fe projectiles showed evidence for an isomeric state in ^{266}Mt (Z = 109). The authors further report on an attempt to produce element 116 and a second isotope of element 112 by the reactions ^{82}Se + ^{208}Pb and ^{68}Zn + ^{208}Pb, respectively.

Heinrich Hora (Dept. Theor. Phys., Univ. N.S.W., Sydney, Australia), "**Magic numbers and low energy nuclear transmutation by protons in host metals**," *Czech. J. Phys.*, 48(3), pp 321-328 (English) 1998.

The observed nuclear transmutations by protons or deuterons in host metals at low reaction energies are evaluated. Reactions probabilities N(Z) depending on the atomic number Z show maxima close to the magic numbers with the exception of Z = 20. The exponential decay of the maxima on Z have an increment Z' = 10. This empirically derived relation exactly fits a sequence of the magic numbers of 3n, where the basis value "3" reminds me of the threefold scheme of the quarks.

Shigeru Isagawa, Yukio Kanda, Takenori Suzuki (High Energy Accel. Res. Org. (KEK), Tsukuba, Japan), "**Present status of cold fusion experiment at KEK**," *Int. J. Soc. Mater. Eng. Resour.*, 6(1), pp 60-67 (English) 1998.

A review with 14 refs. Since the spring of 1989, the authors have attempted to confirm the so-called cold fusion phenomena by detecting excess heat and various nuclear products using open type electrolysis cells. A variety of cells containing Pd (cathode)/0.1M LiOD/Pt (anode) have been examined, but recently efforts have concentrated on Dewar-type cells containing a small palladium cathode, about 2mm ϕ × 7 mm in size. Until now a burst-like heat release, equivalent to 110% of the input electric power, was observed in one cell, with neither increase of neutron emission nor that of tritium concentration. Helium was observed, but no decisive conclusion could be drawn due to incompleteness of the then-used detecting system. In another experiment, an abnormal increase of neutron emission, about 3.8σ above the background level, was observed with neither coincident heat burst nor tritium anomalies. It lasted for 9 hours and the emission rate that amounts to 27.2 ± 11.2 neutrons s^{-1} was 700 times as much as the background level. It happened also only once, which makes the possibility of the system error negligible and paradoxically supports its reality. In the other experiment, abnormal emission of the low energy (below 20 keV) X-rays has been detected during the D+ charging period, indicating some type of nuclear phenomena may be happening in the cell. Further studies as well as reproductions of the anomalies are becoming highly essential to understand totally these abnormal phenomena.

Hideo Kozima (Dept. Phys., Fac. Sci., Shizuoka University, Japan), "**How the cold fusion occurs (2)**," *Rep. Fac. Sci., Shizuoka Univ.*, 32, pp 1-43 (English) 1998, 79 refs.

A review. Present status of the cold fusion research is surveyed after four years since the former report appeared in this journal in 1994. A model (TNCF model) proposed by the author and based on the experimental facts has been used to analyze typical

experimental data and have shown its ability to understand the cold fusion phenomenon consistently. More than 40 typical experimental data in the cold fusion phenomenon, which had been accepted as showing only confusion by people, had been analyzed consistently by the TNCF (trapped neutron catalyzed fusion) model based on an assumption of the quasi-stable existence of the thermal neutrons in solids with special characteristics, giving a unified explanation of the whole data. The density of the trapped thermal neutron in solids, a single adjustable parameter in the model, was determined in the analyses of various experimental data and was in a range of 105 ± 10^{12} cm^{-3} which was not ridiculous from the solid-state point of view. The success of the analyses verifies the validity of the assumption of the trapped thermal neutron. Physical bases of the model were speculated facilitating the quasi-stable existence of the thermal neutron in the crystals satisfying definite conditions. The cold fusion phenomenon is an efficient probe to explore the secret of the solid state-nuclear physics, or the physics of neutrons in solids, untouched by conventional tools of solid state and nuclear physics until now.

Renbao Lu (Beijing Inst., Applied Phys. and Computational Math., Peop. Rep. China), "**Analysis of x-ray and g-ray production mechanism under the condition of discharge with D_2 gas**," *Yuanzihe Wuli Pinglun*, 14(2), pp 114-117, 124 (Chinese) 1997

It is probable that since an X-ray with single energy was produced in the discharge process in D_2 gas, a γ-ray was produced also. The γ-ray must effect the spectrum of X-rays. The existence of a γ-ray provides evidence for cold fusion.

Renbao Lu (Inst. Appl. Phys. Computational Math., Beijing, Peop. Rep. China), **"Electron-ion bound state and its initiation of nuclear fusion**," *Qiangjiguang Yu Lizishu*, 10(2), pp 315-320 (Chinese) 1998

A strict description of quantum mechanics on electron-ions bound state three-body system and two approximate solutions are given, which are corresponding to p-e-p bound state X-rays with Ep ≃ 12.5 keV monoenergy is emitted, and also initiate cold (d-d) fusion to give out neutron, proton, triton ^{3}He, ^{4}He, and gamma ray. Some experiments such as Ni-H, deuterium gas glow discharge, are explained. The energy from the excess heat release is just a large quantity of X-rays released in the two electron-ion bound state mentioned above, and only (D+ -e -D+) can initiate nuclear fusion. The author further analyzes a large number of the measured record solar flare energy spectrum and points out that the process of generating solar flares also contains the process of emitting X-rays with about 12.5 keV and 25 keV monoenergy and (d-d) fusion.

David Moon (Minneapolis, MN, USA), "**Carbon-14 found in the YUSMAR hydromachine,**" *Cold Fusion*, 18, pp 53-54 (English) 1996

Carbon-14 from cold fusion in the YUSMAR hydromachine is discussed.

A. G. Popeko (Flerov Lab. Nucl. Reactions, JINR, Dubna, Russia), "**Subbarrier cold fusion reactions leading to superheavy elements**," *Nuovo Cimento Soc. Ital. Fis., A*, 110A(9-10), pp 1137-1142 (English) 1997.

The elements with Z ≈ 107 were synthesized in cold fusion reactions based on Pb and Bi targets. Heavy ions undergo fusion with these target nuclei deeply in the subbarrier region. The analysis of the potential energy surface of colliding nuclei shows that a cloud of paired nucleons or massive clusters may be transferred from the projectile to the target.

Akito Takahashi, Hirotake Fukuoka, Kenichi Yasuda, Manabu Taniguchi (Dept. Nucl. Engr., Grad. Sch., Osaka Univ. Yamadaoka, Japan), "**Experimental study on correlation between excess heat and nuclear products by D_2O/Pd electrolysis**," *Int. J. Soc. Mater. Eng. Resour.*, 6(1), pp 4-13 (English) 1998.

Using two electrolysis systems based on D_2O/Pd electrolysis, experimental searches were tried to find correlation between excess heat and possible nuclear products (neutrons, x-rays, tritium and helium). One was the open electrolysis system with twin cells to study correlation between excess heat, x-rays and neutrons. The other was the closed electrolysis system to study correlation between D/Pd ratios, excess heat, neutrons and helium. No very clear correlation between excess heat and any nuclear products were observed, but several marginal-level data were obtained to show helium-4 production when excess heat were observed in the closed electrolysis system. In a few cases by the open electrolysis experiments, clear excess heat was observed with no visible increases of characteristic x-rays and neutrons over background. Burst events of soft x-rays and neutrons were observed in a few cases, being independent of excess heat production.

Tieshan Wang, Yubo Piao, Jifang Hao; Xuezhi Wang; Genming Jin; Zhanqi Niu (Inst. Modern Phys., Chinese Acad. Sci., Lanzhou, Peop. Rep. China), "**Anomalous phenomena in E<18 keV hydrogen ion beam implantation experiments on Pd and Ti**," *Chin. J. Nucl. Phys.,* 19(4), pp 244-249 (English) 1997.

Implantation experiments of low energy (1 keV<E<18 keV) hydrogen ion beams on hydrogen loaded metals are performed with high beam density ($J_{max} \simeq 1.2$ mA/cm^2) and low beam density ($J_{min} \simeq 0.02$ mA/cm^2). Palladium and titanium foils (plates) are bombarded with proton and deuteron beams in order to compare the atomic and nuclear interactions between different ion beams. X-ray and charged particles are measured, and neutron and gamma doses are also monitored during the implantation experiments. An anomalous peak in X-spectra, whose energy is about four times the beam energy, is observed during the high beam density experiment. The peak moves from about 40 keV to 62 keV and FWHM (Full Width at Half Maximum) reduces rapidly, while the beam energy and intensity increase. Another wide peak with over twice the beam energy is measured in experiments with low beam density. It is located between 16 keV and 30 keV, and its peak energy increases with the increase of implantation dose (implantation time). Some anomalous intensities of neutrons correlated with a charged particle peak (2.93, 3.85 MeV) are also observed in the deuteron-palladium experiment. The highest neutron intensity reaches about 8×10^4 n/s, while the beam energy and intensity are about 15 keV and 1.0 mA, respectively.

Hiroshi Yamada, Tamiya Fujiwara (Dept. Elec. & Electr. Engr., Iwate Univ., Morioka, Japan), "**Neutron emission from palladium point electrode in pressurized deuterium gas under d.c. voltage application**," *Int. J. Soc. Mater. Eng. Resour.*, 6(1), pp 14-21 (English) 1998.

The nuclear reaction in a palladium electrode under a highly non-uniform electric field was studied using a neutron counting system. Excess neutron counts were observed with deuterium-loaded palladium-point electrodes in deuterium gas atmosphere, in 9 out of 24 runs after activation by flashover between electrodes during d.c. high-voltage application. Similar neutron bursts took place without the activation under a d.c. glow discharge condition in 2 runs out of 37 runs. The tip surface of these two electrodes after the burst was observed by XPS to be covered by a large amount of carbon. Several craters of about 10 microns in diameter were formed on the tip surface of one of the two electrodes.

H. Yuki, T. Satoh, T. Ohtsuki, T. Yorita, Y. Aoki, H. Yamazaki, J. Kasagi (Lab. Nucl. Sci., Tohoku Univ., Sendai 982, Japan), "**D + D reaction in metal at bombarding energies below 5 keV**," *J. Phys. G: Nucl. Part. Phys.*, 23(10), pp 1459-1464 (English) 1997.

In order to study the electron screening effect on low-energy nuclear reactions in metals, the D + D reaction in Ti and Yb was investigated. Yields of protons emitted in the D(d,p)T reactions from the deuteron bombardment of Ti and Yb thick targets with bombarding energies between 2.5 and 7.2 keV were measured. The obtained yields were compared with those predicted by using the parametrization of cross sections at higher energies. The reaction rates in metals are enhanced over those of the bare nuclei for Ed < 5 keV, and the enhancement can be interpreted as caused by the electron screening. The electron screening potentials in Ti and Yb are deduced to be 19 ±12 eV and 81 ±10 eV, respectively.

Brian O'Leary, Ph.D. (USA), **"Toward a New Science of Consciousness,"** the 2nd Internat. Symp. on Consciousness, New Medicine & New Energy, Abstract Book, November 1998, p 15.

AUTHORS' ABSTRACT

Experiments in quantum physics, psychokinesis, bio-communication, zero point energy, anomalous experience and healing, all point to a new scientific paradigm of consciousness. Characteristics include the instantaneous transfer of information, non-locality and downward causation. The realm of consciousness appears to transcend time and space as well as the four known forces of physics in a mechanistic and objective universe. The latter may be seen as a limiting case of the new scientific paradigm. Existing branches of natural, philosophical, psychological and spiritual science are increasingly embracing consciousness as an essential ingredient. Expanded research and education can empower us to develop technologies that could help bring the Earth back into balance.

Tadahiko Mizuno, (Fac. Engr., Hokkaido Univ.), **"Measurements of Transmutation Elements on Several Metals by Strong Cathodic Electrolysis in Heavy Water Solution,"** the 2nd Internat. Symp. on Consciousness, New Medicine & New Energy, Abstract Book, November 1998, p 18.

AUTHORS' ABSTRACT

Many elements on Pd, R, Zr and Au electrodes were confirmed by several analytic methods after long time electrolysis in heavy water solution. For example, the reaction products on a Pd cathode with the mass number up to 208 are deposited, which were subjected to electrolysis in a heavy water solution at high pressure, temperature, and current density for prolonged time. Extraordinary observations were the changes of their isotopic distributions in the produced elements; these were radically different from the natural ones on the Pd electrode. It means that a nuclear reaction had taken place during the electrochemical treatment. It is suggesting that a role of new interactions working between a proton and an electron, should explain the new phenomenologies that are experimentally observed in this study.

These masses were composed of many elements ranged from hydrogen to lead. The Elements were changed by metal and electrolysis conditions. For example, natural chromium is 4.3% Cr^{50}, 84% Cr^{52}, 9.5% Cr^{53} and 11% Cr^{54}. Natural Isotopic distribution varies by less than 0.003% for Cr. Essentially the same phenomenon was confirmed more than ten times with high reproducibility at high cathodic current density, above 0.2 A/cm^2. All the possibilities of contamination had been carefully eliminated by several pretreatments for the sample and electrolysis system. It may be concluded that a nuclear reaction can be achieved during the electrochemical reaction.

Hideo Hayasaka (retired, Fac. of Engr., Tohoku Univ., Sendai, Japan), **"Possibility for the Existence of Anti-Gravity: Evidence from a Free-Fall Experiment using a Spinning Gyro,"** the 2nd Internat. Symp. on Consciousness, New Medicine & New Energy, Abstract Book, November 1998, p 19.

AUTHORS' ABSTRACT

A free-fall experiment of a spinning gyro enclosed in a capsule has been conducted in order to investigate the effect of an object's spinning on the free-fall acceleration measurements, in which each run consists of left, right and zero spinnings about the vertical axis, it has been shown that the mean value of the fall-accelerations of the right-spinning $\langle g (R) \rangle$ is significantly smaller than $\langle g (L) \rangle$ of the left-spinning at 18000 rpm. The result suggests that the right-spinning generates anti-gravity and that the parity (the reflection symmetry) of gravity breaks down completely. It means that an object's right-spinning generates torsion field, which creates positive energy from the vacuum of space-time.

Shiuji Inomata, Ph.D. (President, JPI), **"Experimental Consistency Check of New Paradigm,"** the 2nd Internat. Symp. on Consciousness, New Medicine & New Energy, Abstract Book, November 1998, p 20.

AUTHORS' ABSTRACT

Complexifed EM theory is a core theory for the author's new paradigm science/psychotronics. The theory predicts two phenomena: the change in gravitational mass of a condenser charged with the shadow electrical charge and the existence of a gravitational vortex. Years of experiments have been done in search for these phenomena, using condensers and coils. In this presentation, the successful experiments will be described, which have confirmed the existence of the predicted phenomena. And, undeniable phenomena, in which coils extract energy from the vacuum, have been found.

Yoshihiko Tago, **"A Construction and Test of an Unconventional Transforming Generator,"** the 2nd Internat. Symp. on Consciousness, New Medicine & New Energy, Abstract Book, November 1998, p 16.

AUTHORS' ABSTRACT

An unconventional transforming generator (Variable Reluctance Generator), invented by Peter Lindemann of the United States, was claimed to deliver more than 100% efficiency. We duplicated and tested the machine, on which no detailed measurement data had been available. The machine consists of a rotor with two laminated iron cores, an output coil around the rotor, and a stator having four field electromagnets. Since the polarity of the field magnets changes next to each other, the direction of the magnetic flux through the rotor core changes in opposition with every 1/4 turn of the rotor. Due to the flux changes of the rotor core, a voltage is induced in the output coil, which is wound around the rotor and itself does not rotate. In order to eliminate complicated power measurements with non-sinusoidal waveform and a reactive power, we compared the input and output power both in DC. As a result, it was observed that the output power exceeded the input power increment (an "over-unity" effect) under certain conditions. The results indicate that a mechanical back torque (braking force on loading) would not appear under a certain geometry/configuration of generator. It is expected that this working prototype would give a novel understanding in the nature of a reaction of electrical machines.

Kazushi Kasahara (Daiichi-sokuhan Seisakusho), **"Experiments with N-Machine (JPI-1),"** the 2nd Internat. Symp. on Consciousness, New Medicine & New Energy, Abstract Book, November 1998, p 17.

AUTHOR'S ABSTRACT

Experiments have been performed with the N machine (JPI-I). The experiments concerned with the following three points.

1. Change in N-Machine output versus temperature and humidity
2. Measurement of brush resistance
3. Output characteristics

The N-Machine was installed in a controlled chamber (temperature and humidity). The N-Machine output was measured with different temperatures and humiditys. Although a small change in the output was confirmed, it has been concluded that it does not affect the N-Machine output appreciably.

In this machine, four brushes are used for each rotor. And there are two rotors. So, there are eight brushes. And by measuring the output with different number of the brush, the author obtained the resistance of the brush and the conducting wire with calculation. The output measurements were performed in line the with Inomata-Mita experiment. The author measured the increase in internal EMF, the negative resistance of the brush with the increase of the rotational speed. The same measurement was also made with the increase of the output power and the super-efficiency phenomenon. Although, the output power increased with that of input, the output does not exceed the input in this N-Machine. In view of the above experimental results, the author is now developing a new N-Machine which could rotate with 20,000 rpm. After the development, we will perform the same measurements.

At the International Symposium, the author demonstrated the machine and report the measurement results.

Rad Waste

NUCLEAR WASTE - ROUNDUP
Courtesy Gary Vesperman

Here are some bits and pieces from news articles sent to *NEN* by our friend in Las Vegas, Gary Vesperman.

"A scientist says rising moisture is a threat to be considered for a proposed nuclear waste repository." Steve Tetreault, Donrey Washington Bureau. It appears that there is geologic evidence that much higher water levels have occurred in the past and may occur again at the Yucca Mountain site proposed for multi-thousand years of geologic storage of nuclear wastes.

"The U.S. government and utilities fight over who should store nuclear waste until a dump is established." H. Josef Hebert, Associated Press. The nuclear power utilities strongly believe that the government made a binding legal contract to handle the spent fuel pellets. So says Robert Bishop, attorney for the Nuclear Energy Institute.

"Judge sides with 3 closed New England plants in breach-of-contract suits on nuclear wastes." Associated Press, 7 Dec 98, *Las Vegas Sun*. A federal court has ruled that the government need not take the nuclear waste until it has a place to store it

but must pay damages for breach of contract. The U.S. Supreme Court agreed. 40,000 tons at 72 different sites in 34 states is involved. [You, the taxpayer, will pay the bills: 1st for the electrical power and again for improper DOE handling. Ed.]

"UNLV physicists pursue transmutation process as an alternative to Yucca." Mary Manning, *Las Vegas Sun*. Anthony Hechanova, a nuclear physicist at the University of Nevada at Las Vegas, says there is no voodoo technology in this transmutation approach. [*NEN* has reviewed and quoted the government-funded study: Nuclear Wastes: Technologies for Separations and Transmutation, Committee on Separations Technology and Transmutation Systems, Board on Radioactive Waste Management, Commission on Geosciences, Environment, and Resources, National Research Council, published by National Academy Press, Washington, D.C. ©1996 by the National Academy of Sciences. This document concluded, inappropriately, that geological storage was the most cost-effective method of handling high-level radioactive wastes. Ed.]

"Energy Chief [DOE Secretary, Bill Richardson] pledges funds to let science settle Yucca issue." Mary Manning, *Las Vegas Sun*, 7 Dec 1998. Questions as to the practicality of storing nuclear wastes in Yucca Mountain will be studied by scientists. Senator Richard Bryan, D. Nev., states, "The public's health and safety is utmost."

DOE AWARDS CONTRACTS FOR NUCLEAR PROJECTS

The Bakersfield Californian
Wednesday, 23 December 1998, Nation, p A6

“Tennessee plant to produce tritium for weapons; a second site will dispose of plutonium,” by Mark Helm, Hearst Newspapers

Washington – The Energy Department announced Tuesday it would produce tritium, a radioactive isotope of hydrogen that boosts the destructive power of nuclear warheads, at civilian nuclear power plants in Tennessee.

Energy Secretary Bill Richardson also announced that the department awarded another defense-related nuclear project to a plant in South Carolina.

Richardson told a news conference that the department would produce tritium at the Tennessee Valley Authority's Watts Bar nuclear plant southwest of Knoxville, while TVA's Sequoyah plant outside Chattanooga would serve as a backup.

"Watts Bar-Sequoyah is our best option for our national security. It is a proven technology. It's the best deal by far for the taxpayer," he said. "It has the flexibility to meet our present and future tritium needs."

Although Richardson declined to give details about the cost, he said the department's choice was "by far, the least expensive option." He said that the project's estimated cost would be released in the next few weeks.

A Congressional budget office report released in August found that using existing nuclear reactors such as Watts Barr and Sequoyah would cost approximately $1.1 billion over 40 years.

The two plants are part of TVA's network of nuclear plants, dams and other facilities that produce electricity for commercial and home use. The nuclear plants are expected to continue producing electricity while they make tritium.

Earlier this year, the House approved legislation that would have prohibited the use of a commercial nuclear reactor to produce tritium, but the measure failed in the Senate. Supporters of the House-passed measure argued that using a commercial reactor would breach the long-standing separation of commercial and defense uses of nuclear power.

Richardson also announced that the government's Savannah River Site in Aiken, S.C., which last produced tritium in 1988, will be the site of a plant crucial to the disposal of the nation's dangerous stockpile of plutonium.

At the Aiken plant workers would take apart the radioactive cores of nuclear weapons and convert the pure plutonium metal inside into a powered [sic] oxide.

On a tour of prospective sites in August, Richardson was met by governors, members of Congress and state officials.

During a trip to Texas, state officials pushed Richardson to locate the plutonium processing plant at the Pantex site near Amarillo. Texas Sens. Phil Gramm and Kay Bailey Hutchinson, both Republicans, also lobbied for the Pantex site.

Washington state pushed to place the tritium plant at the Fast Flux Test Facility, a reactor in the Hanford.

"A decision like this required difficult choices, and I understand that the decisions are especially difficult for the communities not chosen," Richardson said.

YUCCA MOUNTAIN LIQUIDITY
Courtesy of Richard Shamp

Joby Warrick, "At Nevada Nuclear Waste Site, The Issue Is One of Liquidity," *The Washington Post*, pg A1 & A3.

EDITOR'S SUMMARY

Two studies of Yucca Mountain (where over two billion dollars have been spent to build a storage facility for high-level nuclear wastes) have disclosed that in geologic times the mountain has been flooded with hot water and percolated with rainwater. Because these high-level radioactive wastes are expected to be harmful for up to 10,000 years, it is appropriate to consider whether the current arid climate can be expected to provide the required storage safety. This site, 90 miles from Las Vegas, was picked by the U.S. Congress in 1987, to serve for nuclear storage. Currently, there are 30,000 tons of spent nuclear fuel pellets to be stored by the U.S. government, accepting the responsibility for permanent storage.

"Yucca Mountain is a sieve," stated one of the nuclear-waste specialists. Other investigations have found that radioactive chlorine-36 has been found 800 feet below the surface. This finding was far in excess of the supposed transportation of nuclear wastes. Now it is expected that if radioactive wastes were stored, it might take less than 1,000 years for well water to become contaminated. This entire controversy is based on the concept that there is no way in which nuclear wastes can be handled or treated that is more cost effective that geologic storage. We now know better.

Miscellaneous

HIGH ROADS FOR TOMORROW
Courtesy of Chuck Bennett

Ted Tash, MSEE (Honeywell, Inc.), "Space Exploration: Necessary, but Are We Doing It Correctly?" EE Times, 21 Dec. 1998.

SUMMARY

In the current global scientific community, the International Space Station (ISS) has been considered the next step in pursuing space exploration. Although little new technology is being used in its construction, it is a very visible demonstration of "something happening" for the public eye.

Perhaps we would be better served, to the advancement of space exploration, if more emphasis was put on research into the physics of energy and propulsion systems. We may be able to reach Mars at our current technology level, but we will never be able to go beyond the solar system without significant breakthroughs in both energy and propulsion. To this end, NASA does have a program called the Breakthrough Propulsion Physics Program at the Lewis Research Center.
<www.lerc.nasa.gov/WWW/PAO/warp.htm>

One of the best returns from the construction and maintaining of the ISS will be the inspiration of young people to follow careers in science and math that will enable us to one day develop the advanced systems that will be needed. Is there a better road to take? Possibly, but this is the one chosen by the international community. We hope it will be sufficient.

CRUDE OIL PRICES STEADY FOR 1999
Courtesy of Gordon B. Moody

According to Gordon Moody's *Global Energy Outlook*, crude oil prices are expected to remain relatively

stable during 1999. This is the result of a current oversupply of oil. The resulting low prices for crude oil translate into more consumer spending for non-oil products and better profits for industry which depends on oil energy. While the U.S. consumes about one-fourth of the world's oil, the U.S. oil reserves are only about 2.5 percent of the world's oil reserves. The result is a great outpouring of U.S. dollars into the Oil Producing and Exporting Countries (OPEC). Of course, the current low cost of oil is some advantage to the U.S.

In an Editorial in *Global Energy Outlook* dated December 1998, Gordon Moody states the following: "Most oil industry problems could be solved by restoring crude oil prices back to their 1997 levels of $20 per barrel. Experience teaches that you won't get a sympathetic hearing from either the Administration or Congress. **Cheap oil** is seen as the one component that has kept the American economy from freefall. ... A ten percent cut in oil production worldwide would restore oil prices at a level that would provide economic security to producers and consumers alike. **It is utter folly to take a 50 percent cut in revenue to produce 10 percent excess capacity."**

The same Dec. 1998 *Global Energy Outlook* reports that the consensus of *Time* magazine's Board of Economists agree that the 1999 outlook for the global economy appears to be stabilized and that the Asian financial crisis appears to be contained. However, the world economy will not recover rapidly. It will be into the year 2000 or later that the economic damage can be repaired in some countries. The key Western hemisphere country, in terms of potential economic problems, is Brazil. If Brazil has to devalue its currency, there would be immediate financial turmoil in several other Latin American countries.

The worst economic basket case is Russia. With $17 billion in payments due in 1999, Russia has resorted to selling nuclear and intelligence technologies to some of the Middle East countries (often countries that support international terrorism). Russia is also leading an effort (with at least four other countries) to lift sanctions against Iraq, at least on Iraqi oil sales. Iraq owes Russia about $8 billion for weapons and technology sales.

TAPPING EARTH'S ENERGY

"The Prentice Earth Energy Tap," *Nexus New Times Magazine*, vol 6, no. 1, Dec 98-Jan 99, page 43.

EDITOR'S DISCUSSION

A Frank Wyatt Prentice patent issued September 18th, 1923, claims that power can be obtained from 500,000 cps energy fluctuations located about six inches above the earth. To tap this energy, Prentice used a half-mile of wire. In addition, he located a closed oscillatory loop antenna 18 feet in length about 20 feet from the "transmission antenna." If this is true, then anyone with a good oscilloscope can put up an 6-inch high line and determine the energy fluctuations at 500 kilohertz. Prentice claims to have been able to power fifty, sixty-watt lamps. In the thirties, Dr. Henry Moray, a Utah scientist was demonstrating the ability to light a bank of lamps in a similar fashion.

JET TECHNOLOGY OFFERS EXCESS HEAT UNITS

Courtesy Dr. Mitch Swartz

In a first-of-a-kind, JET Technolgy, Inc. has mailed an advertising leaflet announcing the following:
JET Energy Technology system use the generation of heat at low temperatures to develop electrical energy and other products. These novel technologies can develop heat apparently beyond that which is electrically applied, in an amount ranging from 2 to 400% or more. The peak power levels achieved with these systems have increased from 1989 ($\approx$ 20 watts per cc palladium) to levels now approaching two orders of magnitude greater. These high technology systems are advertised as "Patents Pending." For more information contact (781)237-3625, email: mica@world.std.com
Web Site: http://world.std.com\~mica/jet.html

This is the first advertising brochure on low-energy nuclear reactions (aka cold fusion) that we have received. [Robert Parks, American Physical Society, Please note. – Ed.]

1998 REPORT ON THE WIN METHOD

Wingate A. Lambertson, Ph.D.

Introduction

It has been 26 years since I started what I thought would be a one-year research project to convert aetheric energy into electric power. The existence of the aether was then considered to be impossible and the earth's magnetic field was claimed as the energy source. In 1998 the energy source is known to be the vacuum continuum and is accepted by most scientists as zero-point energy (ZPE). The energy

collection method is known in the field as the WIN Method.

This method is a solid state method having no moving parts. A charge of electrons is oscillated in a tank circuit and energy is collected or added to that charge from the vacuum. The charge is then passed through a lamp where it does work. A cermet, located between metal plates, is used to build a voltage potential for acceleration and the assembly is called an "E-dam" because of the hydroelectric power analogy. Energy input is measured and any output energy in excess of the input has to be coming from the vacuum.

The vacuum continuum is freely available everywhere in the Universe. is almost infinite in quantity and has no chemical or radioactive pollutants.

1998 Problems

The stability of the E-dam cermet was the most serious problem which had to be dealt with this year. The cermet would change in use from a high to a low resistance. I was able to identify the problem as chemical and changed the cermet chemistry. My present generation of cermets will fail when subjected to an excessive charge of electrons - too much power per pulse will result in a short. This is a problem, because I am always pushing the envelope but it is easily handled by just keeping the charge level below the failure point.

Results

Results in ZPE research are reported in terms of yield or energy output divided by energy input. The Swiss M-L machine has an infinite yield because it rotates under its own power. Energy input comes

from the output. Feedback studies on my method will be a part of the product development phase and will be done by others. My goal has been to show that I am getting more energy out than I am putting into the tank circuit. **Recent data showed a yield of 145 percent**.

WATER IS COMPLEX

"Molecular Memory Could Be Transmitted by E-Mail," *Nexus New Times Magazine*, vol 6, no. 1, Dec 98-Jan 99, page 8.

Can subtle antibody solutions in water be transmitted via computer linkage? The claim that such is possible has been announced by Jacques Benveniste, a French research scientist. Benveniste won a 1988 Ig-Noble award for work showing that antibody solutions retain their biological effectiveness even when diluted so highly that some of the samples could not even contain an antibody. An extension of this work claims that the observed biological activity of the water can be sensed, recorded, stored on computer media and transferred over the Internet and transferred to a different water sample. (See http://www.digibio.com).

Editorial

BECOMING INDEPENDENT
Hal Fox, Editor

Recently an email from James Vaughn asked the following: "I know that it's challenging to consider how to make a career without keeping consumers in need for what you offer, but what if you had all you needed to have a life without dependency on others who design their service to keep you subject to them?"

It is assumed that James Vaughn is a young, energetic person determined to make the world a better place. Let's explore "...have a life without dependency on others..." In the 1920s and 1930s our family enjoyed that rare (nowadays) opportunity to be very independent. The locale was a farm near the Utah Lake in Utah County in Utah. The farmhouse and the farm were provided with water from wells. "Coal oil" lamps (we now say kerosene) provided light. The farm raised hay for horses and cows (and one bull). One of the hayburners was used to plow the garden. South of the house was a wood lot which provided fuel (with a bit of labor). The cows provided milk, which in turn (with a lot of help) provided butter and cottage cheese.

Sacks of grain were taken to the mill (dependency) and exchanged for flour. Grandmother made the best "graham" bread and biscuits. The wood & coal range in the kitchen and the "Heatrola" in the "front room" provided heat for the house. We bought a ton of coal (dependency) during the winter (to augment the wood) with money made from selling milk from the cows. The farmhouse was complete with an "outdoor inconvenience" for which grandfather dug the pit and built the “three-holer.” Grandfather also made much of the wooden furniture for the home.

Now that was real, true independence. I learned many skills, chopping wood, milking cows, churning butter, trimming wicks in kerosene lamps, gardening (a euphemism for weed control), farming, animal husbandry, blacksmithing, etc. Now is the day of dependency: a thermostat is a marvelous instrument that brings in the wood and hauls out the ashes. The store provides me with a multitude of fresh fruits and vegetables that were not even known to those farm families. No wick trimming – just flip on a switch and there is light. If one wants to be a gardener and grow vegetables, flowers, and fruits – it is a great hobby (the second largest hobby in the United States). Today not all can be independent.

Up to the 1930's, one could choose (and many did) a life of independence. Certainly, we have grown to be a nation (or a world) of INTERdependence. There are still places where one can buy land and hard scrabble as "independents," provided that one has the physical stamina and the skills. I doubt that is what James Vaughn is seeking.

James Vaughn has a view of commercial life as customers being programmed when he asks "...what if you had all you needed to have a life without dependency on others who design their service to keep you subject to them?" If consumers are so dumb as to be led by the nose by Madison Avenue ad writers (and some are), they deserve what they are encouraged to eat, wear, or play. However, there always has been a minority who are not subject to the inanities of modern advertising. It appears that such a group are becoming a potent minority in the market place. Just look at the "natural products" that are now being sold and even advertised in the supermarkets.

However, this is a new-energy publication. James Vaughn probably had in mind the concept of being able to (someday) become energy independent. Take an example: I have the knowledge and skills to make my own natural gas furnace or water heater. When I can buy a new water heater for $119 and put it in myself, I am not about to build one, nor a furnace. However, I would like to be able to put into my own home a new-energy unit that would provide heating, hot water, cooling, and electrical power. That is a worthy objective, and hopefully, James Vaughn would like the same. When that day comes, I will gladly change from my dependency on the local power company to my dependency on the manufacturer of a new-energy home-energy plant.

We are no longer a nation of pioneers carving out a homestead from forests, river bottoms, or sagebrush. To enjoy the fruits of technology, we become interdependent. We are no longer an independent nation. Witness the 1997-98 financial turmoil wherein the U.S. needed to help provide economic stabilization for many foreign countries. However, we are new-energy pioneers and dedicated to making this a cleaner, greener world. To accomplish this task we need the informed help of all the James Vaughns willing to become new-energy pioneers. Remember, there is no energy oligopoly out there to keep energy pioneers from developing the much needed technology. If that were true in the past, it is not true today. Energy companies are faced with a huge challenge to furnish energy for our voracious energy-consumption appetites. Meeting stringent environmental legislation has prevented the building of new electrical power plants (at least in the eleven western states) for over a decade! Electrical power needs have been met by a combination of conservation and maximum use (during peak periods) of existing plants. Those utilities having the best leadership will be in the forefront of providing new-energy systems **as today's pioneers complete their development!** Our mission is to help accelerate the development and commercialization of new-energy systems. We welcome the dedicated help and financial assistance of all the James Vaughns so that we may all enjoy energy interdependence.

Other Publications

***COLD FUSION TIMES*, WINTER 1999**
Courtesy of Dr. Mitchell Swartz, Editor

EDITOR'S REVIEW
This Winter 1999 issue is one of the best of *Cold Fusion Times* (now in its 7th year). An important article in reviewing the progress of cold fusion over the past several years is written by Prof. George Miley (Fusion Studies Lab, U/Ill. at Urbana). He suggests that some of the observed nuclear reactions can only be explained by multi-body, fusion-type reactions. There is no question that Low-Energy Nuclear Reactions are real, according to Miley.

Other articles and citations from Michael McKubre, Melvin Miles, and Edmund Storms assure the world that cold fusion is real but not thoroughly understood. One of the points raised by opponents is that many have tried experiments and failed. One may remember Edison's comments on failed experiments with 400 things that didn't work for the electric light, when he said that he now had succeeded in finding 400 things that didn't work. The best event for destroying the illogic of skeptics is to produce a device that can be commercialized.

Several articles from Japanese, Chinese, and Russian scientists report progress in cold fusion experiments, in underwater arcing experiments, and year-long results in gas-loading experiments. All produce positive and repeatable results that are anomalous.

An excellent article by our friend Arthur C. Clarke uses the comment by President Jefferson, "I would sooner believe that two Yankee professors lied, than that stones fell from the sky." Then Clarke says: "Even more controversial than the threat of asteroid impacts is what I would call perhaps one of the greatest scandals in the history of science, the cold fusion caper."

See the *Cold Fusion Times* Web Home Page at http://world.std.com/~mica/cft.html

LATEST INFO FROM FTIR
Courtesy of Dr. Antony C. Sutton

The January 1999 issue of *FTIR (Future Technology Intelligence Report)* has the following topics:

THE WEAK SQUEAK OF DEFEAT: Congress is not listening to the successful scientists who are working on new energy; they are more influenced by the hot-fusion scientists. [Absolutely true. The hot-fusion scientists have had $500 million per year to build up their effective lobbying group. Ed.]

Arthur C. Clarke is a strong supporter of new-energy and has some explanations of why "free energy" concepts are not accepted by most of the scientific community.

ADVANCE NO. 1
THE CASE CATALYTIC PROCESS
FTIR suggests that the Case catalytic fusion cell is currently the "front runner". [Apparently, *FTIR* has not been properly briefed on high-density charge clusters. Ed.]

ADVANCE NO. 2
MASS MAGAZINE *WIRED* CLIMBS ABOARD.
The November issue of *WIRED* ran an article on cold fusion. This is touted as one of the first large volume magazines (500,000 audited circulation) to publish favorable articles about cold fusion.

[This editor does not share the planned secrecy scenario that is often cited for the lack of support of new-energy systems. The hot-fusion lobbyists were very successful in giving cold fusion a bad name. However, as *FTIR* cites, over 100 scientists have continued investigations. Our figures from over 3,000 cold fusion papers is 600 successes, from scientists in over 200 laboratories in 30 countries. At least one form of laboratory excess energy (over 1000%) is replicable and is being developed for near-future (perhaps two years) commercialization. However, this lab is not publishing its results at the present time. Hal Fox, Ed.]

The reductio ad absurdum is God's favorite argument.
– *Holbrook Jackson*

SPACE ENERGY JOURNAL
Courtesy Jim Kettner, Don Kelly

The *Space Energy Journal* is a quarterly publications dedicated to the pioneering work of Tesla, Schauberger, Moray, and others. Funds from supporters are often used to test out new (or old) concepts. In the ten years or more that this journal has been produced there have been no successful new-energy devices commercialized. However, this journal and its founders, editors, and publishers must be given credit for their efforts in making information available to their readers.

The December 1998 issue discusses several energy concepts including the Over-Balanced Gravity Wheel; A Gravitational Converter Machine; the Hendershot Device (10 watts continuous output); Naudin's ZPF Motor (one rotation per day), and an interesting experiment with magnets. Unfortunately, none of these devices appear to have commercial viability. However, for those who like to build their own devices, this Journal is dedicated to providing suitable information. Hopefully, there is a budding genius out there who will learn from others and then develop a new-energy system. [Naudin's experiments with the ZPF Motor is an interesting concept that is new to this editor.]

Article

MASS INCREASE - LOSS WITH ENERGY

Bert Schreiber (4519 Holly St., Bellaire, TX 77401-5802, Tel. 713-661-4608)

AUTHOR'S ABSTRACT

The arguments as to whether mass can increase due to speed (not velocity) were all based on falsities or absurdities. Mass itself can never increase nor decrease by itself nor due to outside influences. Mass can only increase or decrease by the addition or subtraction of other mass.

HISTORICAL

There have been many scientific papers written on how mass increases due to some cause or other. The worst paper was that changing the color of a mass caused a change in mass. The worst was the distortion of Einstein's result: The **apparent**

measured mass increases with velocity. The apparent measured was dropped and speed, which is **scalar**, replaced **velocity** which is a **vector**, which is only a mathematical calculation (concept), not an entity nor reality. Total absurdities on two counts.

There were others who said that a cold mass becomes more massive when hotter. This might be correct; but how it comes about has been wrongly interpreted. This author has never seen any real equation to determine exactly what this mass increase actually was. Also, even if others have come up with some actual value for the said mass, increase or decrease, it would probably have been wrong as they did not have the information (discoveries) set forth in this paper.

Lastly, there were others who said a moving mass (one which increases in speed) becomes more massive with speed and vice versa. Again, many papers and so called proofs.

All were way off base, especially when light became "photons" and massless at that. The solution is simple and can be found.

LIGHT HAS MASS

It was proven long ago (1901) that light has kinetic (mechanical) energy. [1] It was ignored by those Einsteinians who came up with the impossible massless photon.

Since it has said mass, then, what is the mass of light?

The minimum mass can easily be found from using Planck's Equation

$$E = \hbar\nu \qquad (1)$$

equated to Einstein's (minutiae skipped as they are not in the same system)

$$E = mc^2 \qquad (2)$$

Planck's Constant, $\hbar$, only occurs in whole number multiples of itself. Therefore, what is the mass energy of a frequency of one single-cycle? One $\hbar$! What amount of mass if transformed to energy, give this as ergs or result in light radiation of one single cycle/sec?

Equating this energy to ergs to = $\hbar$ in ergs, for E in (2) then gives: 7.372635×10^{-48} grams. That is the smallest **quantum of mass**, the neutrino.

Therefore, what is the mass for any frequency?

$$m = \nu m_\nu \qquad (3)$$

PROOF: What is the mass of the radiation given resulting from the annihilation of an electron "at rest"? $1.23... \times 10^{20} \times 7.37... \times 10^{-48} = 9.109\ .\ .\ \times 10^{-28}$ grams. What would happen if this gamma ray was converted in toto back to mass? It would give the mass of the electron "at rest". Simply, all mass is composed of multiples of neutrinos and is, hence, the source of mass and, hence, the source of gravity. Ergo,

$$E \leftrightarrow m \qquad (4)$$

This is one of the author's Laws of The Universe: SUM = PARTS.[2]

MASS INCREASE BY A MOVING MASS

The kinetic energy of a mass is given by:

$$KE = 1/2mv^2 \qquad (5)$$

What is the mass gain by a one gram mass going from 0 cm/sec to 1000 cm/sec? KE gain = $.5 \times 1000^2$ = 500,000 ergs. What is the mass gain ?

$500{,}000 \times 7.372615 \times 10^{-48} / 6.626176 \times 10^{-27} = 5.56325 \times 10^{-16}$ grams.

This is the actual energy impressed on said mass to accomplish this change in speed. **All** the other energy (say it was a bullet propelled by some exploding gunpowder) is essentially wasted.

Note that $m_\nu / \hbar$ is a constant so that the equation would be:

$$m_{gain/loss} = ergs \times k \qquad (6)$$

where $k = 1.11265004 \times 10^{-21}$.

From the author's works [2], the theoretical (calculated) weight which could be measured near the surface of the Earth is about 1.3×10^{-16} grams. The practical weight which could be measured (mass increase) would be some 1000 times this value.

This also upsets Newton's equation for the effects of gravitational attraction. As a mass falls, its mass, hence its weight, increases and hence, it will accelerate still faster etc. However, for this paper, this remark must be changed as there is a limit, the feather-apple paradox, which does not have any **effect** for such a small mass. Such an effect, is only

for larger masses, 8+ x 10^5 kilotons. At this point, this particular discussion stops.

What is the temperature rise in aforesaid illustration of mass? This will depend on the **specific heat** of the mass. That is, a lead mass will become hotter than an aluminum mass of the identical mass. That also means that an electron and a proton moving at the same speed each has a difference of temperature. This difference is the ratio of their masses which means the proton is hotter than the electron by said ratio difference.

MASS INCREASE BY A MASS AT REST BEING HEATED

To determine the increase in mass of a mass at rest, requires a specific mass to be chosen. For this illustration, a 1 gram mass of aluminum which has a specific heat of 9 x 10^6 ergs/degree will be used. What is the mass increase when this 1 gram mass is raised from 0 to 600 degrees centigrade?
[where sh is specific heat]
600 x 9 x 10^6 x 1.11265004 x 10^{-21} = 6.00831 x 10^{-12} grams.

$$m = E \times sh \times k \qquad (7)$$

It is theoretically possible to detect this change of weight provided a balance can be found which has the required range of accuracy.

CONCLUSIONS:

A mass which changes speed does gain or lose mass. Such a gain or loss is a result of the addition or loss of radiation which has mass.

A mass which is heated or cooled, while at rest or otherwise, likewise does gain or lose mass as a result of the addition or loss of radiation which has mass.

Therefore, the distinction must be made in all scientific papers as to which process one is describing and to what end result(s) one is attempting to reach. They are two separate processes, but **the individual effects** must be combined to achieve the end result, where applicable.

Furthermore, the effect of such gain or loss of mass must be, within the author's new theory, **the theory of the limits to measurement**, hence, **effects**.

References

1. R.W. Ditchburn, Lights, Dover Publications, reprint of 1953 edition, pp 555-559.
2. Charles Bert Schreiber, Quantum-Quanta Theory: The Theory of the Universe, 3rd. revision, 1998, self published.

[Note: Readers should know of this book: Petar K. Anastasovski & Trevor M. Benson, Quantum Mass Theory Compatible with Quantum Field Theory, c1995, 165 pages, 30 refs, indexed, illus. Published by Nova Science Publishers, Inc., 6080 Jericho Turnpike, Suite 207, Commack, New York 11725. $87, which shows that photons have mass.]

[Editor's invitation: If you do not agree with Bert Schreiber, write a letter to the editor. We will print and/or share with Bert.]

Book Reviews

SECRETS OF COLD WAR TECHNOLOGY - PROJECT HAARP AND BEYOND
by Gerry Vassilatos
Preliminary Review by Pat Bailey

Available from Borderland Sciences, in Bayside, CA, for $15.95. PO Box 429, Garberville, CA 95440-0429.

Now, this here book talks a lot about Tesla's experiments with high voltage DC where he is creating "radiant energy" using a "Tesla Transformer" by making the DC pulse in the milliseconds and microseconds regions.

NOTE: In the HAARP process, the pulsing current passed through an electromagnet, and he used a vortex coil.

It appears that the electrical current is transformed into an "aether current" and can be transferred to other places -

WITH NO APPARENT CURRENT PATH <<<---------

So, you see, this gets rather interesting.

Anyone know anything about these transformers and replication and data?

Patrick Bailey
President, Institute for New Energy
http://www.padrak.com/ine/SUBJECTS.html
http://www.padrak.com/ine/

AUTODYNAMICS, Fundamental Basis for a New Relativistic Mechanics (a translation and extension of the author's original work)

By Ricardo L. Carezani (David de Hilster, Lucy Haye and Amnon Meyers, editors), pub. Society for the Advancement of Autodynamics, 801 Pine Ave. #211, Long Beach, CA 90813; c1998, ISBN 0-9665533-0-6, 232 pages, illus., indexed, $25.00.
Reviewed by Hal Fox

As a young engineering student in the early 1940s, Ricardo L. Carezani realized that Einstein's Special Relativity (SR) did not explain radioactive decay. He pointed out this fact to his professor which, of course, provoked an argument. Now some fifty years later, Carezani's work has been much extended and adopted by a significant number of scientists as an improvement on SR. This book begins with an exposition of Carezani's work and adds considerable additional documentation including specific derivations, numerous appendices, copies of Carezani's published papers, and a useful index.

Warning: If you are working on an advanced degree in a U.S. university, you will not want to admit that you have read this book! If you read the book it can change the way you view the universe, SR, and General Relativity. Here is one example: If a particle receives energy from an external medium, the particle's energy will be the sum of its rest mass energy plus the kinetic energy added to the particle from the outside. The expression should be $E_T = m_o + E_c$ where E_T = the total energy; m_o is the rest mass energy, and E_c is the added energy. This extra energy is the cause for Pauli to suggest the neutrino to carry off excess of energy in the SR kinetic energy equation, when applied to radioactive decay cases. The Autodynamics (Carezani's name for his work) equations properly handle this problem of supposed excess energy and, therefore, no neutrino need be postulated.

In some of the appended material, there is considerable discussion of the search for the neutrino, the experiments that show that there is no excess energy to be explained and, therefore, no need for the neutrino. Also provided is an illuminating discussion of the great difficulty to ensure that it is really a neutrino being detected and not some other type of particle.

One of the concepts growing out of Autodynamics is that of a "pico-graviton," the smallest of particles and its potential to travel faster than light. If superluminal velocities perturb you, you may be interested in a citation given in this book. In the paper "Superluminal Motion Statistics and Cosmology," by R.C. Vermuelen and M.H. Cohen *(The Astrophysical Journal*, vol 430, (1994), pages 467-490), there are 66 extra-galactic sources listed in which the velocities were determined to be from greater than **c** to about 26 times **c**.

Here are some other topics that are dealt with in this book: The big-bang may not have ever happened; entropy may not be increasing (we may have a steady-state universe); Cerazani's work is better at explaining the anomaly in Mercury's orbit than SR equations; SR improperly uses the velocity between two frames of reference; **c** is not limiting; and the Bohr atom (atom likened to a planet revolving around the sun) lies at the basis of much of current equations -- just to name a few interesting topics.

Another interesting topic is the concept that electrons and photons may be able to exchange energy (and possibly change the charge of the electron). We know that in the Bohr atom, the change of the orbit of the electron around the nucleus can include the absorption or emission of a photon. But the electric charge has been considered not to be changed. In paper A25 the Electric Charge Variation is explored.

In my judgement, anyone who is studying SR, General Relativity (GR), and quantum mechanics, will want to carefully read this book. For those who are not steeped in mathematics, it is suggested that they read between the equations that they do not understand (or do not want to check) to get a better feeling for both the perceived virtues and the perceived and discussed shortcomings in SR.

As with any theory or model (such as SR) there is never a completely correct model. Reality is more complicated than the crude models that we create. There is no reason for anyone to believe that SR, GR, or any of the various QEDs are not open for improvement. In many cases, Autodynamics is a marked improvement over some of the concepts derived from equations provided in earlier work on relativity. Also, and important, is that Autodynamics does not have to call upon any strange concepts such as curved space, simultaneity, longitudinal mass, etc. to explain what the Autodynamics equations more simply present.

If you want to enter into some of the discussions, you may want to contact David de Hilster <ddehilster@isearch.com>, the president of the Society for the Advancement of Autodynamics.

For those who want to learn more, including the members of SAA, here are some references that deal with some of the problems being grappled with by the proponents of Autodynamics (and by SR proponents).

The Bohr atoms assume a particle flying around the nucleus like the moon around the earth. A more modern and rational concept is that of the electron as an "orbitsphere," and the math should be reviewed and used. See Randall L. Mills, The Grand Unified Theory of Classical Quantum Mechanics, c1996, published by Blacklight Power, ISBN 0-9635171-2-0. email at <staff@blacklightpower.com>. (Out of print. New edition under preparation.)

The enormous amount of work that was done (in great secrecy) on torsion fields in the former USSR is now being revealed. Those interested in superluminal velocities will want to see one or more of the following references:

A.E. Akimov, G.I. Shipov, "Torsion Fields and Their Experimental Manifestation," Proc. Int. Scientific Conf. New Ideas in Natural Science, St.-Petersburg, Russia, June 1996. *J. New Energy*, vol 2, no 2, Summer 1997, pp 67-84, 53 refs, 10 figs.

A.E. Akimov, V.Ya. Tarasenko, "Models of Polarized States of the Physical Vacuum and Torsion Fields," translated from *Izvestiya Vysshikh Uchebnykh Zavedenii, Fizika*, no 3, pp 13-23, March 1992, c1992, Plenum Publishing Corp.

A.E. Akimov (Pres. of Univ. Communication Corp., Costa Mesa, CA), "Heuristic Discussion of the Problem of Finding Long Range Interactions, EGS-Concepts," *J. New Energy*, vol 2, nos 3/4, Winter 1997, pp 55-80, 177 refs, 20 figs.

For those who find that there appears to be a more dramatic exchange between photons and electrons, the following references are important:

Petar K. Anastasovski & Trevor M. Benson, Quantum Mass Theory Compatible with Quantum Field Theory, c1995, 165 pages, 30 refs, indexed, illus. Published by Nova Science Publishers, Inc., 6080 Jericho Turnpike, Suite 207, Commack, New York 11725. $87.

P. Anastasovski, H. Fox, K. Shoulders, "A New Approach to the Cosmic Red-Shift and to the Cosmic Microwave Sources," *J. New Energy*, vol 1, no 2, Summer 1996, pp 79-87, 4 refs, 5 figs.

P. Anastasovski (Fac. Tech. & Metall., Univ. "Kiril I. Metodij", Slopje, Macedonia), "Possibility for Special Relativity to be Extended for v > c Related with Vacuum Energy," *J. New Energy*, vol 2, no 1, Spring 1997, pp 6-26, 7 refs, 3 figs.

It is the reviewer's judgement that the SAA will find much in the above references to augment and support their new relativistic mechanics.

COLD FUSION –
THE SECRET ENERGY REVOLUTION
By Dr. Antony Sutton, Editor, *FTIR*
Reviewed by Hal Fox

Antony Sutton is doing a commendable job in bring some of the facts (and a lot of philosophy) about cold fusion to the attention of FTIR subscribers and those who will be reading this updated book about cold fusion. Some of the points made by Sutton would be changed a bit by this reviewer. Here are some examples:

Sutton: "An extraordinary and unexpected event is upon us...the reality of (almost) free energy." This

reviewer would say "...less expensive energy sources."

Sutton: "This booklet is an introduction to hidden events that will shape your life in the coming century." This reviewer: "This booklet is an introduction to little publicized events..." It is difficult to use the term hidden when over 3000 articles have been published, over 600 successful replications or advances of cold fusion, and seven scientific conferences held, etc.

In the 1998 preface, Sutton uses the phrase, "massive opposition from Government." If the scientific community can be brainwashed by some of their recognized hot-fusion leaders, then there is no need for any type of opposition from the government. Maintaining the status quo is all that is necessary.

Sutton does a good job in citing the media's reaction (helped along by some of the leaders who could trace their income to the $500 million-per-year hot-fusion budget). However, Sutton fails to mention that one science journal, *Fusion Technology*, an international publication of the American Nuclear Society, under the courageous editorship of Professor George Miley, has published cold fusion articles for several years. Also not mentioned is *Journal of New Energy*, which has published proceedings of three conferences on Low-Energy Nuclear Reactions (which is the real story proceeding from cold fusion discoveries – not just excess heat). Sutton also missed the fact that the Fusion Information Center (publisher of *Fusion Facts* since July 1989) was the first organization dedicated to collecting and publishing information about cold fusion and other enhanced-energy topics.

Sutton is certainly up-to-date in extracting a figure and information from Tadahiko Mizuno's book Nuclear Transmutation: The Reality of Cold Fusion. However, Sutton gives too much credit to the DOE for suppressing cold fusion. At least one DOE office is seriously looking into low-energy nuclear reactions and is expected to ask for an appropriation from the 1999 Congress. Congress cannot be expected to respond to a few independents, they vote on massive political issues, like censure and impeachment. Sutton suggests that the government may now choose its advisers more carefully. The government doesn't choose advisers, they appoint existing think tanks or similar groups, who are funded by the government, to nominate advisers. Those who only project classical physics are unlikely to suggest advisers from among those persons who are trying to figure out the science behind a new scientific paradigm.

Sutton does a creditable job on report confirmations of cold fusion. However, he should also cite that there have been enormous difficulties in finding any combination of cold fusion events or devices that have commercial potential. Shoulders' explanation of how cold fusion (or much of it) really works is missing.

Sutton also provides some thoughtful ideas about the **INITIAL ECONOMIC EFFECTS** when cold fusion (or other new-energy devices) are commercially available. For example, he correctly notes that, "The requirement to defend the Middle East is reduced." The book's scenario suggests some dramatic changes in investment funds where fund managers fail to realize the potential impact of commercialization of new-energy devices. Dr. Sutton states (about timing): "What we can say with certainty is that the new energy technology will be dominant by the end of the 21st century, possibly before 2050." This reviewer suggests that within ten years there will be dramatic changes in the way we produce and use new-energy devices.

This reviewer highly recommends this book, especially for those who are more comfortable with philosophy of new energy. Our major suggestion is that Dr. Sutton could greatly improve his book with the citation of important papers and publications. The biggest gap in understanding in this book is the coming advent of the new technology of high-density charge clusters. The excellent paper by Shoulders and Shoulders ("Observations on the Role of Charge Clusters in Nuclear Cluster Reactions," *J. New Energy*, vol 1, no 3, pp 111-121, Fall 1996, 7 refs, 22 figs.) When Sutton reads this article (and other technical articles on high-density charge clusters), he will revise his book.

This book is available from *FTIR* Publications, P.O. Box 2903, Sacramento, CA 95812.

1-2 copies	$15.00 US
3-15 copies	less 20% ($12.00 US)
16 - 30 copies	less 30% ($10.50 US)
over 30	less 40% ($9.00 US)

Cash with order, check or money order. No credit cards. Postage or freight is billed after shipment.

True genius resides in the capacity for evaluation of uncertain, hazardous and conflicting information. – *Sir Winston Churchill*

LETTERS

LETTER FROM VERNON ALPER

Although I'm just a "lay' reader, I had no problem following the general ideas expressed in Brian O'Leary's book 'Miracle in the Void." I'm signing up to be a member of INE. Back in 1986 or '87 I had a chance to meet Adam Trombly at a medicine wheel gathering, where he explained in person his ordeal. I fully support the development of existing free energy devices as one means of dealing with our looming environmental problems. Hondorus, Mitch, the future. We clearly need **to prepare a way for the end of petroleum**. We clearly need to rethink our entire culture towards conservation, pollution free living and a forward vision in the face of mounting problems.

So here's my US$35.00. We might as well die trying as the saying goes since part of me wonders about the future of humanity in the not too distant future. Thank you for all the good work.

Vernon Alper

LETTER FROM PAT BAILEY
President, INE

Strange & Unusual File Archive Index

After lurking on these news groups for a little while, I have concluded that many here might be interested in my file archive. Half the archive is from the old days of BBS'ing and the other half was gathered over the last few years on the internet. Some of the internet sites where files were gathered from no longer exist, while others still do exist.

The site can be accessed at the following URL:

http://www.beyond-the-illusion.com/files

LETTER FROM WILLIAM T. BRADLEY

This message is to inform you of a new scam that uses unsuspecting people's e-mail address for its return address in mass mailings. A company calling itself " Innovative Information Systems, Home Mailing Division", (of 311 N. Robertson Blvd., Suite #610, Beverly Hills, CA 90211) uses other peoples e-mail address (without permission) as a return address in mass mailings.

This company used my business, W. T Bradley & Sons Enterprises, Inc. & "The Inventor's Mill-Shop" e-mail address to send out thousands of e-mail letters. If you received a message with: " Subject: $200 For EVERY envelope you mail@home!", report it to the FBI, or delete it. Don't send them any money! Part of their letter and get rich scam has people join their " Home Mailing Team." They request that you fill out an application form and send it , along with a one time $35.00 membership fee. This is to be sent. via regular US Post to their Home Mailing Division.

I called Information and found out that "Innovative Information Systems" has no phone listing. I contacted the Beverly Hills Police, who informed me that this is just a postal drop. I contacted the Fraud Division of the US Post Office, and was told that because this had to do with the Internet and e-mail, I should contact the Federal Bureau of Investigation. The FBI is now investigating this. If you have any information about "Innovative Information Systems
(tm) Home Mailing Division" or other frauds of this type, please send it to the FBI.

It a Federal crime for anyone to use your e-mail address without permission to solicit and promote an Internet fraud. Please help spread this message, and forward this message to your friends and associates.

Sincerely,

William T Bradley,
President W.T. Bradley & Sons Enterprises, Inc.,
Inventor / Author & Creator of "The Inventor's Mill-Shop"
e-mail: bradley@wtbradley.com
URL: http://www.wtbradley.com

LETTER FROM MARTIN OLIVER

I read about your work in issue 15 of *Positive News*. Would it be possible to send some information about the method of transmuting nuclear waste into non-nuclear material, and the level of interest? Would it be possible to send some information to: Richard Mills, c/o Greenpeace, GPO Box 3307, Sydney 2000, Australia? /s/ Martin Oliver.

Dear Martin Oliver and Richard Mills:

Here is the capsule information on PIT (plasma-injected transmutation): The PIT process produces miniature charge clusters of electrons which consist of about 100 billion electrons in a micron-sized doughnut-shaped cluster (a micron is one-millionth of a meter or about 25 microns for one-thousandth of an inch). These intensely dynamic charge clusters ionize many fluids and have the capability to carry or transport positive ions (about 1 ion for every 100,000 electrons). The combined charge

cluster, of billions of electrons and thousands of positive ions, can be accelerated in an electric field (just as electrons are accelerated in a TV tube) to about the same velocity as though the cluster were only electrons. A 5,000 volt potential will provide a cluster velocity of about one-tenth the speed of light. ***The rest is classical physics!*** *By impacting the combined charge cluster onto selected target elements, nuclear reactions occur. It is well understood that protons (ionized hydrogen atoms) moving at one-tenth the speed of light can produce nuclear reactions on a target. The process can be accomplished in low-pressure gases, at atmospheric pressures, and in certain liquids using special electrodes. The results are controlled nuclear reactions without the production of neutrons.*

Classical physics*, using the current models of electrons, ions, and atomic nuclei, understands the nature of nuclear reactions caused by high-velocity particle beams. The part of this discovery that is new, exciting, and enormously important, is that combined charge clusters of many electrons with the attached positive ions can be produced at low energies. We have shown several open-minded and properly-skeptical scientists a demonstration that charge clusters can be produced and that such combined charge clusters can create nuclear reactions.*

The good news is that a government agency is preparing an appropriation request to study this new method of producing nuclear reactions and how the process can be adapted to the treatment of radioactive wastes.
Hal Fox, Ed.

LETTER FROM DONALD DYALL

Fighting For Oil

Admiral John Shanahan of the Center for Defense Information says, "Conservation and the development of alternative energy sources in the United States will be a far greater blow to Saddam than the tomahawk missile." He is so right.

United States oil supplies will be virtually exhausted by the year 2020. At that time the United States will be almost 100% dependent on foreign imported oil and most of that oil will come from the Middle East

Anybody with common sense can see it will never happen. Somewhere along the way the price of petroleum will skyrocket and the results will be a worldwide economic and industrial collapse. We could see high unemployment here in America with long lines for the basic necessities of life, bank failures and political instability. We could loose much of the freedoms we enjoy today.

To keep the peace we need clean renewable fuel - energy that's available forever. We need a Declaration of Energy Independence from foreign imported oil. Let's work to protect our economic security. Let's give ourselves and our children a future beyond oil.

Donald Dyall
Mt. Pleasant, Iowa

LETTER FROM BRUCE MELAND

You guys are doing a good job of exposing new energy technologies to clean up the environment, but it appears it will be at least 10 years before a revolutionary marketable product will the introduced to the masses .

In the meantime most major auto companies worldwide are about to produce zero emission or much cleaner vehicles by the year 2000. Electrifying Time has decided it was time to produce a magazine that featured these Electric, Hybrid Electric, and Fuel Cell Vehicles. The special edition featuring these vehicles has just been published by Electrifying Times, and is called Preview 2000. We would appreciate your organization featuring our Preview 2000 in your Web Sites and Publications as you already note us as an information source and we certainly appreciate this. We will do the same for your associated publications. Maybe something like this ad could appear:

"**PREVIEW 2000**" Over 40 vehicles, all of them electric, hybrid electric, or fuel cell powered ready for the new millennium in an all color special edition of Electrifying Times. send $7.50, (includes Postage & Handling) to ***Electrifying Times***, 63600 Deschutes Rd, Bend, OR 97701 Phone 541-388-1908, Fax 541-388-2750
<etimes@teleport.com>
www.teleport.com/~etimes

LETTER FROM EUGENE MALLOVE

Subject: Park's "review" of Mizuno's Book

Park even got the year wrong!
Happy New Year! .....
Gene Mallove

****

Quote:

WHAT'S NEW Robert L. Park Friday, 1 Jan 98
Washington, DC

1. THE UNDEAD: A REVIEW OF "NUCLEAR TRANSMUTATION." The subtitle of this thin volume by Tadahiko Mizuno is "The Reality of Cold Fusion." The publisher is Infinite Energy Press, which probably tells you everything you need to know. This year marks the tenth anniversary of the announcement by the University of Utah that Stanley Pons and Martin Fleischmann had achieved deuterium fusion in a simple electrolytic cell (WN 24 Mar 89). Within a matter of weeks, a DOE panel officially pronounced cold fusion dead, amidst revelations of altered data and suppression of evidence. But the corpse does not rest peacefully. This personal account by one of a small corps who have not given up on cold fusion is wonderfully revealing -- but not for what it tells us about science. "If you limit your goal to finding fusion products," Mizuno snorts, "anyone can see you will not learn much. This is why the focus is now on transmutation." He says of his fellow believers, "They have been treated like heretics by the rest of the scientific community. This has formed a bond of solidarity between them. Working with practically no funding against a tide of opposition ...they have slowly but surely brought about a new discovery." It is an eloquent statement of how pathological science survives. In the final chapter Mizuno asks rhetorically, "What sort of reaction is cold fusion? As you have seen in this account we still have no clear idea." After ten years, nothing has changed.

2. PREDICTIONS: WN PUTS ITS REPUTATION ON THE LINE FOR '99.
Emboldened by last year's success, we're pulling out the stops. In '98, as in '97, WN was six out of six (WN 2 Jan 98). This year, WN goes mano-a-mano with the "Sun" tabloid, even though the Sun turned to scientists for help: "Scientists have established a stunning link between the dreadful Third Prophecy of Fatima and the terrifying Millennium Predictions of Nostradamus." A computer expert at the Millennium Research Society says it means nuclear war. Nonsense. This is what will happen:

* A science cult will claim to have found a source of infinite energy, and Elvis Presley will be sighted in Indianapolis.

* There will be unusual weather patterns. Scientists will explain that it's either the result of global warming or it's not.

* If the Dow Jones doubles in 1999, so will the science budget.

* NASA will be criticized for delays and cost overruns on the ISS. John Glenn will not be available for a third flight.

* WHAT'S NEW will be free of controversy again this year.

* Larry Flynt will find no evidence of sexual indiscretion among scientists. Scientists will call for more research.

THE AMERICAN PHYSICAL SOCIETY (Note: Opinions are the author's and are not necessarily shared by the APS, but they should be.)

End Quote.

LETTER FROM BERND NURNBERGER

Dear *NEN* & Rick Harrison,

Your article "A Novel Way to Get Donations" gave me a very important message. In over ten years, *NEN* has not encountered suppression on your R&R and publication efforts. Intuitively, I agree. The road is wide open for new technology.

The suppression is not over, but it may have shifted to a more subtle level, our education (read about Goals 2000) and psychiatric mind control.

Anyway, your article was a holiday season's gift for me. May Peace and New Energy prevail on Earth.

Bernd Nurnberger
Yokohama, Japan, small Planet Earth

LETTER FROM BERT SCHREIBER

If persons are going to quote Max Planck's famous quotation, the least they can do is to insert "sic" when it is misquoted, which is about 99.9999% of the time. OR, they can get it right, which follows. (Ben Iverson was the one who pointed this out to me, bless his departed heart.)

"An important scientific innovation rarely makes its way by gradually winning over and converting its opponents. It rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out and that the growing generation is familiarized with the idea from the beginning."

LETTER FROM GARY VESPERMAN

Hello all!

I just found a really comprehensive Y2K report on the power companies at
http://www.cbn.org/y2k/cowles.htm

As the report points out, it does not really matter if your system or device is Y2K compliant if there is no electric power!!!!!

Meetings

STAIF BREAKTHROUGH PROPULSION PHYSICS SESSIONS

The Breakthrough Propulsion Physics sessions in the **Conference on Applications of Thermophysics in Microgravity and Breakthrough Propulsion Physics**, will be held as part of the Space Technology & Applications International Forum (STAIF-99), January 31 - February 4, 1999, in Albuquerque, NM. The website for more information is http://www-chne.unm.edu/isnps/isnps.htm.

[From: http://www.sae.org/CALENDAR/iec99cfp.htm]

34th IECEC
Intersociety Energy Conversion Engineering Conference

August 1-5, 1999

Hotel Vancouver
Vancouver, British Columbia, Canada

"Engineering an International Energy Strategy"

This conference provides a forum to present and discuss engineering aspects of energy conversion, advanced energy conversion systems and devices, energy utilization and efficiency, environmental issues, and policy impacts on the research, development and implementation of energy systems. Papers dealing with all engineering aspects of the general topical areas below are welcome.

General Chair: Dr. Jerry Beam
Air Force Research Laboratory
Ph: 937/255-6226
Fax: 937/476-4781
Email: beamje@wl.wpafb.af.mil

Program Chair: Michael G. Schneider
Sundstrand Corporation
Ph: 815/394-4952
Fax: 815/394-3897
Email: mgschneider@snds.com

Sponsors:
Society of Automotive Engineers (SAE) - 1999 Conference Administrator
American Institute of Aeronautics and Astronautics (AIAA)
American Society of Mechanical Engineers (ASME)
American Nuclear Society (ANS)
American Institute of Chemical Engineers (AIChE)
Institute of Electrical and Electronics Engineers (IEEE)

CALL FOR PAPERS
Institute of Nuclear Materials Management
40th Annual Meeting, July 25-29, 1999
The Pointe Hilton at Squaw Peak, Phoenix, Arizona

The 40th Annual Meeting will provide attendees with professional forum for the exchange of the latest technical information in nuclear materials management. The meeting will address all aspects of nuclear materials management.

How to Present a Paper at the 1999 Annual Meeting

1. Submit a 200-word **abstract** and a short **biographical sketch** by **February 1, 1999**.
2. Submit a **full paper** to be published in the Proceedings of the 1999 INMM Annual Meeting no later than July 15, 1999.
3. The Call for Papers and additional INMM and 1999 Annual Meeting information may be found on the INMM Web site at **http://www.inmm.org**

Abstracts of papers to be presented at the 1999 Annual Meeting, along with speaker biographies, must be submitted via the INMM Web site listed above for review by INMM's Technical Committee.

Questions regarding preparation of abstracts, papers. posters, and oral presentations may be directed to:
Charles Pietri, Chair.
Technical Program Committee
(708) 246-8489; Fax (708) 246-8489
email: cpietri@aol.com

Both can be reached at INMM Headquarters at (847) 480-9573; Fax; (847) 480-9282

While most take the linear textbook road of why it cannot be, it is the brave few that go the uncharted path of why it just might be.

– Unknown

Commercial Column

The following companies (listed alphabetically) are commercializing cold fusion or other enhanced energy devices: [Listings with your additional copy, or boxed, for small annual service fee.]

COMPANY: PRODUCT

American Pure Fusion Engineering and Supply: Warren Cooley, 1-800-789-7109 or 503-585-6746. Email to: Coolwar@aol.com

Clustron Sciences Corp.: Contact: Ron Brightsen, 703-845-8531.

ENECO: is in the business of commercializing the exciting new field of low energy induced nuclear reactions in solids via patent licensing, joint-ventures, and co-operative research. ENECO, University of Utah Research Park, 391-B Chipeta Way, Salt Lake City, Utah 84108 USA. Contact Fred Jaeger, Voice 801-583-2000, Fax 801-583-6245. Email: jaeger@ENECO-USA.com

E-Quest Sciences: Contact Russ George, FAX 415-851-8489.

Fusion Information Center (FIC): Research and development of new energy systems. The world's most complete resource depository for cold fusion research information, as well as other new energy research including zero-point energy; space energy research; electronic, electromagnetic, and mechanical over unity devices and transmutation. We are the publishers for ***New Energy News***, and *the* ***Journal of New Energy***. Voice 801-466-8680, Fax 801-466-8668. Contact Hal Fox.

German Association for Vacuum Field Energy: DVS-Secretariat, Feyermuehler Str. 12, D-53894 Merchernich, Germany. Tel: 011-49/(0)2443-8246 Fax: 011-49/(0) 2443-901880 E-mail: dvs@gptec.com Internet: www.gptec.com/dvs.

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.: Rome, Georgia. Contact James Griggs, Voice 706-234-4111 Fax 706-234-0702.

JET Energy Technology, Inc.: Energy Production and Utilization and Control. Weston, MA. Contact Dr. Mitchell Swartz, Voice 617-237-3625. Fax 617-237-3625.
http://world.std.com/~mica/jet.html

Labofex, Experimental and Applied Plasma Physics: Ontario, Canada. Contact Dr. Paulo N. Correa. Tel 905-660-1040
Fax 905-738-8427

Magnetic Power Inc.: Sebastopol, CA. Contact Mark Goldes, voice 707-829-9391, Fax 707-829-1002.

Nova Resources Group, Inc.: Denver, CO. Call Chip Ransford, Phone 303-433-5582.

Trenergy, Inc., has acquired rights to develop and produce a new-type of thermal power based on the controlled production of clean nuclear reactions from plasma injected transmutation. Contact at 3084 East 3300 South, Salt Lake City, UT 84109, Voice 801-466-8680, Fax 801-466-8668.

UV Enhanced Ultrasound: Hong Kong.
FAX 852-2338-3057.

"YUSMAR"- Scientific-Commercial Company: President: Dr. Yuri S. Potapov, 277012 Kishinev, Moldova. Phone and Fax 011-3732-233318.

Zenergy Corp.: Founded in 1996 to facilitate the introduction of commercially viable energy alternatives. 390 South Robins Way, Chandler, AZ 85225. Contact Reed Huish, 602-814-7865, Fax 602-821-0967, e-mail: info@zenergy.com

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

Academy for New Energy (ANE) 216 Commerce Drive, Ste. 4, Fort Collins, CO 80524. Tel. 970-482-3731
ANE Newsletter, quarterly publication of ANE, edited by Robert Emmerich.

Advanced Energy Network Newsletter, quarterly. Advanced Energy Network, P.O. Box 691, Rondebosch 7700 Capetown, Rep. South Africa.

Antigravity News and Space Drive Technology, bimonthly newsletter, pub. J.E.Cox Enterprise, P.O. Box 655, Marietta, GA 30061-655 (Phone 770-218-9693). Per year $36. U.S., $48 foreign.

Cold Fusion Times, quarterly newsletter published by Dr. Mitchell Swartz, P.O. Box 81135, Wellesley Hills MA 02181.
Home Page: http://world.std.com/~mica/cft.html

Cycles, a R&D newsletter, published by Dieter Soegemeier, Editor, GPO Box 269, Brisbane, QLD.4001, Australia.
Phone/Fax: +61 (0)7 3809 3257.

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

Electrifying Times, 3/year magazine. 63600 Deschutes Market Rd, Bend, OR 97701
541-388-1908, Fax 541-388-2750,
E-mail <etimes@teleport.com>
www.teleport.com/~etimes/

Elemental Energy, monthly newsletter, edited by Wayne Green, 70 Route 202N, Petersborough, NH 03458. Email: <design37@aol.com>

Fusion Facts has become a section in the *Journal of New Energy*.

Fusion Technology, Journal of the American Nuclear Society, edited by Dr. George Miley, 555 N. Kensington Ave., La Grange Park, IL 60525.

Future Technology Intelligence Report (FTIR), monthly newsletter, making available technological information now omitted from establishment media. Back issues available at substantially lower cost on the InterNet at <www.tarapublishing.com> FTIR, P.O. Box 2903, Sacramento, CA 95812. <ASu2431426@aol.com>

Infinite Energy, bi-monthly magazine. P.O. Box 2816, Concord, NH 03302-2816. Voice: 603-228-4516. Fax: 603-224-5975 E-mail 76570.2270@compuserve.com

Institute for New Energy (INE), organization to promote and help find funding for new energy research.
Visit our **Home Page**: www.padrak.com/ine/ which contains many important scientific papers and current reports on all areas of research.
E-mail: halfox@slkc.uswest.net
or ine@padrak.com
Salt Lake City, Utah. Voice 801-466-8680,
Fax 801-466-8668.

New Energy News monthly newsletter for INE, highlighting the research and development in the worldwide new energy arena. Edited by Hal Fox.

A.Keith Brewer International Science Library, a non-profit organization having a Tesla collection; new energy books, publications and videos; one of the German Association of Vacuum Field Energy archives. 325 N. Central Ave., Richland Center, WI 53581; Phone: 608-647-6513; FAX: 608-647-6797; e-mail: drbrewer@mwt/net; web site: www.mwt.net/~drbrewer.

Journal of New Energy, quarterly, presenting papers representing the new areas of energy research, leading-edge ideas in the development of new energy technology, and the theories behind them. Published by the Fusion Information Center, Inc. Editor: Hal Fox. Address & phone above.

KeelyNet BBS - Jerry Decker, 214-324-3501
Internet: www.keelynet.com
E-mail: jdecker@keelynet.com

Planetary Association for Clean Energy Newsletter, quarterly, edited by Dr. Andrew Michrowski. 100 Bronson Ave, # 1001, Ottawa, Ontario K1R 6G8, Canada. Web page: http://energie.keng.de/~pace

Positive News and *Living Lightly*, quarterly, edited by S. Crockett-Burrows. The Six Bells, Bishops Castle, Shropshire SY9 5AA UK. Tel: (01588) 630-121 / 122

Space Energy Journal, quarterly, edited by Jim Kettner & Don Kelly, P.O. Box 1136, Clearwater, FL 34617-1136.

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

ADVERTISEMENT

In the February, March, and April, 1998 issues of *NEN* on the inside back cover was an advertisement entitled "EASY MONEY'. To date there has not been one single response, nor will there probably ever be. Hence, no ZPE, no Push Gravity, no real relitivistic mass increase with velocity/speed, etc., apparently all verbiage.

For the readers of *NEN* who wish to know why and those who had hoped someone else did, but didn't, this is all set forth in my book. What is in this book **has never been reputed or even questioned** by those who have read same or papers written and published in science journals based upon its contents.

This book is written in simple English and contains no calculus nor extended equations. It uses many of the simple physical equations found in most first year physics textbooks. It can be read and understood by those who have never even taken a course in physics, but do have some general knowledge of same. It contains very little unnecessary verbiage.

It consists of some 530 pages of text and documents, 142 pages of index which includes multiple cross-indexing, and is profusely illustrated, in two volumes.

It contains some 500 new discoveries which completely upsets all modern theory including relegating the Theory of Relativity to just another theory which gave some right and some wrong results, and destroys hundreds of current “beliefs”. It is the very first book (equations and back up mathematical solutions) which can answer some WHY(s). It gives two causes why the electron(s) does not spiral into the nucleus as they do not radiate in the first place, and why mud flies off on a tangent from a spinning wheel, the correct Heisenberg Uncertainty Principle which has no direct relation to Planck's Constant, as examples.

In same will be the quantization of the physical constants, how, where, and when time was possibly created and what it might be (there are two kinds of time), solution to gravitational attraction, solution to the scalar equation for G, what G is, how any constant of proportionality can be eliminated in any physical equation (hence, no permittivity and permeability of vacuum; no aether, no G {still useable as a **practical** application}), exactly what energy is, what is Planck's Constant, no Push Gravity possible, no ZPE possible, no violation of the conservation of mass energy, no Grand Unified Theory, what is inertia, mass of the neutrino, universe's parameters, and much, much more.

The title is: **QUANTUM-QUANTA THEORY * * * THE THEORY OF THE UNIVERSE**

Both volumes (in USA $) by priority mail is $48.00. In Canada $50.00, air marl. You can keep and read same for 90 days after receipt. If not satisfied, return it prepaid and if received in salable condition, $40.00 will be refunded. This book is published to order, but should be shipped within 10-12 days after order received.

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