

Electrino Fusion Power Reactor/Refresher-Regenerator

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This document is Gary Vesperman's compilation of much of the information he has on Gordon Ziegler's invention of an electrino fusion power reactor and its companion refresher-regenerator. For the current version check with Gary Vesperman, 533 Tara Court, Boulder City, Nevada 89005-1152, landline 702-435-7947, cell phone (text only please) 702-465-1942, garyvesperman@yahoo.com, padrak.com/vesperman, and commutefaster.com/vesperman.html.

Caption to Refresher 1 Third Edition

Gary Vesperman's website padrak.com/vesperman has this caption to Gordon Ziegler's "Refresher 1 Third Edition":

"Gordon L. Ziegler deserves a Nobel Prize in Physics as possibly the world's most accurate theoretical physicist. His refresher within its active foot print would reverse the order-to-disorder flow of the second law of thermodynamics. The refresher MUST be turned on before the electrino fusion power reactor. The refresher continually reverses aging of the photoelectric cells blanketing the electrino fusion power reactor. Other claimed effects of the refresher, which may well be the world's most important invention, include neutralization of radioactive waste, e.g. Fukushima, reversal of aged humans to young completely healthy adults, and restoring decayed fruits and vegetables to their fully nutritious freshness."

Junior Executive Summary

There is a new model of science known as the Unified Field Theory and the Unified Particle Theory. This model of science is one that Einstein tried for thirty years to discover but was unable. Within this new science are the discoveries of clean energy, the capacity to calculate the masses for all known particles, and the ability to reverse the second law of thermodynamics.

Clean energy comes from a particle accelerator called the Electrino Fusion Power Reactor (EFPR). This is done through the fusion of the half particles of electrons (semions), in a particle accelerator. When electron semions are fused, they switch from matter to antimatter or vice versa; therefore, when the half-particles are fused, antimatter will be produced (negatrons), which will collide with the matter (protons and neutrons) in the walls of the accelerator, annihilating one nucleon each reaction, and producing a burst of gamma rays. The gamma rays are collected by photovoltaic cells and converted into electricity.

In the initial design, one accelerator would produce 1,880 megawatts of power for less than 50 million dollars, as compared to the Grand Coulee dam which produces 2,000 megawatts, or a modern nuclear reactor which can produce up to 1,250 megawatts and cost over ten billion dollars. Currently there are 100 nuclear reactors in the United States producing 100,000 Megawatts of power. It would take 54 electrino fusion power reactors to replace these facilities.

Electrino fusion energy is 1000 times more efficient than a nuclear reactor, with no carbon emissions or radioactive wastes. It can use virtually anything for fuel and can go one thousand years before refueling is needed. It would be easiest, however to use copper for annihilation fuel.

Electrino fusion power reactors will replace all sources of energy from nuclear, petroleum, and coal, to wind and solar. All power that will be needed can be produced in an efficient, clean manner, thereby eliminating the need for mines, dams, oil refineries, and nuclear reactors.

In order to achieve nearly 100% efficiency with the clean energy source, it is necessary that there be no energy loss through heat or decay. In order to achieve this condition, we must reverse the second law of thermodynamics within the field which the Clean Energy Source operates. Reversing the second law of thermodynamics is done by fusing the anti-semions in positrons to unitons (the core particles in protons and neutrons), in a high-velocity particle accelerator called the 'refresher'. This fusion creates and transmits a positive order signal in a desired range that can be adjusted to fit the requirements of the operator.

It would only take one refresher to change the atmosphere of the earth and allow Clean Energy Sources to operate worldwide. Eventually we would like to have several in case of a technical difficulty. James Potter of JP Accelerator Works will build the Accelerator for \$33 million. We encourage you to visit his website and/or contact him at 505-661-8155 or jpotter@jpaw.com.

Brad Sorenson, a highly competent laser technician, has indicated that he could build a clean energy source for \$5 million. This may or may not be an accurate figure as our contact with Brad has been minimal. The cost to build the prototype could be higher than 5 million, but when we hit production, the costs should be substantially less. We have also spoken to several other builders who have expressed an interest in the project.

The initial price for power will be \$0.03/kilo-watt-hour which is substantially lower than current rates. At this rate, one clean energy source will yield over \$620 million per year. We believe electrino fusion energy will be a trillion-dollar industry; therefore, we will be able to pay our investors one hundred-fold for early investment with at least tenfold return being returned after the first year of operation. The remaining ninety-fold will be paid back as the income stream increases at a scheduled rate which is mutually beneficial and agreeable to all parties. An investment of \$1,000 will return a million and an investment of \$50 million will return \$5 billion.

We believe that we can set up the company and build the prototypes for this new technology for an initial investment of \$50 million. When we receive a letter of intent to fund from a qualified investor, we will be in a better position to deal with subcontractors on bids and estimates. If you wish further information, please feel free to contact Gordon at ben-ent100@man.com or myself.

Kenneth Colvin
President Electrino Group Inc.

Clean Energy Source and Refresher 1

I have discovered a new Grand Unification Theory (GUT) which unites all the forces (which Einstein tried to do for thirty years and failed to do) – *Electrino Physics*, Chapters 7 and 8 and *The Physics of Genesis*, Chapter 3. Scientists have sought these truths so hard for so long that someone questioned if and when someone did discover these, would it bring to light any additional powers to man, or would the ultimate physical truth be just some quaint curious mathematical formula. I am here to tell you that this precious light is not a quaint curiosity. It really does open the door for the most revolutionary benefits to man – among them the Clean Energy Source and Refresher 1.

This new light on physics has two problems: One problem is that traditional physics has taken some wrong turns, and is entrenched in some serious falsehoods that need to be corrected. The new theory needs to be experimentally tested. But all grant applications are reviewed according to the Standard Model of Physics. All grant applications are rejected that do not agree with the Standard Model of Physics in every particular. The three main instances of that are 1) Einstein's Aether-less Special Theory of Relativity in which Einstein claimed that nothing could go faster than the speed of light. It is impossible to unite all the forces or have a Clean Energy Source or a Refresher 1 unless certain classes of particles travel faster than the speed of light. 2) Another problem is P. A. M. Dirac's doctrine that electrons are spinning point charges. They are not. But if that is explained in a grant application, the application is rejected. 3) By far the worst instance of doctrinal error entrenched in physics is Murray Gel Mann's quark hypothesis that the electric particle fractons come in $\pm 2e/3$ and $\pm e/3$. They do not. They come in $\pm e/8$, $\pm e/4$, $\pm e/2$ and $\pm e$, according to the author's Electrino Hypothesis. See *The Messiah's Inventions*, Section 3 – the three chapters starting with the word "impossible".

The other problem to the acceptance of this light is the centuries' long great dichotomy between science and miracles. Scientists claim not to believe in miracles, but in natural law. When the new GUT explains how to do undeniable miracles through well explained new science, it is way too good to be true! And it is rejected out of hand, with no money allocated to those projects! See *Child Science*, especially Chapter 4. Children can be taught it in simple terms, but it absolutely confounds the Ph.D. professors. Did not the laboring and speculating scientists want new powers from their research? What if correcting three errors in the Standard Model of Physics unleashes a plethora of miraculous powers? Bonanza! Shouldn't the scientists and government leaders be thankful, not rejecters? If it only took a few million dollars to test so many miracle powers, wouldn't this light be way too good to be false?

Well, what can your GUT do for the energy crisis and global warming? It can make a relatively inexpensive, carbon emission-free, radioactive waste-free electric power reactor, in one sense 1000 times as efficient as nuclear power – needing refueling only once every 100-200 years, and then without hazard, just substituting in the particle collider a prefabricated part. The Clean Energy Source does not need hazardous radioactive fuels or hydrogen. It can annihilate copper or brass for fuel. Annihilating one old penny in the collider would produce up to \$1,872,000.00 of electricity at \$0.03/kwh. Depending on the net efficiency of the Clean Energy Source (to be determined in the micro-design phase of this project) the new equipment can pay for itself with \$0.03/kwh electricity in five years or as little as one year operational time.

But none of that is possible without the building and operating of another related machine. The Energy Source would not be efficient enough to be self-sustaining without the operation of the Refresher 1. Neither would it be a clean source. It would have radioactive wastes without the Refresher 1. We want a clean, efficient energy source. There is even legislation regarding that! But who can handle a Refresher? It is altogether too miraculous for most! What would it do?

Miraculous Effects of the Refresher

Reverse aging for adults

The simplest effect of the Refresher to understand is reversing adult aging. Old people can be made young adults again in the active footprint of the Refresher. This effect for positron anti-semion fusion does not really back up time or the clock. It merely reverses the order-to-disorder arrow in adults. It saturates at the maximum state of order – which is young adulthood. It reverses adult aging at a rate of about 1836 times as fast as the rate the original adult aging occurred. A century of aging can be reversed in just under 20 days.

Resurrections from the dead

The reverse aging occurs also for bodily remains – re-assembling dust and bones into living beings again. All the dead of all ages of earth's history would be resurrected in about 3½ years of Refresher machine time, starting with those who died most recently.

Backing diseases out of existence

In the process of reverse aging, diseases would be backed out of existence. This would work also for difficult diseases like HIV AIDS, cancer, and cystic fibrosis.

Reversing all decay

Spoiled fruit would un-spoil in the active footprint of the Refresher. Fresh fruit would stay at the maximum state of order for fruit forever – fresh picked fruit. And this would be without refrigeration. This would amount to a new kind of food preservation without canning or freezing.

This process would un-decay everything in the Refresher footprint, not just fruit. And the footprint could be enlarged to cover the entire earth.

Reversing pollution out of existence

In the Refresher footprint, all pollution would be reversed out of existence. Depending on the Refresher control settings, this effect could be world-wide.

“Raising up the foundations of many generations” Isaiah 58:12.

The Refresher would automatically rebuild previous decayed structures. It would rebuild and restore the entire earth.

Reversing forest fires

The Refresher not only would stop forest fires in its footprint, but would reverse the fires – restoring all that was lost – animate and inanimate, including lost trees and homes.

Reversing all calamities;

Reversing all effects of war;

Preventing all munitions from firing;

“Making wars to cease to the end of the earth.” Psalm 46:9.

Removing sinful propensities from people, including criminals;

Emptying prison houses;

Making possible and efficient Clean Energy Sources.

The blessings of the Refresher are endless. In short it would restore earth to Edenic perfection in about 3½ years of machine time.

Can the Department of Energy handle all that? If so I am ready to prepare a loan guarantee application to your terms. If not, no.

Gordon Ziegler

Order-to-Disorder Reverser (Refresher)

Order-to-Disorder Reverser (Refresher)

Growing old, getting sick, having pain, dying, disintegrating are all consequences of the current order-to-disorder arrow in the second law of thermodynamics. If only that order-to-disorder arrow could be reversed in a given radius, then each of the above problems would be eliminated in that radius. A newly discovered physics theory predicts it is possible to do this for about \$110 million dollars. (For theory of operation, send e-mail to ben_ent100@msn.com.)

The Order-to-Disorder Reverser would be good for many other things: world disarmament, disaster relief, fertilizing farmland, a new form of food preservation, reversing pollution, home and vehicle maintenance, healing criminal tendencies in the brain, denaturing radioactive wastes and making them safe, and potentiating and making possible a new type of clean energy source. (See reverse page.)

If the active area of the Order-to-Disorder Reverser (Refresher) were legally extended over the entire U.S., the American people would save about \$2.3 trillion a year in healthcare costs alone, nearly \$1.0 trillion dollars in armament costs alone. These savings could greatly aid in eliminating our budget deficit.

Because of the desperate needs for this technology, this is a rush job. Analysis, detailed design, and construction are all included in one year of the project. The second year is for testing – all for \$110 million.

Clean Energy Source

If electrons were accelerated and collided instead of positrons, and if the collider were placed in the active area of a Refresher, the basis would be formed for a Clean Energy Source/Radioactive Waste-free Power Reactor. (For theory of operation and specifications for a nearly 2000 megawatts electricity output, send an e-mail to ben_ent100@msn.com.)

This Clean Energy Source is 1000 times as efficient as a nuclear reactor, annihilates anything for fuel (sewage, garbage, toxic chemicals, sand, sea water, etc.), costs about \$130 million to build, can produce electricity at 1.5% the current rate (or 0.12 cents per KWH), and can be built in three years. This is virtually free electricity. It would have major impacts on society. The aluminum industry would have a bonanza with this energy rate. There would be a great rush on plug-in electric cars. We would get over our dependence on foreign oil.

This Clean Energy Source is more complex than the Refresher on the opposite side of this paper, and requires some research and development after the operation of a Refresher. Therefore we will take longer building this invention:

Detailed analysis	3 months	\$50 thousand
Detailed design	12 months	\$500 thousand
Construction	24 months	\$130 million

This is in addition to the time and costs of the necessary concomitant Refresher.

Electrino Group Inc. Business Plan

The following is a slightly edited copy of the “Electrino Group Inc. Business Plan, Prepared for Gordon Ziegler CEO” that is linked in padrak.com/vesperman:

11/15/2015

Electrino Group Inc., Business Plan

Prepared for: Gordon Ziegler CEO, 4401 37th Ave. SE. Unit 17, Lacey Washington 98503-3576
ben_ent100@msn.com benevolententerprises.org 360-491-9373

By Kenneth Colvin, President.

This business plan prepared this 15th day of November, 2015 for the company that will become known as Electrino Group Inc. Electrino Group Inc. was founded on 11/22/2010 and is now ready to build a large worldwide company that will implement a new science, the science of electrino fusion. The company is now also ready to accept first investments.

The science of electrino fusion we want to establish is in two parts – Refresher (order-to-disorder arrow in the second law of thermodynamics reverser) that among other things could denature the radioactive waste and contamination of the Fukushima disaster. After the Refresher is pre-fabricated in America and assembled at some location in Japan and tested, the Refresher could clean up all the radioactive mess in the Fukushima disaster area in two days or less of machine time.

The second part of electrino fusion we want to establish with the first \$130,000,000.00 investment is the Clean Energy Source. The purpose of the company will be to create out of new fusion technology a new power supply that will provide an abundance of free clean power. In the Clean Energy Source (CES), energy will be created by the fusion of electrons in an accelerator (or non-nuclear reactor). When the power facilities are paid for and the initial investors are paid back fourfold, the power will be given away free. Clean Energy Sources will then be mass produced on assembly lines and set up all over the earth, supplying clean energy to all the peoples of earth for free. This would not only help the poorest on earth, but could significantly reduce the costs of manufacture of products. Imagine how free electricity would impact the aluminum industry, for instance.

This Business Plan would be incomplete without introduction to Gordon Ziegler; a theoretical physicist and one of the kindest men I have ever met.

Gordon Ziegler:

The company's founder and CEO Gordon Ziegler believes that a free constant energy source that does the environment zero harm would be a benefit to everyone. Hydro power would not be needed and fossil fuels could be reduced significantly if not entirely. Free energy would not only bring up the standard of living for the poor, but would have significant positive impact on the world wide economy.

Gordon has the following qualifications:

1. Radiation Health physicist for 9 years.
2. Radiological Dose Assessor for 9 years.
3. Inventor of Derived Intervention Levels (DILS), now used worldwide.
4. Author of over 30 published books, 3 or more being on particle physics.
5. President of Benevolent Enterprises since 1981.
6. Inventor of Refresher and Clean Energy Source.
7. Owner of Electrino Energy since 2005
8. Founder of Electrino Group Inc. 11/22/2010
9. Gordon has recently made a huge discovery revealing the nature and characteristics of the Higgs Boson. This scientific discovery will provide the missing link in the Standard Model of Physics and his own model, the Grand Unification Theory. Gordon is currently on chapter 21 of his new book on The Higgs et.al Universe, and that book will be published soon. This book and its discoveries therein, will become known as the greatest scientific discovery to date. The theory of fusing electrons in an accelerator to produce an abundant power supply would not be possible without a force field that would reverse the second law of thermodynamics in the area surrounding the Clean Energy Source (CES). Gordon has theorized how to reverse that law with the accelerator known as the Refresher. The impact of the effects of the refresher will be significant at the very least and will warrant further studies of its own. However, for the purposes of this business plan, its effects will be largely overlooked.

Electrino Group Inc. has been registered and is licensed to do business in the State of Washington, the City of Lacey, and has registered with the International Revenue Service. Electrino Group, Inc., currently has two part-time employees but has compiled a list of people for key positions:

Chief Executive Officer, Gordon Ziegler

President, Kenneth Colvin
Vice President, John Holum
Micro Designer and builder for the accelerators, Jim Potter
Operations Manager of Business and Finance, Jerry Crawford.
Operations Manager of Site Development and Accelerator Installations, Dustin Mosieur.
Operation Manager of communication technology, Caleb Friend
Bookkeeper and Secretary/Treasurer, Debora Brown

Staffing:

There will be many key positions to fill. The Company believes that strong leadership will be essential. Managers and leaders should be not only well qualified for their positions, but be great teachers and communicators. Leaders should have the ability to continually train those in their circle of influence. Leaders should not only be teachers, but should have the ability to focus intensely, analyze critically and delegate authority to qualified persons. Leaders should be able to accept responsibilities when problems arise and fill in the gaps when needed. The Job of a Leader/Manager is to elevate those around them – to make all people be the best they can be by proper training, encouragement and sound direction. Those in turn will be qualified to teach others the same.

A land lease has been offered to the Seventh Day Adventist Auburn Adventist Academy in Auburn, Washington. However, the first investor will have the honor choosing the country that the prototypes can be installed. We would be happy if the first Refresher - Regenerator/Clean Energy Source would be set up in Japan to reverse the Fukushima disaster. An advanced country that would not hinder, but become a key player, and be of assistance, could prove to be the best choice.

The cost for the first prototypes is \$130,000,000.00. One Clean Energy Source will produce up to 1,880 Megawatts of power. Power will be sold at 3 cents per kilowatt hr (a bargain rate) until the investors are paid back fourfold within two years of operation. There will be no repayment until the Refresher-Regenerator/Clean Energy Source is operational. The Clean Energy Source is so copious, that the initial investment of \$130,000,000.00 could be repaid fourfold in three months. There will be opportunity for new investors after the prototypes have been proven, as thousands of Clean Energy Sources are to be constructed to power the whole world within five years.

A partial budget is as follows:

Construction costs for CES Reactor and Refresher (guaranteed loan) to James M. Potter Ph. D. JP Accelerator Works, Inc.

100,000,000

Costs covered by debt equity by investor

Old debts from personal financing of mission – credit cards

44,000

Old debts from the failure of Coherent Electron Source, LLC

472,000

Tying up of the property lease

1,000,000

EFSEC fee

100,000

Zoning, property and licensing fees

1,000,000

Developing property

1,500,000

Construction of containment buildings and control room
2,000,000
Construction of other buildings on campus
8,000,000
Architect
805,000
Micro-designing of Refresher and Clean Energy Source
2,000,000
Initial loan fee
50,000
Later loan fees
3,000,000
Personnel wages
5,000,000
Working capital, contingency
5,029,000
Total debt equity
30,000,000

Prepared for Gordon Ziegler by Kenneth Colvin.

Electrino Fusion Power Reactor Summary

This summary is from “New Energy Technologies R and D Park Technology Summaries”:

Electrino Fusion Power Reactor – ‘Electrinos’ are sub-particles of electrons. Supernovas and $\eta'(938)$ decay confirm electrino fusion theory. The 1880-megawatt (net) Electrino Fusion Power (EFP) reactor is a safe pollution-free generator of 1880 megawatts, net, of DC electricity. Two linear accelerators collide two beams of electrons with like orientations of axial spins in the center of mass frame at 940 million electron volts. One hundred and fifty pounds of copper would be consumed over 100 years before shutdown for accelerator rebuilding.

The power released in annihilation photons would be 3760 megawatts. ‘Annihilation photons’ are the 940 MeV X-rays produced when a negatron annihilates a proton. These X-rays are converted to electricity by order-to-disorder arrow-reversed photo-voltaic cells with nearly 100% efficiency. To sustain the electrino fusion reaction, 1880 megawatts would be taken from the 3760 megawatts output to power the linear accelerators, magnets, controls, etc.

Other applications include radioactivity neutralization, anti-matter rockets and miniature EFP reactors for permanent power supplies in buildings and vehicles of all types.

Means of Denaturing Radioactive Wastes

This file was received by Gary Vesperman from Gordon Ziegler in 2005.

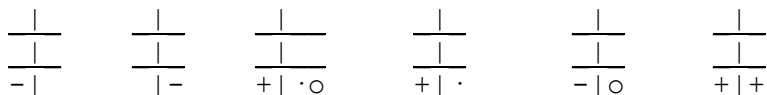
The new Electrino Fusion Model of Particle Physics presents two methods of denaturing radioactive wastes. The second is far cheaper, far safer, far easier, and far more universal than the first. But this article presents both.

In order for the reader to understand what is written about this subject, a little about the model and its nomenclature must be presented. For several centuries there was a scientific controversy over whether light was a particle or wave, until early in the twentieth century the discovery was made that light was both a particle and a wave – it was a duality. The method and means of the resolution of that mystery should have given scientists a clue as to how to resolve a parallel mystery – is there absolute space in an aether, or is there relativity without an aether? The author believed there to be an aether-relativity duality. The only way that would be possible is if there were relativity in an aether. Aether relativity explains more of the eleven independent experiments to test special relativity easier than Einstein’s aether-less relativity.

The Electrino Fusion Model of Particle Physics is based on aether relativity. All matter is composed of fermions (half integral spin particles). All forces (according to the author’s model, gravity and inertia not excepted) are mediated by bosons (whole integral spin particles which can go clear through the earth without colliding). The aether, thus, is a sea of bosons.

The electron is not a spherically symmetric spinning particle, for in the model smooth spherically symmetric charge distributions cannot have detectable spin, but the electron has detectable spin. It must be a lumpy particle. How many lumps? The parsimony principle would require that the electron have two half charges. This result is huge, because it is different than the quark-lepton theory. Quarks divide charges into $\pm e$, $\pm \frac{1}{3}e$, and $\pm \frac{2}{3}e$. Electrinos divide charges into $\pm e$, $\pm \frac{1}{2}e$, $\pm \frac{1}{4}e$, and $\pm \frac{1}{8}e$. Quark-lepton particle structures are not unique. Electrino particle structures are unique. It takes 61 particles to put together light and known matter (less gravitons) in the quark-lepton model. It takes only one copy of one particle to construct all particles in the Universe (including gravitons). In the Electrino Model, eighth charged particles are called octons. Fourth charged particles are called quartons. Half charged particles are called semions. And fusion end-result whole charged particles are called unitons (non-spin dots \cdot). There are two other kinds of whole particles: 1) four fourth charges orbiting, so that two sub-particles orbit one way, and two orbit the opposite way. The net spin is zero (o echons); 2) two half-charges orbiting, such as in electrons. The net spin is $\pm \frac{1}{2}\hbar$ (depending on the spin sign, these are called + or – echons). The whole particles made up of orbiting sub-particles are called echons. A whole particle made up of a single spin-less particle, a uniton, is called a yachon. The etymology is from the Hebrew.

All matter, light, and gravitons can be formed of positive or negative (-, +, o, or \cdot) in various energy states. We may define the particle structures by having various quantities of the above symbols in various energy states, or vertical positions, in a positional grid. The grid has a vertical line in the middle. Symbols on the left side of the line are electrically negative. Symbols on the right side of the line are electrically positive. The different levels in the grid stand for different energy levels. Unitons (dots) come only in the bottom ground-state level. Some particle structures according to this scheme (chonomics) are:



electron positron proton neutron neutrino graviton

Charge and spin conjugates are also possible. The spins in the above grids are intrinsic spins. For orbital and total spins, further information is required. (See Formulating the Universe, Vols. I, II, and III, by Gordon L. Ziegler.)

Quarks and leptons do not fuse. But electrinos can fuse to become other particles. That is how so many different kinds of particles can be made of just one particle. It is two kinds of electrino fusion that provide two new ways of disposing of radioactive wastes. The easiest kinds of electrino fusion are 1) the fusion of the semion constituents of electrons (matter) into the anti-uniton core particles of anti-protons (antimatter); and 2)

the fusion of the anti-semion constituents of positrons (antimatter) into the unitor core particles of protons (matter). These give very different results:

1) The antimatter products of fusion in this case annihilate ambient protons (matter), yielding twice the energy in gamma rays as the energy in the acceleration and fusion. If the energy recovery is efficient enough, this may be made into an energy source. Any matter could be used as fuel for the annihilations. Thus radioactive wastes could be used for fuel and annihilated. But the reactions are messy, involving extremely high level, very penetrating radiation. Likely more radioactive wastes would be created than annihilated. That would have to be determined by experiment.

2) No annihilations occur in this case, but the order-to-disorder arrow in the second law of thermodynamics is reversed in this case in a local area. Extremely low beam currents would benefit extremely large areas, so that one positron-positron accelerator-collider could reverse the order-to-disorder arrow in the second law of thermodynamics in a radius as small as ten meters, and as large as the radius of the whole earth, reversing aging, disease, and decay processes. That includes radiation from radioactive wastes. Instead of isotopes decaying to lower isotopes with the emission of radiation, isotopes would un-decay to higher isotopes with the absorption of radiation. Positron-positron colliders could be built just for radioactive waste storage areas. But since the effects would be so positive in every way, with no known negative side effects, with population and governmental approval and permission, one or a few colliders could refresh the world.

I think one could be built for two million dollars or less – maybe much less. I am in the process of incorporating and raising the money to build one or more. I would be interested in your financial interest in this project. Maybe we can work together.

This article has been compressed, rushed, and over simplified. For a fuller, complete treatment of these things and more, see *Formulating the Universe, Volumes I and II*, obtainable for a donation of fifty dollars or more to Benevolent Enterprises, 4401 37th Ave SE Unit 17, Lacey, WA 98503-3576.

Ziegler Re the Charge and Mass of a Photon

Gordon Ziegler

November 18, 2011

Gary Vesperman

Dear Gary,

Thank you for sharing with me the paper “THE CHARGE AND MASS of a PHOTON,” by D.Kh. Baziev. See <https://web.archive.org/web/20060106111933/http://www.shaping.ru/congress/english/baziev/baziev.asp> (The text of Baziev’s article is copied below – unfortunately without equations and figures.)

Some of his things are similar to, and some of his things are different from, my model. For instance, I also believe in electrinos, but not exactly as he has formulated them. I don’t believe it is possible to split electrons through any amount of collisions or irradiation. I believe the electron is composed of two mutually orbiting electrinos – semions (half charges). But in my model, the two electrinos are contained in a speed of light barrier bubble and cannot get out. They never do get out of their speed of light barrier bubble, but they can be modified within the bubble through electrino fusion, greatly affecting the characteristics of the particles.

But what about the experimental evidence for electron splitting? Bubbles have been observed about free electrons in liquid gas coolants, which break apart on further irradiation. The published thought was that the bubbles were polarized electrons, which break apart into electrinos on irradiation.

The bubbles are not polarized electrons. They are polarized gas coolant molecules in polarized strings. The strings of molecules may divide on irradiation (but not infinitely). But this is as would be expected. But this is not an evidence for electrinos.

But there may be an evidence for real electrinos in your experimental photographs. If an electron is a spinning point charge, then the polarized bubbles should be in a spherical array – rays from the center. But if the electron is composed of two orbiting electrinos, then near absolute zero the polarized bubbles should be in two strings on either side of the electron. This would be powerful evidence for the structure of the electron and the existence of electrinos.

Gordon

The Charge and Mass of a Photon

D.Kh. Baziev

1. Introduction

A systematic analysis of all experimental findings and observations gathered in physics, astronomy, and astrophysics from the times of Galileo may reveal the following:

1. Experimental findings do not agree with the existing physical theory.
2. There is a certain fundamental deficiency of the experimental material preventing one from building a consistent theory.
3. This fundamental deficiency may be filled with a counterpart of the electron, a true elementary particle with a positive charge and finite mass.
4. The proton and positron are not true elementary particles and neither of them can be a charge counterpart of the electron because they can be split further.
5. A true elementary particle with a positive charge could restore the charge symmetry in physics, thus leading to a radical revision of the existing theoretical physics and resolving its current crisis state.

Searching for this particle required that the physical nature of Planck's constant should be ascertained. This became possible only after the structure of a light beam had been understood. Namely, it was the photon sector velocity, known as Millikan constant μ , rather than the speed of light c , that proved to be a constant, viz.,:

(1)

where λ_i and ν_i are the wavelength and frequency of the i th monochromatic beam of in the light beam.

This new quantity elucidated the physical nature of Planck's constant:

(2)

where m_e is the mass of a second (after electron) true elementary particle to be called an electrino. From this expression we have

(3)

The electrino has a positive charge q determined by

(4)

where $m_u = 1.66057 \times 10^{-27}$ kg is the mass of an elementary atom accepted as a mass equivalent of one atomic unit; $n_a = 3$ is the number of electrons in one elementary atom; $e = 1.6021892 \times 10^{-19}$ C is the charge of an electron; $m_e = 9.038487 \times 10^{-31}$ kg is an improved value of electron mass; $n_e = 2.418198867 \times 10^8$ is the number of electrinos in an elementary atom.

Now, it should be obvious that Planck's constant is the momentum of the electrino. Moreover, it was the Planck constant that concealed a second true elementary particle which is the charge counterpart of the electron discovered by J.J. Thompson as far back as in 1890.

This finding about Planck's constant served as a basis for a new theory of physics[1] This theory in particular shows that the electrino is the carrier of the magnetic field and electrical current, a quantum light in all ranges, and a universal carrier of energy and information. The electrino plays the role of a neutrino in moving along first order trajectories.

2. First crucial experiment

An extraordinary importance and novelty of the new theory required an experimental proof of the electrino. To this end we carried out several experiments in the Institute of General and Inorganic Chemistry, Moscow. These experiments were based on the following four effects predicted by the theory.

With electrinos, a light beam is a flux of particles having positive charge and finite mass. If produced by a dc source discharged through an incandescent lamp in which the current is converted to light and emitted, the source weight in a charged state must differ from its weight in a discharged state. If we prove this difference experimentally we may say that light does consist of material particles of finite mass and a dc charge carried away by light is positive because an incandescent lamp does not emit electrons.

The second effect to prove was that the weight of a discharging DC source is increasing whereas its weight when charged is decreasing.

To prove the validity of these predictions, we fabricated several sealed containers with different DC sources inside. The electrodes were brought out through glass insulators. The batteries were discharged through an electric lamp radiating in the visual and infrared ranges. The weight of containers was measured before a discharge and after it accurate to ± 0.02 mg; the weights were known accurate to ± 0.05 mg; the standard deviation of the measurements was within $\sigma = \pm 0.03$ mg; the buoyancy was calculated for each measurement of weight. In this paper, we present the results of only one test of a container with four mass produced rechargeable cells connected in series. The aggregate voltage of the battery reached 5400 mV, the charge capacity was 6000 mAh. The discharge was terminated when the voltage dropped to 4000 mV, the duration of the discharge being measured accurate to one second. Two series of experiments were run: one in air, the other, under argon. Each series was ten charge-discharge cycles (Table 1 and Fig. 1). The total amount of relevant experiments and a discussion of results have been summarized in a recently published brochure.[2]

The results of the above tests allow us to make the following conclusions:

Both galvanic and rechargeable cells show reliable changes in their weight and charge during a discharge through an electric lamp, thus proving that light quanta have a finite mass and a positive electric charge.

A new elementary particle, named electrino, derived from Planck's constant in August 1982, and published in May 1994, thus enjoys a complete and absolute experimental confirmation.

3. Second crucial experiment

One of the concepts of the new theory is that the speed of light in vacuum is a function of photon frequency along the beam.

(5)

(6)

According to the new theory, for the velocity of monochromatic light (solar light or mercury-discharge lamp, but not a laser) with a wavelength of $\lambda_r = 6.8 \cdot 10^{-7} \text{ m}$ (mid-point of the red line), we have

(7)

(8)

which is 58.823% of the speed $c_v = 2.9979246 \cdot 10^8 \text{ m/s}$ of a violet beam with a wavelength of $4 \cdot 10^{-7} \text{ m}$.

We note that, according to this theory, the laser beam is not a true light beam though formed of electrinos. The speed of laser beam is now equal to the speed of beam plus the speed of current in the conductor, viz.,

(9)

This statement is offered for experimental verification.

Table 1. Weight of container #6 (under argon) in charge-discharge experiments

Run	Charged battery			Discharged battery			Charge weight $\Delta W = W_1 - W_0$, mg
	Measured value $W \pm \sigma$, mg	Buoyancy G mg	Real weight $W_i = W + G$	Measured value $W \pm \sigma$, mg	Buoyancy G mg	Real weight $W_i = W + G$	
1	126825.13 ± 0.02	85.031	126910.166 ± 0.02	126825.901 ± 0.01	85.002	12691.903 ± 0.01	0.737
2	126825.107 ± 0.02	86.572	126911.679 ± 0.02	126826.221 ± 0.01	86.538	126912.759 ± 0.01	1.080
3	126825.21 ± 0.01	86.782	126911.992 ± 0.01	126826.279 ± 0.01	86.560	126912.839 ± 0.01	0.847
4	126825.187 ± 0.01	86.563	126911.749 ± 0.01	126826.493 ± 0.02	86.385	126912.878 ± 0.02	1.128
5	126825.45 ± 0.04	86.290	126911.941 ± 0.04	126826.65 ± 0.01	85.836	126912.941 ± 0.04	0.770
6	126827.28 ± 0.00	85.187	126912.467 ± 0.00	126827.990 ± 0.01	85.204	126913.194 ± 0.01	0.727
7							
8	126826.98 ± 0.00	86.182	126913.162 ± 0.00	126827.897 ± 0.02	86.308	126914.205 ± 0.02	1.042
9	126826.95 ± 0.00	86.307	126913.257 ± 0.00	126827.757 ± 0.01	86.402	126914.159 ± 0.01	0.902
10	126827.25 ± 0.00	86.294	126913.544 ± 0.00	126828.35 ± 0.00	85.729	126914.079 ± 0.00	0.535

Figure 1. (1) Voltage drop [mV] of a battery and (2) weight increment [mg] of container #6 in an argon atmosphere during the second discharge cycle [minutes].

References

Basiev, D.K., *Osnovy obyedinyonnoy teorii fiziki* (Foundations of a unified theory of physics), Pedagogika, Moscow, 1994.

Basiev, D.K., *Zaryad i massa fotona* (The charge and mass of a photon), Pedagogika, Moscow, 2001.

Electrino Fusion Power Reactor

(The following is a copy of the “Electrino Fusion Power Reactor” chapter in Gary Vesperman’s compilation of “102 Electrical Energy Innovations” which is linked in commutefaster.com/vesperman.html and padrak.com/vesperman.)

Gordon L. Ziegler has discovered how to make a clean electrino fusion power reactor capable of generating up to a net of 1880 megawatts of DC electricity. The proposed energy source would produce no carbon emissions and no radioactive wastes. (By reversing the order-to-disorder arrow in the second law of thermodynamics, a

\$50,000,000 electrino fusion power reactor could be built which would also reverse all aging, disease, and decay processes within a one-mile radius.)

Power output, however, cannot occur in this system without the simultaneous operation of two aspects of the invention. One is an accelerator-collider making a field reversing the order-to-disorder arrow in the second law of thermodynamics in a controlled area. Among other things, that field makes the other aspect of the system (the power source) efficient enough to be self-sustaining and prevents the formation of radioactive wastes.

Electrons are generally regarded to be structure-less spinning point charges. But that contradicts a reasonable postulate that occurred to Gordon L. Ziegler in 1967: "A spherically or cylindrically symmetric smooth charge distribution cannot have detectable spin." Electrons have detectable spins. Therefore they must not have smooth structure-less symmetric charge distributions. They must be lumpy and have internal structure. An application of the Parsimony Principle shows that they must be composed of two half-charges orbiting each other at the speed of light. The reason scientists concluded that the electron was structure-less was that it could not be blasted apart in collisions up to 700 MeV each particle.

But in Ziegler's model, electron sub-particles are bound together by confinement by a speed-of-light barrier (they are trapped going faster than the speed of light). They cannot be blasted apart, even though they are two particles.

The two sub-particles of electrons make a whole different structure for matter than quarks and leptons. The sub-particles can also fuse with each other – making new particles. Fusing sub-particles of positrons reverses the order-to-disorder arrow in the second law of thermodynamics – making the power source efficient enough to be self-sustaining and preventing the radioactive wastes from forming. Fusing the sub-particles of electrons comprise the power source.

Key components include a polarized positron source, injector accelerators, inflection magnets, end magnets, and the beam transport.

Governments and utilities would buy electrino fusion power reactors because the process is a clean, inexpensive way to produce electricity. It is 1000 times as efficient as nuclear reactors. It does not require uranium or plutonium for fuel. It can run on anything for fuel such as dirt, sand, sewage, ground garbage, toxic chemicals, radioactive wastes, sea water, etc. without carbon nor radioactive pollutants.

Assume that the collision energy were 940 MeV to avoid unwanted heat (operate at room temperature), and the current in each beam was 1.0 ampere of electrons. The energy investment into the electrino fusion would be 1880 megawatts. The energy released in annihilation photons would be 3760 megawatts. Recoverable net power would be 1880 megawatts or less.

The collision energy of the linear accelerator would be 940 MeV (each particle – 1880 MeV in the center of mass frame). The current in each beam would be 1.0 amperes of electrons. There would be two beams 180 degrees from each other.

The energy released in annihilation photons would be 3760 megawatts. 'Annihilation photons' are the 940 MeV X-Rays produced when a negatron annihilates a proton. These X-rays are converted to electricity by order-to-disorder arrow reversed photo-voltaic cells with nearly 100% efficiency.

In summary the 3760 megawatts output of annihilation photons would be converted to electricity. However, in order to keep the electrino fusion reaction going, 1880 megawatts would be taken from the 3760 megawatts to power the linear accelerator. The net energy output would thus be 1880 megawatts-electric.

The size of an electrino fusion reactor would be about 80' x 10' x 10'. The fuel is whatever brass or copper James M. Potter uses in constructing the walls of his linear accelerators. James M. Potter, Ph.D., is President, JP Accelerator Works, Inc., 2245 47th Street, Los Alamos, NM 87544, 505-690-8701 or 888-301-2833 or 505-661-8155, jpotter@jpaw.com, <http://www.jpaw.com>. 155 lbs. of brass would be consumed over 100 years before shutdown for refueling. The linear accelerator would be a standard commercially available model. It would not need to be customized for an electrino fusion reactor.

The smallest electrino fusion reactor that would be possible to build is now about 80' x 10' x 10'. It may eventually be the size of a filing cabinet.

The projected cost of the first 1880-megawatt electrino fusion reactor is approximately \$100 million. This clean source of electricity could be built in two years, and the necessary Refresher built in one year. Electricity could be generated for only about 1.5 percent of current rates (a little over 0.1 cent per KWH). Subsequent clean energy sources can be built for \$37.5 million each.

The 1880 megawatts (net) of electricity generated by an electrino fusion power reactor would be Direct Current (DC). A utility would need thick wires and the biggest busbars and transformers on the planet. Conversion from DC to Alternating Current (AC) would require the world's largest inverters.

The electrino fusion reactor requires the Refresher to be self-sustaining. But the Refresher has several positive medical side effects due to reversing the order-to-disorder arrow that cannot be eliminated – in a controlled area reverse adult aging and wipe out diseases.

Refresher 1 Design Specifications

Size of accelerator	20 meters long by 3 meters wide
Diameter of channels	4 cm (maybe a little more to allow for water cooling channels)
Type of accelerator	Folded linear accelerator with pulsed klystron RF power supplies and S-band cavities (2856 MHz)
RF power supplies	Eight 35 to 50-megawatt pulsed klystrons
Duty factor	0.1% (peak current 1000 times average current)
Average power	400 kW (20 kW per meter of accelerator)
Klystron efficiency	~50%
Total system power	800 kW
Cooling water requirement for each 5 m section	5 to 10 GPM
Cooling water required by each klystron	~ 5 GPM
Cooling towers capacity	800 kW
Cost:	
Linear accelerator	\$12 million
Klystrons	\$ 8 million
Klystron power supplies and cooling towers	\$ 2 million
Magnets and their power supplies	\$ 2 million

System with controls	\$ 8 million
10% contingency	\$ 3.2 million
Builder's cost	\$35.2 million
Other budgeted items	\$14.8 million
Total budgeted	\$50 million
Creation time total	3 years
Design time (beam dynamics, radio-frequency power systems, cooling, and computer control)	1 year
Fabrication and subassembly testing	18 months
Installation and commissioning	6 months

EXECUTIVE SUMMARY OF BUSINESS PLAN

electrino energy is a new company formed to develop the inventions envisioned by the new model of physics—the electrino fusion model of elementary particles. Our company provides theoretical work and guidance to licensees. Our focus is the reverser of aging, disease, and decay processes (Refresher 1) and whatever else we must do to fund the Refresher 1.

electrino energy was formed October 12, 2005 as an invention development and theorist service specializing in four high-technology inventions – inertia-less craft; artificial gravities; reverser of aging, disease, and decay processes; and electrino fusion reactors generating electricity. All four inventions have potentially extremely high value. But all four inventions currently have three principle difficulties: 1) they are unbelievable by almost all persons – including agency heads, venture capitalists, congressmen and senators; 2) almost all of them cost scores of millions of dollars to develop; and 3) **electrino energy** has no money to develop them. With no capital and no revenue stream or other assets to fall back on, **electrino energy** cannot even get a guaranteed loan.

But **electrino energy** is not resource-less and in a hopeless condition. It has three principal approaches that it can take to resolve this dilemma:

1) Though the aging reverser is the most urgently needed, a miniature inertia-less craft can be constructed for a whole lot less money. It should be possible to construct one for a few hundred dollars borrowed from friends. But that technology could be licensed for hundreds of millions of dollars – enough to finance all the four high-tech inventions.

2) As a back-up to that approach, venture capital angels could be approached to advance the money to finance the reverser of aging, disease, and decay processes. This invention is not only high tech, but medical. The other inventions could be developed at a later time.

3) As a back-up to that approach, the owner could pursue his particle theory, predicting the masses of particles. That may be difficult, but not impossible. This would do what no other physical theory can do. Such a feat would be publishable, arousing interest among scientists for creating a facility to test the model – opening the way for government funding of the high-tech inventions.

A master decision tree flow chart linking and employing these three alternatives for funding the development of the inventions is in Section 7.0 Financial Plan.

According to alternative 1), projected sales and profits for the first four years of operation are summarized below:

Year	Sales(\$)	Profits(\$)	Profit/Sales(%)
1	200,000,000	0	0
2	0	0	0
3	0	0	0
4	10,000,000,000	9,000,000,000	90.0

According to alternative 2), there are no actual projected sales and profits for the first three years of operation. Year four is the same as above. According to alternative 3), there are no projected sales or profits for the first five years.

Currently, there are no competitors for any of these inventions. Once public incredulity is overcome by demonstration, the devices should have huge market potential.

The size of the electricity generating market is essentially enormous. It would be up to 50 percent of electric generation world-wide eventually. That's probably over a trillion dollars.

A self-powered high-speed locomotive powered by an electrino fusion power reactor would need to be at least 85 feet long.

Inventor: Gordon L. Ziegler, Lacey, Washington, USA
 benevolententerprises.org box.net/shared/k0g5nkkjfb6okhmyr6um
 padrak.com/vesperman "Locomotive Power Sources"

Chapter 7 Second Law of Thermodynamics

(The following chapter is taken from *Formulating the Universe*, Volume II, by Gordon Ziegler, Chapter 7. Copyrighted by Benevolent Enterprises 2004. Used with permission.)

Chapter 7

SECOND LAW OF THERMODYNAMICS

A. Introduction

Everything goes from a state of order to more disorder. Brand new automobiles wear out and rust. Objects break or are damaged. A thermos bottle falls off the counter, and the inner glass bottle is shattered. We do not expect the shattered bottle to fall back up to the counter and become whole again. There is a one-way arrow for the events to transpire. That arrow is the Second Law of Thermodynamics.

Houses grow old and fall into decay. Barns fall down. Fruit spoils, people and animals grow old and die. Viruses mutate. People become ill and die. Crime and disorder in society increase. Homes break up. Aborted fetuses disintegrate. Dead people and things decompose. All of these negative occurrences are the outworking of the second law of thermodynamics – that part of which is an arrow making everything go from order to disorder.

Let us consider what other people have written about the second law of thermodynamics.

"Second law of thermodynamics

"An equilibrium macrostate of a system can be characterized by a quantity S (called entropy) which has the following properties:

"(i) In any infinitesimal quasi-static process in which the system absorbs heat dQ , its entropy changes by an amount

$$dS = \frac{dQ}{T}$$

where T is a parameter characteristic of the macrostate of the system and is called its *absolute temperature*.

"(ii) In any process in which a thermally isolated system changes from one macrostate to another, its entropy tends to increase, i.e.,

$$\Delta S \geq 0.$$

"The relation (7-1) is important because it allows one to determine entropy *differences* by measurements of absorbed heat and because it serves to characterize the absolute temperature T of a system. The relation (7-2) is significant because it specifies the direction in which non-equilibrium situations tend to proceed."¹

The above expression of the second law of thermodynamics is regarding entropy and heat. Other writers include the order-to-disorder arrow in the second law of thermodynamics.

"It is a matter of common experience that disorder will tend to increase if things are left to themselves. (One has only to stop making repairs around the house to see that!) One can create order out of disorder (for example, one can paint the house), but that requires expenditure of effort or energy and so decreases the amount of ordered energy available.

"A precise statement of this idea is known as the second law of thermodynamics. It states that the entropy of an isolated system always increases, and that when two systems are joined together, the entropy of the combined system is greater than the sum of the entropies of the individual systems. For example, consider a system of gas molecules in a box. The higher the temperature of the gas, the faster the molecules move, and so the more frequently and harder they collide with the walls of the box and the greater the outward pressure they exert on the walls. Suppose that initially the molecules are all confined to the left-hand side of the box by a partition. If the partition is then removed, the molecules will tend to spread out and occupy both halves of the box. At some later time they could, by chance, all be in the right half or back in the left half, but it is overwhelmingly more probable that there will be roughly equal numbers in the two halves. Such a state is less ordered, or more disordered, than the original state in which all the molecules were in one half. One therefore says that the entropy of the gas has gone up.

Similarly, suppose one starts with two boxes, one containing oxygen molecules and the other containing nitrogen molecules. If one joins the boxes together and removes the intervening wall, the oxygen and nitrogen molecules will start to mix. At a later time the most probable state would be a fairly uniform mixture of oxygen and nitrogen molecules throughout the two boxes. This state would be less ordered, and hence have more entropy, than the initial state of two separate boxes."²

¹ F. Reif, *Statistical Physics*, Berkeley Physics Course--Volume 5 (New York: McGraw-Hill Book Company, 1967), p. 283.

² Stephen Hawking, *A Brief History of Time--From the Big Bang to Black Holes* (New York: Bantam Books, 1988), pp. 102, 103.

"The explanation that is usually given as to why we don't see broken cups gathering themselves together off the floor and jumping back onto the table is that it is forbidden by the second law of thermodynamics. This says that in any closed system disorder, or entropy, always increases with time. In other words, it is a form of Murphy's law: Things always tend to go wrong! An intact cup on the table is a state of high order, but a broken cup on the floor is a disordered state. One can go readily from the cup on the table in the past to the broken cup on the floor in the future, but not the other way round.

"The increase of disorder or entropy with time is one example of what is called an arrow of time, something that distinguishes the past from the future, giving a direction to time."³

B. Electrino Model and 2nd Law

Appendix A of this volume is sufficient to show the natural tendency of leptons in beta decay. The parent lepton combines with one or more gravitons to produce more particles. In all natural reactions, the order energy of the resultant particles is less than or equal to the order energy of the original particles.

1. Negative Energies. Let us consider antimatter more carefully. "In the Dirac theory also, the permissible energy values for a free particle range from $+mc^2$ to $+\infty$ and from $-mc^2$ to $-\infty$. The first of these results is of course just what we expect for a free particle – that its total energy can have any value greater than its rest energy. But the second result is quite puzzling, since it implies the existence of states of negative total energy."⁴ Anderson in 1932 discovered positrons in cosmic radiation. These were regarded as Dirac's negative energy particles. "The first two solutions of the Dirac equation . . . clearly describe a free electron of energy E and momentum p . The two negative energy electron solutions . . . are to be associated with the antiparticle, the positron."⁵

However, in the annihilation it is not $(+mc^2) + (-mc^2) = 0$, but $2mc^2$ is the result of annihilation.⁶ There is something strange going on with the minus signs in these equations. The calculations are inconsistent.

Maybe there are two kinds of energy considered. One we can call entropy energy ES. In the annihilation reaction, $\hat{o}+mc^2\hat{o} + \hat{o}-mc^2\hat{o} = 2mc^2$. Entropy energy is the higher value. The other energy is order energy EO. In order energy the same reaction is $(+mc^2) + (-mc^2) = 0$.

Let us consider entropy energy and order energy for the particle decay schemes in Appendix A. There are few decay schemes where no negative order energy (anti-matter) is introduced in the right hand side of the decay schemes. In those few instances, the final order energy is equal to the initial order energy (when kinetic energy is taken into account). But in most cases, a trace of negative order energy (anti-matter) is introduced into the right side of the decay schemes. There is nothing on the left hand sides of the decay schemes to correspond to this addition of a trace of negative order energy on the right sides of the decay schemes. Therefore, total order energy is less on the right hand sides of the decay schemes than on the left hand sides (if only by a trace). A few decay schemes introduce a lot of antimatter (as K^-) on the right side of the decay scheme. The loss of order energy in the systems is greater in those cases. But in every case, for all natural processes, the order energy final is less than or equal to the order energy initial, or

$$\Delta E_o \leq 0.$$

³ *Ibid.*, pp. 144, 145.

⁴ Robert B. Leighton, *Principles of Modern Physics* (New York: McGraw-Hill Book Company, Inc, 1959), p. 665.

⁵ Francis Halzen, Alan D. Martin, *Quarks and Leptons* (New York: John Wiley & Sons, 1984), p. 107.

⁶ David S. Saxon, *Elementary Quantum Mechanics* (San Francisco: Holden-Day, 1968), p. 386.

Let us check the order energy for electron-electrino fusion reactions. Electrons made energetic by acceleration (as heavy as protons) fuse and form anti-protons. Matter is converted to anti-matter. Entropy energy is conserved, but not so order energy. Order energy is reduced in the extreme from +938 MeV to -938 MeV or more for each electron fused (two electrons are fused in each reaction). The order-disorder arrow for electron-electrino fusion points in the usual direction. The system does obey the second law of thermodynamics.

2. Reversing the Order-to-Disorder Arrow. What would happen if we fused the electrino constituents of positrons instead of the electrino constituents of electrons? Entropy energy E_S would again be conserved. Entropy would be increased. However, order energy E_O would go from $-2 \times 938 \text{ MeV}$ to $+2 \times 938 \text{ MeV}$ – from disorder to order. The order-to-disorder arrow would be reversed. This would be a reaction that would be prohibited by the second law of thermodynamics – unless the strong gravitational force that fuses the anti-semions would be stronger than the second law of thermodynamics (which otherwise governs weak interactions). The stronger of the strong gravitational force and the second law of thermodynamics should be determined by experiment.

More rides on that one experiment than perhaps on any one other experiment in this generation. If it is found that strong gravity is stronger than the second law of thermodynamics, then order can be restored at first in a small radius, then for the whole earth.

Here we see that the entropy arrow of time and the order-to-disorder arrow of time are separate and distinct, and are not one and the same thing. While all the reactions the author has studied increase entropy, the fusion of positron anti-semions and some more reactions in the next chapter reverse the order-to-disorder arrow, making more order out of the disorder.

Positron constituent electrino fusion might not only take the electrinos from disorder to order. It could make other physical processes in a local area go from disorder to order. The positron fusion not only violates the second law of thermodynamics, it reverses the order to disorder arrow of that law in a local area, making other processes in that area reverse. Let us consider that process more to see how it might be regulated. The radius squared affected by the reversal of the order-to-disorder arrow of time is proportional to the change in mass per second in the local area. Multiplying by c^2 converts the expression to a change in energy per second. Supplying the constants and units to make the equation correct, we find in the order reversed

$$\Delta E_O \geq 0, \text{ where } r^2 \leq \frac{dm}{dt} \frac{c^2 s^3}{4\pi kg},$$

and where the terms, including dm/dt and c , are in SI units of meters, kilograms, and seconds, and m is in kilograms.

To put this in perspective, to reverse the order-to-disorder arrow of time in a 100-meter radius requires two coherent positron beams of $70 \mu\text{A}$ all fused. For a radius of roughly 150 feet, two coherent beams of positrons of $17 \mu\text{A}$ would be required. To restore the whole earth simultaneously from a single machine would require $8.8 \times 10^{-09} \text{ kg}$ mass created in the machine every second, two beams of coherent positrons colliding, each at 0.44 A (Amps). If the brains of the world got together, that should certainly be achievable.

What sort of phenomena could be expected from an order-to-disorder reverser? The opposite of what occurs naturally under the second law of thermodynamics. Instead of fruit spoiling, spoiled fruit would go to the maximum state of order – fresh picked fruit. Instead of aging, old people would grow young again to the maximum state of order, young adulthood, and then remain stable as long as they were near the order-to-disorder arrow reversal machine. Instead of people dying, decaying, and disintegrating, it is possible that they

would be resurrected by such a machine, and made young again. Diseases should be reversed to extinction. Cancer should grow backward and disappear. An order-to-disorder arrow reverser should cure every disease. The restoration does not go faster in the center of the affected volume than at its periphery. The rate of mass creation does not affect the rate of restoration (as long as the same particle fusion processes are employed). The restoration time $-t'$ relative to current time t under the second law of thermodynamics is

$$\frac{-t'}{t} = \frac{-m_e}{m_p} \approx \frac{-1}{1836}.$$

The restoration of 100 years damage under the second law of thermodynamics would occur in 19.9 days. The damage of 6000 years under the second law of thermodynamics would be restored in 3 years and 3 months. Should not this be earth's highest priority? – for mankind to restore the planet he destroyed? It would take only 3.27 years machine time to do it after the months or years of invention and preparation. Why should we not do it, and do it as soon as possible?

Problem Set 7

1. "Humpty-Dumpty sat on a wall. Humpty-Dumpty had a great fall. And all the king's horses and all the king's men couldn't put Humpty-Dumpty back together again." What law of physics does this child's nursery rhyme illustrate? What arrow of time is demonstrated?
2. Is the entropy more or less after two gas containers are opened to each other?
3. You watch a movie. Broken pieces of glass fly up and become a window. Is the movie playing forward or backward? How do you know?
4. What generally happens in beta decay? Is the system going to more or less order?
5. What would the world be like if the order-to-disorder arrow were reversed?

Puget Sound Energy Electrino Fusion Power Project

2011 All Source RFP Exhibit B

Summary Data Form—See Exhibit D

Proposal Data

Section 1. Description of offer

- Project name – Electrino Fusion Power Project.
- Proposed Commercial Arrangement – Development Asset Purchase.
- Offer Capacity –1880 MW on demand.
- Offer timing. Energy delivery start date – 04/01/2014 if funding date is 04/01/2012; 01/01/2014 if funding date is 01/01/2012; or correspondingly.
- Project Owner. Technology owned by Electrino Energy. Project Owned by PSE. No other projects completed to date.
- Project developer. Other projects completed to date – numerous particle accelerators.

Section 2. Capital costs, pricing and delivery

PSE Ownership

- For the purchase of development assets, specify development assets purchase price – \$0. Specify total capital cost to project build-out – \$120 million. No finance costs included.
- (\$33 million Refresher in 3 years + \$38 million Clean Energy Source in 3 years + 30% rushing cost for construction in 1 year (Refresher) and 2 year (Clean Energy Source) =
\$ 92,300,000
6,600,000 construction of buildings on site including 2 small containment buildings.
462,000 architect fee
50,000 travel
10,000 publishing costs
10,000 supplies
12,000,000 wages (mostly for Refresher activities)
4,320,000 fringe benefits
4,080,000 O/H
168,000 Contingency

\$120,000,000 from PSE to EE
Land costs—PSE responsibility
Connection costs to grid—PSE responsibility
Output transformer—PSE responsibility
Government permits and fees—PSE responsibility
- Other questions in this Section—Not Applicable.

Section 3. Summary commercial offer term sheet

- The relevant conditions in Exhibit H are here incorporated by reference.
- For sale to PSE is a Clean Energy Source with peak power output of 1880 MW and net average power output of 1504 MW. The Source is clean – no carbon emissions, no radioactive wastes – no wastes at all. The Source annihilates brass for fuel – brass on the inner walls of the collider chamber. The Source is so efficient that it can go 100 years between refueling – consuming only 145 pounds of brass between refuelings. The Source is made self-sufficient and efficient by the operation of a Refresher (included), which also unavoidably reverses adult aging, backs diseases out of existence in a controlled area – which can be made as small as five acres or less, or as large as the entire earth, or many settings in between. This also can be made a source of large revenue to PSE.
- Seller – Electrino Energy.
- Completion of the Refresher and its operation will be one year after closing and funding. Completion of the Clean Energy Source and commercial sale of electricity will be two years after closing and funding.
- An alternate due diligence approach would be to spend a whole year on micro-design for the Refresher as well as the Clean Energy Source. This first year and accelerator designs can be had for \$1,100,000. Then spend six more months building the Refresher, and one year building the Clean Energy Source for the remaining \$118,900,000. Activation times would be 18 months after funding for the Refresher, and 24 months after funding for the Clean Energy Source.
- In this offer, connection to the electric grid is PSE responsibility.
- Capacity/Quantity – 1880 MW peak, 1504 MW net on demand.
- Price – \$120 million, 6% royalties distributed on earnings, guarantees that PSE or assigns will not charge any fees for Refresher blessings, but accept voluntary freewill offerings only.

- No fuel is needed for 100 years, and then 145 pounds or less of inexpensive brass recast.
- Minimum run time, Maximum starts are hard questions for the inventor and builder at this time. The design is new. These kinds of questions could best be answered after the first unit is built. Two day planned outage in 100 years.
- Scheduling coordinator for project—Gordon L. Ziegler, Electrino Energy; Imbalance charges for project by Gordon L. Ziegler, EE.
- Guaranteed heat rate: 0 Btu/kwh. (new type of cold fusion)
- Guaranteed available – not intermittent like solar and wind/volume – 1880 MW.
- Force majeure – in the case of an event beyond the control of either party resulting in loss or delay in the project, both parties shall share equally in the remediation.
- Credit support – none.

Section 4: Description of the project and project status

- Project location: city, county and state – this is at the discretion of PSE.
- Project should be on three adjacent five-acre plots close to the electric grid: on one five-acre plot should be built the Refresher. The adjacent five-acre plot should be a buffer zone. In the next five-acre plot should be built the Clean Energy Source. The containment buildings' floors should be 23 feet underground so that ground level shall be 12 feet of earth above the Refresher containment building. Worst case for the Clean Energy Source requires 37 feet of concrete shielding – 12 feet below grade and 25 feet above grade. See maps on next two pages.
- To avoid having to obtain public and governmental permissions at first to extend the Refresher active area over the Clean Energy Source, it would be best if the total land holdings of PSE at the site were at least 125 square acres with the Refresher in the center. The project could be expanded: 15 additional Clean Energy Sources could be constructed on such a site. Conditions are only money and electricity demand.
- Provide a list of leases, easements, and/or other ownership documents. . . – in this offer, PSE is responsible for all that as site owner.
- Project status: Theory, invention, plans, proposals, but no construction yet. If funding is received by 04/01/2012, commercial online date would be 04/01/2014. After design stage, construction start date would be 04/01/2013.
- List of permits obtained and status of permits in progress – none. In this offer, that is the responsibility of PSE.
- Identify transmission and integration secured, or pending requests – none. PSE responsibility.
- No fuel needed for 100 years. Address then.
- Studies completed or in progress: *Electrino Physics, Advanced Electrino Physics, Prediction of the Masses of Every Known Particle (as of 2008), Step 2, Part 1* [testing theory of Refresher 1 and Clean Energy Source], *Refresher 1 Manual, Rad Waste-free Power, Governing With Refresher 1*. (See <http://benevolententerprises.org> Book List.)
- Facility nameplate capacity – 1880 MW. Any incremental capacity new and clean at 85 degrees Fahrenheit and 200 feet elevation (plus or minus) – 15 more 1880 MW Sources on site or 28,200 MW.

Section 5: Technical and operations

- Identify resource and technology type: electrino fusion type,
- Make: Electrino Energy
- Model: Clean Energy Source with Refresher,
- One unit with 1880 MW/unit – net.
- Nameplate capacity for unit – 1880 MW. Project heat rate at room temperatures and 200 feet elevation – 0 HHV.

- Identify average December temperature for project location – unknown site – PSE responsibility. 1880 megawatts capacity rating at any temperature.
- Estimated net annual capacity factor – 80%.
- See Exhibit E.
- The Refresher field will prevent failures due to aging and burnout of parts. Thus we don't expect any annual forced outages (0%). We will have several planned outages at first to check the system. Then if everything always checks OK, we will discontinue planned outages also. Maybe initially we will have six days planned outages per year. In spite of planned outages the first year, we would have 98.4% availability the first year.
The guaranteed level of production would be 96% availability and 1504 MW level of production.
- Facility operating characteristics: minimum online time (hours), minimum down time (hours), minimum operating load (MW): This is a new design. Such quantities will not be well known until the first unit is built and tested. Minimum operating load allowable by permits. In this offer, PSE is responsible for all permits. We will not know whether facility is ten-minute start capable from cold shutdown until the first unit is built and tested. However immediate startup could be possible from warm standby.
- Facility start up: start up time for hot, warm starts (0.16 hours); for cold starts (not known yet (hours)); specify amount of fuel (MMBtu) and electricity (MW) consumed during start-up cycle: slight trace of brass for fuel, 0.1 MW ramped up.
- Describe any known or likely operating limits due to permitting, legal, aesthetic, wildlife or other reasons: None. It would be far safer for all concerned within the active area of the Refresher than without it. Wildlife would flourish within the active area of the Refresher. Most of an Environmental Impact Statement for the Refresher is included in *Refresher 1 Manual*, <http://benevolententerprises.org> Book List.
- Describe how the underlying facility or contract meets the obligations of Washington's Emissions Performance Standards (EPS) (WAC 173-407, effective June 19, 2008). The facility does not emit carbon dioxide or any other greenhouse gas.
- Provide facility air emissions data for carbon dioxide, nitrogen oxides, and sulfur in tons/GWh . . . or as otherwise applicable: carbon dioxide (0 tons/GWh); nitrogen oxides (0 tons/GWh); sulfur (0 tons/GWh).

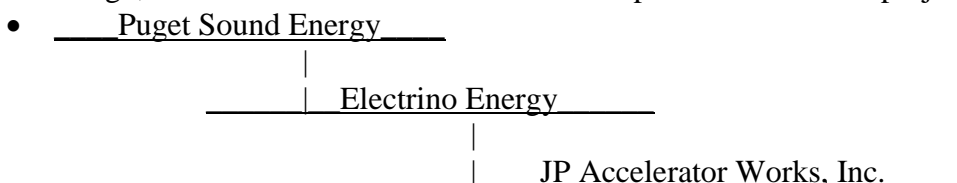
Section 6. Fuel supply

- Fuel to be annihilated for power is brass on the inside of the high-energy electron collider chamber. The chamber has sufficient brass to last 100 years. Securing transportation for the fuel is unnecessary.

Section 7. Interconnection and transmission – PSE Responsibility

Section 8. Legal and financial

- Describe any dependence on another entity. Gordon L. Ziegler, Owner of Electrino Energy, is dependent on subcontractor James M. Potter, Ph.D., President of JP Accelerator Works, Inc., for the design, construction and technical directorship of all accelerator projects.



- Permitting wholly positive side effects of the Refresher. Entities would be a whole lot safer with the Refresher than without it.

Cc: Ken Colvin

Subject: Refresher-regenerator only for Fukushima radiation cleanup?

Hi Gordon,

I am trying to help some people with mitigating the radiation from Fukushima.

What would be the cost and other aspects of building a refresher-regenerator that is designed specifically for mitigating Fukushima radiation and fallout? If provided funds, how long would construction and testing take? Forget for the moment the electricity generating part of the electrino fusion power reactor.

Gary Vesperman

Gordon Ziegler <ben_ent100@msn.com>

To: Gary Vesperman

Cc: Ken Colvin

Sept 11

Subject: Refresher-regenerator only for Fukushima radiation cleanup

Dear Gary,

Thank you for your inquiry. A rough estimate of the cost of the Refresher only would be \$33 million to \$50 million in one year. It would be best to spend \$100,000 for micro design study and material list. Then we would know each part it would take to build it, and how much it would cost. Then it would be easier and more accurate to estimate the total cost of the Refresher. It only takes one Refresher to transform the earth and the solar system – the same Refresher we could operate to begin with in a small area – like five acres or less. To start with, it could be placed somewhere in Japan near (but not too near for sake of safety) the failed Fukushima reactors. That could arrest and reverse the rogue Fukushima reactors. But to recover the radioactive contamination worldwide, the Refresher would have to have a worldwide footprint. Technology wise, that would be real easy! – by just changing the positions of some controls to the machine. The challenge would be to gain permission worldwide to operate the Refresher worldwide. It would be new and unknown and scary for many people. Even the builder would not want to be the first guinea pig. I will be the first guinea pig. I have no fear of it.

After a week or two of selective tests, everyone would be desperate to be a guinea pig! Because there would be a reversal of adult aging in the footprint of the Refresher. Diseases would be backed out of existence. For those persons in the footprint of the Refresher, all pain would be gone. In just a few days, the guinea pigs would have optimum health in young adulthood. And the physical Fukushima plant would be restored to mint condition, but turned off. The minimum cost of the Refresher to refresh just a small area would be about \$30 million to \$50 million – just the same cost to refresh greater and greater volumes up to the whole earth and even the solar system! The footprint is controlled by the power invested into the operation of the Refresher.

Did I answer all the questions of your friends? Ask more questions!

Sincerely yours,

Gordon Ziegler

(From Ken Colvin September 19, 2018)

This new technology will cause a major disruption to the energy industry, and will have far-reaching implications on other areas of control. It will allow the planet to heal and the population to thrive. It is interesting that, while many in the scientific community realize that Einstein's, standard model is incorrect, most still refuse to believe in Gordon's new model, (The Unified Field Theory).

Gordon has applied to the Department of Energy and other government entities 10 times for grants from \$50 million to \$100 million. In the first submittals, they allowed him only 25 pages, which was not enough to explain his new model and to show where Einstein's model is in error. They promptly rejected the submittals within 30 days, due to the fact that it did not conform to the standard model. In the final submittal, he was allowed unlimited pages. This allowed him to show how his model was correct and how Einstein's model was not. This submittal was not rejected however, it was not replied to. This event is enough to cause one to ponder.

While I cannot testify to the science, as it is well beyond me, I can testify to the man. Gordon is a God-fearing man, humble and wise. He once gave up a good job as a Radiation health Physicist for the State of Washington to go on the mission field, (he was later hired back), and will rarely pass a panhandler without giving them something. When he says that he is not in it for the money, but for the benefit of mankind, *I believe him*. The money will come however, and Gordon has confided in me of the many charities he will be giving to. You sir; could not have a better, more honest business associate than Gordon Ziegler.

Here are a few of Gordon's qualifications:

1. Radiation Health physicist for 9 years.
2. Radiological Dose Assessor for 9 years.
3. Inventor of Derived Intervention Levels (DILS), now used worldwide.
4. Author of over 40 published books, many of which are on particle physics.
5. President of Benevolent Enterprises since 1981.
6. Inventor of Refresher and Clean Energy Source.
7. Owner of Electrino Energy since 2005
8. Founder of Electrino Group Inc. 11/22/2010
9. Gordon has recently made a huge discovery revealing the nature and characteristics of the Higgs Boson. This scientific discovery will provide the missing link in the Standard Model of Physics and his own model, the Grand Unification Theory.

While Gordon and I firmly believe that this project will be funded, we have similar philosophies as you, and hope that you will choose to be part of our team. As stated in the response from James Potter, it would take \$200,000 to get started on the design phase.

The initial funding may not be enough to fully design, create a schedule, and a budget, it seems that it may be an essential starting place that will allow us to answer those questions of how long and how much.

Kenneth Colvin
President Electrino Group Inc.

Sept 16
Dear Gary,

The laser version of electric power source runs on fused electrons (matter), fusing them to the core particles of anti-protons (negatrons)(antimatter), which drift away and annihilate one proton or neutron in the inside of the linear accelerator for each reaction in the project. [Gary: I am having difficulty with my words this

morning. I've answered your questions in my book, Rejuvenating Science, which you can buy from Amazon.com

From: Gordon Ziegler <ben_ent100@msn.com>
Sent: Friday, September 14, 2018
To: Gary Vesperman
Cc: Ken Colvin
Subject: Re: Laser version of electrino fusion power reactor for \$5 million?

Gary,

The difference is primarily speed of building.

The five million production is iffy – using a different builder.

I have met Jim Potter and have seen his shop. I have more confidence in him, though he is more expensive. We can use Jim Potter for the Refresher, but not the Clean Energy Source, because his method of RF cavities, klystrons, etc. is not efficient enough for Clean Energy Source.

Gordon

PS. Jim Potter is in Switzerland and will not be able to respond until later today. We should have a more information later and will get it to you as soon as possible.

From: Gary Vesperman <garyvesperman@yahoo.com>
Sent: Thursday, September 13, 2018
To: Gordon Ziegler
Cc: Ken Colvin
Subject: Laser version of electrino fusion power reactor for \$5 million?

Hi Gordon,

I thought you have designed a laser version of the electrino fusion power reactor for \$5 million.

Please explain the difference between the laser reactor and the \$100,000,000 refresher.

Gary Vesperman

Jim Potter letter
Gordon Ziegler
4401 37th Ave SE Unit 17
Lacey, WA 98503-3576

September 12, 2018

Jim Potter,
JP Accelerator Works, Inc.
2245 47th Street
Los Alamos, NM 87544

jpotter@paw.com
(505) 690-8701

Dear Jim,

The definition of the Refresher is a 940-MeV both beams [938 MeV will not work] positron-positron collider in which one leg of the collider has a spin flipper. The spin in both beams must be axial, and focused. The spin flipper is the point of control for the device. When one leg is spin flipped, the particles will collide, fuse and create protons and reverse the second law of thermodynamics.

When the spin flipper is not flipped, the positrons will bounce off each other or go right through each other without colliding. Then there will be a pause in the collisions and fusions and the reversal of the second law of thermodynamics. The object is to make the positron beams as weak as possible (current-wise) and still collide; and make the beams still weaker by having one pulse beam for a blank space variable by thirteen (13) orders of magnitude blank space, controlled by a rotary switch on the control panel. [Pulses spaced by ten picoseconds [10^{-11} s] space; pulses separated by 100 psec [10^{-10} s]; pulses separated by one nanosecond blank space [10^{-9} s]; . . . pulses separated by at least 80 hours, adjustable by a rotary switch on the control panel. It would be difficult to create weak enough pulses, except by spacing them by different orders of magnitude spacing.

Sincerely,

Gordon Ziegler

Gordon Ziegler <ben_ent100@msn.com>
To: Gary Vesperman, Gary Vesperman
March 1

Dear Gary,

Don't worry! Any beam current in the Refresher easily available would be enormously too high to see the peculiar effects of the Refresher – the effect would be super microscopic. We could start watching ameba in the Refresher field. The goal would be to get the beam current dependably small enough to have the effect in the size of a house or five acres. We could test the reversed field with animals. I know a man that for a whole lifetime cared for the animals in a veterinary hospital. I volunteer to be the first human guinea pig. Jim Potter, the skilled man who could build a Refresher, is afraid of the Refresher field. He does not want to be the first guinea pig. He wants to stay outside of the field at first, and watch from a distance. I am not afraid of the field of the Refresher. I have chronic illnesses I need healed. We could test me for three weeks. That would be enough time to reverse me to young adulthood and prove that I would not be reversed to a child and reversed to extinction. I wrote a whole chapter on "Is it Safe?" You can find that chapter in "Gordon L. Ziegler, "Does God Really Love Us? Amazon. com Gordon Ziegler books.

Sincerely yours,

Gordon Ziegler