



Glimpses of Epiphany

One Man's Journey of Discovery

Bill Donovan

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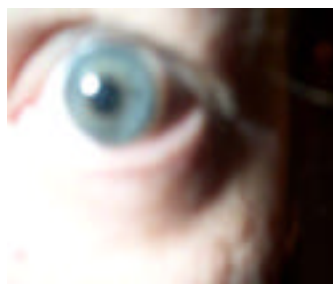


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Introduction

Welcome to my book.

It has been a fascinating journey. It began in the 1980's, when I was a technician in an Engineering lab of a company in Northern Illinois. I had a small motor, about two pounds, in a test jig that weighed well over a hundred. When it began to vibrate in a defective condition called rotor rub, in which the rotor began to bang against the stator, a peculiar phenomenon developed that I will never forget that put me on this journey. (Now, usually rotor rubs do not do anything as unusual as what I am about to describe). After the hum permeated the fixture, the whole assembly noiselessly slid across the surface of the table and slammed into a concrete block wall. I turned off the power and tried moving the fixture. It wouldn't budge. I then thought it was probably due to the vibration, and turned the motor on again, yanking at the fixture. It still stayed where it was. It took two people and a pry bar to put it back where it was. I took the motor out and inspected it. Nothing unusual. I put it back into the fixture, assuming it was merely a fluke. After a few minutes of running it through the test sequence, it went into the rotor rub condition, and started to slide again. I grabbed the end of the fixture and put all my weight on it. It still slid into the wall. Whatever the force was, it was directional. I checked the table and found it to be perfectly level. In retrospect, I probably should have left the level on the bench during the "phenomenon", to see if it moved the bubble, for even though the table may have been level, it would have indicated if the effect changed the gravitational field around the fixture.

I pried the fixture back by myself, too embarrassed to ask anyone else. It took over an hour moving it less than an inch at a time. I spent my weekends after this at the Chicago Public Library looking up what on earth this could be. So began my education. I left the library each weekend with a briefcase filled with patents and articles. I learned about T. Townsend Brown, Paget, Dean, and others. There were so many that were buried in obscurity, waiting for someone to pick up the torch and run with it. Was I up to the task? There were doubts, to be sure. My father was impressed over the sheer volume of work, and built two models of inertial drives. He independently proved several patents to be worthless, and both he and I concluded that mechanical drives are dubious at best.

Later I was approached to contribute to the Antigravity Handbook. I agreed, and wrote two chapters and the Biefeld-Brown formula for the book, as well as contributing my own research to the bibliography. The two relevant chapters are included in this book, as well as the Biefeld-Brown formula. I discovered the Kowsky-Frost experiment at this time, and met with Jerry Gallimore in Los Cruces to obtain permission to publish a corrected version of his formula. I discovered that Jerry had claimed to repeat the Kowsky-Frost experiment with success. He said it was the real deal. After returning to Illinois, I spoke with Jerry, and he was firm about the crystal experiment being successful. That was the last time we spoke. After that he left for Hawaii, and I learned of his heart attack and subsequent death. I concluded that this experiment needed to be repeated. If verified, it would have enormous implications in both propulsion and energy.

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In the 90's I worked at a company in Cabery, Illinois which did injection molding as a setup and maintenance mechanic. Once again the antigravity effect manifested itself in a hydraulic plastic molding machine which "walked" across the floor each time fluid surged through the high pressure lines. After this, I studied the effect, and wrote the paper "IIM Possible".

I left Illinois and moved to Georgia. I reconciled the fact that Stelle would never implement these technologies due to either their own fear, or a hidden agenda as to which I could only speculate. I worked at a local factory as a supervisor for a number of years to pay down the debts which accrued during my sojourn at Stelle. I did theoretical work, and once again sought funding for a research laboratory.

I have lost count how many times I have written business plans, projections, and proposals. In the 20 years of this journey, I have concluded that there is massive political pressure against the implementation of these technologies. I have listened to those totally ignorant to the realities of the situation spout their opinions about how simple it would be to "convert" this civilization to free energy and antigravity. Yes, the technologies are simple. They are real. But... It threatens a multi-trillion dollar political-industrial complex which will continue to hold us back. As I write these words, it is the 21st century, and we still live with technology from the 19th.

How many decades will we be forced to wait?

Perhaps not much longer. This planet will not tolerate another century of abuse. Sure, we can synthesize oil. And other petroleum compounds. But if we do not synthesize additional oxygen for the atmosphere, we will know what it's like to be in a bell jar when the candle goes out. It's as simple as that.

And who or what is responsible for keeping us bottled up on this planet? The truth will be discovered sooner or later. I would quote Moses, "Let my people go!!" This planet has the choice of life or death, colonizing the stars, or genocide. It appears that our leaders have chosen for us, and have chosen the route of darkness, fascism and genocide.

I have chosen life. What is your choice?

Dedication

This is dedicated to all those out there who are struggling to understand life, reality, and seek to educate those who have the desire to learn the truth about the world and universe which we live in. I especially would like to thank Steven Terecevicz, Bobbie Ammons, Steve Dean, Tom Bearden, Luke Gatto, Trevor Constable, Hilda Schaffranke, Ken MacNeill, Garileo Pedroza, Millard Deutsch, Althea Gray, Marilyn Bridges,. A heartfelt thanks goes to Andrew Michrowski and PACE (Planetary Association for Clean Energy) for valuable reference material, and to Gene Freiburger for the original Radio Umschau article. And also those who have passed on: Jerry Gallimore, Paul Brown, Bruce DePalma, my father Patrick Donovan, and others who influenced this work in a positive way.

Meanwhile - Back in The Future

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What would happen if and when all this stuff eventually gets used in a civilization? After all, this society is scarcely above slightly organized barbarism. So let's reverse the polarity on the wayback machine and take a peek into the future. Let's set the year for say, 2491, and see the world through the eyes of a citizen of that time.

Ah... it's another beautiful day. I rise from a restful three hour sleep, thanks to the psychotronic system built into the bed. My bed may seem old fashioned but I'm into antiques anyway. The new ones look like a half-cylinder and have a gravity canceling system built right into it so you sleep in free-fall. It's supposed to be a very relaxing sleep. Morning meditation doesn't open any insights. I throw a robe on and walk over to the kitchen and punch up breakfast. There's the usual soft buzz and drone as it reconstructs the food from the energy patterns stored in memory. I do some of my own cooking from time to time and save whatever tastes and looks good in memory. And now for the taste... Oh well. Nobody's perfect.

You wouldn't recognize the cooktop. It looks like a white ceramic rectangle measuring 50 to 100 centimeters. The cooktop generates an energy bottle above it and has a programmable gravity field. So you can either cook in free-fall (which makes some of the wildest results you've ever seen), or crank the field density up to 100 times the earth's gravity field. I visited a museum once and took a look at something called a "refrigerator". It's hard to believe that people allowed something that cumbersome in their homes. The thing looked intimidating. The Nutrimatic food materializer uses a pretty simple process, after all. It just generates a triplex wave hologram and pours raw energy into it from the system in the house. That system, by the way, is a solid-state free energy generation system. You might call it a spatiotemporal reactor. It changes the structure of a small volume of space and literally wrings the energy out of it like a sponge. No pollution or radiation.

The same triplex wave hologram is used in the life insurance policy that we subscribe to. Subscribers usually go in for an update about once a month. That way, if you have a potentially lethal accident (which is very rare now) they pop you into the regeneration chamber and you're as good as new. Now they're talking about a regeneration system which includes a genetic randomizer. That means that every thirty years or so you could take up the option and get a new body. That's causing a major uproar in this time. Life insurance seems like its rapidly becoming outmoded as the lifespan stretches out — somewhat disconcertingly, as the earth's population is rapidly expanding out toward the stars.

Each room has its' own gravity control. I like to exercise in 2 gees. A sauna or steambath in zero-gravity is very relaxing. There's usually a fan to keep the air circulating so you wouldn't suffocate if you dozed off. My bedroom is usually set to whatever I prefer. One day I'll sleep in earth-normal. If I'm really bushed, as I was last night, I'll turn it down to a tenth of a gee. Of course accidents do happen. One day the control shorted out in the recreation room and plastered the guests into the couch at 3 gees. I wondered what was happening when I looked into the room from the hall and saw the look of horror upon all their faces as their bodies were stuck to the couch with an iron grip. Of course I have a failsafe circuit in it now.

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Moving furniture is a snap. Just turn down the gravity in that particular room. People who are unfamiliar to that method, and try it for the first time have quite a few accidents- usually bruised ankles and smashed kneecaps. What they never count on is the inertia of the pieces that they move around. You sometimes see pockmarks on the ceiling after they're finished.

The carport would look familiar, except for a few things. My car is completely solid-state. The old models used bulky outboard turbogenerators, but this one runs on a miniature spatiotemporal reactor. Very compact as far as a power supply goes (about 10 centimeters on a side). Let's see... how do I describe the way it looks? Imagine a Corvette without wheels and completely streamlined for a top speed of 300 kilometers per hour.

I think the major improvement was when they got rid of the wheels. Instead there are four electrogravitic impellers that measure about 30 by 30 cm. All four are used for levitation and keep the car off the ground even when the vehicle is at a full stop. Actually all they do is generate a negative gravity field that pushes the ground away and lifts the car up (thanks to Sir Isaac Newton). These are recessed behind access panels flush with the body of the car. If you pull off these access panels, you would see four pyramid-shaped structures which are the field emitters. The pyramids are at 45 degree angles in relation to the ground and are completely self-contained within the body of the car. To accelerate, the sides facing the rear of the car are biased. Braking, or reverse biases the front faces. To make a right hand turn the right two impellers have a slightly lower overall field strength than the left two. The left hand faces of the two in the front are biased as well as the right hand faces of the two in the rear half of the car. There are no bumpers on the car. Who needs them when you have an integral deflection shield? Think of them as electrogravitic bumpers. The field strength is proportional to the speed of the car. To test them you tap the test button and when the indicator light comes on, hop out of the car. Then with the car at a full stop take your hands (palms out) and push against the field. The field should feel like soft rubber at a meter's distance and hard rubber at half a meter. The new model has inertia-absorbing brakes, which is an additional safety feature. The teenagers use that to go roaring like a bat out of hell and make right angle turns at 300 K.P.H. They think it's great. I think they'd better watch it. My model has gravity restraints built right into the seats. In a collision it holds your body in the seat with a field that varies with the deceleration of the vehicle. It sure beats the air bags of your time!

My family also has a transport subscription. This is for the people who don't want to deal with the hassles of the skyways. Each house (or most of them, anyway) has a transporter. In the past one company owned all the equipment and you leased it from them. Recently the company relinquished the ownership of the transporter units and now just deals with long distance runs. Everybody was in a very confused state just after the breakup. The company is called Atlantic Teletransport and Telecommunications. The heart of the transporter, the transtator, is just a superregenerative gravitational amplifier with positive hyperspatial feedback.

I'll try not to go into too much detail on the system since the only ones who would be interested in them are the techs who work on them. Basically it sets up a scalar black hole with the business end extending to wherever the coordinates are programmed to. You see, the only reason that a black hole (we call them CVE's, or charged vacuum envoidments) can suck in matter is because they have a gradient to their field. The transtator produces a field without a gradient to it. So the field just sits there and distorts space, warps it. The transtator is also a critical component in the warp drive systems in the starships. You set the coordinates to the point to where you want to go from a computer linked into the sub-

ethanet. It is updated on a regular basis. The sweep field then goes through hyperspace and checks the status of the destination point to prevent an apport. Then you step onto the transporter pad and five seconds later you're there. We can go wherever we want to go for the duration of our subscription. The transport card that we have must be used for each transport, to keep track of where and when we go. This is because of a few unethical individuals in the early days who used it to beam into safes and remove whatever they wanted. Recently a few technicians who tinkered with the systems found out how to put a hyperspatial skew to the field which would give you a variable time vector, so you could beam into a point in the future or past and return at a prearranged time. This gives a lot of people the willies. It's such a recent development that I don't think anyone has tried it yet.

Our economy has gone through a major trauma since the utilization of free energy systems. You see, since energy was free and the technology to replicate any commodity was readily available, an economy based on commodities became impossible. In other words, if you had cheap energy and the means to convert that energy to a mass — gold for example — then you have cheap gold. The same would be true for any other commodity. When the first machines came out, people filled up their garages with unbelievable stuff. It looked like a pirate's treasure chest. That was when the economy collapsed. So we evolved an economy based on a commodity which could not be replicated; human energy! The system is based on caloric expenditure of the human system per unit of time. Any stress on the system would increase the 'burn' above the base level which is computed on an individual level. The unit is called the credit, which is kilogram-calories burned per task. It's the only system which is equitable and fair— at least at this time.

I guess our values have changed quite a bit as well. The reason that society had materialistic ideals in the past was that material commodities were in short supply, and thus were valuable. In this age matter and energy are cheap— but thought and creativity are not. Now the only thing that remains valuable is knowledge, and that means that individuals who have true wisdom are rich. This is recognized as such. This is not a utopia, however, at least by my standards, and each of us struggles in our own way toward our individual ideals. Relationships are no longer on an exclusively materialistic level or purely spiritual, but on a mix of the two, more of a balance. Matter is recognized as form rather than substance, as raw material to fuel the creative spirit. An example of this would be the reason why someone would choose a particular profession. For money? No, because the economy is based on energy and the amount that would make you monetarily rich would also make you physically dead. For fame? No, since our media is not driven by the same motivations as they once were. The real goal is to learn, to gain knowledge. If that knowledge can be used to benefit someone at some point in time, so much the better.

Our archaeologists recently uncovered ruins on the southwestern bank of Lake Michigan and found some puzzling documents. Many of them related to graft (or grafts) in "City Hall". Archaeologists suspect that in time all politicians owned extensive orchards and were very heavily into agriculture. Another document related to a scandal involving a "Water Gate". They think it may have been a scandal involving a government official and a hydroelectric project.

Our political system has changed as well. In the past they had to elect dictocrats that would make decisions based on the politicians' self interests rather than that of the people they were supposed to serve. And to add insult to injury they would make vast expenditures and live like royalty at the expense of the people who foolishly believed that they actually elected them. They didn't realize how automated the corruption had become. One of the excuses was that there simply wasn't enough time to get involved in the political process when you had to work 12 hours a day just to pay the taxes. That doesn't happen

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now. You don't have to work just to survive. In fact, most are on a 10 to 15 hour work week. We make our own decisions through direct referendum, and we dedicate time for that. It's a vast supercomputer complex that amounts to a large vote-tallying machine. In the past citizens would speak derisively of "The Government". Now we are the government. There's no President, no House, no Senate. There are no middlemen. Anyone can bring up an issue for a D&D. That means debate and decision. The whole nation votes on it and the tally is computed in less than fifteen minutes. They had the technology to do this 500 years ago but it took a fundamental change in the value system and superior education to finally get it implemented. There are other political systems in use on the planet, and there is no attempt to force them to use ours. It's better to teach by example. The Prime Directive is used on this planet as well as others. Perhaps I should explain what the "Prime Directive" is. Basically it forbids an advanced culture to interfere with a society which is technically or sociologically more primitive and less developed than it is. It seems odd that it took interstellar travel to teach us how to conduct ourselves on our own world. You see, the attitude that we once had was that we had an obligation to "fix" the universe. And part of that was improving the standard of living in that particular culture. One particular civilization died due to this. That culture was "improved" out of existence. They had not advanced far enough to cope with the technology and philosophy which we had disseminated. In short, within a few years they had invented the electric toothbrush, and a year after that a method of blowing up the planet. That method proved to be all too effective. The first clue should have been when they developed nuclear power cells for the toothbrushes.

Our criminal justice system has changed as well. In the past institutions resembling storage pens (they must have been pens; after all they called them **penitentiaries**) were used to store those who had committed crimes against the populace. Actually these were just huge human meat lockers. In that time behavior modification was available but was not used due to the low esteem that was placed upon life. Life, in effect, was cheap. Executions, murder by the state, occurred every day. Sometimes in the hundreds. Now life is a most precious commodity. In the recent past, felons were deported to a remote location in the world. Now with the adoption of the prime directive on this planet, that no longer is feasible. A twofold approach is used. The felon is given the choice of rehabilitation through behavior modification, or a rather long detention period. The detention deserves some explanation. A scalar gravity field is generated in what appears to be a waiting room on the inside. The scalar gravity field induces relativistic effects, slows down the passage of time inside the room. For all intents and purposes it's about a hairs' breadth away from becoming a stasis field. Externally it appears to be a shiny cigar-shaped pod the size of a jumbo jet fuselage suspended in a vacuum chamber with shiny walls. Actually the whole assembly is a large thermos bottle that prevents extraneous heat from leaking into the pod. The walls of the chamber also contain a three-ply Tesla shield configuration to cut down on radiation leakage. You see, since time is slowed down in the pod (as much as a factor of one million) all radiation is tremendously blue shifted in relationship to the pod. For example, incoming infrared which would have a frequency of about 10^{12} Hz., would be blue shifted to 10^{18} Hz. This would give those inside the pod a serious case of radiation poisoning. So, the shield is used to create an orthogonal rotation of the wave structure of the incoming radiation and eliminate the electromagnetic effects. Each 'waiting room' seats 1000. Ten are used for the entire nation. That's all that's needed. Usually they choose rehabilitation, which includes behavior modification to prevent a recurrence of the act. We never force rehabilitation on an individual because doing that would cause long-range negative repercussions on society. So there's been a 99.99% success rate. Perhaps later the transporter will be used to beam felons into some point in the future (that is, the ones who choose detention rather than rehabilitation).

There are those who contend that when a particular civilization develops time travel, that society is

doomed. At least that's what the sociologists say. Personally, I think the prospect of traveling in time is exciting, something to look forward to. It seems ironic that the only way to see if the society is destroyed by the proliferation of time travel is to use a time machine to go into the future and find out if that is what happens after all. There are several schools of thought that have existed through the centuries. One maintains that if you interact with the past you will change the past. Another thinks that going into the past will enable the individual to participate in history without changing it. Yet another, the many worlds hypothesis, says that tripping off into the past will change only your own personal time line and leave everyone else alone. In so many words, there exists an infinite number of universes. Each quantum of time fissions into 10^{33} separate entities every second. Our perception straddles a large number of these. Each entity represents a quantum-mechanical choice that has occurred in the universe. So that choice exists in its own right and in its own universe. If you change something, the other universe that you have left still exists, it's just that you have permanently severed your contact with it. Some enterprising individuals are looking for a way to travel sideways in time to view what might have been, or what might have existed in our universe. If they're successful, then it would be possible for them to travel to the past, completely screw it up, and come back to the present to view the results. If they don't like it, they can move sideways in time and come back to this universe. Or choose the best of all possible worlds and stay there. Anyway, it took the development of free energy and gravity control to develop our technology to the point to consider time travel. It could have been done in the past, but there were just too many distractions. War, strikes, greed and every imaginable strife possible in quick succession destroyed the bright promise of hope in that time. Of course, all that is behind us now, and we are on the brink of the imponderable.

Another possibility that this new technology has opened up is the prospect of altering environments on a planetary scale. Planetary engineering has risen from the realm of creative visualization to reality. It is true that you can use free energy to free energy to produce the most destructive bomb in the history of mankind... But it's also true that with the correct application of this technology, entire planetary systems can be transformed for the better.

Of course when you become the guardian of a technology which initiates thermonuclear ignition of entire suns, or can create white or black holes you also must accept the responsibility associated with an accident involving that specific application. It occurred in a prototype fusion plant located in Antarctica. Less than five watts of gravitational energy was used as a negative gravitational containment field in the reactor. The plasma fireball actually was a miniature neutron star with the fusion reaction occurring on a thin skin on the surface of the fireball. It took very little fuel to keep the reaction going in relation to the tremendous outpouring of energy from the miniature star. Then the unthinkable happened. A radiation-sensitive component that had been in all three backup systems failed. The power feed to the containment field rose drastically. The recording equipment that monitored the containment field peaked out at 100 KW before it broke down. They had created a black hole, the first collapstar to be artificially generated. The bang was heard all the way to Rio, not to mention the earthquakes that followed. When the crew arrived at the scene all they saw was a crater 100 meters in diameter with a hole about a centimeter across running straight down into the rock. Then they had realized what had happened. Eventually it leaked out to the rest of the world, which brought almost universal condemnation for the project. After the furor had died down they found that the black hole that had ignominiously been created was unstable and blew out after it penetrated the crust. That was a close one. It was also the last time they experimented with that design. I wonder why? It was later on when they found that the neutrino flux from the reactors using gravitational containment was not proportional to the energy output. So they used dud material for fuel and got nearly the same results that they expected. It turned

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out that the culprit was a direct transformation of gravitational energy to electromagnetic, due to scalar wave pair-coupling. Surprise!

Another change dealt with robotics. At first crude machines were constructed that could make use of the new form(s) of energy. Later androids that had a somewhat human appearance were created. And then the real energy hogs were created. I use the term ‘energy hogs’ lightly. The only reason that robotics had been stuck in a self-limiting paradigm is due to our concept of energy use.

The servant which is a projection of the central computer system in the house resembles a human; in fact he could even pass for human walking down a street! But he/it is merely a scalar-wave hologram which is projected by the machine. The projection itself, which is a standing wave, takes about 50 KW to keep it energized. The refresh rate is dependent on the specific function that the projection is performing. You have to make sure that the power level is high enough, too. If the field is too ‘soft’ then the E.M. side of the triplex wave can become quenched if it comes in contact with something conductive. You should have seen what happened when the servant picked up the silverware. Let’s just say that the fourth of July was celebrated twice this year. After the incident in the rec. room and the servant I don’t think that those guests will be over for quite a long time!

Replicators are also used to automate manufacturing. Since anybody can make as many duplicates as he or she sees fit to make, all that’s required in the way of manufacturing is to create high-quality originals that are fit to duplicate, or a secure data storage protocol for the bit-map of the original. That means very little in the way of production runs, but the runs are still required. Not everybody owns a replicator. The finished goods are assembled by taking a computer-generated triplex hologram and pouring raw energy into it. The finished product is then scanned, packing box and all, and then is offered to the consumer. Usually people see the holo-ad and then decide if they want it or not. Then the item is charged to their account, and sent by transporter. When you receive the product, you have the option to save it in the computer system and replicate a copy. Of course, there is a sort of black market where a friend can supply you with a copy in return for a copy that they want. That’s frowned upon. But it goes on anyway. Specialized projections are used to move materials around and holo-androids deal with the consumer.

Another cultural change dealt with our attitudes toward technology. When technology was used as a tool to survive and as a defense against a harsh environment, the society viewed it as utilitarian. Furniture, appliances, and vehicles had the spartan look. Now that we have the time to include “frills”, the artistic dimension has melded with the functional aspect of devices which we use. A few individuals who had a keen interest in conserving their energies devised a computer which actually generated paintings and poetry (not at the same time). Strange poetry. I have to admit that I’ve never heard haiku poetry about proctologists before. And I hope I never hear it again. That’s what I consider a cruel and unusual punishment!

Well, it’s time to re-set the wayback machine to return us to the present. I hope you enjoyed this short visit to a world that may be if free energy and gravity control are in widespread use. For if it is not to be used, I can guarantee that the future could be in a far gloomier state than this little scenario has described. For all our sakes, it would be in the best interest of all concerned if it **were** to be used.

Anything else would be fuelish.

Meanwhile Back In The Future Revisited

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In the first article we observed how there were fundamental changes in society brought about by the development of free energy and gravity control, both of which are merely opposite faces of the same coin. In this sequel, we will see how time travel which is an extension of those technologies, again changes society. The year is 2510, 19 years after the first article.

My name is Ektovaas Rasselon. I am 45 years old and have taken my first regeneration option. My physical appearance is of someone in their 20's. The regeneration technique, which costs about 5,000 credits, uses scalar electromagnetic regression of body tissues along with an injection of nanites (molecule sized machines) which repair any cellular damage that occurs after the treatment. These nanites also "kick in" to high gear during any major trauma or accident including physical death. Just about the only thing they couldn't handle is decapitation, which is understandable. There have been a few accidents in which the body was vaporized, and the nanites couldn't do anything about that either. So you might call it virtual immortality, or extended mortality. There is also something called the "Class 1 Contingency", in which a quantum-resolution scan of the body is stored and used in case of accidental death. It gets rather sticky if the individual merely disappears without notifying anyone, since the declaration of death is what kicks in the Class 1 Contingency. Those travelers who have not returned have caused some amount of consternation on this matter.

Our civilization was born in the chaos of the previous one. It was many years ago. The bankers and those who had a stranglehold on the commodities which they dispensed with great prejudice had a program to assassinate the scientists, engineers and technicians who developed and refined the devices which were called replicators. They replicated matter, any matter. Unfortunately also antimatter, but that is not relevant at this point. The point is that they saw their gravy train coming to an end. A few inventors of free-energy devices, which were integral to the use of the replicators were killed in what appeared to be suspicious accidents. This was the first time an interaction of what we understand now to be visitors from the future occurred. They retrieved the data on the devices and were instrumental in the formation of a secure high-tech enclave. They explained that interference was necessary to the future of the civilization. A few renegades went back and tried to repeat this in your time. This was nearly successful in your century, but some of the dispossessed bankers and commodity controllers also had access to time technology before we could prevent their use of it. We called it "The Time War". Those who knew what to look for, the presence of the travelers were obvious. Actually, they stuck out like a sore thumb. We call them "DT's", displaced temporals. Both sides didn't understand Wheeler's Many-Worlds Hypothesis, which incidentally is no longer a hypothesis in our time. Basically they only succeeded in destabilizing the local continuum, and created a self-fulfilling prophecy which became part of our history. As an ancient philosopher once said, "Stupid is as stupid does".

Then after the control was finally taken away from the power brokers who controlled commodities and their production and distribution, the second crisis prior to the formation of our civilization occurred. What happened? Well, the playing field was leveled. There were no rich, no poor. Everyone had access to whatever material possessions they wanted. Some went crazy and accumulated unbelievable amounts of junk. Some filled warehouses with gold, diamonds, platinum and whatever they thought was valuable without realizing that the economy was in the process of collapsing. The only commodity that couldn't

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be replicated were those that humans themselves generated. Insight, creativity and imagination suddenly had become more valuable than gold. Thoughts were a new commodity which could never be replicated, and they had value. The meek had inherited the earth. The dispossessed, who once controlled commodities and production, had no creativity and not much intelligence to speak of. They had enough foresight to see this coming, which is why they fought as hard as they did. They became the new janitors and drudge workers, cleaning toilets and mopping floors until the robots came into use 10 years later. They're really pissed now, and probably will remain so forever.

Then the next crisis came about. With the sudden explosion of wealth and the accompanied frenzy subsiding, boredom set in. The societal equivalent of writer's block was epidemic. Some canceled their regeneration service and committed suicide faced with a lifetime of languor. They became bored to death. Then time technology popped into existence, and became the savior of the civilization. Exploration became an option.

The population has gone down from 2 billion to about 500 million on the planet. People have left for the times and the places that they felt comfortable, using a technique of an artificial scalar electromagnetic wormhole to access other points of spacetime. It doesn't take that much energy, considering that you're ramping up the amplitude of a gravity field to 10 to the 42nd power over what the electromagnetic matrix contains. In your time you could use the energy in a VCR battery to generate what we call a "bridge", actually an Einstein-Rosen bridge in spacetime. We have found that a bridge was created in 1942 and extends through our time. One of the first attempts used this, and we lost technicians to your century. Evidently they showed no malice over their predicament, and lived their lives to the fullest. One was captured by the military of that century, and they milked his brain for all the knowledge that they could, for all the good that it did. Their mental maturity was not up to implementing much of the information, and it merely resulted in an ego trip on the part of the power elite. Your time is more dangerous to travel in than any other which we have experienced. I believe the term used was "barbarians with electric toothbrushes", or something to that extent. Travelers must be cautious, but in your time it pays to be both cautious and paranoid. It requires a change in the mindset which is disturbing to say the least. I have been to your time, and I can understand why so much was left unaccomplished, time and energy wasted to the protection of the emotional and physical self from hostile natives.

We have defined a new criteria for civilization. That defines a civilization as a society which has evolved beyond the need for physical and emotional violence. A society which does not wage war with themselves or others. We have a civilization, one of a scant few on this troubled little world. You would be amazed how many there are, intelligent but barbaric. The legend of Atlantis barely scratches the surface.

Ours is the best of all possible worlds. We know this from the temporal reconnaissance which has been conducted. All the knowledge from lost civilizations past and future reside at this nexus of spacetime, and we are its guardians. From travelers who have returned from the future, we have found that it is a great possibility that this civilization will last for thousands of years. It is impossible to say for sure, since a traveler must take into account the Wheeler angle in his trajectory, and that trajectory changes every 10 to the -33rd of a second. So the future that you go to now is not the same as the one that you visited yesterday, altered by the quantum change at the departure point. Similarly, travelers to your time never return to the same universe that they departed from. It's always different. Perhaps that is why this time isn't deserted. There were too many who didn't want to give up a good thing, so they restricted their travels to the future, even though there is a richness of knowledge in the past. The risk

was too great for them.

We have also traveled to other worlds, and other galaxies. There's so much to see, so much to learn. The universe is our backyard. Perhaps that's why so many of the travelers have yet to return. They're still out there, exploring. We have also become the repository of the knowledge of the known universe. For those pre-civilized societies which experience a hiccup of bookburning, we save that knowledge until they are ready to use it once again, to aid in their maturity and to prevent a cycle of construction/destruction that occurs on so many worlds and in so many times. It was unfortunate that your time had stumbled upon this technology, for it threatened to unravel the delicate weave of causality. We prevented any travel to our time whenever we could, understanding that only with an intimate knowledge of temporal dynamics could time travel be safe and allowable. Time travel is the ultimate fire and in the hands of a child it could literally destroy a universe, or at least the thread of causality within that universe.

Where have I visited? I probably couldn't remember them all. The times on Earth were 3.5 billion years ago, 25,000 B.C, 9564 B.C., 1150 A.D., 1850 A.D., 1900 A.D., 1942 A.D., 1993 A.D., 2008 A.D., 2491 A.D., 8850 A.D., 250,624 A.D., and about 1 billion A.D. Of course there were other worlds, other times. You might say that we walk in eternity. Well, we do! By the way, our travels have somewhat modified our cosmology. That remains for another article to explain this. I'll just say it isn't as simple as your "scientists" with their political ambitions would like to think that it is. But despite its complexity there is a certain beauty which cannot be denied, an elegance which is difficult to express in words. The mathematical forms do come close. So if you encounter someone who seemingly popped out of nowhere with a confused look on his or her face, and they ask you for a calendar, cut them some slack. They're probably one of the good guys.

Where do I go next? An infinite number of worlds in eternity!

Forward, ever forward!

"Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider."
--Francis Bacon, Of Studies

"We live in deeds, not years; in thoughts, not breaths; in feelings, not in figures on a dial. We should count time in heart-throbs. He most lives Who thinks most--feels the noblest--acts the best."
--Philip James Bailey, Festus, v.

A Glitch In the Void or A Flash in the Span

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Have you ever wondered what the results might look like if you took several of the premises that P.A.M. Dirac and several other physicists advocated and “ran them through” a spreadsheet? Admittedly, businesses use spreadsheets for economic forecasts on a routine basis and it is so commonplace now that most think nothing of it. Powerful resources such as these are usually neglected when theoreticians or cosmologists try to prove a particular paradigm. Some usually opt for a graphics package to visually interpret the data, and this tool is important to see where the trend lies. But sometimes when this is used to predict (or visualize) rather narrow trends, it tends to miss the forest from the trees. In this case the ability to internally conceive of where the numbers lead toward is the only way to achieve an end result. Therefore I acknowledge the limitations that graphics packages have, and the importance of imagination.

This is basically where I was coming from when I started doing some of the spreadsheet analysis of the data which follows this article. I have broken it into two sheets titled “Past” and “Future”. Two formula sheets also follow these. This work was done in Microsoft Excel V.4.0., and I would like to state my appreciation for the people who wrote the code for making it as easy as it is to use.

The Past:

Looking into the past one sees a few interesting anomalies. One anomaly that becomes readily apparent is that as the universe compresses down, time slows down. This seems logical, for as the density increases the gravitational field increases, albeit at a differing rate. A good example of this would be compressing a sphere the density of earth down to half its radius. What would happen? Well, the compression would involve compacting the planet down to 1/8 its volume, and a corresponding increase in a factor of 4 of the surface gravitational field. This is due to the measuring device being 1/2 the distance from the center of mass, and the inverse square law (which the gravitational force is subject to) therefore dictating the increase. So obviously, the volumetric decrease does not keep pace with the gravitational increase.

As the universe crunches down, the ambient gravitational field goes up. As the ambient gravitational field goes up, time slows down and space dilates. So, the more you try to decrease the size of the universe, the bigger it gets. The farther into the past you go, the more time you have since the flow of time is a function of the ambient gravitational field. As you see, it results in a rather large number.

Two other effects are also apparent. Since $B = \frac{1}{r^2} A$, the magnetic field intensity is dropping off. The

other effect is based on the ratio between the gravitational and the electric field. That ratio is 10^{38} power. It would appear to me that this ratio is actually a time derivative. If this is indeed the case, then what follows may be $E = G \cdot \Delta$. Δ would be therefore 10^{38} Hz. Assuming G to be constant, varying the Δ would change the ratio between the electric and gravitational fields, and therefore change the unitary charges on the primary particles. In the model, as the universe goes back, the ratio between the gravitational and electric fields drop down until at some point they become one. At this point, matter resembles some strange neutrino flux, compared to what we are accustomed to. This may be how our universe appeared to the last one that was around.

But, you say, the universe started in an incredibly hot fireball, it couldn't have been like that! How do you define heat? Molecular motion? There weren't any molecules, let alone anything to call primary particles. How hot is the neutrino flux in the universe today? Well, how about electromagnetically? That's a function of $E \times B$. Both E and B were 10^{-38} of what they are now. So the universe was cooling off as fast as it heated up. Incredibly high pressures? What's the pressure of the neutrino flux in the universe today? Pressure is a function of electrostatic and electromagnetic repulsion. Both were nil.

I usually try to avoid becoming metaphysical, but the old Hermetic axiom of "the future is the past" seems to apply here. What we see today (as the neutrino flux) are the seeds of the next universe. In time, the particles of mass which make up our universe will become unstable just as the super-massive particles which are unstable now probably existed in the last universe as their primary matter. The circle closes.

Another item which would be affected would be the half-lives of isotopes. The half-lives would increase as time wound back. The implication for this would be that when the solar system formed, the half-life of Uranium would have been 8 billion years. If this is true, it would make the solar system 6.25 billion years old, instead of 4.5 billion. Has anybody checked the Sun lately?

The other items require a thought experiment. Let's say you went to sleep, and the passage of time in the universe sped up by a factor of 2. How would you know when you awakened the next day? Well, the clock on the table next to the bed would have been affected, so that would not tell you anything. In fact, the only immediate effect that you would notice would be if you dropped something. Gravitational potential energy wouldn't have changed. $F=MA$ wouldn't have changed. Well, not really. Remember, your units of measurement have been chopped in two. Your watch is ticking twice as fast. Whatever dropped to the floor the previous day is now taking twice as long. So therefore you assume that the gravitational field has been reduced to half its value. And as a result of this erroneous assumption, you now assume that the mass of the planet is somehow only half as much as the day before. Is this true? No! But it illustrates how important the time derivative is on our frame of reference. And since $F=MA$ is apparently changed as well, the assumption is that local masses have decreased. Is that correct? The actual answer is no, in an objective reference. But in a relativistic reference, the answer would be yes. It all depends on what your perspective is, on where the focus is located. Time becomes critical in the interpretation of forces and their origination. It also changes some of our basic assumptions of the properties of matter itself.

What did the previous universe look like? Probably much like the one in which we are occupying now. Since the Electrostatic Scalar Potential (ESP) would have been much higher than now, all the superheavy particles which now disappear in fractions of a second would have been stable then. In fact, these particles are the dregs of the last universe, just as the particles barely in the realm of observability in

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ours is the vanguard of the next. In any universe, the inhabitants see the “changing of the guard” in process. There is no mystique in any of this. This is a phenomenon which can be substantiated with observation as well as insight, and it is subject to measurement with physical instrumentation as with any physical process.

There is the erroneous assumption that if the process is governed by a relativistic paradigm, it is therefore unobservable and unmeasurable from an objective point of view. That is wrong. Physical instrumentation can substantiate the process, as proven by the effects of the N-Machine by Bruce DePalma. One of the experiments in this case is when an LED was attached to the disk. Another was in a fixed reference frame. The two LED's proved that the effect was due to relativistic phenomena. It seems ridiculously simple, but the two LED's were essentially instruments which responded to the input of forces from the environment. And these instruments substantiated the phenomena. So much for unobservable relativistic events.

Due to the existence of the fourth law of logic as revealed by Tom Bearden, these events are therefore observable and measurable by physical instrumentation by delineation of their boundaries. This is where intuition and common sense becomes the most valuable commodity in the universe. It is a complex logic that points the way toward which experimentation must proceed. This is indeed the most valuable commodity of our species, without which our endeavors would produce negligible results.

There are critical junctures in which the universes can be divided. These points are those where the primary state of the matter of the previous universe becomes unstable, and that the next emerges from the virtual plenum. As indicated from the tables in the end of this paper, there is a point in which in the future history of the universe which we are familiar with, our seemingly invariable state of matter will become as ephemeral as a mist in the dawn. And at that dawn, the next universe will claim its own. This is as it has been through the infinite passage of time. To look down an endless corridor of previous existence containing an infinite variety, is a humbling experience. To view the same stretching into an indefinite future, cannot prevent realization of the same. There is a certain comfort in the infinite, a closure, a completing of the circle. This is what is lacking in the “Big Bang” theory of the universe. Simplistic interpretations tend to yield to realizations of the true nature of phenomena, however large their magnitude, however seemingly incomprehensible their limits.

What other effects are there? I suspect that due to the nature of some of the formulas for strong and weak nuclear force, these would be affected as well. As the virtual particle flux density changes, so do these apparently invariable forces change. What significance is this? One implication is, as I have noted earlier, that the half-lives of elements would then be variable. These half-lives would increase with an increase in the nuclear force. What one would call the early evolution of our universe is literally loaded with heavy isotopes which could not possibly exist now. This young universe would have significantly different properties of matter as contrasted to ours. If the increase of the nuclear is linear relative to the increase in gravitational force, stellar masses would have been much smaller. In fact, if you looked in our own stellar backyard, Jupiter may have been much hotter than it is today. This anomalous heat production would have been above and beyond what could be accounted for in gravitational contraction. Depending upon its time of initial accretion, it may have even conceivably been an M-type dwarf, with enough fusion going on in its core to warm the surrounding moons to a temperature above liquid water. The resemblance of this early universe to the para-universe in Isaac Asimov's “The Gods Themselves” is quite surprising. I must credit the author of this work for the visualization

of this concept. Since time flow is relative, the farther we go into the past the slower time seems to move. One of the reasons for this is that spacetime curvature becomes increasingly acute locally. As can be seen on line 1 of the spreadsheet, the “Absolute time” in 1993 years results in an extremely large number, even though in relative time it still amounts to 20 billion years.

With a high nuclear force predominating and a low proton decay level, nuclear fusion provided most of the energy generated in the early universe. However, that is not the only important difference between the present cosmos and the past version. Since the nuclear force is higher and electrostatic repulsion is lower, in the recent cosmic past interpenetration of masses could take place. Matter was not quite as hard as it is now. If it were possible to measure it with instrumentation consisting of present-day matter, it would have a somewhat “spongy” quality, even for the hardest substances. In the extreme past, when the particles were first emerging from the virtual plenum, nuclear forces were so high for these entities that they immediately clumped together in a spontaneous fusion reaction. In fact, proton-proton reactions were so vigorous that very heavy isotopes would have been created without any intra-nuclear neutrons at all. This would also be the stage in the evolution of the universe when a true “proton” star (as opposed to a neutron star) could have existed. I also suspect that if any quasars are discovered at a distance approximately 20 billion light-years out, there may be a very anomalous amount of heavy isotopes which seem to have strange properties. At that same distance, there may be “proton stars” popping off. A few of these may even have the appearance of a new type of quasar. Thus, the natural history of the universe instead of being a somewhat boring seething hot plasma, was instead a place much like our own present day cosmos, but with different and interesting physical properties.

The Future

First, don't let line 1 scare you. This doesn't mean that there's only two and a half billion years 'till doomsday. Once again, those are relative years, relative to the passage of time in 1993. One of the differences between this spreadsheet and the other one is that vast gulf of time in which there is no mass in the universe. What exists is an empty void in which our universe exists as a hyperonic flux interacting with the virtual plenum. What this means, is that in relative time mass only exists in the universe for 1×10^{12} years out of 1×10^{33} . This fraction, 1×10^{-21} , is what I term the “Glitch in the Void”. What we experience as the evolution of matter in all of its infinite variety only exists as a brief transient in the history of the cosmos. According to these models the normal state of the cosmos is a void without any matter in it at all.

Another significant point is that at some point in the past, proton decay outstripped nuclear fusion as the major energy producer in stellar furnaces. At this point, proton decay should be producing most of the energy in the Sun and large stars. In the past, small bodies such as Jupiter had a large energy output due to a high nuclear force and gravitational field in their cores. Now, these bodies are in a low point in a saddle-shaped curve where fusion is dying off, but proton decay is not high enough to supply a large amount of energy necessary for stellar energy production. In the near future, these bodies will begin radiating rather large amounts of heat, with a concomitant increase in core heat in earth-mass bodies. I suspect that there should be a solar neutrino discrepancy at this point, where proton decay begins to supply the necessary energy.

In column “E”, we see that not only is mass disappearing at an impressive rate, but the proton decay makes hydrogen as “hot” as most radionuclides of today. I seriously doubt that life can adapt to this kind of instability without a major evolutionary revision. In this case, Jupiter-masses are as hot as G-

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type stars now. Earth-mass bodies not only have molten cores, but molten surfaces as well. Every element in the periodic table has a degree of instability, some being “hotter” than others. This cosmic dry-rot is so pervasive that stars of 25 solar masses shine with the intensity of supernovae without an ensuing explosion. The nuclear force being attenuated to such a degree, an explosion of a stellar mass this size is simply impossible. Less than a trillionth of the mass of today exists at that time. The “dry-rot” has reduced most galaxies to brilliant wisps. Despite the lack of mass, if we could look at a night sky (standing on an asteroid since all the planets have melted down) one would marvel at the apparent brilliance. This brilliance is the swan song of the last of the matter in the cosmos, for in a few short billions of years to come even the high energy photons will fall apart and disappear into the virtual plenum. Then darkness will reign over the void for the eons to come until the energy density of the vacuum drops down far enough for the virtual particles residing there to put on the cloak of reality. And thus the next universe will be born, ad infinitum.

The Environmental Impact of Free Energy

Now we come to a really interesting issue sure to get me in trouble with all the proponents of free energy, or at least hung in effigy. I understand that I am on somewhat shaky ground here, but the theoretical aspects of this are far too critical to be ignored.

OK, so when these particles first emerge from the virtual plenum they possess a phenomenal amount of nuclear force. And some free energy devices tap into what is termed a “virtual river”, which is really the point of origination of these particles. Evidently there are a few (let us say) unusual properties of some of these free energy devices which are ignored by either the mainstream scientific community or (even worse) by their inventors. These effects involve low-temperature transmutation of elements, as one example. This is a signature of a manipulation of the nuclear force on a direct basis. After the reaction is completed, where does this go? It would not disappear back into the vacuum, since that would require an input of energy to do so. The only other place for this to go is “out” from the reaction site, into the room, and into the environment. Granted, this would to offset the drop already going on in the cosmos, and in the long-term would be entropy-reversing. I have yet to see an experiment where a sample of nuclear material, a heavy isotope for example, is placed near a cold-fusion reaction vessel or a cold-plasma reactor. In theory there should be a shift in the decay rate, but I have yet to see someone do this.

There have been other, more bizarre experiments however. One involves a dialogue between Albert Einstein and Wilhelm Reich. This exchange was documented in a book titled “Atomic Suicide” by Jerome Eden. Reich placed samples of radium inside of his orgone accumulator and noted the difference in the decay rate. He also noted the anomalous generation of heat apparently originating in the space above the accumulator. Einstein called this discovery “A bomb in physics”. I wonder why. According to Tom Bearden, in scalar electromagnetics it is possible to vary (or oscillate) the nuclear potential using sum-zero electromagnetic and phase-conjugate waves. I must reiterate that at this juncture it would be most critical to determine if tapping this “virtual river” results in releasing an effect which could have short-term deleterious effects. Why short-term? According to Mr. Bearden, there is the possibility of what is termed “EGP”, or electrogravitic pulse. Electrogravitic pulse will tend to do some nasty things, such as abrupt local space-time curvature. This would tend to detonate fissionable material. Theoretically, an abrupt and severe positive-negative oscillation in the nuclear potential would have two effects: 1) On the positive side of the wave, it would result in a sudden drop in the decay rate of radionuclides along with possible thermonuclear ignition of some fuels. 2) On the

negative side of the wave, it would result in the detonation of fissiles and electromagnetic effects which seemingly would originate from within the conductors of some equipment. Thus a positive-negative oscillation of large amplitude spreading through the planet and the rest of the solar system would tend to first detonate the core of the sun and then cause the heavy isotopes within our planet's crust and mantle to undergo spontaneous fission, taking out both bodies and whatever is in-between at the same time. This sounds like the Biblical end of the world in fire.

What would be the worldwide (and galaxy-wide) effects of massive amounts of free energy extracted? It would seem that nuclear fission and free energy is mutually exclusive. You either use one or the other, but not both, if you know what's good for you. Large amounts of free energy extracted would have the side-effect of rendering fissiles stable. Critical masses would go up. This would tend to dud nuclear weapons, making the present nuclear stockpile obsolete. Fission reactors would experience an unexplained cooling in their cores as the material goes stable. The planet itself would experience a cooling in its interior due to the stabilizing effect on the isotopes. There would be a slight increase in the gravitational force on the surface of the planet, as well as a change in the properties of some materials, most notably some metals. The Rockwell rating of hardened steels would drop unexpectedly. Due to a slight drop of the unitary charge of the primary particles, it would take more electrons flowing to get the same current. This would be a good time for the civilization to convert over to fiber optics. What about the Sun? I suspect that a constant extraction would really have a minimal effect on the Sun, due to the distance and relatively small amounts used. It would tend to cause a heating effect in the Stellar core, but it needs to be determined if the artificial increase in the nuclear force would more than offset the natural decrease occurring in the universe. If it does, we are in danger of getting fried. If not, it would tend to have a stabilizing effect.

Islands in the Void

What about the far future? One possibility would be to use the undesirable side effects of the power generation system to ignite the cores of gas giants that have insufficient mass to initiate a nuclear burn. This would amount to putting a match to Jupiter. Farther in the future, it would be possible to produce a "time dam" or "force dam" to locally stabilize inhabited sections of the universe against the entropy effects. This would effectively create "Islands in the Void", if the future inhabitants haven't discovered another method to contend with the situation. Obviously, evolution may adapt to these rather severe conditions, given the amount of time involved.

Conclusion

A new Cosmology is evident. A somewhat bizarre Cosmology with a universe that undergoes constant evolution, indeed where the only constant is change. Understanding this evolutionary process may result in a new philosophy of nature, a "Natural History of the Cosmos".

Another factor is also evident. The environmental impact of what is called "free energy" is a phenomenon which cannot be ignored. I will not go into the political implications at this time, but the dudding of an entire nuclear arsenal and power generation industry can't be ignored, either. However, the promise is just as great as the threat. Once safeguards have been established, a source of limitless energy will be available.

Postscript - 1997

Since the original release of this article, I felt that several issues needed to be clarified which is related to the cosmology as well as the environmental impact. I considered writing an original article as an addendum, and also simply re-editing what was already written. But I see no flaws in the original concept, and if another paper was written separate to this one then it would become an additional complication to locate both. This way both will “hang together.”

When the article was first written, it was not clear as far as the true magnitude of what the implications of nuclear fission would be. There are several theoretical effects which one could watch for. The decrease in the amplitude of the strong and weak nuclear forces locally would cause the manifestation of specific phenomena such as:

1) Anomalous Embrittlement

This embrittlement would go beyond what is predicted with normal neutron irradiation. It would not appear as ionizing radiation damage. What is happening on the particle level is that as the strong and weak nuclear is depleted, the unitary charge on the particles increases. An aggregate internal repulsion which is cumulative overcomes the cohesive forces holding matter together. A kind of nuclear dry-rot sets in and things begin to break down. Concrete crumbles unexpectedly as the forces holding it together diminish. Insulation on wiring breaks down which is resistant to PAH radionuclide products. Dielectrics will be affected the most. Plastics will craze and a white powder will be seen on the edges. Antioxidant coatings will have no effect. Of course metals will be affected as well. But the embrittlement will be beyond predicted norms.

2) Wiring Failures

As the unitary charge on the electrons will have been amplified, large currents will tend to blow apart the conductors internally. The Ampere-Coulomb forces will also be amplified. This is kind of a “double whammy” since not only is the metal of the conductor going brittle, but the extra load from the internal repulsion of the current makes a failure more probable.

3) Anomalous Power Losses

Since the electrons have a higher charge at the plant than they do farther down the line, the losses will be blamed on either substandard materials or coulomb emissions. Neither will be the true cause. Transmission line efficiency data should be compared between coal -fired and nuclear fission plants for any discrepancy.

4) Personnel Health Problems

Inorganic matter will not be the only thing affected. In personnel with no appreciable radiation dosage, mysterious illnesses will develop. I suspect that this has been covered up by the industry since they could not be explained easily. Some of the things to look for are hair, nail, and bone embrittlement. Look for an increased incidence of fractures in accident reports. Collagen will tend to become more energetic, so the effects with this could get unpredictable. In some individuals, dating by collagen cross-linking would reveal anomalous results depending upon their exposure. What would appear to be

free-radical damage will be due to the increase on the unitary charge of the electron. No radionuclide need be present. In fact, if the individual stays away long enough this pseudo radiation exposure will be seen to disappear. Also, due to the amplified charge of the electron, some electrochemical reactions will be accelerated. Most notable will be those relating to neurotransmitter action. This one in particular may not be all bad, since it would tend to increase the level of alertness. On the other hand, that increased level of alertness over an extended time may tend to the overall stress of the system.

These effects are the most pertinent that I can think of at the moment, but that doesn't mean that they are the only ones which are possible. I implore all those who are interested in the investigation of this concept to expand this sphere of knowledge, as I feel it is of the utmost importance. If nuclear fission truly depletes the local weak and strong nuclear field to the magnitude that it appears to, then an immediate investigation is in order.

Cosmology - The Glitch and The Duration of The Span

Some preliminary calculations tend to indicate that the fraction that stable matter exists in the Universe is less than 10^{-33} . If one were observing the Universe as a whole, they would notice that it's below the limit of observability, and therefore a virtual event. That's the glitch, or the flash. The span would be the point between where the half-life of the proton dips below 10^{-33} , and where the virtual photon flux (which already has a half-life at 10^{-33}) becomes real photons and the pair-production products of those photons manifest as observable particles. That's the point where you could say that a new Universe is born. Looking at the "Future" spreadsheet, cell P4, the half-life of the proton is approaching this point but is not quite there yet. In cell P2 is seen that in relative time this is $4.80 \text{ E}+33$ years. To clarify, as the Universe expands it becomes topologically "flatter" as the gravitational field attenuates. The space time in the Universe becomes less curved, and as a result time dilation attenuates as well. In cell O1 is seen the time in absolute years to the next "event". This is counting from the present day. This would be what an outside observer would see from a topologically "fixed" perspective where there is no attenuation of the universal ambient gravitational field. In this case, the time between "now" and the next Universe is approximately 2,467,899,207 years. But to an observer inside the Universe, it is still $4.80 \text{ E}+33$ years.

As I had noted earlier in the previous paragraph, the fraction in which stable matter exists in the Universe is 10^{-33} . The duration of the present Universe is $4.80 \text{ E}+33$ years. This means that the "span" between transients of stable matter is slightly greater than $4.80 \text{ E}+66$ years. This has some very serious consequences, one of which is that since the Universe as a whole has the phenomena of mass/energy as a virtual event, the actual observable mass/energy of the Universe is also zero. This makes free energy allowable, since the phenomena becomes a nested virtual event. That is, events nested within each other which have no real outward manifestation.

Warning- Prepare For Metaphysical Digression

This tends to correlate to some Eastern philosophies which describe the Universe as something which is illusory, that has no real concrete basis in physical reality. This also means that what is termed "Fortean phenomena" is nothing more than one parallel virtual Universe interacting with another with the same material structure. That must be distinguished from an interaction with a future or past Universe. Is that possible? No, it is not- and here's why. If one were to travel to a future Universe, taking care to carry with them their own gravity well to hold the matter in their bodies stable, what they would

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see (or not see) are virtual particles interacting with virtual photons. It would be dark, since that Universe is using photons with a minuscule energy level which would not interact with your retina. The matter of the other Universe would pass right through you without any kind of interaction. You could be sitting in the core of a planet of the other Universe without knowing it. The same goes for traveling in the other direction. The previous Universe would see YOU as virtual matter. And then there's the time flow problem. Time in the next Universe would flow 10^{33} times faster. And it would be just as slow in the other direction. So interaction with either Universe is effectively barred. However, each Universe exists in the same space separated in time. It reminds me of the concept of "planes of existence." The ancient mystics claimed that they were separated by different levels of vibration. This may correspond to differing rates of flow of time. One analogy which comes to mind is the concept of a day and night of Brahma, which is supposed to be equivalent to 4 1/2 billion years. The scope is a bit off but the idea is the same.

The only way to interact with the next Universe would be to use the virtual matter which already exists contemporaneous with our own. Perhaps the technology may exist at some point to produce a "virtual translator" to go from one Universe to another, and translate the matter from one Universe to a form which could be stable in another.

Have we already been visited? Possibly, but what it really involves is time travel on a massive scale, with the ability to change the structure of the matter in the ship to one which is stable here. If there was a failure in the translator system, the component particles of the ship and crew would go into spontaneous decay if they came from a previous Universe with a resultant nuclear blast. If they came from a future Universe, a translator failure would have less dire consequences. They would remain virtual matter and therefore would not interact with our form. Perhaps at some point the technology will be developed to cross the great gulf, however at this time all one can do is speculate.

Worlds Without End

How many Universes are there? Probably an infinite number separated in time. It may be possible to calculate where they are with transfinite math, since it would be a very large number.

Conclusion- Again

As when this paper was originally written, the promise of free energy shows great hope just as the danger associated with nuclear fission seems to be even more serious than previously thought. The finding that the Universe that we exist in is actually part of a larger one in which we are a virtual event is even more enlightening. Where this work will progress I do not know. What I do know is that whatever is uncovered, the Universe will never look the same.

"But it does move."

--Attr. to Galileo after his recantation in 1632.

Past Projection Spreadsheet

	A	B	C	D	E	F
1						
2	Time Unit	Years	Years	Years	Years	Years
3	Time from "The Event"	2E+10	1.5E+10	1.00E+10	1.00E+09	1.00E+08
4	Gravitational Force	1	1.77777778	4	4.00E+02	4.00E+04
5	Half Life of Proton	6E+10	1.0667E+11	2.4E+11	2.4E+13	2.4E+15
6	Half Life of U235	4.50E+09	8.00E+09	1.80E+10	1.8E+12	1.8E+14
7	Electron Charge	1	0.5625	0.25	0.0025	0.000025
8	Gravity/electron charge ratio	1E+40	5.625E+39	2.5E+39	2.5E+37	2.5E+35
9	Mass Density @ 10(80) e masses	2.61658E-33	6.2023E-33	2.0932E-32	2.0932E-29	2.093E-26
10	Apparent Mass Density	2.616E-33	1.102E-32	8.373E-32	8.373E-27	8.373E-22
11	e Density/Mass Density	7.601E+56	3.206E+55	9.501E+55	9.501E+52	9.501E+49
12	e Density/Mass Density (Apparent)	7.601E+56	1.803E+56	2.375E+55	2.375E+50	2.375E+45
13	Proton Mass/Energy Conversion:					
14	Earth Mass (Tons/sec.)	1580.95	889.29	395.24	3.95	0.04
15	Sun Mass (Tons/sec.)	5.25E+08	2.95E+08	1.31E+08	1.31E+06	1.31E+04
16	Nuclear Fusion Energy Conversion: Minimum mass for G-Type Star:					
17	Solar Masses	1	0.5625	0.25	0.0025	0.000025
18	Earth Masses	333,000	187312.5	83250	832.5	8.325
19	Metric Tons	1.99E+33	1.119E+33	4.975E+32	4.975E+30	4.975E+28
20	Grams	1.99E+39	1.119E+39	4.975E+38	4.975E+36	4.975E+34
21	Neutrino Horizon For Supernova Event (Degrees Kelvin)	6.00E+09	1.07E+10	4.27E+10	1.71E+13	6.83E+17

Notes:

On the original spreadsheet, I have a line which read "Absolute time in years since "The Event"". As we go back in time, space-time curvature becomes more acute, and time slows down. If we calculate how much time elapsed between what I term "The Event", which is the emergence of matter from the vacuum, that number becomes very large indeed. That number is 7.21×10^{50} years as measured in the present flow rate of time.

On the "Future Projection Spreadsheet", the discrepancy runs the other way, since time accelerates. Therefore, even though the spreadsheet runs to a point 1.95×10^{33} years into the future, the elapsed time

Past Projection Spreadsheet Cont.

	A	G	H	I	J	K
1						
2	Time Unit	Years	Years	Years	(1 Day)	(1 Sec.)
3	Time from "The Event"	1.00E+07	1	.1	0.0027	3.176E-08
4	Gravitational Force	4.00E+06	4E+20	4.00E+22	5.48E+25	3.96E+35
5	Half Life of Proton	2.4E+17	2.4E+31	2.4E+33	3.29E+36	2.37E+46
6	Half Life of U235	1.8E+16	1.8E+30	1.80E+32	2.46E+35	1.78E+45
7	Electron Charge	0.00000025	2.5E-21	2.5E-23	1.82E-26	2.52E-36
8	Gravity/electron charge ratio	2.5E+33	2.5E+19	2.5E+17	1.82E+14	25217.44
9	Mass Density @ 10(80) e masses	2.09E-23	0.02093264	20.932639	1063488.26	6.53E+20
10	Apparent Mass Density	8.373E-17	8.373E+18	8.373E+23	5.83E+31	2.59E+56
11	e Density/Mass Density	9.501E+46	9.501E+25	9.501E+22	1.87E+18	3044.053
12	e Density/Mass Density (Apparent)	2.375E+40	237547.681	2.375476	3.408E-08	7.676E-33
13	Proton Mass/Energy Conversion:					
14	Earth Mass (Tons/sec.)	3.95E-04	3.95E-18	3.95E-20	2.88E-23	3.98E-33
15	Sun Mass (Tons/sec.)	1.31E+02	1.312E-12	1.312E-14	9.56E-18	1.323E-27
16	Nuclear Fusion Energy Conversion: Minimum mass for G-Type Star:					
17	Solar Masses	0.00000025	2.5E-21	2.5E-23	1.822E-26	2.52E-36
18	Earth Masses	.08325	8.325E-16	8.325E-18	6.06E-21	8.39E-31
19	Metric Tons	4.975E+26	4.975E+12	4.975E+10	36267895.8	0.005018
20	Grams	4.975E+32	4.975E+18	4.975E+16	3.62E+13	5018.29
21	Neutrino Horizon For Supernova Event (Degrees Kelvin)	2.73E+24	1.09E+45	4.37E+67	2.40E+93	

as measured by the present flow rate of time amounts to 2,467,899,207 years. This is not to imply that doomsday occurs at that date, but merely to give an example of the extreme differentials of the flow rates in both directions, and to show that not only is the universe much larger than previously envisioned, but much older and long-lived as well.

Past Projection Spreadsheet Cont.

	A	L	M	N	O	P
1						
2	Time Unit	Seconds				
3	Time from "The Event"	3.17E-11				
4	Gravitational Force	3.96E+41				
5	Half Life of Proton	2.37E+52				
6	Half Life of U235	1.78E+51				
7	Electron Charge	2.52E-42				
8	Gravity/electron charge ratio	.02521744				
9	Mass Density @ 10(80) e masses	6.53E+29				
10	Apparent Mass Density	2.59E+71				
11	e Density/Mass Density	3.044E-06				
12	e Density/Mass Density (Apparent)	7.67E-48				
13	Proton Mass/Energy Conversion:					
14	Earth Mass (Tons/sec.)	3.98E-39				
15	Sun Mass (Tons/sec.)	1.32E-33				
16	Nuclear Fusion Energy Conversion: Minimum mass for G-Type Star:					
17	Solar Masses	2.52E-42				
18	Earth Masses	8.39E-37				
19	Metric Tons	5.018E-09				
20	Grams	.005018291				
21	Neutrino Horizon For Supernova Event (Degrees Kelvin)	3.77E+170				

Notes:

On the original spreadsheet, I have a line which read "Absolute time in years since 'The Event'". As we go back in time, spacetime curvature becomes more acute, and time slows down. If we calculate how much time elapsed between what I term "The Event", which is the emergence of matter from the vacuum, that number becomes very large indeed. That number is 7.21×10^{50} years.

On the "Future Projection Spreadsheet", the discrepancy runs the other way, since time accelerates. Therefore, even though the spreadsheet runs to a point 1.95×10^{33} years into the future, the elapsed time as measured by the present flow rate of time amounts to 2,467, 899,207 years.

Future Projection Spreadsheet

	A	B	C	D	E	F
1	Time Unit	Years	Years	Years	Years	Years
2	Time from "The Event"	2E+10	2.50E+10	5E+10	1E+11	1.95E+11
3	Gravitational Force	1	0.64	0.16	0.04	0.0105
4	Half Life of Proton	6.00E+10	3.84E+10	9.60E+09	2.40E+09	6.31E+08
5	Half Life of U235	4.50E+09	2.88E+09	7.20E+08	1.80E+08	4.73E+07
6	Electron Charge	1	1.5625	6.25	25	95.0625
7	Gravity/electron charge ratio	1E+40	1.5625E+40	6.25E+40	2.5E+41	9.50E+41
8	Mass Density @ 10(80) e masses	2.616E-33	1.339E-33	1.674E-34	2.093E-35	2.823E-36
9	Apparent Mass Density	2.616E-33	8.574E-34	2.679E-35	8.373E-37	2.969E-38
10	e Density/Mass Density	7.601E+56	1.484E+57	1.187E+58	9.501E+58	7.045E+59
11	e Density/Mass Density (Apparent)	7.601E+56	2.319E+57	7.423E+58	2.375E+60	6.697E+61
12	Proton Mass/Energy Conversion:					
13	Earth Mass (Tons/sec.)	1580.95	2470.24	9880.95	3.95E+04	1.5E+05
14	Sun Mass (Tons/sec.)	5.27E+08	8.24E+08	3.29E+09	1.32E+10	5.01E+10
15	Jupiter Mass (Tons.sec.)	5.03E+05	7.86E+05	3.14E+06	1.26E+07	4.78E+07
16	Amount of Mass Left In Universe:	0.793700526	0.636820345	0.02704801	2.864E-13	9.904E-94
17	Virtual Flux Density @					
18	10(94) gmcm cubed	1.00E+94	5.12E+93	6.4E+92	8E+91	1.078E+91
19	Density in gmcm cubed	1.11E+73	5.68E+72	7.111E+71	8.88E+70	1.198E+70
20	Nuclear Fusion Energy Conversion:					
21	Minimum mass for G-Type Star (S masses):	1	1.5625	6.25	25	95.0625
22	Mass/Energy conversion					
23	From Proton Decay for G-Type Star in Tons/Sec.	5.27E+08	1.286E+09	2.05E+09	3.29E+11	4.76E+12
21	Neutrino Horizon For Supernova Event (Degrees Kelvin)	6E+09	3.84E+09	6.14E+08	24,576,000	258.525

Future Projection Spreadsheet Cont.

	A	G	H	I	J	K
1	Time Unit	Years	Years	Years	Years	Years
2	Time from "The Event"	1E+12	1E+13	2E+13	2E+14	2E+15
3	Gravitational Force	0.0004	4.00E-06	1.00E-06	1.00E-08	1E-10
4	Half Life of Proton	2.40E+07	2.40E+05	60,000	600	6
5	Half Life of U235	1.80E+06	1.80E+04	4500	45	0.45
6	Electron Charge	2500	250,000	1,000,000	100,000,000	1E+10
7	Gravity/electron charge ratio	2.5E+43	2.5E+45	1E+46	1E+48	1E+50
8	Mass Density @ 10(80) e masses	2.0933E-38	2.09326E-41	2.61658E-42	2.61658E-45	2.616E-48
9	Apparent Mass Density	8.3731E-42	8.37306E-47	2.61658E-48	2.61658E-53	2.616E-58
10	e Density/Mass Density	9.501E+61	9.501E+64	7.601E+65	7.601E+68	7.601E+71
11	e Density/Mass Density (Apparent)	2.375E+65	2.375E+70	7.601E+71	7.601E+76	7.601E+81
12	Proton Mass/Energy Conversion:					
13	Earth Mass (Tons/sec.)	3.95E+06	3.95E+08	1.58E+09	1.58E+11	1.58E+13
14	Sun Mass (Tons/sec.)	1.32E+12	1.32E+14	5.27E+14	5.27E+16	5.27E+18
15	Jupiter Mass (Tons.sec.)	1.26E+09	1.26E+11	5.03E+11	5.027E+13	5.027E+15
16	Amount of Mass Left In Universe:	0	0	0	0	0
17	Virtual Flux Density @					
18	10(94) gmcm cubed	8E+88	8E+85	1E+85	1E+82	1E+79
19	Density in gmcm cubed	8.88E+67	8.88E+64	1.11E+64	1.11E+61	1.11E+58
20	Nuclear Fusion Energy Conversion:					
21	Minimum mass for G-Type Star (S masses):	2500	250,000	1,000,000	1E+08	1E+10
22	Mass/Energy conversion					
23	From Proton Decay for G-Type Star in Tons/Sec.	3.29E+15	3.29E+19	5.27E+20	5.27E+24	5.27E+28
21	Neutrino Horizon For Supernova Event (Degrees Kelvin)	103.409862	0.000413	4.13E-10	4.13E-18	4.13E-28

Future Projection Spreadsheet Cont.

	A	L	M	N	O	P
1	Time Unit	Years	Years	Years	Years	Years
2	Time from "The Event"	2E+16	2E+20	2E+24	2E+28	4.80E+33
3	Gravitational Force	1E-12	1E-20	1E-28	1E-36	1.73E-47
4	Half Life of Proton	0.06	6E-10	6E-18	6E-26	1.041E-36
5	Half Life of U235	0.0045	4.5E-11	4.5E-19	4.5E-27	7.812E-38
6	Electron Charge	1E+12	1E+20	1E+28	1E+36	5.76E+46
7	Gravity/electron charge ratio	1E+52	1E+60	1E+68	1E+76	5.76E+86
8	Mass Density @ 10(80) e masses	2.616E-51	2.616E-63	2.616E-75	2.616E-87	1.89E-103
9	Apparent Mass Density	2.616E-63	2.616E-83	2.616E-103	2.616E-123	2.61E-150
10	e Density/Mass Density	7.601E+74	7.601E+86	7.601E+98	7.601E+110	1.05E+127
11	e Density/Mass Density (Apparent)	7.601E+86	7.601E+106	7.601E+126	7.601E+146	6.05E+173
12	Proton Mass/Energy Conversion:					
13	Earth Mass (Tons/sec.)	1.58E+15	1.58E+23	1.58E+31	1.58E+39	9.10E+49
14	Sun Mass (Tons/sec.)	5.27E+20	5.27E+28	5.27E+36	5.27E+44	3.03E+55
15	Jupiter Mass (Tons.sec.)	5.027E+17	5.027E+25	5.027E+33	5.027E+41	2.89E+52
16	Amount of Mass Left In Universe:	0	0	0	0	0
17	Virtual Flux Density @					
18	10(94) gmcm cubed	1E+76	1E+64	1E+52	1E+40	7.23E+23
19	Density in gmcm cubed	1.11E+55	1.11E+43	1.11E+31	1.11E+19	803.755
20	Nuclear Fusion Energy Conversion:					
21	Minimum mass for G-Type Star (S masses):	1E+12	1E+20	1E+28	1E+36	5.76E+46
22	Mass/Energy conversion					
23	From Proton Decay for G-Type Star in Tons/Sec.	5.27E+32	5.27E+48	5.27E+64	5.27E+80	1.74E+102
21	Neutrino Horizon For Supernova Event (Degrees Kelvin)	4.13E-40	4.13E-60	4.13E-88	4.13E-124	4.13E-171

Practical Time Travel

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Time travel. H.G. Wells wrote about it in the last century. Is it indeed possible? There has been a considerable amount of hand-wringing over the concept in the physics community, with two camps divided over the concept. To them that is what it will remain: merely a concept, worthy of debate, but nothing else.

This article doesn't stop with a concept. First, let us make one assumption: that time travel is not only a practical possibility, but engineerable. Once we have done that, where do we go from there?

Let us start with what we know to be true:

- 1) Time travel is a subjective phenomenon. For the traveler, time appears to be moving faster, and changing direction outside the machine. Inside the machine, it remains the same.
- 2) Gravity distorts, or changes, the flow of time on a subjective level. Since all time travel is subjective, any field or force which lends itself to this end produces what appears to be time travel.

For this exercise, let us generate an artificial gravity field which produces time dilation effects. We can use two superimposed fields to counter any tidal forces, or vector to the field. So the mass inside the field feels the time dilation effects only. Outside the field, the world sees the traveler moving slowly. Inside the field, the traveler sees the world moving quickly. There are disadvantages to this, however. One, the traveler must be away from any disturbing factors, so the stasis field must be inside a monument or away from the trappings of society. Two, it is one-way only. Like an astronaut traveling at relativistic speeds, he encounters a future which cannot be undone. Three, it takes quite a bit of energy to do this, and unless it is supplied by a device inside the field, is subject to entropy effects of time and aging itself. The stasis, or time dam, would have the same effect as cryonic suspension on the traveler, without the problems of thawing and re-animation. For many reasons, I would reject this option as less than practical.

- 3) Local space-time curvature is possible. Let's not argue over that one. It's been done in the lab, and verified. As in number 2 above, it can have a positive curvature. But what if the curvature is negative? Then we have subjective differentials in the flow of time, but it's not what we want. It would amount to negative time dilation, and time flow for the traveler would be faster for him than the world outside the machine. So the traveler grows older as the world stays the same. Again, it's an undesirable result. This would be in the realm of the impractical, for our engineerable time machine. The only option available to make this work is as a wormhole over macroscopic distances. That means light years. And then you'd need to calculate where the earth would be at that time.

So now let's go on to something a little more controversial:

- 4) Scalar electromagnetics can directly change the mass of objects. Also, this has been demonstrated in the laboratory. As Scottie said in one of the Star Trek movies, "Aye laddie, that's the ticket!" What does

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it mean? Well, one could get time dilation effects while REDUCING the mass. So the traveler could have a density so low that the outside world ceases to interact with him while he is traveling. OK, so we have travel to the future. What about a return trip?

One of the things about this branch of electromagnetics is that you can place internal structures, or vectors inside of it. First, let's see what happens when we keep pumping the mass down. Mass acts like a scalar capacitance, so what we're doing is putting a negative charge on it, so to speak. At some point, it's going to hit zero, and then go negative. Negative mass is time reversed! Again, this is all subjective. For the traveler, his time vector, or arrow, always points forward. For him, the entire universe seems to be thrown in reverse. To prevent the rather bizarre interactions that occur with negative matter, the energy/density of the machine and traveler must be kept low. But a return trip would be possible.

The key to this approach is that the pumping device must be kept on board the time machine. And, precise regulation of the field around the machine is a must. I suspect that if the mass of the machine is allowed to stay at zero for any subjective length of time, that one of two things may happen: One, the machine would suddenly be thrown into an infinite velocity, and, two, as a result of this, it would be kicked out of its normal time line, either going into an alternative universe, or into one existing in higher dimensions. Therefore, there needs to be a system for preventing zero-crossover. This would give the pumping mechanism a jolt to change the state of the machine/traveler instantaneously.

Captain, We've Got To Have Power...

OK, so we have a system to move into the future or past. What does it plug into? What powers it? That's the tricky part. It can't be battery powered, since you would not want to be stranded in the future or past without a way to recharge it. It needs to generate power as you go, and be very reliable. A free energy device would fit the bill, as long as its operation didn't interfere with the pump. Paul Brown's nuclear resonant power cell would also work, as long as you didn't go too far into the future or past. In those cases, I suspect that the half life of the material used as a doping medium would change significantly, altering the power output of the generator. There are other "free energy" systems which use what appears to be energy from sources in higher-dimensional space. These may change the performance characteristics of the pumping device, and skew the vector in time, possibly sideways. That would need to be determined. I suspect that something on the order of the device which Randall Mills pioneered will ultimately be the power supply. This system taps negative energy states of the hydrogen atom, without inducing nuclear interactions. It has demonstrated 1000:1 ratios of power out to power in. Aye laddie— that's the ticket!

Life Support

For travel to the remote past and future, some kind of self-contained pressure vessel would be ideal. Earth's atmosphere wasn't always conducive to our form of life. In the remote past, it was devoid of oxygen, and in the remote future, it may be too thin to support life. Perhaps what we're really looking at are two types of time machine: One type is for short trips, within a million years or so. Type two is for longer trips to study earth's origins and ultimate fate.

OK, so we've got a method to travel to the past and future, that stays put in the same apparent physical space. This solves the problem with other "wormhole type" time machines, in that you don't need to track precisely where the exit of the wormhole is going. With this system, it stays in the same physical surroundings. Is that good or bad? Well, in some cases, it's very bad. Over time, between erosion,

deposition, and mountain-building, elevations change. Sometimes they change quite drastically. So the traveler might find himself either a thousand feet off the ground when he turns the power off, or inside a mountain, waiting for it to wear away. So we need a system that lifts it off the ground, or it's liable to take a chunk of the laboratory floor with it when it initially takes off. It needs to track what it might run into when the power switches off, and make changes accordingly. It needs a collision avoidance system. It would be a sort of fly-by-wire, where it prevents the pilot of the machine from materializing inside something he would ordinarily rather not encounter. It would also maintain a safe altitude above the ground. For trips to the remote past and future, an altitude of perhaps a thousand feet would be ideal for the duration of the trip. Then a slow descent would be in the maneuver along with a trimming of the velocity in time in preparation for landing. What keeps the machine up in the air? Well, remember that the "pump" inside the machine drops the density way down. At some point, the machine becomes lighter than air, and a lift-off in this case is inevitable. As it accelerates, the interaction between the outside world and the matter making up the machine and traveler will diminish and will approach zero. Can't we just build the whole shebang inside a helicopter? No, and here's why: The helicopter gets its lift from the surrounding air mass. That air surrounding the machine will have a mass approaching zero. No mass, no lift. You'd drop like a rock.

So to summarize, with this system you merely need to refine three things: Scalar electromagnetics, free energy and antigravity. Yeah, sure. Sounds like a snap, no problem. Actually, the engineering problems with this approach are less insurmountable than the wormhole concept. In that case, it would be a navigational nightmare to calculate where the entrance and exit points would be. I will cover this concept later in this article. How far along are we with this triad of technology? Scalar electromagnetics not only exists, but is easily engineerable. Free energy is here in the form of the Mills patent. My own research indicates that antigravity was tested experimentally in 1927, and at that time was successful. We have all three. It only needs funding and a lab to do it in.

Desktop Time-Dilation

Now, let's look at another approach. Unfortunately, it's also one-way time travel, but it's successful. It's a start, at a 3:1 ratio for time flow between the inside and outside of the field. I would consider it to be practical when it surpasses a 1,000,000:1 ratio. That would move into the future at a rate of two years per minute, or 120 years per hour. This approach is what sci-fi enthusiasts would consider a stasis field, since the traveler is "frozen" inside the energy potential of the field, and does not dematerialize. The traveler might as well be sitting inside a block of ice. He/she cannot move back in time. They are dependent upon an external operator to de-energize the field. Is this practical time travel? I would say no. However, it is a start.

The Wormhole/Stargate Concept

Now let's look at the wormhole concept. This can be broken into two subgroups:

- 1) The first group requires two pieces of hardware for its operation. It can be across the continent or across the lab. This limits where the traveler can go, since you can only move backward and forward during the life span of the hardware. It also requires a reliable power supply for both ends which can operate over the span of centuries. It takes the concept of desktop time dilation, and brings it forward into wormhole development. The advantages of this approach is that it effectively locks you into the same universe, therefore lateral drift is less likely. Is this engineerable? Yes. Is it practical? Yes, unless you consider the limitation to be less than practical due to your application of the technology. If your "machine" is inside a cavern network which is stable on a geologic time-scale, and all you're doing is

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traveling from the present to a point before the power supply becomes unreliable, then yes, it will be practical. Unless you're besieged by mutant refugees from the future...

2) The second group requires a great deal more engineering. This one needs a method of determining where the exit of the wormhole will emerge. The first method sort of "locks in" the entrance and exit points, but limits where those points will exist. As far as where the exit points will emerge, there are two schools of thought: The first one postulates that the exit point "travels" with the space of the entrance point, and therefore no correction is necessary to steer where the exit point emerges. It is in the "same space, different time" so to speak. It tracks the vector of the entrance point backward into the past and forward into the future.

The other school of thought is that the wormhole does not compensate for the motion of the planet. It is an absolute coordinate in space. This is where it begins to get complicated. You must compensate for the motion of the rotation of the planet, the orbit of the planet in the solar system, the orbit of the solar system in the galaxy, and the motion of the galaxy in the universe. Simple, isn't it? My guess is that it would probably require a supercomputer for the calculations. The old theory was that the throat of the wormhole would close up in microseconds, but this assumes a "flat" potential without any internal dynamics, complex time derivatives, or structure. The same argument assumes that enormous energies are necessary, since you CANNOT locally curve space. That assumption has also proven wrong. Therefore, the engineering for producing a wormhole is not an issue. What *is an issue* is whether or not you can predict where the exit point will emerge. If that can be accomplished, then literally all of spacetime is open for exploration.

The advantage of the wormhole concept is that you can get a "preview" of where you're going. One of the disadvantages of the old concept of a time machine is the possibility of putting yourself in harm's way from encountering whatever unknown phenomena you might quite literally run into. It definitely would be safer.

But what's the down side? Well, you're dependent upon the machinery at the exit point. It's possible to get stranded on the other side. Permanently. If you bring the machine with you, at least there is a possibility of repair and returning home. But unless you bring another version of the wormhole generator with you, there is a factor of vulnerability when you depend on some finicky machinery on the far end of the wormhole. Therefore, the only advantage is if you have an "observation" post in the far past or future, with a duplicate of the wormhole generator at that location. Another advantage is having the two generators cross-connect across the continuum. It would prevent the possibility of lateral drift sideways through alternative universes.

Micro-Wormholes And Quantum Tunneling

But what about generating a multitude of wormholes, instead of one big one? Granted, the power requirements would be quite a bit lower, but what about the engineering? How feasible would it be to generate a network or mesh of wormholes the size of subatomic particles, packed tightly enough to allow a physical object, or body, to pass through it? One other requirement would be for each wormhole to have precisely the same length. If it were otherwise, then the mass would arrive in a noncoherent, mixed-up state on a quantum level. Is this feasible? Yes. Is it feasible using either conventional or non-conventional technology, as it is known today? I would have serious doubts, and at this point in time (no pun intended) I would say no.

As I have stated earlier concerning the desktop time dilation unit, there is a start which can be analogous to effects with tunnel diodes. However, there is a gulf between simple quantum tunneling effects inside these devices and shoving a large mass through a quantum mesh.

I have also examined theories which describe the observable flow of time due to the passage of mass through these quantum-wormholes, and perhaps if this theory has any merit, or hope of becoming an engineerable phenomenon, then it is with manipulating these entities as they exist naturally. It would be a matter of steering the vector of these beasts, to go where you will. In this case, instead of manipulating a finite mesh stretched between two planes, you manipulate a three-dimensional matrix where the mass exists, all at once.

The Issue of Local Spatial Curvature

While I admit that this might be redundant, it is still important to analyze what the implication of local spacetime curvature really means. To do this, I would first like to bring up the topic of Shinichi Seike's estimate of the energy density of the vacuum, and what it implies.

Shinichi Seike, a scientist in Japan, estimated that the true energy density of the vacuum is in the order of 10^{92} ergs per cubic centimeter. It is difficult to really grasp such a mind-bogglingly huge number. What can we compare it to?

First, let's compare it to the famous equation $E=MC^2$. In this formula, energy in ergs (E) is equal to the speed of light in centimeters per second squared. That speed is 3×10^{10} cm per second. Squaring this gives us 9×10^{20} , which is the amount of energy in ergs that one gram of matter will yield. So, in our first comparison, the mass-density of the vacuum would be $1 \times 10^{92} / 9 \times 10^{20}$. This amounts to 1.11×10^{71} grams per cubic centimeter.

I will elaborate what this density means, but first, let's see how much this mass amounts to. One metric ton is 1×10^6 grams, so now we're talking about 1.11×10^{65} tons. The Earth has a mass of 6×10^{21} metric tons. So this mass is 1.85×10^{43} times the mass of the Earth. The mass of the Sun is 333,000 Earth masses. So now this number is 5.56×10^{37} solar masses. The galaxy is supposedly 1×10^{11} solar masses. So this number is also 5.56×10^{26} galactic masses. There are approximately 1×10^{11} galaxies in the visible universe. So now the number is 5.56×10^{15} times the visible mass of the universe. But there is also 100 times as much dark matter as visible matter in the universe. So now we have 5.56×10^{13} times of all the mass in the universe, in ONE CUBIC CENTIMETER. This is 55.6 trillion times the mass of the universe.

Are your eyes glazing over yet? I know it's hard to get your mind around this concept, but consider this: the mass of the universe is enough to curve space into itself. This has been proposed to be approximately a radius of 2×10^{10} light years. However, we are talking about a mass in one cubic centimeter that is 55.6 trillion times this number. Admittedly, this is an arbitrary number which rests between two infinities, the infinitely large and small. If we assume that all observable space is at this energy density, then the universe, or what we imagine it to be, is merely a microcosm of what it really is. Let's just say it's a very, very big number for now.

OK, so what if we go in the other direction? How far down can we go and get something that jibes with the conventional estimate of the size of the universe? That requires the use of an equation that computes the Schwarzschild radius of the event horizon of a black hole:

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$$R(s) = 2 \times GM/C^2$$

If we use the cgs system, then the units are thus:

r is in centimeters

G is the gravitational constant, 6.67×10^{-8} dyne cm^2/gm^2

M is in grams

C is the speed of light in centimeters per second, or 3×10^{10}

Let's work out what the size of the event horizon would be, based on the mass derived earlier. The mass has been established at 1.11×10^{71} grams per cubic centimeter. What would the event horizon be for just one cubic centimeter?

$$\begin{aligned} R(s) &= 2 \times (6.67 \times 10^{-8} \times 1.11 \times 10^{71}) / 9 \times 10^{20} \\ &= 2 \times (7.4037 \times 10^{63}) / 9 \times 10^{20} \\ &= 1.48074 \times 10^{64} / 9 \times 10^{20} \\ &= 1.645 \times 10^{43} \text{ cm.} \\ &= 1.645 \times 10^{38} \text{ km.} \\ &= 1.738 \times 10^{25} \text{ light years.} \end{aligned}$$

So— therefore, one cubic centimeter contains more than enough mass to create an event horizon larger than the visible universe. If we go down in size, then the fraction as an expression of mass would be $1.738 \times 10^{25} / 2 \times 10^{10}$, which would be the cube root of 8.69×10^{14} , or 1/95427 cm. This is 1.0479×10^{-5} cm in diameter, to create an event horizon twenty billion light years in diameter.

However, remember that every cubic centimeter contains this mass-density. It's like the problem of weighing the contents of a glass while it's underwater. Therefore, it is irrelevant to simply use one cubic centimeter, kilometer, or even a light year. You'd really need to use the entire visible volume of the universe, and apply this density to it to get a reliable figure for mass, and then apply the formula to this. Let's just say it's an unimaginably large figure. It's not that my calculator doesn't go that high, it's just that after so many exponents, the numbers lose their comparative meaning. But... What does happen is that a new dynamic evolves, and the microscopic structure of space itself becomes more of a timelike wormhole. You wind up with billions, trillions of timelike wormholes below the atomic scale.

And every bit of mass in the universe is in transition through those wormholes!

Nikola Tesla and Mass Resonance

And then there's the famous Nikola Tesla. There are accounts that Tesla, the most innovative inventor of the 20th century, had a fascination with resonance, and how far into physical reality it extended. First, let's take a look at the physical qualities of the vacuum.

The properties of free space, from Buchsbaum's Complete Handbook of Practical Electronics Reference Data, are:

$$\begin{aligned} \text{Velocity of light} = c &= 1/(u_v e_v)^{1/2} = 2.998 \times 10^8 \text{ meters per second} \\ &= 186,280 \text{ miles per second} \\ &= 984 \times 10^6 \text{ feet per second} \end{aligned}$$

Permeability = $\mu_v = 4 \times 10^{-7} = 1.257 \times 10^{-6}$ henry per meter.

Permittivity = $\epsilon_v = 8.85 \times 10^{-12}$ (36 $\times 10^9$)⁻¹ farad per meter.

Characteristic impedance = $Z_o = (\mu_v/\epsilon_v)^{1/2} = 376.7 \text{ } 120 \text{ ohms}$.

So, what is the resonance of this? That is determined from this formula, where the reactances of the circuit add up to zero:

$$f_R = \frac{1}{2 \sqrt{LC}}$$

where,

f_R is the resonant frequency in hertz,

L is the inductance in henrys,

C is the capacitance in farads.

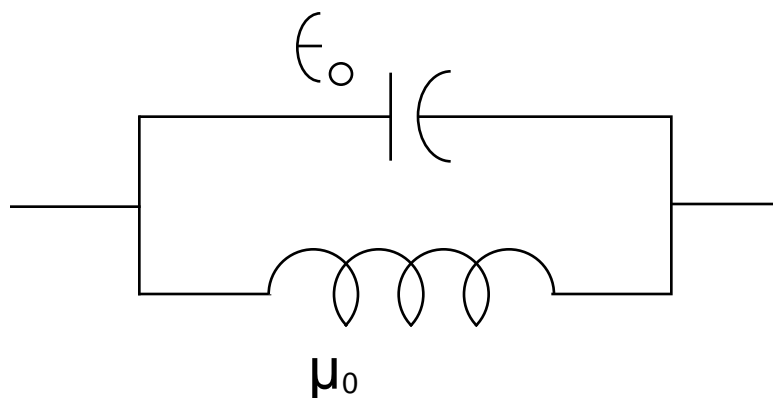
This amounts to:

$$f_R = 1/(2 \sqrt{\quad}) * (1.257 \times 10^{-6} \times 8.85 \times 10^{-12})$$

$$f_R = 47,717,849 \text{ Hz}$$

So now, you're probably wondering, if you have a technical background, what's so special about 47.717 megahertz? Is there something there? Well, this is the point where both the capacitive and inductive reactances are 376.7 ohms. If there is "matter" in between the space, it becomes a parallel resistance in an equivalent circuit, and the vacuum resonance takes precedence. If we have a substance that is already in a highly excited state, and apply this trigger frequency, then anomalous resistances may occur. If the normal resistance is in the order of several megohms, and an impedance one order of magnitude below this, one might observe an apparent spike in the dielectric constant, or permittivity, of the material. Through the artful application of phase conjugate technology, it might be possible to "engineer" an extraction of the energy through the use of vacuum resonance. How much can be extracted? As much as is practical— obviously, you wouldn't want to dump several thousand amps into a circuit that can only handle ten to twelve.

Now let's move on to something even more controversial: what does this "vacuum circuit" look like? That is, how does the equivalent vacuum circuit appear? Probably something like this:



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It really amounts to an inductance superimposed over a capacitance. The equivalent of this, is a parallel inductance and capacitance. Every technician knows what a tank circuit looks like, and this is it! Is it any wonder why it is possible to send the vacuum into resonance? It's already a tank circuit!

So we have established that the vacuum has the geometry of a tank circuit. It has been widely known that mass itself has it's own electrical characteristics. For example, it acts as a scalar capacitance, and it's inertia also is analogous to inductance. Due to this, mass has it's own characteristic resonant frequency. What is the mass capacitance? We can modify the standard capacitance formula to obtain this:

Equation 1

The Biefeld-Brown Anti-Gravity Equation

$$G = \left[2.235 \cdot 10^{-13} \frac{\left(\frac{(km) A (Eb)}{d} \right)}{m} N^{-1} \right]$$

Where:

G is the induced gravity field in the dielectric.
m is the mass of the dielectric in pounds.
k is the dielectric constant of the dielectric (air=1).
A is the area of one plate in square inches.
d is the distance between the plates in inches.
b is the Biefeld-Brown constant $2 \cdot 10^5$.
E is the voltage across the plates.
N is the number of plates.

With this formula, we see that G, which was originally published in the Antigravity Handbook as the induced gravity field in the dielectric, can also be interpreted as a "mass-capacitance". The force induced in the dielectric is a kind of capacitive reactance of the mass, with the oscillation supplied by the vacuum resonance.

And where does this go in the "vacuum circuit"? Parallel, of course. Therefore, presence of mass in the

vacuum changes the frequency due to the insertion of the parallel capacitance. At this point, figures seem to indicate that as long as the mass is stationary, the inductive component is negligible. Yes— that means that motion also changes the resonant frequency. It also leads one to speculate on whether or not the inductive coupling coefficient between mass and the vacuum is what we call “inertia”.

So therefore we have a geometrically-dependent resonance in the vacuum, in the mass, and a harmonic frequency which develops between the two, to generate a third frequency. I would like to point out that I am not the first one to offer this concept. The first one is Alan C. Holt, in the proceedings of “The First International Symposium On Non-Conventional Energy Technology” titled, “Non-Linear Field Physics”. In a later publication, he also proposed using a variation of this technology for intergalactic spacecraft propulsion, if you could call it that, since it would transit between points in space without moving between them. Basically what it would involve is the insertion of a phase-inverting amplifier into the vacuum circuit, breaking the lock that the mass has on the local vacuum. Then two frequencies are generated: one which steers the mass toward the destination, and a new “lock” frequency which is applied when the machine is close to the destination. Since the frequencies change at a non-linear rate, they would need to be determined before the power is applied to the field generators. It doesn’t matter if this point exists in the future or the past. Where you “tune” to is where you go.

The High Frequency Component

Now let’s go on to the high frequency resonant component of vacuum resonance. We’ve already examined the low-frequency component interactions of mass and the dynamic, energetic interplay of the vacuum, but there is another factor to consider, which we will now examine. Just hang in there— it will become clear sometime before you fall asleep.

In another paper which I have released, “A Glitch in The Void”, I proposed that the reason that there is a 10^{42} ratio between the relative strength of the electric field and gravitational potential is that the two are related, actually one becoming the other. Here’s how: In the Biefeld-Brown formula above, as in what was known as the “Kowsky-Frost Experiment of 1927, there was some vague suspicion that frequency played a critical role in the production of the effect. The lower the frequency, the greater the effect. What if the fundamental frequency of the electric field *was* 10^{42} Hz? It would make sense. Relativistic effects would reduce the frequency, and increase the gravitational component, which could also be seen as an increase of the coupling coefficient between the mass and the vacuum. The strong nuclear has already been modeled as a short-distance gravitational potential. Why is charge seemingly so important? Even neutral particles have a charge, which is internally canceled vectorially. Even photons, which have a charge vector. So, if this is true, what would the formula look like? Probably something like this:

$$E= G \text{ or } G=E/$$

Where:

E is the amplitude of the electric field

G is the amplitude of the gravitational potential

is the rate of change per unit time, in seconds.

Let us now begin to make some very risky assumptions. Let’s say that the value for G is 6.67×10^{-8} dyne cm^2/gm^2 . If we transform all of the electric field in one gram to gravity by stripping off the modulation, we get something 10^{42} times this number, or 6.67×10^{34} dynes cm^2/gm^2 . In this case, it would be tied to

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mass, but there are cases where merely producing phase shifting of the vacuum, and the tremendous mass potential there can produce the same result. To convert dynes to pounds we multiply by 2.248×10^{-6} , and this results in a force of 1.499×10^{29} pounds, or 6.801×10^{28} kilograms. Based on the figure for the earth's mass earlier, this is 11,335 times the mass of the earth. This also amounts to a force that's 6.801×10^{31} grams per gram. This would be equal to the number of gees between them. You'd need to be 82 billion kilometers away before it dropped to one earth gee. Near the event horizon of a black hole, the gravity is 1.5×10^{12} gees (Source: Isaac Asimov, *The Collapsing Universe*).

Things are getting a little dangerous here. All we did was demodulate the electric field in a mass of one gram, and suddenly out pops a black hole. And it's not a puny one, either. The event horizon would stretch out to 67,336 kilometers away. It would swallow the earth without a burp.

If this is correct, we are considering the manipulation of enormous energies, which classical physics tells us are so insignificant they are not even worth the examination. Even the tiniest shift in the frequency of the electric field will result in enormous forces and, borrowing a phrase from Tom Bearden, you could levitate a battleship with a flashlight battery! But we have another problem. Where did the apparent extra mass come from? It's more than a planet! Unless... it was never there to begin with. Perhaps the physics that we are familiar with is merely a subset of a much larger whole, and these "antigravity" experiments are demonstrating that larger fact. This would mean that $E=MC^2$ is correct, however only under *specific conditions*. This also means that what we perceive as "mass" is a de-tuning of the vacuum to an extremely tiny fraction. If we take this one step farther, then re-tuning (or re-phasing) the mass/vacuum relationship will result in the mass dematerializing and disappearing into the vacuum.

I remember the dematerialization circuit from the old "Dr. Who" TV series. He was always fiddling with it, and mumbling that he couldn't go anywhere without it. In our time machine, it indeed is essential. When the vacuum resonance with the mass is disconnected with our theoretical phase inverting amplifier, it is a dangerous condition for the machine and the traveler. The machine, once disconnected from the zero reference of the vacuum, suddenly loses its inertia. Anything that bumps into it will literally send it flying. The next event in the sequence is to apply the frequency necessary to steer the machine into the future or past. Where do we get that? I will be getting to that shortly, but... The one question that I am asking at this point is: where does the source of oscillation come from in the vacuum? Let's see.

In my previous paper, "A Glitch In The Void", I put forth the notion that time is a variable in the universe. As the mass concentration increases when the universe is run backward in time conceptually, the curvature becomes more acute, and so consequently the ambient gravitational field in the universe increases. What does this imply? The ratio between the electric and gravity decreased. Continuing this train of logic, if the universe has been around for let's say, 20 billion years, then 10 billion years ago the ratio would have been half of that. Instead of 1×10^{42} Hz., it would be 5×10^{41} Hz. The differential would then be $1 \times 10^{42} - 5 \times 10^{41}$, or 5×10^{41} Hz per 10 billion years. This would be 5×10^{31} per year. Dividing this by 3.15×10^7 seconds to the year, this would be 1.58×10^{24} Hz per second. This frequency is in the upper gamma part of the electromagnetic spectrum, and would be seen as a secondary modulation riding on the original 1×10^{42} Hz. This frequency is extremely high, even for today's (2002) x-ray lasers. The frequency discriminator would also be extremely problematic. However, we are looking at a time domain of one second. What if we tighten up the regulation, to let's say, 1×10^{-9} seconds? Then the shift becomes 1.58×10^{15} Hz per time domain. This is in the optical domain, actually in the fuzzy border between ultraviolet and x-ray. As an aside, what is the most common side effect in a UFO encounter? It is actinic, or radiation burns. I would suggest for any UFO researcher reading this article to keep this

frequency in mind when investigating various incidents. *It is the signature for our time travelers.*

I would like to thank David Serrida for this clue. He has produced a series of videos based on material released from NASA showing what some may term “UFOs” which only appear in the ultraviolet part of the spectrum! I have seen these videos, and it is in my opinion undisputable that there is something there. The only question in my mind is whether or not these are actual machines. They appear organic to me. I’m not discounting the fact that it might be possible to use organically based technology to do this, with travelers inside these structures. But the videos seem to indicate that these “critters” (to borrow a term from Trevor James Constable) seem to behave like protozoa, using a lower order of intelligence.

The Low Frequency Component

What about the shift in the macroscopic vacuum resonance? The shift becomes much, much smaller. Let’s see what happens with our cubic meter, resonating at 47,717,849 Hz. The shift would amount to 23,858,925 per 10 billion years. That would amount to a shift of 2.38×10^{-3} Hz shift per year, and 7.57×10^{-11} Hz shift per second. We once again have a problem with regulation, since this is beyond the envelope for the most precise regulators. This would be 420 years per Hz. If that represents the path that the technology will most likely take, then the minimum jump would be probably half that, or 210 years. If the optimum is 420, then how long would it take to travel oh, a million years or so? About 39 minutes, jumping 420 years per second.

However, as I mentioned earlier this applies to one cubic meter only, and we have established that the resonance is geometry-dependent. But is it really? What would be more practical is to calculate the resonance for a cube 2 meters on a side, for 8 cubic meters.

First, let’s calculate the capacitance. We have a series-parallel arrangement consisting of a matrix of 4 elements in parallel, and 2 of those elements in series. At 8.85×10^{-12} farad per meter, this would be 4 times that number, or 3.54×10^{-11} farads. Calculating the series capacitance, we use the reciprocal of the sum of reciprocals rule, or:

$$C_t = \frac{1}{\frac{1}{C_1} + \frac{1}{C_2}}$$

$$C_t = \frac{1}{5.64 \times 10^{10}}$$

$$C_t = 1.77 \times 10^{-11} \text{ farads}$$

Now let’s calculate the inductance. It has the same matrix, or 2 groups of 4 elements in parallel. First, let’s calculate the value for the parallel inductance using the reciprocal of the sum of reciprocals, for an inductance of 1.257×10^{-6} henrys per meter:

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$$L_t = \frac{1}{\frac{1}{L_1} + \frac{1}{L_2} + \frac{1}{L_3} + \frac{1}{L_4}}$$

$$L_t = \frac{1}{3,182,179.8}$$

$$L_t = 3.1425 \times 10^{-7} \text{ henrys}$$

Now we merely need to add the two of those elements to obtain the series inductance, which is 6.285×10^{-7} henrys. We have previously determined the capacitance to be 1.77×10^{-11} farads. Next let's apply the resonance formula for these new values:

$$f_R = \frac{1}{2 \sqrt{LC}}$$

$$f_R = \frac{1}{2 \sqrt{1.112 \times 10^{-17}}}$$

$$f_R = \frac{1}{2.095 \times 10^{-8}}$$

$$f_R = 47,727,396 \text{ Hz.}$$

So— here is the proof. The vacuum resonance remains nearly the same under certain volumetric constraints. If we calculated the values for a thin space between two plates, then the values would indeed change significantly. I may examine this at a later point in its relation to the Casimir effect. I suspect there is a tie-in here to the fundamental electromagnetic structure of the vacuum. Let's leave it at that for now, before this becomes a book.

The Harmonic Frequency Component

And then there's the third frequency, which is the interaction with the vacuum and the matter residing within it. Now the good and bad news. It's not just one frequency— it depends on the time domain, the increment of time change, that you're looking at. If you're looking at the rate of change from nanosecond to nanosecond, 10^{-9} seconds, then the frequency becomes the higher one divided by the lower. Let's call the high frequency component V_{r_1} , and the lower V_{r_2} . The third we'll call V_{r_3} . We will use the figure for the 4 cubic meter volume, 47,727,396 Hz for V_{r_2} .

For the nanosecond time domain, it would be this:

$$V_{r_3} = \frac{V_{r_1}}{V_{r_2}}$$

$$V_{r_3} = \frac{1.58 \times 10^{15}}{47,727,396} = 33,104,676 \text{ Hz.}$$

For the second time domain, it would be this:

$$Vr_3 = \frac{1.58 \times 10^{24}}{47,727,396} = 3.310 \times 10^{16} \text{ Hz.}$$

However, there is still one more question. Is it necessary to use both high and low frequency components? Or even all three? How many locks on the vacuum do you have to disconnect? I suspect Vr_2 is the primary one to deal with. But, how do you change Vr_3 without dealing with frequencies in the X-ray band? We'll need a detector for Vr_2 to get the phasing and amplitude we're dealing with. If we were not dealing with bizarre values (well, more than normal, anyway) then we can send this into the phase inverting amp and zero out Vr_2 . At that point, Vr_3 collapses. At this point, I don't see any way of getting at Vr_1 without interacting with it in the upper UV band. That means using lasers, probably a nitrogen laser to create a spherical shell around the machine. Here it starts to get tricky. Now you need to modulate the laser, with a varying, controlled frequency which ramps up for travel to the future, and down for travel to the past. Why a spherical shell? This is to prevent the necessity for irradiating the entire inside of the machine. What it does is provide a "disconnection" or isolation from the properties of the vacuum on the outside of the shell. Everything inside the shell phase locks into the signal injected into the shell. When the machine approaches where it needs to go, then the power levels are ramped down and the space inside the field is allowed to lock back into the local vacuum on the outside. Then the phase inverting amp's power output is ramped down, and the machine comes to a rest.

It is not necessary to constrict one's choices to a spherical geometry. It is also possible to use a cubic or cylindrical configuration. It's just a matter of adjusting the interferometer inside the machine.

Even though it is possible to use mechanical refractors to get the shell configuration, everything that projects outside the shell would result in a power loss, and would be less efficient. What would be better is an interferometer centrally located inside the machine. The beam would be broadcast 360 degrees, in destructive interference at the source, with one frequency slightly offset so that it goes into phase where the shell would appear. Then you would have a centrally located power broadcast system that you could pipe the output of the phase inverting amp into as well. The amount of power is debatable, but once the field is established, and the vacuum is isolated, the levels can be ramped down somewhat. The level needed to maintain the optical tank should be a fraction of what's needed to establish it, since you're hooking directly into the vacuum resonance.

Navigation

The beauty of this system is that you always know where, or rather when, you are. You could use a computer tied to the feedback loop comprised of the detector/transmitter combination. You would know where you are down to the milli- or nano-second. This system can also be used for the detection of temporal disturbances away from the machine. The readout can tell you the speed of the machine expressed as a ratio of time flow outside the shell versus the flow inside, or in years per hour. The speed can be adjusted by varying the duty cycles and the delta of the frequency shifts. The speed might peak out at about a billion years per hour with current technology. But, that would push the hardware to unstable levels, and a more practical level might be 2 million years per hour. The minimum speed might be a problem. It seems odd, but with this particular version of the technology speed doesn't seem to be an issue. It's slowing down. As I mentioned earlier, it depends on how precise you can get the

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tuning, and at the present it seems to be how close you can get into fractions of a Hertz that will be the determining factor for speed. It would be nice, in the interest of safety, to get down to a 1:1 ratio before merging with the continuum on the outside. Perhaps there will be further insights on this at a later time (pun intended).

Is there another way to get the frequency down to more workable levels, or at least something easier to deal with using today's technologies? The answer is yes. Let's take a look at two possibilities.

Acoustic Transduction

Some colleagues have suggested this possibility, but I have decided that it is not workable for this primary reason: wavelengths. We need to compare apples with apples, and not oranges. And since there is a difference in velocity, with sound traveling at 1129 feet per second, and light at 186,280 miles per second, the same frequency will produce quite different wavelengths. First, let's translate this into cgs units. Sound becomes 344.1192 meters per second, and light 3×10^8 meters per second.

The formula for wavelength is this:

$$\text{Wavelength} = \frac{3 \times 10^8}{f}$$

Where:

Wavelength is in meters,

f is frequency in Hz

If we apply this formula to 1.58×10^{15} Hz for the nanosecond time domain, it becomes $3 \times 10^8 / 1.58 \times 10^{15}$, or 1.8987×10^{-7} meters.

So now let's look at what happens with sound. Keep in mind the formula above, which is simply velocity over frequency.

$$\text{Frequency (f)} = \frac{344.1192}{\text{Wavelength}}$$

Applying the formula above, it becomes $344.1192 / 1.898 \times 10^{-7}$ meters, or 1.81×10^9 Hz. The equivalent frequency would be so high as to be unworkable. What if we slow the velocity of the wave down to 1 meter per second? Then the figure becomes 5.268 Mhz, still too high to propagate in air.

Therefore, I have concluded that tapping vacuum resonance acoustically is impractical, but not necessarily impossible.

But I mentioned a second method. That one is using interferometry to obtain apparent wavefronts which are superluminal. There is a possibility that interference-generated waveforms using scalar electromagnetics may indeed be possible.

Tesla used this interferometry method to obtain longitudinal waves which (in our space) moved Pi times the speed of light. There is no theoretical limit to their speed. They may move billions of times

faster. With this in mind, let's look at the wavelength formula again, and patch in this superluminal frequency of 10^9 C.

$$\text{Wavelength} = \frac{3 \times 10^{17}}{f}$$

Applying this formula, it becomes $3 \times 10^{17} / 1.58 \times 10^{15}$, or 189.87 meters. Let's look at the electromagnetic equivalent of this.

$$f = \frac{3 \times 10^8}{189.87} = 1.58 \text{ Mhz. (Nanosecond time domain)}$$

But this frequency only kicks the machine forward or backward only a nanosecond at a time. It "hooks" into that domain only. For the second time domain, it would be once again, 1.58×10^{15} Hz. The repetition rate of this frequency would determine the machine's speed in time. Once per second would give you unity. Thirty one million times per second gives you one year per second, and 3.15 Ghz gives you a century per second. Higher frequencies probably could not be sustained for prolonged periods of time, as we're getting into the upper microwave bands, and the effects on the electronics and human tissue would be deleterious. The upper frequency, 1.58×10^{15} Hz, wouldn't be as bad, since it is directly acting on the vacuum as a scalar resonance, and only partly affecting the nuclei of the matter in the irradiation field. Remember, it's not nice to nuke the operator.

The Dr. Who Factor

OK, since we can produce curvatures of spacetime using interferometry, what's to stop us from using this to expand (or contract) the volume inside the field? Why, indeed! Of course, there is one complication. The machine is in travel mode *all the time*. If you turned off the field, and there's more volume inside than is outside, the sudden expansion of that interior volume into the continuum outside would be seen as an explosion. So you'd better have a reliable power supply, and redundancy to boot. Egress into the machine wouldn't be a problem, either. You would interferometrically create a "null zone" to get into and out of the interior of the field. Once the operator is back inside, the "null zone" is dissolved and the machine becomes impenetrable. Disconnecting from the vacuum, or continuum on the outside has it's advantages. For one thing, the inertia on the inside of the field is unequal to the observed inertia on the outside. If you "lock" into a specific volume of vacuum, then the machine has virtually an infinite inertia, and cannot be moved without removing the lock first. How big would it be on the inside? A 10:1 ratio wouldn't be a problem, and a 1000:1 would also be doable. So a police call box *could* be the size of a mansion on the inside.

Also, the machine can have its speed adjusted so that it is slightly out of phase with the vacuum on the outside. This would create a potential dimensional barrier where the field boundary exists. Nothing outside would get inside. It doesn't matter whether it is radiation, bullets, or whatever. You could explode an atomic bomb on the outside, and if the inertial lock is in place, you couldn't even feel it on the inside.

I would consider this type of machine a "type 2", and the first one discussed on the previous pages a "type 1". Is it possible with today's technology? It would take a considerable amount of engineering, but yes.

Other Possible Applications

OK, did you get the implications of isolating one chunk of the vacuum inside a closed volume from what's outside? How about the implication of *transposing* that vacuum over another one in spacetime? After all, that's what the machine does in the power rampdown/landing sequence! It reminds me of the transporter in the "Star Trek" series. Or the ID portals in "Earth- Final Conflict", with one difference: this one goes anywhere in space *or* time. It is possible therefore to create a "transporter" platform, and merge the vacuum on that platform with one at a remote location— in space or time. Since you know what the reference values are for the local vacuum resonances, it can be used to stay in the same relative space, even though the planet, star system and galaxy are in their own motion. Does it work both ways? Yes—whoever or whatever is standing in the space that gets "tuned" to, gets grabbed and winds up on the transporter platform. The range would depend on the precision in tuning. I suspect that power levels would be irrelevant as far as distance is concerned. So it is theoretically possible to stand on the platform, go to 1899, observe that time, and return when the "window" opens. The "transporter" could be set to switch coordinate frequencies to a time say, several hours in the future after the transport was completed to 1899. Is this being done now? Good question. At a later time I will examine the evidence for this. But from what I have seen, the answer would be an emphatic "yes". See some of Charles Fort's material on this, as well as John Keel, Frank Edwards, and others.

Tracking the Travelers

Now I will address the problem of tracking our travelers. First, there are only a few discreet modes which *can* be tracked. The others will only produce an electromagnetic signature when they break into our local spacetime. This will be true of the wormhole version of this technology, as well as the version which induces the machine to perform discreet jumps at a high repetition rate. However, the argument can be made that even then the regeneration rate of the oscillator can be detected, and this would be true. Therefore, it leaves us with two undetectable modes, the wormhole, and the direct-materialization method, such as the transporter mentioned earlier. I must define the category of detectability as tracing the entire vector from dematerialization at its departure time to materialization on arrival. Even the wormhole and the transporter will leave a signature on materialization, if only briefly.

What really interests us is the severely redshifted machine which travels only through time, staying in the same volume of space that it occupied earlier. We have established earlier that the primary frequency induced in the ergosphere shell around the machine is 3.310×10^6 Hz. This is the frequency that can be detected when the machine is traveling at a 1:1 ratio. As the machine accelerates, what do we see? What is detectable on our instruments? Let us examine this.

As the machine accelerates, the ergosphere (or shell) becomes increasingly redshifted. We see the traveler moving more and more slowly inside the machine. We then see the interior of the machine turn red, and then black. The ergosphere turns blood red, and then the machine seemingly vanishes as a wave of heat is felt as the emissions of the ergosphere drop into the infrared domain. This takes place when the machine is in the 10,000:1 ratio, traveling at 2.7 hours per second, or 1.1 years per hour. Short-hop travelers will probably stay near this domain, and can be detected with infrared imaging. We can make assumptions concerning where our travelers are coming from based on their long-term emissions. At a speed of nearly two years per minute, the ratio is 10^6 :1. The emission signature is 33.1 Ghz. Radar imaging will show a spherical blob, although a faint one. At a ratio of 10^8 :1, the signature is 315 Mhz, and the speed is 3.16 years per second, or 11,407 years per hour. I think it is significant to note at this point that these frequencies are seen going in both directions through time. However, when

the machine is traveling into the past, the wave fronts are time-reversed as well, and the wave of heat becomes cold, etc. The microwave emissions become EM “holes” or a damping field for those specific frequencies. One way to detect such a traveler would be to fly over the area and look for a “hole” in the radar return. I wish somebody would do this with the crop circles. I predict interesting results. If one were in the immediate vicinity of such a traveler on his or her acceleration curve, as the damping frequency drops into the region which cell phones operate on, they will have trouble functioning, perhaps not working at all.

So we have a rudimentary method of establishing a vector for the traveler. There are three discreet phases which the machine travels in. They are: acceleration, cruise, and deceleration/materialization. However, there is a small element of uncertainty. For example, let’s say we detect an emission in the microwave band, and establish that it is moving forward by virtue of the wave front *not* being time reversed. Is it in an acceleration phase or deceleration? Literally time will tell. If we wait, and notice that the frequency is dropping, then we missed the traveler and is ramping the speed of the machine upward, on the acceleration phase. If the frequency is rising, then you’d better stick around. Of course, he can see you even though you can’t see him, so you’d better choose your cover carefully, and beware of the blast of UV when the ratio drops to unity.

What about the traveler moving into the past? That is a little trickier. Let’s say we detect the EM damping field in the microwave band. We know by that the machine is either in acceleration or deceleration phase. But now we’re dealing with a time-reversed operation. His deceleration would be *seen* as acceleration to us, and vice-versa. If they are coming from our future, then detecting what appears as an acceleration signature means that the traveler is already in our past. For the traveler, they’re on the deceleration leg of the trip. If we detect what looks like a frequency rise, then it would be a good idea to stick around. The traveler has just left from a point in the immediate future, and the degree of the rise will indicate the length of the wait. Then we will see a wave of cold and a sudden brilliant flash of time-reversed UV, followed by a second flash of time-forward UV as the machine starts its travel. Got a headache yet? Wait— there’s more. Yes, it’s that nit-picking little detail called causality. If you nab the traveler, he never started the trip, so how did you detect him in the first place? Isn’t time travel fun? At least the speculation of it is. Then again, maybe he eluded your temporal dragnet, and what you detected in the first place was his escape from your failure to catch him in the future. More fun!

Actually, it would be easier to find where (or when) he went in the past, and search the historical records to see if the traveler left a trace there. Who knows? They may still be around. What’s more, you may have even met one without knowing it! You see, if time travel were accomplished at any point in Earth’s history or future, then they have access to *all time*. Think about it.

Conclusion

Are time machines possible, from a practical perspective? Most definitely yes! However— and this is a big one— you must expand your perspective beyond traditional views of electromagnetics. Using “traditional” electromagnetics will get you absolutely nowhere. It requires an expanded perspective in several quite different disciplines to accomplish the task. The skeptic would say, “If time machines are possible, where are they?” They’re flying over your head! What do you think some of those UFOs are, anyway? And if you can’t get *that* into your reality construct, look at the anomalies in the fossil record. Or in history— our legends are littered with bizarre stories of “gods” that should not be there. As I have stated earlier, this is not going to be a treatise on proofs in history, but on the practical problems with

building the machine. In this discussion I have done so. Perhaps in the future I will publish the historical proofs that we have been visited with this technology. But now it is up to you, dear reader, to take the next step.

Perhaps one of you out there will be the first time traveler from *this* era.

Postscript- 2003

I have yet to do the paper on the proofs of the travelers, but I have found quite a bit of evidence in the way of “ooparts” or out of place artifacts to make the publication plausible. I am also looking for someone with a spectrum analyzer to check out some of the “UFO hotspots”, to see if there are any electromagnetic anomalies there. I think it would be a great source of data for someone willing to pursue this theory.

“It takes two to speak the truth--one to speak, and another to hear.”

--Henry David Thoreau, A Week on the Concord and Merrimac Rivers, Wednesday

“Some circumstantial evidence is very strong, as when you find a trout in the milk.”

--Henry David Thoreau, Unpublished, MSS, in Miscellanies, Biographical Sketch

“One man that has a mind and knows it, can always beat ten men who haven’t and don’t.”

--George Bernard Shaw, The Apple Cart

“Science is nothing but trained and organized common sense, differing from the latter only as a veteran may differ from a raw recruit; and its methods differ from those of common sense only as far as the guardsman’s cut and thrust differ from the manner in which a savage wields his club.”

--Thomas Henry Huxley, Collected Essays, iv. The Method of Zadig

IIM Possible?

A few observations of the design and test phases of the Inertial Induction Motor (IIM)

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This article will briefly explain the initial design and test phases of a device I have named the “Inertial Induction Motor”. The precursor to this device is something I call an “Inertial Induction Coil” or IIC. A photograph of this device at 72 DPI will follow this article, as well as spreadsheet analyses of the effects.

Genesis

The true genesis of this device is in all the early centrifugal force to linear motion devices patented in the past 60-70 years, most notably the A.C. Nowlin drive and the work of Robert Cook¹. Bruce DePalma's² spinning ball experiment revealed exciting insights into the nature of inertial interactions. I give these individuals a great deal of credit for their early pioneering work. Those who had the courage to break new ground and test proven theories contributed valuable information on the Newtonian laws that many take for granted. Work such as this should be continued, for instead of merely “re-inventing the wheel”, they provide the foundations for a new more comprehensive physics of motion, of which the one we are familiar with will merely become a specialized subset thereof.

To understand the operation of the device, an understanding of the inertial properties of matter must first be appreciated. All four phases of matter (plasmas included at this point) have the same inertial properties. They have the same properties of momentum. Why this has not occurred to these inventors I have no idea, but I can understand the problem of not recognizing an individual tree when one is standing in a forest.

I must delineate the work of Tom Bearden³ from this, since the directional force component has not been quantitatively measured in the ordinary helical coils which I have experimented with. When I once again have access to high-pressure and high-volume pumps this may be tested at some point in the future.

The original idea for this was an anomalous effect that I noticed when working as a maintenance technician at MMC Plastics of Cabery, Illinois. These presses have hydraulic pumps typically running at about 2000 PSI and 13.5 GPM. They have the potential for moving a lot of mass in the form of hydraulic fluid through their lines which average between 1/2”-3” in diameter. The inertial effects which I noted dealt with the lines which ran from the directional valve to the press clamp cylinder. The principle behind a high-speed close in an injection molding press is that a large volume of fluid is sent into the cylinder at low pressure until a preprogrammed point is reached, at which time the pump shifts into low volume and high pressure. The high pressure function delivers a minimal mass of fluid through the lines, therefore the effect is minimal. But when there is a sudden rush of fluid through the lines at low pressure and high speed, an interesting phenomenon occurs. It's called “walking”. The inertial “thump” of the fluid going through the lines results in a non-compensated force, if the lines are

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large enough and the radius is acute enough. I looked at where the presses were walking, and couldn't understand for the life of me why they were doing that. Then I looked at where the clamp cylinder lines were pointing. They pointed in the same direction that the presses were walking toward. My first reaction was "Naw, it couldn't possibly be due to that...". I wondered if the force was due to some weird electromagnetic effect that I hadn't heard of before. Hall-effect probes were mounted to the lines as well as lines going to a Fluke TRMS DMM with a peak sample-and-hold function. Probes also went into a 10 Mhz oscilloscope to measure any transient spikes that might be responsible for this effect. The tests were done on a Saturday when electromagnetic interference was at a minimum and all the other shop equipment was shut down.

And the results? The electric field potential was far too low in magnitude to attribute to the Biefeld-Brown⁴ effect. The magnetic field intensity was far too low for magnetostatic propulsion effects. Any spikes generated were basically insignificant. That left only one other possibility that could not be eliminated: The mass flow itself. It was something that was self-evident, but it was so blatant, so obvious that I simply didn't want to believe it could possibly be that simple. That reminds me of the story of the T.V. technician that tears apart the entire chassis only to find that the set wasn't plugged into the wall to begin with. The simple solutions are the ones so far down in the grass that they're tripped over and ignored.

The solution was that centrifugal force itself was responsible for the effect. The action of the tremendous surge of fluid through the hydraulic line to the clamp cylinder produced the force responsible for the "walking". After that episode, I constructed two models. One had an I.D. larger than the other (see spreadsheet). The models were both connected to a hydraulic pump unit which had a 2.2 GPM capacity at 2000 PSI. At this point the pressure was irrelevant. All I wanted was a large mass as possible flowing as fast as possible. The only pressure to speak of in the system was back pressure developed by friction with the walls of the stainless-steel or plastic hydraulic lines. The first model has an effective two turns in the coil, a large internal diameter, and as a result of this a low fluid velocity. The effective percentage of lift amounts to 5%. The amount of directional force on the walls of the loops amounts to 2.73 lbs., and the amount of that which is not self-cancelling is 100 lbs. The best values were obtained with model #2, which had a 20% lift capacity and an elliptical cross-section for the tubing.

In model #4, this effect is taken to absurdity. The 600 GPM listed can either be supplied by a fire pump, or an MHD pump. Again, the back pressure of these systems is minimal, therefore all that is really needed is to keep the fluid velocity up to a nominal working level. Since the mass in the formula for centrifugal force is linear, dropping the fluid density down to that of hydraulic oil still results in a large directional force. Even if the model weight remained the same, the percentage of lift in that case would be 145.80%, still quite a respectable figure. This model has not been built yet, and at some point in the future when resources permit this will be constructed.

Where to go from here?

Since my experimentation of this concept tends to indicate that with further engineering, such models may lead to viable alternatives to present propulsion systems, several other models tend to suggest themselves. These will be reviewed.

The spreadsheet named "Electrograv" details the same forces as they exist in a loop of a copper conductor and a superconductor. The first column of figures is that for copper with a 10 amp current flowing

through it. As you can see, the electron drift velocity makes the magnitude of the force infinitesimal. It is for this reason that I consider this model impractical. The next column over is for a superconductor with a high drift velocity and a 600 amp current flowing through it. The magnitude of force seems to suggest that this concept would lend itself well for further engineering. The next column over has that same superconductor with a smaller radius and a much higher current density, close to the limit of practicality for most of today's breed of superconductors. If this device is indeed feasible, this would be a solid-state analog to the inertial induction coil, and apparently a quite formidable rival. The next column over represents something that may be possible in the future, but remains beyond the realm of possibility in the present real world. It nevertheless indicates the direction where this technology could go. I acknowledge the work of the late William Hooper⁵ on the motional electrical field for suggesting this possibility. This is a mechanical analog of the coil that Dr. Hooper originally suggested. I say mechanical because instead of utilizing the current for its electromagnetic properties, I am merely interested in its properties of mass and velocity, nothing more.

In the spreadsheet "Electrograv 2", there is the concept of utilizing the inertial properties of a current flow through a vacuum. Each "coil" consists of 100 turns with varying radii of curvature and input grid voltage (which determines the velocity of the electron flow through the vacuum). As you can see in the first column of figures, the amounts of force may not be rigorous, but it should be significant. This particular configuration may require the same type of coil configuration as the inertial induction coil to make it practical, as the low magnitude of this force would require many turns to make it practical.

IIM Pertinence

In "Plasmagrav", however, we see a new concept. That concept is to optimize the effect by decreasing the mass flow and optimizing the velocity of that flow. Since the force component rises to the square of the velocity increase, that is, nonlinearly, and the mass on a linear relationship, dropping the density of the working fluid by a factor of ten and increasing the velocity of the flow by a factor of ten results in a tenfold increase in the force output. That is: $100/.1=10$. There is a practical limitation or ceiling to the amount of increase in the force. Obviously at some point your mass will drop to zero and the velocity will reach the speed of light (which tends to suggest some interesting experiments along this line if the nonzero rest mass of the photon proves to be correct). But what I'm really interested in is something readily engineerable on the lab bench that produces workable results, and in this respect heavy ion high velocity plasmas would tend to fit the bill. Another possibility is an even faster plasma using hydrogen, which according to the spreadsheet should produce observable effects. Using surface acoustic wave resonators in dense fluids such as liquid bismuth or mercury should also produce some interesting results. This model is one that most likely will be prototyped in the near future due to its promise.

Another possibility which has not been mathematically modeled is a coil of helically-wound tubing around a torus core with a high-velocity mass flow running through it. As far as a backyard experimenter's budget, this might even consist of wrapping an auto or truck inner tube with a garden hose (looping it through the core of the inner tube) and gauging the difference in weight of the system with the water flowing through the garden hose and when it is not. Theoretically there should be a difference, but I haven't worked out the formulas yet. This effect would be related to the work of Eric Laithwaite⁶ and the inertial properties of gyroscopes. Each turn of the coil represents a system with a discrete amount of gyroscopic inertia. If the fluid around the core merely flowed in a smoke ring configuration, and the torus did not rotate, there would be no gyroscopic torque to complicate the process. But in the toroidal

mass flow there is of course this effect to contend with. As the fluid goes from turn to turn, it must experience a torque at right angles to its flow. And since fluid coils have the same inertial properties as gyroscopes, they will produce the same effects. Let's back up for a minute. Think about a helically wound coil of tubing, with a high velocity mass flow through it. What is it doing? Well, the fluid is rotating around the center of the coil. What kind of properties does a rotating mass have? It has angular momentum and gyroscopic inertia. Therefore the fluid coil has these properties as well. Actually, each separate turn acts as a separate rotating mass, as if the coil were a stack of concentric disks rotating about a common center. This concept is important in visualizing what is going on in the fluid toroidal coil. There are many other coil configurations possible along these lines, bringing to mind the work of Behrendt and Alan Holt⁷. One in particular with what I would consider no immediate application would be a fluid caduceus coil. Try and figure out the gyroscopic moment of that one.

Conclusion

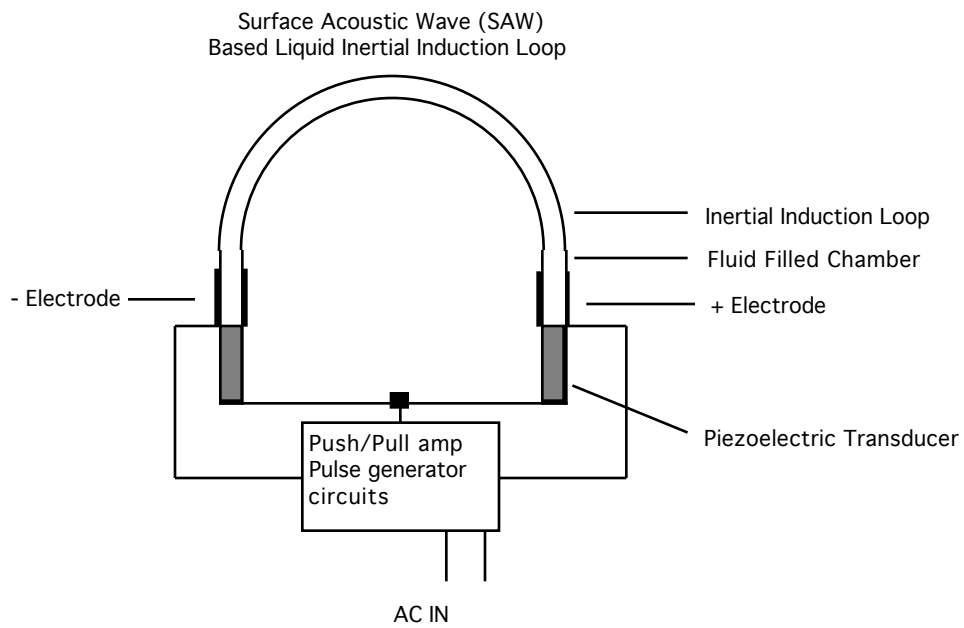
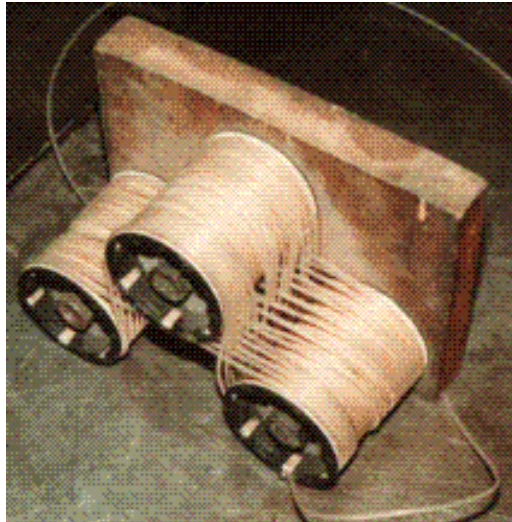
The prospects for inertial induction propulsion are looking up. It's important to distinguish this type of propulsion from what is termed "antigravity". None of these devices produce any kind of gravitational field whatsoever. They DO produce an external directional force component proportional to centrifugal or gyroscopic inertial forces within the devices. This is analogous to a small signal extracted from a large tank current which is circulating. If that tank current is not above a critical value, then nothing can be extracted from the circuit without a collapse of the circulating tank current. The same apparently applies to mass currents. This may give some kind of clue to the designers of these devices.

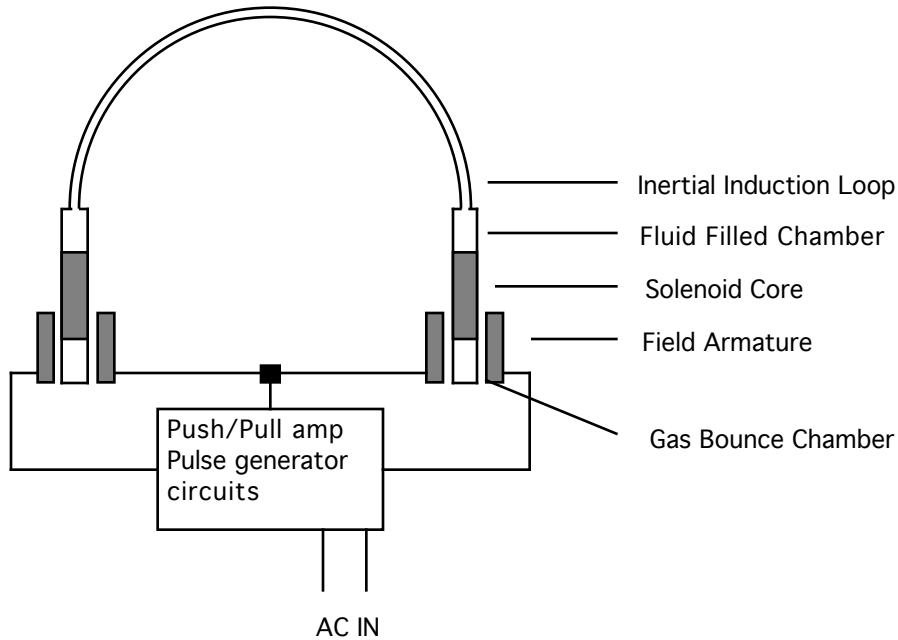
I'm not discounting the work of those in electrogravitics, or some of the more exotic propulsion systems, since they've received enough of a bum rap already from some skeptical researchers. I still think that there's a lot of validity to electrogravitics, it's just that in my case I went with fluid propulsion because I had those resources to work with. Other researchers may have had the opportunity to amass a large amount of RF or high voltage equipment, and therefore work on those projects using large amounts of RF or high voltage. In these cases opportunity and resources determine the direction of the experimentation.

"I do not know what I may appear to the world, but to myself I seem to have been only a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

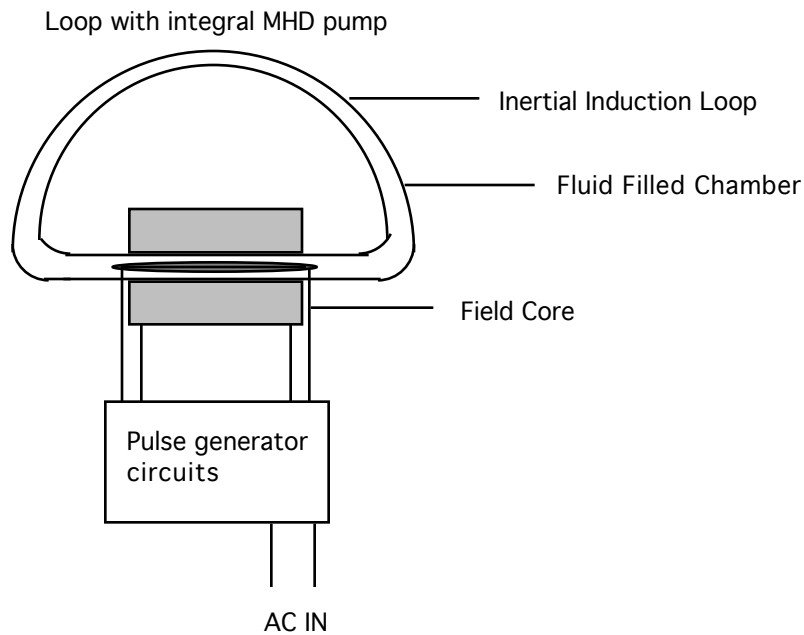
--Sir Isaac Newton, Brewster's Memoirs of Newton, Vol. ii, ch. 27

Here is a photograph of the IIC with a 5% lift Factor:

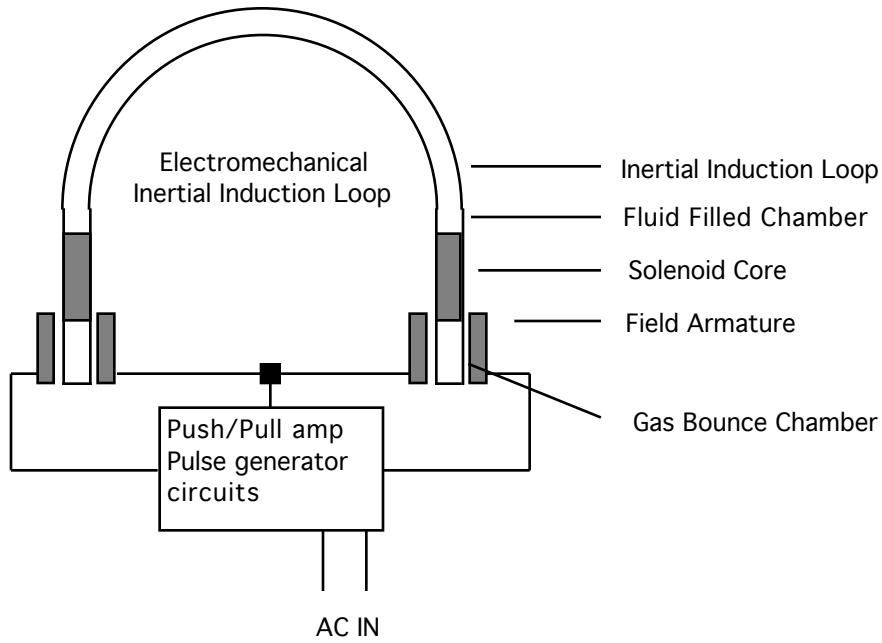




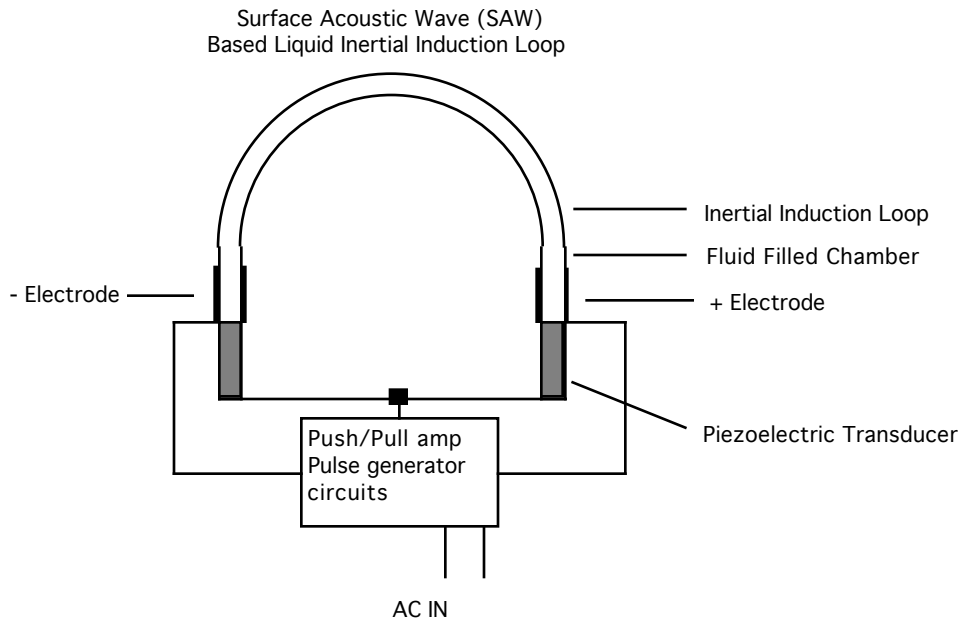
This is a microdisplacement fluidic Inertial Induction Loop which uses an ultrasonic transducer as a driving unit. Current discharges may be employed to vary the fluid density and create what Alan Holt termed “Hydromagnetic Waves”. In this case, they are longitudinal waves induced in the medium:



This is a modular design of an “Inertial Lift element” without force multiplication:

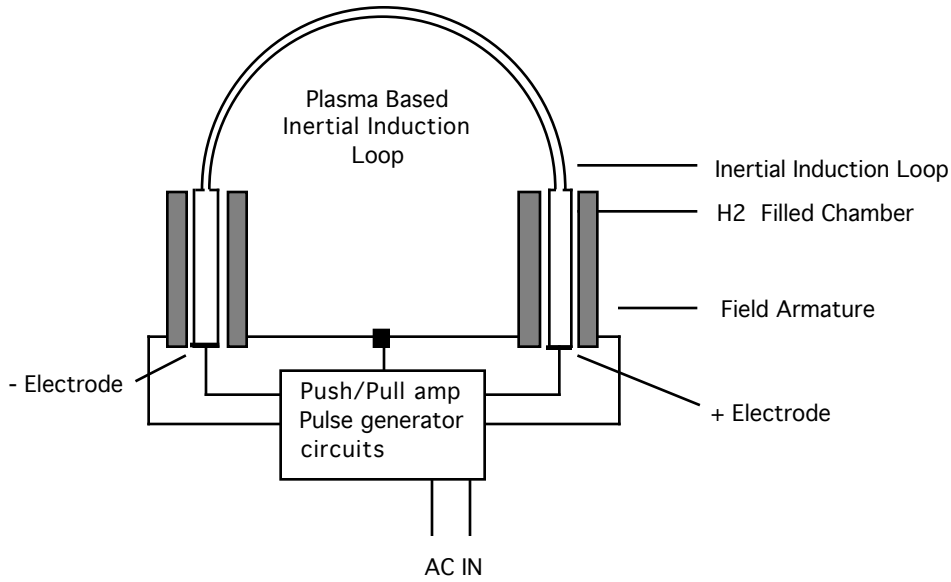


This is a modular design of an “Inertial Lift element” with force multiplication:

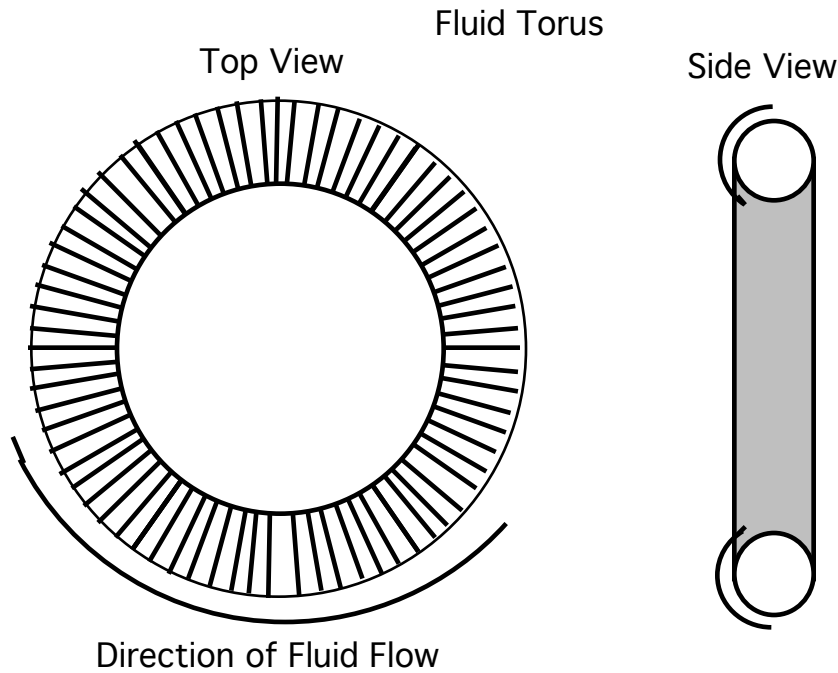


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This is a plasma based Inertial Induction Loop which uses hydrogen as a working gas and a field armature as a driving unit. Current discharges may be employed to vary the gas density and create



This is the design for the fluid torus as discussed in the previous text. The fluid basically moves in a “smoke ring” around the torus, and at the same time moves through the circumference of the torus:



Here are the spreadsheets/tables for both the theoretical and experimental aspects of the IIC which tend to lead to the IIM:

	The "HydroGrav"			
Model Number	1	2	3	4
I.D. of tube (in.)	0.07	0.07	0.3	0.5
O.D. of tube	0.125	0.125	0.5	1
GPM of pump	2.2	2.2	2.2	600
Equivalent in CFM	0.29414	0.29414	0.29414	80.22
circle radius (in.)	1.6875	1.5	0.95	12
Fluid density (gmcm cubed)	0.75	0.75	0.75	1
Number of turns	4	4	2	20
Width of coil (in.)	3	0.5	1	12
Diametral cross section (in.)	0.954927426	0.15915457	0.31830914	3.8197097
Diametral cross section (ft.)	0.079577285	0.01326288	0.02652576	0.31830914
Length of coil (ft.)	3.5343	12.5664	3.97936	502.656
Area of tube(s) (in.^2)	0.00384846	0.00384846	0.070686	0.19635
Area of tube(s) (cm.^2)	0.024828725	0.02482872	0.4560378	1.26677166
Tube displacement (gmcm ^3)	0.222890489	0.79249952	4.60943597	1617.34595
Fluid mass (kg)	0.000167168	0.00059437	0.00345708	1.61734595
Fluid velocity (meters per sec)	55.90236094	55.9023609	3.04357298	298.823529
Centrifugal force on wall (lbs)	2.739882318	10.9595293	0.29834274	106515.756
Directional force (lbs)	0.100010204	0.40004081	0.01089	3887.99998
Aircraft/Model weight (lbs)	2	2	0.5	2000
Percentage of lift	5.00%	20.00%	2.18%	194.40%
Acceleration (ft per sec.)	0.050005102	0.20002041	0.02178	1.94399999

The "ElectroGrav", a solid-state analog of the HydroGrav which uses the mass of a current of free electrons to obtain the effect, results in this table:

Rest mass of electron (kg):	9.1083E-31	9.1083E-31	9.1083E-31	9.1083E-31
Current mass at 1 amp/sec. (kg)	5.6927E-12	5.6927E-12	5.6927E-12	5.69269E-12
Actual current in amperes:	10	600	100000	1000000
Current mass in kg	5.6927E-11	3.4156E-09	5.6927E-07	5.69269E-06
Radius of curvature in meters:	0.01	0.1	0.01	0.01
Velocity in meters per second:	0.0001	600	600	600
Resultant force in lbs (per turn):	1.2797E-17	0.00276419	4.60697814	46.0697814
Number of turns:	10	100	100	1000
Total amount of force in lbs:	1.2797E-16	0.27641869	460.697814	46069.7814
Model mass in lbs:	0.5	0.5	0.5	5
Percentage of lift	0.00%	55.28%	92139.56%	921395.63%
Acceleration in feet per second:	2.5594E-16	0.55283738	921.395628	9213.95628

The "ElectroGrav 2", a vacuum-tube analog of the HydroGrav, uses a current of high potential (and possibly frequency) to obtain the effect. Please note the high potentials which are necessary to get the electrons up to a usable velocity:

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Rest mass of electron (kg):	9.1083E-31	9.1083E-31	9.1083E-31	9.1083E-31
Current mass at 1 amp/sec. (kg)	5.6927E-12	5.6927E-12	5.69269E-12	5.69269E-12
Actual current in amperes:	1	1	100	100
Current mass (kg):	5.6927E-12	5.6927E-12	5.69269E-10	5.69269E-10
Radius of curvature in meters:	0.01	0.01	0.1	0.01
Input grid voltage:	50,000.00	465,000.00	5,000,000.00	5,000,000.00
Velocity in meters per second:	2904.55454	8857.70089	29045.54543	29045.54543
Resultant force in lbs (per turn):	0.00107962	0.01004051	1.07962448	10.7962448
Number of turns:	100	100	100	100000
Total amount of force:	0.10796245	1.00405077	107.962448	1079624.48
Model mass in lbs:	1	1	100	10000
Percentage of lift	10.80%	100.41%	107.96%	10796.24%
Acceleration in feet per second:	0.10796245	1.00405077	1.07962448	107.962448

The "PlasmaGrav", which is another analog of the HydroGrav, uses either a gaseous or ionized gaseous medium to obtain the effect. In the case of hydrogen, a magnetic pinch field is used to create the motion of the plasma in the tube. In the other media, either an ultrasonic transducer or an MHD plasma-state pumping system can be employed to maximize the effect:

Ionized medium	Mercury	Hydrogen	Air	Steam
Normal den. of med. Gmcm ³	11.45	0.055	0.001	1
Working fluid density	1	0.001	1	0.001
I.D. of tube in cm	1	1	1	1
Radius of curvature in meters:	0.1	0.1	0.1	0.1
Plasma mass in kg	0.282517426	1.3571E-06	2.4674E-05	2.4674E-05
Velocity in meters per second:	25	500	24.61	153
Resultant force in lbs (per turn):	396.9369835	0.76267368	0.033593812	1.29843114
Number of turns:	200	3000	3000	3000
Total amount of force in lbs:	79387.3967	2288.02104	100.7814362	3895.293421
Aircraft/model mass in lbs:	2000	2000	2000	2000
Percentage of lift	3969.37%	114.40%	5.04%	194.76%
Acceleration in feet per second:	39.69369835	1.14401052	0.050390718	1.94764671

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“If all mankind minus one, were of one opinion, and only one person were of the contrary opinion, mankind would be no more justified in silencing that one person, than he, if he had all the power, would be justified in silencing mankind.”

--John Stuart Mill, *Autobiography*, ch. 2.

“The chess board is the world; the pieces are the phenomena of the universe; the rules of the game are what we call the Laws of Nature. The player on the other side is hidden from us. We know that his play is always fair, just, and patient. But also we know, to our cost, that he never overlooks a mistake, or makes the smallest allowance for ignorance.”

--Thomas Henry Huxley, *Lay Sermons, &c.*, iii. A Liberal Education

The Black Sun

Or

Black Holes - Engines of the Zero Point

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After viewing Stephen Hawking's "Brief History of Time", I noticed that something didn't seem intuitively right. There was some fundamental flaw I couldn't put my finger on. What was it?

And then it occurred to me, it was among other things, the statement about black holes, and how they had a basic entropy. According to Mr. Hawking, when particle pairs are born out of the zero-point fluctuations of the vacuum near the event horizon, one of the particles are "eaten" by the black hole, while the other escapes. These escaping particles, according to the theory, carry away mass/energy and cause the black hole to evaporate.

This logic is flawed. First, it assumes that the event horizon will consume ONLY one half of the pair that has negative mass/energy. If the event horizon consumes equal halves, then the net mass/energy loss would be zero. The particle pairs would annihilate inside and outside of the event horizon and that would be that. But it still didn't seem right.

What was it? Then I remembered Dirac's theorem. When pair production occurs in a vacuum, one half of the pair is time-reversed. Therefore, if you have an electron-positron pair, the electron is moving in positive time, and the positron in negative time. What is the assumption in gravitational attraction? That all events occur in positive time!

So here we have two particles near an event horizon. What does each of those particles "see"? The electron sees a positive gravity field, because it exists in positive time. Therefore, it gets sucked into the event horizon, and disappears. But what about the positron? It operates in negative time, and all physical forces are therefore time-reversed. Any pull is seen as a push. The gravitational force existing near the event horizon repels it.

So, contrary to conventional theory, the black hole would consume the positive side of the mass/energy pair, increasing its own mass and energy in the process. It would radiate an intense negative mass/energy flux. Can this be possible? Yes, it could. Moreover, if it is not, then Dirac and the fundamentals of physics are wrong. These are serious implications, which I will elaborate on later.

Conventional models have an "ergosphere" of gases heated to millions of degrees spiraling into the black hole. If this theory is correct, then this gaseous disk will be emitting more energy than can be accounted for by the kinetic energy released by the fall. The inrushing gas and debris will be met head-on by a massive positron flux, with mass annihilation as the result for any electrons in the gas. The neutrons, irradiated with the positron flux, would be converted to protons. Nuclear fission would result, with nuclei heavier than hydrogen converted to that element.

So we have a proton flux and leftover positrons as the result. Dirac also postulated that reversing the charge, from negative to positive, reversed the arrow of time. If this is true, then nuclei are operative in

the negative time domain. And if that is true, then those protons are already time reversed, and cannot traverse the event horizon, since it would be seen as a repulsion rather than an attraction. This is merely a speculation, and has yet to be proven. But if it were true, then we would tend to see an inflow of mass near the equator of the black hole, and intense plasma and radiation emission at the poles. Also, this radiation emission would be occurring while there is an apparent mass INCREASE going on for the black hole, causing an apparent violation of conservation of matter and energy laws. What is in actuality happening is an extraction of energy from the zero-point flux of the vacuum. The mesoscopic black hole becomes an engine for the extraction of energy from the zero-point field.

Micro and Macro

We have seen what this theory implies at the meso scale involving black holes. What would it mean for the micro and macro scales? Dr. Shinichi Seike has proposed that the energy content of the vacuum is on the order of 10^{92} ergs per cubic centimeter. Since energy curves space as well as mass, this energy content would be more than enough to curve the space around it into a black hole with a Schwarzschild radius of more than 1×10^{-33} centimeters. But something was still wrong. If the vacuum were filled with these microscopic black holes with event horizons in close proximity, they would tend to merge into one big black hole. The universe as we know it would implode into a singularity. Moreover, if black holes predominated, then the universe would be filled with negative matter, since that is all that would resist the crushing effects of the forces present everywhere in the universe.

But... If the universe were filled with a matrix of black and white holes, it would make more sense. Those microscopic white holes would act as a structure that would resist event horizon consolidation. They would “prop up” the vacuum, resist microscopic spatial curvature, and make it appear flat at the mesoscopic level. But at a low enough level, it would look grainy, and filled with speed bumps. In fact, these “bumps” would tend to slow down the propagation of matter and energy through the vacuum. It would set a limit on the speed of propagation as well. Working out the mechanics for this will prove interesting, and I suspect it will be close to the speed of light through the vacuum.

Pushing against the resistance of the white holes would also cause an object to lose energy to this granular zero-point field, and would also cause the property of inertia. These “speed bumps” would also cause a certain amount of quantum jitter, and at the molecular level this could be seen as Brownian motion. The quantum jitter would also cause statistical errors in propagation in space as well as time, and this could be seen as Schroedinger’s principle of uncertainty. So many unconnected effects seem to weave themselves into a cohesive whole when seen from this view.

In a universe of black holes, the energy content of the vacuum is unbelievably high and can be tapped into easily. But in a matrix of white and black holes, negative and positive masses sum zero... But only if they are equal. In this manner, the vacuum can be observed to have zero energy content at the meso level, but at the micro and macro level, it would be extremely energetic. In an all-black-hole universe, when pair creation occurs, electron-positron pairs could conceivably exist for long periods of time before annihilation occurs. But in what I now call the “matrix” of white and black holes, they disappear as soon as they’re created. Why? When the pair-creation event happens, one half of the pair will be close to an event horizon that will absorb the particle. The electron half of the pair will see a black hole, and will merge with it. The positron, being time reversed, will be attracted to the white hole, which is also time reversed. The matrix creates a “quantum thermostat” which keeps the energy level of the vacuum at a preset level.

So how do we change the thermostat? Remember the previous paragraph when I stated that the energy is sum zero, but only if the masses of the white and black holes were equal? What if they weren't? Let's look at that instance. What would happen if you suddenly extracted all the black holes out of a small volume, transforming it into a purely negative energy entity? How long would it last? Not very long. Pair creation at the event horizons of the white holes would be "eating" positrons, and ejecting enough mass as electrons to re-create the black hole half almost instantaneously. The same thing goes for the black holes. If you created a purely positive mass/energy region, instead of imploding, it would create the other half of the pair by ejecting enough positrons to create white holes. The system is inherently self-balancing. By the way, did you catch the part about the black holes consuming just the electrons? By doing so, it would leave it with a net negative charge. The white holes would conversely have a positive charge. Any mesoscopic mass would tend to put a negative bias on the vacuum, making the black hole half of the pair noticeably larger. But... In the process, by expanding the event horizons of the black hole half of the pair; the mass would also have a "bleed" of positive charge. I think this may be a factor in the function of the Biefeld-Brown effect. Therefore the presence of mesoscopic negative or positive mass will set the "thermostat" higher or lower. Even in the case of the mesoscopic black hole, the pair still exists, although the white holes are disproportionately small. The white hole/black hole pair seeks to equalize this, but sees the mass as a strain or stress on the vacuum. It could also be viewed as a scalar charge, as has been suggested by Tom Bearden. And what about the positive charge bleed? The faucet is wide open.

Getting a Charge Out of Gravity

Therefore, any collection of mass would have a positive charge bleed from the zero point, or as I call it, the matrix. What if we used a high voltage source, and tried to simulate the charge bleed from a mass? A man by the name of Thomas Townsend Brown did just this, and found a gravity-like effect, which he termed electro-gravity. Many other researchers have found a similar effect, attributed to a heretofore-unknown link between mass and charge. I believe that as I have stated in the paragraphs above, I have found that link. If this theory is indeed valid, large amounts of positive charge can be used to mimic the presence of mass, and perhaps produce either artificial gravity, or in the extreme, artificial wormholes. This may be possible by integrating the formulas for the Biefeld-Brown effect, the Kowsky-Frost Experiment, the Casimir effect, and others.

The Macroscopic Effect

It has been proposed that the observable universe is actually a black hole, and we are inside it. If this is indeed so, then what effects would this theory have?

If it indeed were in fact a black hole, then from the "outside" one would see a massive outpouring of positrons from the event horizon. The electron flux would pass over the event horizon into our space where it would collapse into virtual electrons and become absorbed into the zero-point field. This mass/energy would then eventually become distributed across the universe, and cause the macroscopic curvature to increase. This curvature would be seen as an expansion from our perspective. Due to a peculiarity in the mechanics of black holes, the increase of the space-time curvature on the inside will be of a larger magnitude than the increase of the Schwarzschild radius of the black hole on the outside. There is another question, however. If this is a black hole, is there a singularity in the center? Quite possibly so. It would be seen as a spherical void, where the "matrix" ceases to exist. It would be the "hole in the hole", so to speak. In a previous paper, 'A Glitch In The Void', I sought to find the exact mechanism that drove the system. I believe I have done so.

Conclusion

What are the implications of this theory? Things such as macroscopic vacuum polarization, since we now know the structure of the vacuum if this theory is valid, which would lead to gravity control and energy extraction/exchange from the vacuum. Also something akin to vacuum engineering, which would be more accurate to call warp matrix engineering. Projection of mass potentials across space, which would make the vacuum appear as a massive solid. This would be the classic “force field” from sci-fi. Using something similar to “quantum entanglement” down in the level where the matrix exists, to copy one volume of space over another, which would end mail delivery as we know it, or the possibility of “faxing” solid matter over distance, ending transportation or delivery problems for commodities. You might even get your groceries “faxed” in this manner.

The only limit is the imagination.

Anti-gravity propulsion comes ‘out of the closet’

NICK COOK JDW Aerospace Consultant

London

Boeing, the world’s largest aircraft manufacturer, has admitted that it is working on experimental anti-gravity projects that could overturn a century of conventional aerospace propulsion technology if the science that underpins them - science that senior Boeing officials describe as “valid” - can be engineered into hardware.

As part of the effort, which is being run out of Boeing’s Phantom Works advanced research and development facility in Seattle, the company is trying to solicit the services of a Russian scientist who claims he has developed ‘high-’ and ‘low-power’ anti-gravity devices in Russia and Finland.

The approach, however, has been thwarted by Russian officialdom. The Boeing drive to develop a collaborative relationship with the scientist in question, Dr Evgeny Podkletnov, has its own internal project name: ‘GRASP’ - Gravity Research for Advanced Space Propulsion.

A briefing document on GRASP obtained by Jane’s Defence Weekly sets out what Boeing believes to be at stake. “If gravity modification is real,” it says, “it will alter the entire aerospace business.” The report was written by Jamie Childress, principal investigator for Boeing’s propellantless propulsion work at the Phantom Works in Seattle.

GRASP’s objective is to explore propellantless propulsion (the aerospace world’s more formal term for anti-gravity), determine the validity of Podkletnov’s work and “examine possible uses for such a technology”. Applications, the company says, could include space launch systems, artificial gravity on spacecraft, aircraft propulsion and ‘fuelless’ electricity generation - so-called ‘free energy’. But it is also apparent that Podkletnov’s work could be engineered into a radical form of weapon system. The GRASP paper focuses on Podkletnov’s claims that his high-power experiments, using a device called an ‘impulse gravity generator’, are capable of producing a beam of ‘gravity-like’ energy that can exert an instantaneous force of 1,000g on any object - enough, in principle, to vaporise it, especially if the object is moving at high speed.

The CME Scenario

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To start with, CME stands for Coronal Mass Ejection. This is a process that takes place commonly in variable stars, which up to this date the sun was not suspected to be one of. But, given the recent astronomical events which have occurred, that perspective is about to change. So, herewith is a somewhat frightening scenario which is a middle ground of what may happen. It is not the worst in that I believe such events have happened in the earth's past, and life HAS survived. Neither can it be confused with a mere solar flare event. Those happen in the course of normal stellar metabolism. If solar flares can be compared to a sneeze, then CME's are like the whooping cough. And just like the disease, it's something that you wouldn't want to be around.

If you look closely, the evidence abounds. It's everywhere in the solar system. The asymmetry of surface features on the planet Mercury, moon rocks that have a glazed appearance, and climactic anomalies on earth all point to violent solar events which have impacted our solar system in the past, and promise to do so in the future. For all it's worth, this scenario is not the end of the world. Although, some may believe it is at the time. But life goes on.

The Scenario

I'm going to give you a time-line rundown on what events to expect. Some may be biblical in proportion. It all starts with a long quiescent period for the sun, an unusually long one. The solar magnetic field seems to drop to zero. In fact, it has just retreated into the interior of the star. Rivers of plasma are trapped by this magnetic bottle, and flare activity is unusually absent. But there is a seething chaos beneath the visible surface, and eventually it exceeds the restraining force of the magnetic field. The magnetic field lines jump to just above the visible surface just as simultaneous eruptions occur. The surface is ablaze with flare activity, apparently over its entire surface. Then the plasma hits the field lines, and they snap like rubber bands just as the flares cohere into a hollow sphere of plasma heated to millions of degrees. That's where we start.

Time Index: 0:00 (0 min., 00 sec)

On earth, the sun suddenly increases in luminosity as much as five times normal on the daylight side. Due to the spectrum shifted toward the blue end, most of the extra energy is emitted as ultraviolet and X-rays. For those caught in the open during this time, they receive a near-fatal dose of X-rays. At the same time, any exposed skin receives a 3rd degree burn in 3-5 seconds from the ultraviolet. Fortunately for us, the earth's atmosphere is equivalent to a meter of lead, otherwise the damage would be worse. For those inside wooden structures, the X-ray dose will be cut in half, and in a basement, the levels will be a tenth of what is outside (no wonder our ancestors were instinctive cave-dwellers.)

Time Index: 1:00

A blue haze develops outside. This is ozone generated from the intense UV. On the night side, people are looking up at the moon, and wondering why it's getting so bright. Some astronomers, fearing the worst, assume that the sun has gone nova and commit suicide. Satellites fry in the intense radiation streaming from the sun, and stop working. World communications based on those satellites fail. The luminosity begins to drop as the spheroid of plasma expands at 1000 miles per second. The photochemical smog on the daylight side makes breathing difficult if not impossible. For those who took cover at the immediate increase in luminosity, they notice that on some combustible materials fire is developing, and assume that it is a nuclear first strike.

Time Index: 5:00

The apparent luminosity is diminishing gradually as the spheroid expands to 180,000 miles above the surface of the sun. If there were any space telescopes functioning, they would see thin wisps trailing away from Mercury, from the surface material vaporized from the initial radiation blast. On the night side of earth, viewers of the dark maria of the moon, not having the advantage of atmospheric protection, start to glow a dull red. Already radiation levels are dropping quickly, and luminosity is down to twice normal. Some countries assuming that it was indeed a nuclear first strike, find that the targeting systems on some missiles on less-than-perfect hardened silos do not work, as are those which are on the surface. Communications are totally down, as switching systems are affected by the radiation on the day side. Due to the sudden heating of the atmosphere, winds are generated as high as 150-200 miles per hour.

Time Index: 60:00

The winds begin to die down. Survivors of the sunburst put out the fires, as the spheroid expands to 3.6 million miles above the sun. The sick and injured are carried to the hospitals in whatever transport they can find, as the radiation has rendered all vehicles with electronic ignition and fuel injection inoperable. On most of the daylight side, the thick blue smog makes it impossible to see the sun, but as day breaks, those from the night side see a frightening sight. There is a luminous ring around the sun, dimmer than the sun itself, but it seems to have a light of its own. It seems to be slowly expanding. This is the plasma spheroid which is expanding into the solar system and approaching the earth.

Time Index: 10:00:00

The plasma spheroid, which I will now call the PS, is now 36 million miles above the sun, and 72 million miles in diameter. It hits Mercury, and vaporizes the crust of the daylight side. Astronomers see a trailing tail which makes the planet resemble a comet. Communications is attempting to be reestablished from equipment not damaged by the radiation of the sunburst. Meanwhile, nearly half the planet has rotated into the daylight, and the dull red glow on the moon is subsiding.

Time Index: 18:36:40

The luminous ring covers over half the sky. It hits Venus, blowing off a significant portion of its atmosphere. It also looks like a comet in the sky. The PS is thinning out as it expands, but at this point it still packs a wallop. It's important to also note that Venus and Mercury were hit as hard as they were not only due to their close proximity to the sun, but also due to their weak magnetic field. It should be at about this point that everyone who sees what is coming realizes what it is, and heads for shelter. The sunburst may have given little warning, but a luminous omen hangs over the heads for all to see like the sword of Damocles. Some suspect the worst, after seeing what happened to the two inner planets. They expect the earth to fry, and head underground. As I have mentioned earlier, this event has happened before, and it's in all our legends. You'll see as I move on.

Time Index: 25:50:00

The shockwave, or PS, hits the outer magnetosphere of the earth. Electrons from the plasma spiral along magnetic field lines and generate large amounts of radio frequency energy which cascades down toward the Earth. The EMP, or electromagnetic pulse, knock out all unprotected equipment. The plasma funnels along the magnetic field lines, straight into the magnetic poles of the planet. What's worse, as the plasma approaches the poles, it heats and compresses to the point that it punches right through the atmosphere there, vaporizing the ice cover on both polar regions. Massive steam plumes rise up out of the Arctic and Antarctic. The Arctic Ocean is vaporized, as well as the islands surrounding Bathurst,

62 Glimpses of Epiphany

ground zero. The Greenland ice cap goes up as well. Antarctica is in similar shape. The magnetic poles of the planet are offset somewhat, so ground zero is not at the spin axis. But the results are horrific all the same. The ocean rushes in to fill the basin of the Arctic ocean. Sea levels drop at least 15 feet. As the crust of the planet is pummeled by the twin jets of plasma, shock waves propagate world wide, to create earthquakes varying in severity depending upon the crustal stability of the local geography. All over the planet, there is a light show from the small amounts of plasma leaking through the magnetosphere. The auroral display can be seen at the equator, even in the daylight. In 5-10 minutes, it's over.

Time Index: 26:00:00

The PS passes by the earth, and the Arctic ocean stops boiling. The Antarctic is burnt to a crisp. The dead satellites which were in orbit are now vapor slowly expanding through space. The steam plumes rise up into the stratosphere, and expand to cover the entire planet, creating a mantle of water vapor. As it expands, it cools down to approximately 125 degrees Fahrenheit. The infrared emissions from this blanket cause the temperature to rise to over 100 degrees. But there is another effect. This shroud, which is miles thick, also is very good at scattering and absorbing sunlight. It becomes very dark on the surface, equivalent to a moonless midnight. The heat from the shroud also stops atmospheric convection. It gets very muggy on the surface. The sea levels drop a further 6 inches from the evaporation at the poles.

Time Index: 50:00:00

It's over two days since the sunburst. The temperature of the shroud is down to about 95 degrees. From space, if there were any satellites left to see it, the earth looks much like Venus, a fuzzy featureless white ball. It's still pitch black on the surface. The relative humidity from the surface right up to the stratosphere is close to 100 percent. People may emerge from their underground shelters and wonder what on earth is going on. The shroud is beginning to hold in the heat, as water vapor is also a greenhouse gas.

Time Index: 74:00:00

The shroud temperature is 65 degrees, but it's beginning to absorb heat from the surface. Some people think it's the end of the world. Maybe it's a racial memory from the last time this happened. Some realize what's coming and either climb on board their boats, or head for high land. Either way, it's a good idea to get into some kind of shelter.

Time Index: 98:00:00

It's been dark for over three days. But something is happening to relieve that eventually. You see, dewpoint has been reached in the upper atmosphere. It begins to rain. But the rain falling from the stratosphere evaporates before it hits the ground, in a revisitation of what happened in those ancient days of earth. In doing so, a delicate balance is tipped and clouds form in the lower atmosphere as well. They begin to rain, and it adds to the rain from the upper cloud decks. It comes down in torrents at the rate of 10 inches an hour or more. The electrostatic charges transferred by the falling water generate a spectacular lightning storm with voltages in the hundreds of millions. Lakes and basins fill to overflowing. The flood has begun.

Time Index: 122:00:00

By now it's tapered off to a normal rain, but it keeps coming down relentlessly. The vast reservoir of water vapor is condensing, but at the same time a fraction of it evaporates in its trip to the ground, keeping the humidity up. By now, the inland areas are flooding, and the sea level is visibly rising. It will

take a while to reach normal level, but it will not stop there. You see, there are still billions of gallons of water which flashed off from the poles earlier. And they will come back down as well.

Time Index: 1058:00:00 (40 days since the beginning of the deluge)

The rain is beginning to taper off. It's starting to look like a normal overcast sky. Where the lower cloud deck thins, there is the weirdest looking cirrus formations. Those are what are left of the water vapor shroud. The sea level is 600 feet higher than it was before the event. There is water hundreds of feet deep in some places, slowly draining off. In North America, the Mississippi river is three times its former width. On some continents, the soil has washed into the sea, leaving areas a barren wasteland of bedrock. On others, it has created continent-wide mudslides burying cities under hundreds of feet of silt and sand. It is a changed world. Coastlines in most places are unrecognizable. Coastal cities are under the ocean. It will take years for the poles to re-form, and the sea level to drop. But now there is another danger. The deluge has washed nearly all the atmospheric carbon dioxide into the oceans. When the poles re-form, it'll be with a vengeance. In 20-30 years after this, there could very well be an ice age. With all those plant nutrients and CO₂ in solution in the ocean, the oxygen levels will rise after a population explosion of plant life in the oceans. And then the aquatic animal life will flourish due to this. So there are a few positive points. In the simulation, there was enough variability that the deluge could end in as little as 30 or as much as 50 days, but I took the middle ground and made it 40 days, biblical similarities notwithstanding.

But what about the other planets? When the PS hit Mars, the poles there also vaporized, and this caused a much smaller scale of the deluge, more like a normal rainstorm. But it was the first one that Mars had in thousands of years. It remains to be seen if there is any remnant of plant life that could take advantage of this, but if there is, we could see a green Mars after a while. Jupiter, on the other hand, was hardly affected at all, other than a splotch on the poles where the discharge occurred. The same goes for the other planets as well. The PS was thin enough that when it got to Saturn, the ring system was for the most part unaffected. And when it passed Pluto after 411 hours, it could hardly be detected at all, unless the probe had sensitive instruments.

Conclusion

Was this the end of the world? No, but to some it could be argued the end of the world as we know it, or TEOTWAWKI. Being a student of legends, I believe sunbursts as I have described them happened many times in the past. And I see no reason why they shouldn't happen again in the future. This civilization should pay heed to these legends of the past, and look for an explanation. I personally think that astronomical events fit many of these, and it takes very little effort to evaluate them. But the real question is:

How close are we to the next one?

JANE'S DEFENCE WEEKLY - JULY 26, 2000

Electrogravitics: the positive approach

One area of research not included in the NASA Breakthrough Propulsion Physics study, but which is touted by some as having the potential to leap the current state of the art in aerospace technology, is 'electrogravitics'.

This is a postulated form of lift based on the controversial assertion that a capacitor charged positively on one side and negatively on the other will experience weight loss, exhibiting thrust in the direction of its positive pole.

In 1952, the man generally described as the 'father of electrogravitics', US inventor Thomas Townsend Brown, submitted a proposal for a 'joint services research and development contract' outlining an electrogravitics aerospace programme called 'Project Winterhaven'. This set out how the US military could go about constructing a Mach 3 manned interceptor utilising electrogravitics technology. Brown based his data on a series of demonstrations he gave to the US Navy immediately after the Second World War.

In these and subsequent tests, 2ft (61cm) diameter disc-shaped capacitors charged with 50 kilovolts and a continuous energy input of 50 watts are said to have achieved a speed of 17ft/s in a circular air course 20ft in diameter. A second series of tests, in which slightly larger discs were supposedly charged at 150 kilovolts, were rumoured in the mid-1950s to have exhibited results "so impressive as to be highly classified". This has led to claims by proponents of the technology that the US government has conducted a clandestine electrogravitics effort ever since under the auspices of a 'deep black' test programme.

Lending possible credence to that assertion is this photograph [not shown], published here for the first time. It is purportedly of a sub-scale electrogravitics experimental air vehicle mounted on a wind-tunnel test-stand somewhere in the USA. Although Jane's Defence Weekly cannot verify its origins, it appears to have been taken in the late 1950s or early 1960s. Intriguingly, Brown recommended the construction of a 10ft diameter disc charged at 500 kilovolts as part of 'Project Winterhaven'.

Officially, the US Air Force and Navy lost interest in electrogravitics when their analysis showed that the movement of Brown's capacitors was caused by 'ionic wind' - the displacement of ions around the surface of the charged plates. Brown later claimed to refute this by conducting the tests in a vacuum.

With one or two exceptions, aerospace companies have studiously ignored breakthrough propulsion concepts such as those proposed by Brown and Podkletnov. BAE Systems describes its 'Project Greenglow' initiative as a "speculative research programme" into esoteric propulsion concepts (such as anti-gravity) and the Boeing Phantom Works recently conducted tests on a 'reactionless drive' device that apparently contravenes Newton's Third Law of action-reaction. Boeing concluded that the device, which uses two spinning arms transferred through three-dimensions, did work, though not yet at the required impulses for endo-atmospheric propulsion or practical space flight.

Echoing Frank Whittle's early pioneering work on turbojets in the 1920s and 1930s, however, there are those who say it might just be the start of something with far-reaching consequences for the entire future of transportation.

The Noah Factor

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This is a personal analysis of where you should and shouldn't be during a global catastrophe such as a pole shift. There are myriad effects of a planet whose crust literally detaches from the mantle and seeks a point of stability. That doesn't sound very serious, but I assure you it is to whoever has the misfortune to be standing on that crust at the time. I will analyze the effects of several locations on the planet above, below, and at sea during such a shift.

Characteristics of the Shift:

I am assuming a shift of 48 hours and 45 degrees. This will cause a shift velocity of approximately 518.82 miles per hour at what I will call the shift equator. The primary duration will be obviously 48 hours. Secondary effects will last another 48 hours, and tertiary approximately 1-2 years. Another important consideration is what I will term the shift axis, the point at which the shift velocity approaches zero. This is the eye of the hurricane, where only minor tremors would be experienced. Whoever stood at this point would not experience the worst of the primary and secondary effects. However, the tertiary effects of a possible nuclear winter quite possibly would be observed. Whatever aftermath applies to the entire planet will still have an effect. Ground effect or hydrodynamic drag will limit actual wind and water velocities close to the surface of the crust to half the actual value of the shift, or 259 miles per hour. This means that if you stood at the shift equator during the event on dry land you would experience hurricane force winds. If you were in a habitat anchored to the sea floor you would be swept away by a sudden current of 250+ miles per hour.

To summarize, here are the locations and what would be experienced at each site:

1) Sea Floor at Shift Equator:

A sudden current of 250+ miles per hour accompanied by debris mixed into a slurry. The sea floor becomes a low viscosity high abrasion mud flow at high velocity. Any observer in this situation has a slim chance of survival.

1A) Sea Floor at Shift Axis:

Few if any primary observed effects other than possible low-level sea floor tremors. An observer in this situation has a good chance of survival.

2) Mid-Continent High Altitude at Shift Equator:

A wind slowly rising in velocity to 250+ miles per hour accompanied by debris and intermediate level earth tremors. This is survivable if the observer is in a structure which is resilient enough to weather the wind-blown debris. If it is in a high plain desert, the material will be dry but a considerable amount of abrasion will be experienced.

2A) Mid-Continent High Altitude at Shift Axis:

Few if any primary observed effects other than possible low-level earth tremors. An observer in this situation has a good chance of survival.

3) Low Altitude Continental Coast at Shift Equator:

A tsunami ranging from 300-1000 feet in height moving at 250+ miles per hour will slam into the

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coastline accompanied by abrasive debris. There is also the 250+ mile per hour gale force winds which combines the sea spray with ground debris into a destructive element which will tend to blow away unanchored structures before the tsunami hits. Another consideration is water pressure. After the wave passes, a water pressure of approximately 443 psi will be experienced if the water depth is 1000 feet. Any structure which cannot take this pressure will then implode. The survivability of this site is near or at zero.

3A) Low Altitude Continental Coast at Shift Axis:

Due to the combination of Coriolis and centrifugal forces, water flows away from the coastline toward the shift equator. During the shift continental shelf areas are exposed and a low pressure barometric zone develops over the site which causes torrential rains. The rains end abruptly after 48 hours and a roaring is heard in the distance. This roaring is the water returning in a massive tsunami 150-500 feet in height with a velocity of approximately 100 miles per hour. Any structure must deal with a pressure of about 221 psi as the wave washes over at that velocity. The survivability of this site is low to problematic.

4) On a Boat in Shallow Water at Shift Equator:

Due to hydrodynamic drag, the velocity of the water during the shift will be approximately 129 miles per hour. That's the good news. The bad news is that it is overtaken by a bunching effect of the wave behind it which is moving 129 miles per hour faster than that. If the craft is in water which is less than half the height of the wave, then the craft will also be riding a major tsunami ashore after the main amplitude wave passes. Prior to this, the wind velocities experienced will be on the order of 120-130 miles per hour, with spray resembling a storm at sea or hurricane. The surface craft would need to withstand the crushing effects of the wave passing over the craft and exerting 221+ psi on the hull. If it didn't implode from this, then it would be encountering debris during the deceleration phase of the tsunami which would tend to compromise the integrity of the hull. The survivability of this site is low to none.

4A) On a Boat in Shallow Water at Shift Axis:

The observer experiences pretty much the same thing as in 3A. He notices a rapid current going away from the shore which carries the boat with it. The tremors will create standing waves in the water on the order of 1-2 feet. This will not be destructive in and of itself, but the shaking may compromise the hull. After the rains, the observer will note a strong current 48 hours later heading back toward the shore. After a while he will notice that land can no longer be sighted, even though the craft is in an area where it should be seen. What is happening is that the boat is behind the leading edge of a tsunami which is kicking up enough spray to create a high velocity fog bank near the front edge of the wave. If the craft survives this, then it encounters the debris field which is accumulating far inland from the original shore. This encounter will be during the deceleration phase at approximately 90-100 miles per hour. The craft will be slamming into tree trunks, animals and assorted flotsam at this speed. It would take a hell of a boat to survive this. Survivability is low to problematic in this site.

5) On a Boat in Deep Ocean at Shift Equator:

One must examine the physics of a phenomenon of a pole shift to really appreciate this. Remember the crust of the planet is what is undergoing the shift, it undergoes an acceleration phase whose length is determined by the viscosity of a fluid layer directly beneath the crust termed the Mohovicic Discontinuity. Various assumptions can be made about this viscosity, but without any reliable data I have chosen to omit any guesses about this. The atmosphere and hydrosphere has considerable inertia which is doing work on the surface of the crust. In other words, if you're in the deep ocean, the crust moves but you

don't. All the hydrodynamic drag effects that do most of the destruction is going on deep below, on the sea floor. The enormous mass of the water above merely sits there with little or no movement. Even the tremors are damped out, the larger ones translated into longitudinal waves which propagate parallel to the surface of the ocean. The craft experiences no tremors. No primary or secondary effects are noted. It is only afterwards, when the shift has completed that the inhabitants of the craft note that the atmosphere has become increasingly murky and the temperature is dropping. It is the beginning of nuclear winter, the legacy of a myriad of volcanic eruptions which has pumped millions of tons of pollutants into the atmosphere. It will be at least two years before the planet begins to recover and the particulate matter drops out of the stratosphere. Two years before the sun is seen again.

The survivability of this site is excellent to high. No real effects of the shift are felt until afterwards, and if the survivors have sufficient provisions it would be advantageous to remain at sea until the land stabilizes.

5A) On a Boat in Deep Ocean at Shift Axis:

Basically the same as in 5. The only difference is that the ocean level drops somewhat due to the centrifugal and Coriolis forces forcing the water to move toward the shift equator. In the deep ocean, there should be no more than a 10 percent drop in the level of the water. This should not be a significant concern. A boat at this site will experience the same effects as the one at the shift equator. The survivability of this site is excellent to high.

6) On a Submarine in Deep Ocean at Shift Equator:

Again, basically the same as in 5 if the submarine is no deeper than half the depth of the ocean that it's in. The survivability of this site is excellent to high.

6A) On a Submarine in Deep Ocean at Shift Axis:

Basically the same as in 5A or 5 if the submarine is no deeper than half the depth of the ocean that it's in. The survivability of this site is excellent to high.

7) On a Dirigible at Shift Equator:

Due to the peculiar atmospheric turbulence during a pole shift, a dirigible or zeppelin would not be preferable. One of the effects of a pole shift is an induced "rolling" shock wave which tends to look quite a bit like clear air turbulence or a tornado on its side. The upper limit of the vortex would be approximately 20,000 feet, which is above the maximum altitude of many lighter-than-air craft. This means that one would experience a violent downdraft on the leading edge of the vortex which would tend to throw the airship to the ground. If the aircraft somehow survived this by running straight into the shock wave it would first experience a sudden torque in the center of the rolling shock wave followed by a violent updraft on the opposite side. This rolling shock wave contains all manner of debris depending on where it is located. On land, it would have animal carcasses mixed with trees and whatever else is picked up from the ground. At sea, it may have spray with aquatic animal life, seaweed, and whatever else might be picked up by the updraft. Survivability prospects are slim to none.

7A) On a Dirigible at Shift Axis:

As has been stated earlier, there is a barometric pressure drop at the shift axis which would precipitate a great deal of storm activity. This also includes electrical storms, which would wreak havoc with a dirigible or zeppelin regardless of whether or not it contained a non-flammable lifting gas such as helium. If flammable fuels were on board, the high amounts of ionization and static electrical activity induces

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the risk of ignition of whatever propellant is used. The electrical storms could also wreck sensitive electronics used for navigation, communication and directional control. While a great deal more destruction will occur on the ground in this scenario, atmospheric effects would render this solution problematic at best. Survivability is therefore questionable.

8) Underground:

Some individuals have asked about the possibility of an underground shelter during the shift. After some thought, I have come to several conclusions as to why this is not preferable:

I) It is only feasible if the surrounding rock is capable of a specific type of plastic deformation similar to the kaolin clay beds in Georgia and other types of clay. This will allow deformation before fracturing.

II) It must also be far enough inland to prevent the entrance from becoming buried due to the wave of debris washed ashore. Coastal areas are a definite no-no for this. As I have stated earlier, the wave will have a maximum depth of approximately 1000 feet which will produce a pressure of about 443 psi. If the shelter is far enough down and structurally strong enough to withstand this, then some kind of provision must be made for digging out, such as tunnel boring machines. The debris can be as much as 30-50 feet deep at the coastlines.

III) If the shelter is located in a mid-continent mountain range, it must be shallow enough to allow for digging out from rock falls within the entrance of the structure. Exterior debris fields will be minimal, but now you have another consideration- which is the granite rock around the shelter. It tends to fracture before it deforms to a great degree, so reinforcement is necessary. You must have just enough rock between you and the outside to prevent destructive forces from coming into the shelter. Any more than that and the shelter is in danger of premature burial.

IV) Then there are the security concerns. How will you prevent others from finding out about the shelter? How will you explain why you are buying an enormous stockpile of food and water purification equipment? Secrecy will be a problem for an underground shelter. One individual located the shelter underneath his in-ground swimming pool to divert attention from the construction. He also threw numerous parties and “padded” the amounts he bought for those parties to disguise the provisions for the shelter. Unfortunately, he only had two entrances/exits for the shelter which were located in either the basement or inside the bottom of the swimming pool. In this case, if the house collapsed during the shift, the only other exit would be in the swimming pool, which would tend to collect a great deal of debris. This would necessitate some plan for digging out, which he didn’t have. In this case he did solve the security concerns only to create a structural or logistical problem. The solution for these two problems seems to be mutually exclusive. The solution for one creates a problem for the other.

Due to the numerous problems with “digging in”, I have concluded that survivability in such a structure is problematic at best, regardless of the location.

9) In Orbit:

Probably the next best place to be other than in the deep ocean. Other than minor gravitational field fluctuations which will shift orbits around, complete isolation is possible from the destruction going on below. The only consideration would be protection from radiation issuing from solar storms. Gerard O’Neill and T.A. Heppenheimer have done a lot of the ground work on this. If protection is minimal, then it becomes a real crap shoot as to whether or not you will encounter a solar flare which generates

a near-lethal dose of radiation. According to O'Neill and Heppenheimer, a shelter is possible inside the habitat which will provide adequate shielding. This must be an integral part of the design if you know what's good for you. Survivability would be excellent to high.

Obviously, the common man cannot afford an orbital habitat, so this would be either the option of either a large organization or government body. Now you get into the dimensions of covert activities and secret societies which I would rather not discuss in this paper. However, if you choose to do so- a good place to start is the book "Alternative 3" by Leslie Watkins. After that, the "Casebook on Alternative 3" by Jim Keith is another good one. And then you'll get into a whole body of information relating to this topic if you use similar search terms on the Internet.

10) Time Travel:

Believe it or not, there is a contingent which is serious about using the technology which according to modern legend was used in the Philadelphia Experiment and the Montauk Project. This would be a kind of "Stargate" in which space is folded in a higher dimension to create a portal in time and space. The advantages are obvious, mainly the concept that you'll be skipping over the period of time in which the destruction is taking place, as well as the aftermath which follows. They basically plan to jump forward about a century and use that time as a base of operations.

It's a great idea, however... There are quite a few negative points that must be addressed. One is that there is the possibility that the gate would be buried in the future. One concept is using the same gate located in two separate times to create a kind of wormhole to travel to the future. This would be preferable to using only one gate without another gate on the other end, as creating a one-way wormhole causes some instabilities in the mass transported, causing that mass to return automatically to wherever and whenever it came from. The gate would need to be located in a geologically stable area where debris would tend to be minimal, or at least in an area in which the debris would erode away before the target time is reached.

Another is that you will be dealing with the descendants of the survivors, some of which may hold a dim view of your method of escaping the pole shift. Therefore the gate's location must be well hidden, since the survivors may destroy it if they knew the purpose of that technology.

One advantage of this concept is that it implies two-way travel. After a colony is established on the other end, forays into the past can be made to scavenge technology and whatever else that may not be missed. The colony can be the best of all possible worlds, taking advantage of the knowledge of the past and combining it with what is learned in the present.

As far as survivability goes, this one is really a case of loaded dice in one aspect. On the other hand it does contain some risks, as you really don't know what the condition of the gate will be until you get there. So I would rank the theoretical survivability of this scenario as excellent to high, since I do not have a personal working knowledge of this concept, or at least I haven't been invited to a demonstration as yet.

11) Cryosuspension/Hibernation:

I have lumped these two topics together due to their logistics being similar even though their technology is not. The concept is that instead of storing a large amount of provisions, one is either frozen or placed in artificial hibernation for the duration of the crisis. Again, location is a critical factor. It must be in a

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geologically stable area to minimize the debris deposited on the outside of the shelter. This would most likely be a bunker on the surface located in a high-altitude mid-continent area. It would also need a reliable power source with either double or triple redundancy for the hibernation bunks.

For those not familiar with the concept of artificial hibernation, it goes like this: A subject is placed either in a tank similar to an isolation tank or a waterbed to minimize blood pooling, and an intravenous drip of a hormone is administered which triggers the hibernation reflex. (This hormone was first isolated about ten years ago, and at that time was successfully administered to several test subjects. So it is a known technology) Nutrients are also administered as the subject's metabolism slows down. The maximum time that hibernation can be maintained at a single stretch would be 2 years, with a more practical period spanning six months. At the end of this period, the individual would be revived. After a recuperation interval, the individual can be re-hibernated if it is necessary to do so. Since the nuclear winter may last two years, the practical approach would be to have crew rotation, with those awake monitoring those who are asleep. They would also be able to do emergency repairs on the facility immediately following the shift and clear debris away from the entrance. Survivability of this concept would be ranked as high, providing the location is a good one.

It is important to note that this concept may also be used for the deep sea boat/submarine approach. If a large number of people are involved, then this would minimize the possibility of mob hysteria occurring in a large crew facing what may be to them the end of the world.

Well, that's about all I can think of. There may be more scenarios which I haven't considered, or maybe combinations of the ones which are already mentioned. The intention of this paper is not to provide a blueprint so much as a general guideline and to possibly stimulate a few thoughts in the process. If I have helped you in that endeavor, then I have succeeded.

“Veil after veil will lift--but there must be Veil upon veil behind.”

--Sir Edwin Arnold, *The Light of Asia*, bk. viii

“If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end with certainties.”

--Francis Bacon, *Advancement of Learning*

Time, Space and Energy

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During my research on the Antigravity Handbook and other papers, I found an important link between relativity and the so-called constants which we normally take for granted in our physical reality. I found that when gravity enters the equation, everything changes. In the paper "A Glitch in the Void", I put these formulae into an Excel spreadsheet to see what would happen.

What it revealed was beyond my wildest imagining. Then, I did some rather deep thinking about it, and I could see where the equations led. The spreadsheet was right.

We live in a dynamic, evolving universe where nothing remains static, even the physical constants we are familiar with. As you move back in time, the mass in the universe remains somewhat constant, even though that appears to vary under the effects of time dilation. But then a conundrum develops. As you try to increase the density of the universe, spatial curvature becomes more acute. Imagine a bucket of ball bearings distributed uniformly across a thin rubber sheet stretched across a trampoline frame. Each one creates a dimple in the sheet that's not very deep. That dimple stretching the sheet increases the area slightly. This is the same as mass increasing the volume of space around it. Now push the ball bearings into a closely packed pile. The sheet stretches to the breaking point. It increases the area of the sheet substantially. The sheet has a high curvature.

This is what happens in the universe when you run it back in time. But the paradox is even more severe. As you try to shrink it down, the space enlarges to accommodate it to the point where it remains the same volume. From an outside observer, it's shrinking. From the inside, it stays the same. I discovered that the simulation creates something much stranger than the simplistic "Big Bang", but it intuitively seems correct. The reverse is true as well. If you try to expand the universe, the curvature flattens out, but the volume remains the same.

Now For the Key.

For a long time, many wondered why the ratio between the electric and gravitational field was 10^{42} . This is the frequency of the modulation of the electric field. If you take a static gravitational potential, modulate it to this frequency, an electric field is produced. I credit much of this to the revealing papers of Tom Bearden, in that he postulates that potentials are the only reality, and that fields are derived. I also suspect that gravitational potentials are not exclusively static, but all have some form of modulation. Even the Earth's gravitation has an infolded electric field vector due to its modulation.

If you could find a way to demodulate the electric field, you will get gobs of gravitational potential. A watch battery could propel a mass of a car to orbital velocity. This is what the Biefeld-Brown Effect, and the Kowsky-Frost experiment did to a very limited extent.

What about the other way? Antigravity and so-called free energy are two sides of the same coin. So what happens when you modulate the earth's gravitational potential going through some hypothetical material? If all you're doing is transforming THE EARTH'S gravity, then a weak electric field is obtained. A voltage multiplier would need to be employed to get a usable current. However, if you found a way to transform the universal gravitational potential, that's a different story. Transforming the

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Earth's potential would reduce the weight of the object, but transforming the universal potential reduces the mass of the object. Too much power generated at once will cause the mass to either drop to zero, at which point the "demodulator" vanishes, or if the mass goes negative, a most unfortunate result as that it becomes antimatter and has disastrous effects when it reacts with normal matter around it.

How Do You Do This?

Well, one way is to make a gravitopile, a Biefeld-Brown device designed to be intentionally leaky. It would act as a rectifier. The Kowsky-Frost material could conceivably work as well as exotic electrets. The universal potential unit would be wrapped around into a toroid using pretty much the same materials. This would configure it into an endless amplifier. A signal could be injected to create a phase locked loop amplifier. This would get tricky. You're talking about a very big potential being tinkered with, so very little input energy would be needed. It would also be very risky, if everything isn't configured correctly. Self-overloading would be a problem. A runaway nuclear chain reaction is nothing compared to one of these beasts overloading.

That's another problem, is the weaponization of this technology. A small unit that would fit into a briefcase, could easily deliver 1000 megatons or more of destructive power. I sincerely hope that the civilization which discovers this develops a greater degree of maturity. If not, the Earth could become another asteroid belt.

A safer way, would be to use a device which develops relativistic effects. Time is integral to the "free energy effect". To give an example, here is a simple thought experiment: Let's say a nine-volt battery could be rotated in an arc at relativistic speed to the point where time moves half as fast. The battery is fully charged before its acceleration. What is the voltage across the terminals, if it were possible to measure it from a non-moving reference? 4.5 volts. But if you were moving with the battery, you would still measure 9 volts. Let's say you connect the two batteries together. Current flows from the non-moving battery into the relativistic one. But the current is not real, because the moving battery sees the other battery as 9 volts, and to it no current flows.

The same goes for a capacitor. Now gravity also produces time dilation effects. Remember it doesn't take much of the transformed electric field to do this, so let's say you alternate the field around each capacitor. So each alternately generates unreal electrical potentials and currents. But here's the good part: These potentials issuing out of the Twilight Zone can still run real devices. And the outputs of these would far exceed the input necessary to generate the relativistic gravitational potentials. One criticism of the realization of this is that such an extreme gravity would crush the capacitors. But sum-zero gravitational potentials still produce dilation effects. So you do not have crushing forces exerted on the capacitors. All of the work is done on the space which the capacitors exist in.

The same is true for electromagnetic devices. Imagine a transformer where the primary is simply a permanent magnet. What is necessary to generate a current in the secondary in this flux-linking configuration, is a time varying magnetic field. So the permanent magnet is inside the artificial dilation field, the sum-zero vector gravity potential. You switch this on and off, or vary it between positive and negative dilation. This varies the field impressed on the secondary, which is a conventional transformer winding. A current is generated, a very real one, and this can power real devices. Again, from the magnet, it sees no time oscillation, and no current generated in the secondary.

Time Is The Secret

And so, time is the secret for obtaining free energy from the environment. Both General and Special Relativity violate the conservation laws locally, and this is essentially the key. By generating abrupt curvatures, or even oscillating ones, energy can be made to appear out of a seemingly empty vacuum. How diverse the designs can be is left to the imagination. Almost anything is possible, for a price. And that price is that we would have a source of energy totally at odds with the political power structure which has the citizens of this poor world by the short hairs. You cannot have time oscillations around radioactive materials. That would cause an oscillation of their half-lives and decay rates. It would make them go boom, as Wilhelm Reich discovered. Einstein knew this as well, from a comment in Jerome Eden's book "Atomic Suicide." In the book, when Einstein went over the documentation of the effects of orgone energy on radioactive materials, he commented: "It would be a bomb in physics!" It certainly would.

Are There Any Devices in Use?

The answer to the previous question is yes. The Methernitha community in Switzerland has an operational system called the "ML Converter." This system, which can be classified as a charge pump, produces several hundred watts. There are at least a hundred people all over the world dedicated toward the dissemination of this technology. The ML is the most efficient device that I know of. There are others which are either slightly below or above unity (unity being 100% theoretical efficiency). The cold fusion effect is one which seems to be within a gray area. In some experiments, all of the energy output can be accounted for by thermonuclear reactions, but in others there seems to be a discrepancy. The energy output seems to be higher than that produced by the fusion of the nuclei. Some claim that it represents a kind of interdimensional transference of energy, or rectification of the zero-point energy.

An interdimensional transfer is intriguing. It brings to mind the energy device in an Isaac Asimov novel titled "The Gods Themselves." I strongly urge all those interested in this field of free energy to obtain this book, and read it. But don't steal it from your buddy who has no idea what it really means. Just buy it and read it with the operation of free energy devices in mind. You may be surprised.

Conclusion

In a previous paper, I have proposed that with the proliferation of this technology, that the amplitude of the strong nuclear force would be significantly affected, causing an increase of the half-lives of radionuclides. This means a possible "dudding" of the nuclear arsenal along with the energy output of the fissile materials within nuclear reactors. You can have one or the other, but not both. You can have a civilization based on nuclear terror and a slow, radioactive death, or one based on a renewable technology which causes the other to become obsolete through its use. In previous decades, our leaders made that choice for us, and some of us are waking up to this fact. Now, we must make this choice individually. To shirk this responsibility this time is to seal the doom of our world and civilization.

This time, let's make the right choice, together.

Nuclear Fission Plants As Terraformers

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In many sci-fi movies about invasion and takeover, such as “The Arrival”, attention is given to the conversion of our native environment to one which is hospitable to the invading force. Usually this is done by tricking the natives into unwittingly accepting a technology which is toxic to their biology in the long-term but friendly to the invaders.

For example, let’s say we terraform Venus. We do this by initiating changes in the atmosphere which transform a carbon-dioxide rich atmosphere into one we can breathe, and dropping the temperature to one which is friendly to our biological systems. There wouldn’t be any moral or ethical considerations provided there are no native life forms which would go extinct as a result of this action.

But what if we weren’t ethical? What if our species, as it had in the past, acted out of greed and lust for territory without consideration for other species or native peoples? Stopping a colonization activity just because it would be genocide would not even be conceived of. There would be the vague rationalizations of course, for those with conscience. They would say that the natives were savages, or that they were animals with a marginal consciousness so far below them in the evolutionary scale that their loss would be insignificant. Rationalizations such as these have always been used to justify genocide in human history, and there is no reason to doubt that it would be used by non-human intelligences on us.

So with this in mind, let me refer to a previous paper which I had written called, “A Glitch in The Void”. In that paper, I proposed that physical laws vary due to the physical structure of spacetime. In particular, the topology of spacetime, or local curvature changes the matter within it. Another way of looking at it is this: the local energy density of the vacuum modifies the potential energy of the particles that reside within that vacuum. For example, if the vacuum had the same energy per unit volume as the neutron, then that neutron would no longer be observable as a physical entity. The rule of thumb is this: there are no immutable constants in the universe. The constants which we see and interact with are a local phenomenon which vary with energy density. Gravity will change the apparent energy density, and the local topology. In parts of the galaxy with greater concentrations of mass, the energy density would tend to be higher as a result.

So what would those effects be? In locations with a large mass-density, the unitary particle charge would be lower, and nuclear (strong and weak) would be higher. Biology would favor chemical reactions more energetic than those here. Lets call these Group 1. This group would also live in an environment where radiologic interactions would be damped due to the local energy density of the vacuum, and probably tolerant to a higher gravity field.

Scenario- Group 1 Colonizes

So what would happen to Group 1 if they came to our neck of the woods? Well, the first thing that they would notice is that after spending any length of time in our local space, the unitary charges of the particles within their ship, and their bodies would go up. Free radicals would become more energetic, and the chemical reactions within their bodies would accelerate. They would develop a fever which would not go away. The more energetic collagen bonds would become brittle, and first their skin would harden and split, and then they would be prone to spontaneous bone breakages. The aging process

would accelerate. The ambient background radiation which we take for granted would give them radiation poisoning. They would also develop an acquired toxicity to the same level of oxygen they were accustomed to at home. If their home world were more massive, they would also develop muscle wastage and obesity. Since the chemistry here is more reactive than their home environment, consuming native foodstuffs would trigger the consumption of a great deal of antacids. In fact, simple acids such as oxalic in tomatoes, or citric in fruits may produce a toxic reaction. They would also be environmentally sensitive to toxins such as formaldehyde, which may be a deadly poison to them. They would also need to purge trace elements from their system which would be stable on their world, but radioactive in ours.

So if Group 1 were terraforming our world, what would they use? Free energy and Fusion (not fission, mind you- lets not confuse apples and oranges) would boost the strong and weak ambient nuclear forces. That would stabilize their biology here. Of course, it would be bad news for us- slowing down chemical processes within our systems faster than we could adapt to them. We would have a slow-moving, dim-witted population. Who would notice? They would also promote methods for diluting what they would consider a high-oxygen environment, encouraging burning of fossil fuels for example.

Scenario- Group 2 Colonizes

Now let's look at what I'll call Group 2. They live in a part of the galaxy, or universe, where space is flatter and the energy density of the vacuum is lower. This makes the individual particle energies higher relative to the vacuum, and charge is higher and nuclear force is lower, or weaker. They may be accustomed to a lower gravity, and a higher background radiation. In fact, their biology might need that radiation to supply additional energy. Oxygen would be as reactive as potassium or sodium is here, and their biology has evolved to use very powerful antioxidants as mediators. Their biology has no heavy metals, as those are highly radioactive in their home space. Their hemoglobin may be based on a lighter metal than iron, or it may have no metals at all, and their blood would appear to be a clear liquid. Their spacecraft are made out of light metals, such as aluminum and magnesium. Their ship may even have a field to keep the energy density of the local vacuum to a tolerable level to keep their ship functional.

And what does Group 2 use to terraform Earth? Well, they would need something which acts as a sink for the strong nuclear, for one thing. Nuclear fission would tend to fit the bill. They would also promote the scattering of nuclear fission products into the environment, to crank up the background radiation to a tolerable level. When they first get here, however, they would be in a very bad way. With the high levels of antioxidants, and low O₂ saturation, they would be in a constant mental fog, barely able to operate. Of course, it would take some time for the local environment to catch up to them, so they could still be here for a significant period of time before they feel like they're permanently hung over. They would need a way to charge up the nuclei in their bodies, at least temporarily, to be functional. Scalar electromagnetics would do the trick. It would be debatable whether locating close to a fission plant would be sufficient, but it certainly would help. Since normal bone would be far too brittle in their native environment, their bodies would probably use cartilage instead. On Earth, their skeleton would become somewhat wobbly as a result, between the change in energy density of the vacuum and the higher gravity. Their digestive system would be much simpler, since their home chemistry is far more reactive. They would have a craving for predigested nutrition, since the chemistry of our environment would be, let us say, indigestible. The lack of reactivity compared to their native environment would be detrimental. Reproduction would be problematic at best without massive terraforming beforehand.

Scenario- Group 3 Colonizes

Now let's go to Group 3. This group exists in an environment similar to ours. The home space which they are from has the same topology and energy density as here. If their chemistry is similar as well, then no terraforming is necessary. They could simply colonize at will, without modifying the energy density of the vacuum. They may have minor variations in chemistry, but these would not be significant enough to warrant a forced environmental change of the target planet, in this case Earth.

Conclusion

Of the three possibilities, it seems as if... if this thought exercise has any validity at all, then Groups 1 and 2 are vying for power. I'm not personally endorsing the theory, but recognizing that this is where the evidence leads, and using the Sherlock Holmes axiom that however improbable, this is what is left and it may in fact be the truth. I recognize that either faction would cause changes to the environment with would have short-range detrimental effects, however, the use of free energy would be far less catastrophic than the alternative that Group 2 requires for it's functionality. In fact, If Group 2 gets it's way (assuming the theory is valid) then the planet would face major extinctions of its native life forms and long-term tectonic instability. They would destroy the planet in the long run in a quest for colonization. Perhaps they simply consider it a stepping stone, or a strategic holding. Whatever the case, what needs to be sorted out is if indeed there is a pattern to human stupidity, and if that pattern leads to the path of this particular conspiratorial scenario. Does it?

Only time will tell.

“The knowledge of man is as the waters, some descending from above, and some springing from beneath; the one informed by the light of nature, the other inspired by divine revelation.”

--Francis Bacon, Advancement of Learning

“The noblest works and foundations have proceeded from childless men, which have sought to express the images of their minds where those of their bodies have failed.”

--Francis Bacon, Of Parents and Children

Up in the Air Over Antigravity

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A discussion on antigravity research would naturally begin with an introduction to the pioneering work of Nikola Tesla, John Searle, Bruce DePalma, T. Townsend Brown and Thomas Bearden. Let's start by looking over the illustrations concerning the Searle disk and DePalma's "N" machine. A close examination will reveal a few similarities between the "N" machine and the Searle disk. Keep that thought in mind.

A brief explanation is in order. After reading the excerpt by Bruce DePalma beneath the illustration of his "N" machine (diagram N), you might be wondering how you can get a potential across practically nothing. If you embrace the old theories on the structure of mass, energy and space, that would be an obvious impossibility. And it would be if space is regarded as a static medium. That is the essence of the theory—that space, instead of being "dead", is a dynamic medium alive with activity. This is the philosophy that Nikola Tesla used to construct one of his free energy machines. I would heartily recommend reading any information that the inventor had written in his own hand on the subject. His writings, even though they're pretty cryptic, contain the key.

In *Ether Technology* by Rho Sigma¹, the view is put forth that gravity is electrical in nature, and in Thomas Bearden's works as well (*Toward a New Electromagnetics* parts 1, 2, 3 & 4)². Jerry Gallimore has extensive research toward that end also (you'll see one of his papers in the *Proceedings of the First International Symposium on Non-Conventional Energy Technology*).³ The basis of the "N" effect is that when a stress in the form of centrifugal force (which is actually a form of gravity anyway) is placed on a material in a magnetic field which is at right angles to the force, an electrical potential is present. Now when a material is in a magnetic field a measure of coherence in atomic motion is conveyed to that material. In the absence of a magnetic field the material of the rotor will have a fraction of the voltage present. This clearly demonstrates that which is termed, the "motional electric field"⁴, is intrinsically linked to the phenomenon of gravity. One is never seen without the other. The electric field is merely a modulation, or an infolding within the static gravity field.

Therefore, it should be possible to produce an electric field with all the properties of a gravitational force field. All it takes is a little ingenuity. Let's see... You would need an extremely high voltage if you had a material with a comparatively low gravitational coupling coefficient. Or vice-versa. What does that suggest to you? It seems to me that a parallel-plate capacitor has the same ability to transform an electric field into a gravitational field that an electromagnet has in the transformation of an electric field into a magnetic field. And between the two lies an inextricable link, the electric field. If there is any point at which I would start in the search of a unified field theory, that would be it.

The Searle effect is the same as the "N" effect. In the case of the Searle disk the magnetic field poles are parallel to the axis of rotation. The electric field that is generated is parallel to the spin axis on the Searle disk. The Biefeld-Brown effect is also linked because the gravitational coupling coefficient is critical to the operation of the device. But the Searle disk seems to obviate that problem by using the brute force approach and using a voltage with an extremely high value. So the Searle effect uses the Biefeld-Brown effect in its operation.

One thing that bothered me about the Searle disk is that it so closely resembled the "N" machine of

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Bruce DePalma. This is the result of some deep thought into a nagging hunch that seems to have validated the claims made by J. R. R. Searle.

Look at the “N” machine. Notice how the electric field vectors appear at right angles to the magnetic field vectors?

Before I go further, it would be prudent to mention something about a bit of trivia that the experimenters choose to ignore... probably because they can't explain it. If you measure the electric field potential with a “fixed” voltmeter on the rotating disk you will notice a very real voltage. But if the voltmeter is mounted on the rotating disk, it will show absolutely no deflection. Why is that? There is an explanation, but it involves relativity, as well as Maxwell's original formulas on electromagnetics. I will forgo a lengthy explanation of the quaternion aspect of this, as it is rarely discussed and would require a background which is no longer taught in schools today. That may be a topic of a future paper. I leave this as merely an introduction.

Put drawings of the Searle disk and the “N” machine next to each other and look at them. What do you see? Notice that the magnetic poles in the “N” machine are parallel to the axis of rotation while the poles on the Searle disk are at right angles. Now if the electric field vectors are at right angles to the magnetic pole orientation, that means that the electric field vectors are parallel to the spin axis of the disk. And if your magnets are of the crystalline variety, that makes the disk a capacitor with an unbelievable value! Now if the formulas for the Biefeld-Brown effect are valid, you'd get an electrogravitic field proportional to the potential across the disk multiplied by the number of elements in the gravitopile. One point to be clarified is if an identical charge is impressed across each element. If it is, then let's say you have 1-2 volts per element. But... you have a very large number of elements—say around 10 to the 12th. And the voltages would tend to add to each other, so the aggregate voltage across the gravitopile would be therefore 10 to the 12th volts. That's a lot of volts. Beats the hell out of a paltry 50 kilovolts or so which Townsend Brown was experimenting with. But what about arc-over, or corona discharge? Well, in order for that to happen, this enormous potential must interact with the electrons in non-moving air. Here is where it gets bizarre. Remember where the voltage only appears relative to which reference frame that the voltmeter exists in? If you measured the voltage across the disk from a non-moving reference, standing next to the disk and holding the probes across top and bottom faces, you would measure a finite voltage. But in order to do this you must first puncture a thin film of air, the boundary layer, which travels with the disk. That boundary layer has no movement relative to the disk surface. It sees no potential. As far as the air outside the boundary layer is concerned, this is an impenetrable barrier. It may ionize the air, but current leakage is negligible. The only question is whether or not each element needs to interact with the non-rotating frame. If so, then a formidable engineering problem presents itself, as it puts a severe limitation upon the maximum potential that a device could attain. If not, the sky's the limit!

That means that you could have 10 to the 12th power, or possibly even 10 to the 15th volts across the disk without any danger of it producing a destructive internal or external discharge. Another interesting point suggests itself. You would have near-infinite energy on the outside, and zero energy on the inside. Energy curves space. How's that for a model for a UFO.? And what about the abrupt differential between internal and external energy reference frames? Something like that may act as a boundary layer effect, refracting inertial forces of whatever physical objects impinge on it. Force field, anyone? If this is indeed so, then it would also have an integral force field, similar to the “deflector shield” of Star Trek. And what do you think would happen if you ran the current that it generated through a field

coil located on the disk itself? Obviously, from an on board perspective there's no current flowing through the conductor, and therefore no magnetic field results. But... from the outside non-moving frame, you do have a current flow. And that does produce a magnetic field. So on the disk you have a condition that bypasses Lenz's law and any need to generate a back E.M.F.

That's one point that bugged me to no end. It seems that everybody wondered how Searle got around generating back E.M.F. on his machine when the "N" machine was doing exactly the same thing. It's the obvious that's the hardest to see. Murphy's Law in operation.

To risk repetition, I said that you could have a near-infinite charge on the disk surface as seen by a fixed observer that would not be seen by an observer moving with or on the disk. The charge would be seen as a scalar electrostatic potential, or S.E.P. for short. If you slowly cranked up the value of the S.E.P., first the electrons would collapse into the quantum field. Then the protons, neutrons, and the plethora of increasingly heavy and energetic particles would follow suit. The disk, and whatever is attached to it which is inside the field, would vanish into the quantum field. Poof! And it's gone. This reminds me of a story about how diamond thieves would hide the stones in glasses of water, as the refractive index is similar. If you're sitting in a field with the same energy density as the primary particles that make up your body, the same thing applies.

But what about the disk's perspective? From the disk's point of view, the S.E.P. never changed. It sees the universe as it always did, although now the disk and whatever is nearby exists solely in the quantum field. And that means it has a few extra dimensions of movement. That means anywhere in space, anywhere in time, and possibly elsewhere in parallel dimensions. Since it exists as a probabilistic construct, its existence is equally probable anywhere in the universe at the same time or anywhen in the universe in the same place. Remember Doctor Who?

Travel in space would be easy enough. You just go wherever you want to go in the transcendent state and then drop back into normal space by de-spinning the rotor. If you wanted to, travel could be instantaneous. The difficulty would lie in time travel, which contains within itself dimensions of probability. It very well could be that the faster you go in space, the more acute the curve becomes as far as probability is concerned. So you'd travel through parallel worlds if you weren't careful and never return to where you started from. If anyone out there is fooling around with this stuff, you have been forewarned. So there.

So the disk undergoes a transcendent shift in its dimensional references. I should explain that a little more clearly. Remember in high school when they told you that when a particle is accelerated to the speed of light it becomes infinitely massive, so massive in fact that the entire universe would collapse into it from the resulting gravity field that it radiated? (Am I showing my age, or what?) Well, in *The Excalibur Briefing*⁵, Tom Bearden clears up that absurdity. What really happens is that the particle loses a dimension and becomes two-dimensional. At the same time it loses mass (three-dimensional mass) and has infinite momentum, or inertia. The big mistake in the past was equating mass and inertia, which in higher dimensions are different quantities. A good example of this is the photon. It has no mass and cannot be accelerated beyond its inherent speed or slowed down to a point below it. In other words, the particle has infinite momentum. So all real mass-energy conversion in this view involves an explosive or abrupt acceleration to the speed of light.

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The conversion process of the material of the disk is another matter (pun intended). In that case it loses mass and spatial momentum, but has infinite temporal momentum. That would be an extreme case, however. In the real world, if you could call the quantum field that, it would be a value between zero and infinite. And your time vector would be dependent upon your temporal and position on the lotus which is shown on diagram A. You've probably noticed by now what that implies. Your direction in time (future or past), is inversely proportional to mass and spatial momentum and proportional to temporal momentum. That determines your speed on the time line.

In that case, how about turning the Searle disk into a fully functional time machine? In theory it would be possible. Instead of just one disk with the north poles facing out toward the edge you use a paired set. The one on top could have its north poles facing out, and the one below it has all of its south poles facing out. We know that the direction of spin, clockwise or counterclockwise, doesn't matter. The electric and gravitational field vectors are dependent upon the magnetic pole orientation. With the two disks counter-rotating at the same speed, and assuming both have the same field strength, the gravitational force vectors cancel out. In fact, all the fields cancel out—except for one. And that's the S.E.P. The accumulation of that field would first cause invisibility, and then a rotation away from 3-dimensional space. Most people with a penchant toward solid state operations would probably be recoiling in horror at the prospect of two huge counter-rotating disks and the associated precessional and nutational torques contained within them. And rightly so. And the first thought that would come to their minds might be a configuration using a set of solenoid electromagnets with all of their north poles facing out mounted on the disk and sequentially feeding square wave pulses into them. Their reasoning would be: Well, what we need is a rotating magnetic field, and therefore a big spinning magnet is unnecessary. There is a flaw in that logic and it is this: The system is dependent upon an accelerated mass that has an integral magnetic field contained within it. But there is a way around that.

What does an accelerating body generate? It generates gravity waves! And so the problem becomes this: How do you generate the same type of gravitational radiation that a rotating mass produces? Or, let me put it another way; how do you produce a "motional gravity field"? A motional gravity field would be the same as a motional electric field with a skewed vector. A look at the work of Hooper and Townsend Brown's British patent no. 300,311 figures 6, 7 and 11 it's obvious that's what he intended to do. But reading the entire patent gives a good background on the matter. It illustrates that if you arrange the plates radially around the center and put a D.C. bias on them you'll get a field that looks like a moving mass. Now you can put the field coils on that disk and sequentially energize each one to look like a moving mass/magnet set. That model just might work.

All this stuff about the strange effects of the Searle disk and the "N" machine makes you wonder what the hardware looked like aboard the U.S.S. Eldridge, the ship that played a part in the infamous "Philadelphia Experiment"⁶. Of course back then they called it Project Rainbow. I'm convinced that whatever they could have used must have been based upon the same effect as the Searle, Townsend Brown disks and the "N" machine. Or that at the very least there are common links between them.

The original intent of "Project Rainbow" was an exercise in conservation. At that time copper was getting scarce, (this was about the same time that steel pennies were being minted) and huge coils that ran from bow to stern were required to degauss or demagnetize the ships' hull to prevent it from being destroyed by magnetic mines. Something else was needed to decrease the phenomenal consumption that was required for each ship to protect itself. Different coil geometries were tried. After numerous design changes the ultimate form was selected. This type apparently had a resemblance to a caduceus

coil wound into a toroid configuration. A number of these coils were mounted around the interior of the hull. When they were energized, (according to the theory) the magnetic field in the hull would be quenched and thus eliminated. However, things didn't work out as planned. When the coils were energized a field fundamentally different from what theory dictated was created. That field changed the amount of "basic" energy that the space contained and which the ship existed in. It increased it substantially.

Now, the only reason that a material object can remain visible and tangible is for it to exist in a relatively low energy-density per unit of volume of space. If that energy density and charge were increased substantially, enough to equal an electron let's say, then that electron would become indistinguishable from the free space around it. If that energy density and charge were increased beyond the amount required to quench an electron, enough to quench a proton, then neither electron nor proton would exist as physical entities. A slight increase in the field from that point would cause complete dematerialization of the body.

Diagram A

Now that I've given you a few of the more preliminary concepts, it's time to dive headfirst into a deeper theoretical examination of the mechanisms. First, we'll take a look at diagram "A". What it's about concerns some graphs on the velocity gradient. (I like that term, my thanks to Tom Pawlicki who first coined it.)⁷ Any particle or material body found in the physical universe occupies a position on this graph. The upper graph is what I term "the lotus", because it reminds me of the flower. Suffice it to say that any mass which is accelerated follows the outer curve for velocity and the inner, petal-shaped curve for momentum. The perimeter of the circle represents zero momentum or inertia, and the inner represents infinite momentum or inertia. Both, however, are transitory.

The second part of diagram A shows what looks like a sine wave. This is a simplistic representation of a multidimensional plot. Here you see time flow (relative time flow) charted against velocity. C^2 would correspond to an infinite "timelike" velocity into the future and C^6 an infinite speed into the past. At the crossover points of C^0 , C^4 & C^8 time ceases to exist for the accelerating body. One point becomes pretty obvious, and that point is that the curve as shown would be infinitely repetitive. And so is the lotus. The lotus would describe a spiral or corkscrew configuration which itself is curved. This curve would wrap itself into a toroid geometry. And that toroid is part of a larger structure at right angles to itself. And so on, ad infinitum

About that reference to the multidimensionality of the plot—it could conceivably be done on a computer plotting these variables: space, time velocity, momentum, and skew angle on the lotus. When the body accelerates from C^0 to C^8 it describes a circle greater than 360 degrees. This is somewhat difficult to show on a two dimensional diagram.

One point of conjecture which I'd like to make could turn out to be true or merely a lot of wasted ink, is this: the "T" or "X" core on the lotus, the point where time, space and momentum axes meet and all three cease to exist would be synonymous with the quantum field, or the core of a singularity. Is it the same as the core where zero-point energy issues from? Probably not, but there are rather convincing arguments either way. Here's another beastie to add to the quantum zoo. There's a particle that would fit rather neatly into the diagram. Call it an exo-tachyon. That particle would ride the hyperbolic section like a surfer rides the waves. And quite possibly it could go in both directions of the diagram as well, sweeping clockwise or counter clockwise, or oscillating between the two. Let's say you started on a

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portion of the curve between C^4 and C^5 . The hyperbola would carry the particle to the point between C and C^2 . It would then move through the “X” core riding the curve to the C^6 position. It would then follow through, plunging back into the “X” core at the C^7 position to re-emerge at C^3 . Its antiparticle, if you could call it that, would follow the curve in the opposite direction.

Conjugate exo-tachyon pairs would rotate about each other similar to the action of electrons and positrons in a supercooled state. (Conjugate electron-positron pairs are called positronium). There would be a good chance that particle “tunneling” would occur between layers of the spiral as well, and the crossover point would be at the “X” core. Of course, this means that most of the particles would concentrate at the “X” core. And since whatever is at the “X” core has infinite momentum and zero mass that would also be one of the properties of the particle when it is in that state. And also the property of free space, because it would be swarming with the stuff, which would be entirely logical. After all, what can you do with free space? You can bend it, stretch it, change its geometry—but one thing you absolutely cannot do is accelerate or decelerate it. That is a definite no-no. If the vacuum had zero momentum there would be an infinite speed of physical objects in normal space, with zero time flow. But what happens when you stop time? The physical properties of space, of the vacuum, changes along with matter which it happens to be in. It becomes impossible to accelerate a body, because without time, that body has infinite momentum. Sound familiar? That is also the vacuum. I think what I term to be the “exo-tachyon sea” is analogous to the neutrino sea, zero-point energy, spacic energy, virtual particle sea, the ether, and whatever new terms have come around to describe it. In fact, it’s also probably the protomatter that Itzhak Bentov describes in *Stalking the Wild Pendulum*⁸. If it sounds like I’m getting too deep it’s just that it’s difficult to discuss a subject like free energy or antigravity without getting a little heavy. Pun intended.

Now on to Table A. Basically all it consists of is a table that charts out the properties of free space and time at the positions mentioned on the lotus. Speaking of the lotus—wherever the momentum curve converges on the “X” core the body possesses infinite momentum and zero mass. At the tip of the “leaves” you would have maximum mass and zero momentum. Let’s look at table A again. At the position “C” the body would be in positive space, positive time, and have infinite momentum. Those distortion effects are based upon Einsteinian space and may be wrong, but I’m using it anyway until I can prove otherwise.

At position “C” the body drops a dimension and becomes two dimensional. Another way of looking at it would be that it rotates 90 degrees in higher space, and merely appears that way to an observer. At “ C^2 ” the value for t becomes absolute and space has a null value. Also momentum has a null value. It rotates further in higher space, and appears to the observer as a line. Since mass has a finite value from the perspective of those aboard such a ship, but also occupies all space at the same time, the mass does not exist as a physical entity from our perspective. This answers the question of how fast a hydrodynamic wave propagates within a magnetic field line. It is instantaneous. At “ C^3 ” you’re still in positive time, but now you’ve got negative space to contend with. That makes for some very interesting physical properties, negative impedance for one. Also negative permeability and permittivity for another. If you could get a mass into that section of the lotus, or build a parallel plate capacitor with that space existing between it, then you’d have yourself a free energy device. Of course, you would have other physical effects to deal with, but it could conceivably work. How long would the supply last? Let’s put it this way, you are consuming a finite number of cross sections of an entity which not only has an infinite number, but also has an extra two dimensions. I think that answers the question. Imagine someone who decides to poke a carbon rod into the plane of Flatland. The Flatlanders find this marvelous source of

energy, and decide to burn the stuff. But, they exist in a plane, and the rod has an extra dimension. They consume the cross section that exists in their plane, and the rod drops down an imperceptible amount. It's back again! So they burn more. They don't realize that there are an infinite number of cross sections to drop down, until Flatland becomes extremely smoggy. I will elaborate on the environmental impact of free energy in a later paper. Let me just say this: We all need to be extremely careful when developing this as a source of energy.

At C^4 the mass rests right on the equator of the lotus. And 'rest' would be an apt description in this case, for the mass truly is at rest. It also has merged with the quantum field, and exists as an entity which is evenly distributed throughout the universe. How does it appear to the observer aboard the ship? Let's review a few of the past transformations. At C it collapsed into a two-dimensional plane. At C^2 it collapsed into a line. At C^3 it became a point. At C^4 , however, the universe appears as a geometric point to the ship and its crew. And from an observer in normal space, it has vanished, existing outside of every geometric point. Another property at this position is temporal simultaneity. Therefore, the mass exists everywhere at the same time. In another view, it exists during one particular collapse phase of the chronon. I'll get into the pros and cons involving the theoretical existence of the chronon in a later paper, as it becomes complicated rather quickly.

At C^5 the mass exists in the flip side of the universe. All spatial and temporal values are reversed, or inverted. Time moves backward and space has negative values. In this part of the cosmic boondocks you'd probably find that hypothetical beastie, negative matter. Strange stuff! Since the inertial properties are reversed as well, if you pushed the object, it would come toward you. If it were located in the Earth's gravity field the effects would be spectacular. For one thing, any pull on the object would be interpreted as a push (due to time reversal), so the mass would accelerate at 32 feet per second per second away from the planet. It would literally fall up.

The thinnest slice of the material (and it does not depend on what material you use—it's a time reversal of matter) would do. If you stood on a thin disk of the material, provided it had the necessary structural strength, two effects would occur which would complement each other. The first is that effect which manifests itself in a gravity field (as if that weren't enough). The second is another one of its bizarre properties which makes a very useful propulsion system. Since the material is just as transmissive as normal matter to gravity waves if you stood on top of it you are still attracted to the planet. But... you are also standing on the disk and applying force to it. So the disk is pushing back and negating any effects of the mass on the disk. This would produce what appears to be an inertial shield but which in reality is not. You would still feel the same gee forces that the acceleration imposed on you as with any other form of conventional propulsion. But you're also standing on a disk that wants to fall up! If you weighed 200 pounds, and so did the disk, here's what happens: First, your mass is neutralized. If the disk were sitting on a scale, it would never make contact with it. Second, there's a 200 pound repulsion to the earth's gravity field. The net effect of the two is that regardless of the mass on the disk, there's still a net 200 pound upward force. In fact, there's no such thing as neutral buoyancy. There is always a net upward force. The real question is how you would transform a mass, which for all practical purposes is a geometric point to our perspective, into a real 3D object which could be used as a practical propulsion system. The answer is I do not know at this point in time. Perhaps someone out there has an idea.

Here's one possibility: What you would need is a field which changes the structure of the vacuum that the object exists in while imparting a temporal acceleration equivalent to C^5 on the lotus. This hypothetical

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field would have a rigid dimensional integrity which would allow the mass to go through its many dimensional transformations while appearing to remain in a stable three dimensional geometry. Call it a relative dimensional transduction field. Basically, it's a dimensional transducer. It would allow you to take a section of the hull of the ship, or perhaps the entire hull, and do a spacetime inversion on it. This would have many useful applications, one of which is another one of the bizarre effects that I alluded to. You see, since all the properties are inverted, so are its thermodynamic properties. You could blast through the atmosphere at 10,000 M.P.H. and it would merely cool down the hull. Lasers and particle beams cool it off. It could also bounce cannonballs or artillery shells back at the source with as much energy as they started with. Kind of like phase conjugating matter. A nuclear blast chills the hull close to absolute zero. And so on.

An alternative to this involves a different section of the curve. That would be applying the RDT field to a mass in the C^3 section of the curve. That would probably make it quite a bit more stable, but you'd be losing some of its temporal properties.

Another possibility is one which involves a great deal of precision in the process. That concerns what might be termed 'fractional' time travel. In this case, the normal object existing between C^0 & C is dematerialized and transposed with the same object in a past section of the curve which is located between C^3 & C^4 . This would effectively 'bump' that object into this section of the curve (C^0 & C), which is our normal spacetime. I think this flip is a little more valid due to the fact that the object in the past has a bit more temporal momentum than the one in the present section and would in all likelihood accept a new position in which it has more energy than it began with. That's one of the principles of temporal energy conversion or entropy. The mass would then be acausal. In that case, since you're manipulating the mass directly without changing the physical structure of spacetime, the field will only be needed to initially 'bump' the mass into the acausal state in which it will stay indefinitely or until the process is reversed.

There are many good reasons for selecting this process. One of them is that you would be gaining quite a bit in the tradeoff, for you now have acausal negative matter with properties that normal negative matter does not have. Negative matter should not be confused with antimatter. They're two different entities. Referring back to the lotus, at positions C^0 to C positive matter is found. (We're composed of positive matter). At positions C^3 - C^4 negative matter is found. Between C^4 - C^5 negative antimatter would exist, and at C^7 - C^8 positive antimatter. But perhaps I should clarify the concept of acausal matter. By "acausal" (or a-causal) I mean that the mass is devoid of the event determinates of cause and effect. It is very close to being in the virtual state, and with the exception of its temporal inversion it would be. Now on to the properties. Any force impressed on the object in the present, or causal side, is actually the effect side of the object due to the inversion. You cannot change an effect. The temporal momentum is infinite. In order to instigate a change in the object the causal side must be changed, and that is in the past. So the mass is effectively indestructible. The mass of the object could also be engineered to whatever specification needed. To do so would require "tighter" tolerances in dematerialization. If neutron star material were used, the temporally inverted fields inherent in the structure would 'lock out' any electromagnetic or gravitational radiation creating a true gravity shield. The mass could be selectively attenuated by reducing the distance that the original object was transposed upon, thus creating a hull much lighter than any alloy which our present technology can fabricate. The material would, according to one view, theoretically lock out inertial forces so the ship could zip around at right angle turns like the typical UFO. I have a name for this material. I call it millennium. After all, it can exist for a thousand years without really existing for a second. But I'm digressing.

At C^6 time would move infinitely fast in reverse. The spacelike vectors collapse into a single time vector. At this position space does not exist. Of course it didn't at C^2 either, but in this case time is flowing the other way. You could have temporal simultaneity, as the body is moving so fast that it's everywhere at the same time. Your free energy device employing this technology would have a pipeline to the early universe. Maybe not the Big Bang, since I have doubts whether that theory is indeed valid, but perhaps some early form which is highly energetic.

At C^7 you would have much the same effects that are seen at the position C with the exception that the time vector is reversed. Think of it as the flip side of time dilation. The faster you travel, the faster your passage back in time will be. If it isn't already evident, this is the section of the lotus that normal tachyons use for propagation.

At C^8 or C^0 the object would be at absolute rest. The time vectors collapse onto the operating space vector, causing an infinite expansion. The body would be everywhere at the same time. Again, this is exactly the same position as at C^4 , with the space vector reversed. It seems that the ancient theoreticians were right after all, at least with the works that I have encountered. Matter does not exist at absolute rest. The old axiom was that matter was the result of motion, and that in the absence of motion, matter does not exist. Another axiom also proves out. That was to the effect that absolute acceleration and absolute rest are exactly the same thing. Once the object accelerates to C^8 , it crosses the same point as in C^0 , and the same effects are observed there, except that it exists in another part of the universe. The other side of the mobius strip, so to speak. Again, these effects are relative, and to the object our universe has disappeared instead. This concludes our tour of the velocity gradient. There may be flashbacks from time to time (pun intended), but those will be only for review purposes.

Equation 1

My thanks to Jerry Redfern for helping me out on the more difficult parts of the formula. I must first mention that the Biefeld-Brown constant that I used in the formula is purely theoretical probably will change after real world testing has been made. That constant represents a missing variable, one that may exist outside of our 3-D space. Or maybe something really obvious that I missed. The formula could also be simplified, but presently it has been structured for convenience and ease of understanding.

Oh, by the way—there is a formula for a scalar gravity field only, a gravity field which exists without a gradient and just sits there and distorts space. In fact it's merely a variation of the present relation. The problem though, would be that high field strengths would make it look like a massive body appeared between the plates, and of course that would throw a spatial vector into the field. There is a connection here with the Casimir effect, but it has not been explored. I will devote a later paper to this connection when the opportunity arises.

But back to equation 1. "G" is the induced field strength relative to earth, or an acceleration of 32 feet per second per second. The variable "m" represents the dielectric mass in pounds. Next is the dielectric constant "k" of the material selected. "A" is of course the area in square inches of one plate and "d" is the distance between the plate in inches. Now comes the iffy part. The Biefeld-Brown constant, "b", is a hypothetical value. I plugged it into some data and in the instances which I've encountered, it has always seemed to work. "E" is the voltage across the plates, which of course must necessarily be D.C. unless you want an alternating gravity field. "N" represents the number of plates minus 1. If the equation

resembles the one for parallel plate capacitance you are absolutely correct. That's what it evolved from.

Analysis and Comparison of Mechanical Models

Quite a few mechanical models have been constructed (and some patented) that attempted to produce a force vector from a spinning mass. The first few that come to mind are the Dean, Cook and A.C. Nowlin Devices. A more recent device is the GIT, by David Colishaw. The Dean Drive appears primitive to say the least. The essence of the theory is valid but the model is not very effective, even though there is a claim that it has passed the pendulum test.

The pendulum test was devised to separate those drives which have no net thrust, but move along the floor through a sort of stick-slip effect from those that actually have a net thrust. If the drive is suspended by a wire from the ceiling, and when energized produces a directional deflection away from vertical, then it has been considered to "pass" the pendulum test. Some devices when suspended in this fashion, just seem to hang there and vibrate. The GIT passes this test. As far as a mechanical model, this device is the best bet so far. It is also primitive, but by no means the final form. It will be interesting to watch the evolution of this device. The other test, which is somewhat more controversial, is the water tank. The model is put on a floating platform. If it goes in a particular direction, or exerts a measurable directional force while in the tank, then it is considered a success. The GIT also passes this one as well. There appears to be an anomaly concerning the multiple armed version of a differential centrifugal force drive in which one end has a closer proximity to the shaft than the other. What happens is that the weights are actually cones which are driven on a track which varies the point on which the cones make contact. It varies between the "equator" of the cone on one side, to close to the end on the other. This effectively exchanges angular momentum for linear on one side, and vice-versa on the other. An interesting concept, to say the least.

In some devices, they look like they should do something, but no matter how fast they are driven, Murphy's hidden flaw triumphs. In some of the patents which I have examined, mechanical stresses would have been extreme and very close to the limits. One possibility is a version of a precessional drive; that's a drive based on a series of gyros arranged in a periphery of a rotating disk. Exactly such a model was proposed by Tom Pawlicki in the book "How To Build a Flying Saucer"⁹. Many engineers will argue that the precessional forces would be excessive and the bearing life so short that the device would require constant maintenance. But... if you use magnetofluid or gel bearings that can take abusive forces with a minimum of friction and temperature rise those complications can be avoided. Also due to the losses involved in mechanical models a free energy drive motor would be mandatory. One theory proposed concerning the Biefeld-Brown effect was that it may be caused by electrons precessing in their orbits rather than an orbital distortion that describes a stretched-out ellipse similar to the Nowlin drive. But, that may be only one possible answer. I tend to think it is not the only one.

The simulations which led to the final formula in Equation 1 were educational. After running the program a few times I have come to the conclusion that the possibility of designing a craft utilizing the B-B effect is difficult but not hopeless. One possibility is to construct a gravitational traveling wave amplifier with positive feedback, taking a stack of the disks and bending them around to form a toroid. This assumes that there is a positive coupling coefficient from plate to plate. The only way to travel! Of course, this makes it a super-regenerative gravitational amp which has some aspects similar to the device that Shinichi Seike outlined as a gravity to electric power generator¹⁰. Presumably, one is the reciprocal of the other. The physical configuration would appear to be a toroid with the plates stacked

radially on the exterior of the torus. To be more specific, the plates would run from the outside to the inside of the torus and would give the impression of a series of doughnuts stacked around the large doughnut. There are several advantages to this design, one of which is that the regeneration rate becomes an important factor in gravitational flux generation. The higher the regeneration rate, the lower the flux density. If you had a really suped-up drive system, then the regeneration rate would have a fairly high frequency at idle, up in the higher RF range of the conventional electromagnetic spectrum. If someone is using this, it would explain the “cooked” soils found at the alleged UFO landing sites. They look as if they’ve been in a microwave oven too long. Another point is that if you wanted to generate a scalar gravity field all you’d need to do is construct another toroid, put it above the other one, and run the force vector in the opposite direction. As long as the two cancel out, the scalar value would operate. And that would produce much the same effects as our theoretical Searle disk example, namely local spatiotemporal distortion or warpage. That’s right—it’s a warp drive. Forget about the dilithium crystals.

The warp drive and a free energy power supply would be all you would ever need, besides the navigational gear and a few necessary luxuries. The navigational equipment would plot a parabolic vector outside 3-space. One view would suggest that the ship actually folds space, but I wonder what happens to the volume in between. Intuitively, that doesn’t seem right.

A variation of this concept would be a warp transposer. Quite literally it would create a scalar wormhole, the end of which would project outside tri-dimensional space and loop back along a parabolic trajectory to the destination point. The unit would contain the warp inside a bottle-like arrangement without spillover into the surrounding space. Since you could plot courses along the lotus the transposer could operate through space and time as well. You could ‘beam’ from New York to Los Angeles and arrive five minutes before you left. Or send packages the same way. You truly could get it there yesterday. To send something you’d punch in the space-time coordinates and the computer would calculate the trajectory. Then the object would be placed on an alignment grid and the field switched on. The mass would then accelerate along the field vector. When the temporal momentum of the mass exceeded the dimensional change per unit time of the field, it would emerge at its destination. The opposite would be employed to get the remote object back on to the transposer grid. In that case, the field would be projected or transposed onto the object to be “snatched”. Then the object would exist momentarily in both the original and transposed spatiotemporal field. Remember that the field created by tangible matter is between C^0 and C on the lotus. The whole objective is to dump energy from the field into the mass to be transported. Once this is accomplished, the mass accelerates along the field vector. It then “falls” outside space time. The bottom of the well, so to speak, is the transposer grid. Since large amounts of temporal momentum would be dumped into the mass over large distances, considerable damping or compensation would be required which would place a limit on the maximum distance that the mass could be transported safely. In other words, if you tried to “beam” in from a large distance you’d most likely arrive with a bang. Even ordinary momentum would be a problem. Here’s an example. The earth rotates at close to 1,000 M.P.H. at the equator, and zero at the poles. Let’s say you are in a city at 45 degrees latitude, and you choose to transport to Quito, Ecuador. You are moving at 500 M.P.H., and Quito is moving at 1,000. The differential is 500 M.P.H. If you transported without some kind of acceleration imparted to the mass of your body, upon arrival you’d be shot out of the transposer at the speed of a bullet. Not a very good situation.

Tunguska, Siberia Blast in 1908

Which leads us into another subject somewhat similar. What really happened to create the tremendous

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explosion which leveled a large area in Siberia in 1908? An accepted theory involves a meteor impact, either a comet or carbonaceous chondrite. It's possible that a comet could be the culprit, as an explosion directly above seems to have done most of the damage. Another theory involves a UFO, and that particular view holds that a spacecraft with a damaged power system blew up due to a runaway chain reaction on board. In light of a new personal insight toward gravity, and its links to electromagnetics, another theory suggests itself. Incidentally, I'm going to invoke that mysterious beastie, hyperspace.

Let's assume that black holes do in fact exist, as well as white holes. These bodies seem as severe a model of gravitational wave theory as you could get, but there is another type of cosmic pac-man which is even more insidious. That type would involve a black hole without a vector to its field. Think of it as a black hole and a white hole of similar masses superimposed over each other. Or of a black hole of negative matter superimposed over a black hole of positive matter. One would have a "push" to its field, and the other would have a "pull". Now here's the interesting point: when the two fields superimpose, the force vectors present in three dimensional space will cancel out. But there's still another force vector to deal with, and that is one that does not go away. That force vector is in higher dimensional space and warps, or distorts it. What this means is that the volume of space associated with it appears to be a disembodied space/time warp. Of course there is a mass there, quite possibly two. It's just that it is undetectable as far as its gravitational influence is concerned. This body would be gravitationally neutral (apparently) so nothing attracts it and nothing is attracted into it.

There could be three ways of detecting it, assuming that it is stable enough to detect. One way would be to use a kind of cosmic plumb line. If you drop a mass into it and it undergoes a violent dimensional change, then you've found it. The same method could be used to "map out" the area to find the borders. Another method could rely on the fact that this body has what appears to be a vast amount of space on the inside of it. Since light would still obey the inverse-square law once it passed the event horizon, a great deal of attenuation would occur as seen from an outside observer. In fact, the body would have the same effect on light as a concave lens. For example, if light had ten miles to travel on the outside, and ten million on the inside, the light exiting the horizon on the other side would seem to have traveled that much farther. Another method would involve measuring the time delay between two signals; one sent from the source to the observer on the outside of the event horizon, and the other sent from the source and through the zone of space under the influence of the body. The delay would be proportional to the amount of space on the inside versus the outside.

How large could these beasties get? The size would be related to the superimposed masses. Conceivably, the smallest they could get would be in the neighborhood of 10^{-33} cm, which would also be the size of a theoretical particle of free space, called the chronon. Could there be a connection? Quite possibly so. The thought occurs to me that if you ran all four quadrants of the lotus into each other you'd get much the same properties that the chronon has. In that case, the field density on the inside would be so high that any mass would appear to be geometric points from an outside point of view. On the inside, however, an observer would see an infinite volume of space and three-dimensional, tangible matter. So there would be worlds within worlds. (Please bear with me. All of this preliminary stuff is necessary to understand what follows). If the superimposed masses had a substantial rotational speed, something else happens. A hyperspatial skew would occur which would produce a wormhole in space. This would be related to the gravitational Coriolis effect generated by the bodies. Actually, a gravitational vortex is the easiest way to understand it. A gravitational tornado or whirlpool would be generated which would induce an acceleration outside spacetime. You see, since the masses cancel out any attraction that the field could have, the only acceleration that would occur is actually outside spacetime itself. So the mass

accelerates. To where? To the business end of the vortex which is transposed upon normal space. And all the way it is gaining kinetic and temporal momentum at the expense of the body which is propelling it. Let's call the superimposed mass combination a C.V.E. That stands for charged vacuum envoidment. After all, that's what is left between the gravitational tug-of-war of the two bodies is a charged vacuum which is apparently empty. Another point which I'd like to clarify is that in this scenario, no such thing as a white hole would be observed at the business end unless the C.V.E. happened to drift into a matter-rich area of space (like the core of a planet, for example). Even then, no superheating of otherwise cold matter would occur unless the C.V.E. is at a distant location. In that case you'd have what might be called a "cosmic gusher". The distance between the C.V.E. and the business end would depend on its mass.

So much for the preliminaries. What would happen if a chunk of rock just happened to drift into a rotating C.V.E., one in which the two masses counter-rotate in relation to each other? It would be accelerated through hyperspace and gain energy at the expense of the angular momentum of the two superimposed masses. And if the C.V.E. were very massive, it would gain a phenomenal amount of energy by the time it reached the exit point and literally slammed into the destination, releasing all of its energy at once. I have no idea how many of these galactic slam dunks occur. But with a massive C.V.E. thousands or even millions of light years away, who knows? I think this may have happened in 1908, in Siberia. Perhaps a wandering asteroid found a C.V.E. and then suddenly found itself in Siberia. When it "popped" into its destination, it might become superimposed on top of gas molecules which just happened to occupy the same space. Which might explain the fission fragments found near the impact(?) site. After all, what would happen when say, an iron nucleus slammed into an oxygen or nitrogen nucleus? An immediate fission/fusion reaction would ensue. That additional energy would probably be insignificant compared to the enormous amount of kinetic energy contained by the asteroid. Of course the same thing could happen to a spacecraft, if that theory is valid. And so...Kaboom!

Now on to an explanation of the remaining diagrams.

Diagram B

This diagram shows the gravitational flux flow around the Biefeld-Brown Disk according to Rho Sigma in Ether Technology¹¹. The direction of thrust is actually the vector that a mass would take as it "fell" into the field. Usually the impression that one gets from the term "thrust" is a push rather than a pull, so that term is somewhat misleading.

Diagram C

This diagram shows a Biefeld-Brown Disk with what I term a modified hydrodynamic vortex. This flux flow is markedly different from the one in diagram B. This configuration is much more prone to "matter snatch" than the one in diagram B. It would seem that in diagram B the field produces more of a pinching action than the one in C. The matter snatch effects would be interesting. The one in B would produce a kind of lateral compression of the soil with a small cross section pulled up where the force vector is strongest. The one in C would cut round, neat holes in the soil. The soil would literally stick to the underside of the disk.

Diagram D

This diagram shows the gravitational field configuration of a T.T. Brown disk with the conventional radiation pattern. This field shows the field radiating away as an electromagnetic field of radiation normally would. This view would only be correct with a disk composed of a superdense mass, such as

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that suggested by Robert L. Forward¹². It would not be correct with the observed effects linked to the generation of a gravity field using an electric field.

Diagram G

This diagram shows the gravitational field configuration of the Searle disk and the resultant electric field potential across the face of the disk. This shows the similarity between a Searle disk and the operation of a homopolar generator, or “N” machine, as suggested by the work of Bruce DePalma^{13,14}.

Diagram I

This diagram shows my version of a Schauburger device using four torqued fluid vortices. In theory, the operation of torquing a fluid vortex would be identical to torquing a gyro, since the gyroscopic moment of inertia is similar. All that would be needed to test this would be a pump motor of sufficient capacity, fluid baffles, and the associated piping. In this device, the curvature of the pipe in which the baffles are placed and the location of the fluid baffles would be somewhat critical. Think of it as a liquid “Laithwaite engine”.

Diagram H

This diagram is my idea of what a ship would look like using the best of the alternative technologies available. This version is in the shape of a discoid craft, not really a true saucer. The homopolar motor/generator resembles the N-1 Power Generation System of Bruce DePalma¹⁵. This version has a few modifications on it, however. One of which is a tremendous increase in size, and another would be a specialized power supply which would feed into the main drive. One addition to this design which would be absolutely mandatory is the field stabilizer domes. When the main drive is in operation and a fairly high field amplitude is reached, a kind of “gravitational Coriolis effect” would come into operation and would tend to torque the ship and make it spin around like a frisbee. The field stabilizer domes prevent this undesirable operation by generating “mini-vortices” that destroy the angular momentum in the gravitational field thrown out by the main drive. Top speed? The top speed would be proportional to the power output of the main drive and the capacitive load of the Biefeld-Brown drive. With state-of-the-art materials and technology this craft could possibly achieve fifty percent the speed of light. This version would provide a pretty conservative acceleration as far as UFO’s go. Some UFO’s accelerate as fast as 32,000 feet per second². This one would be a model T, more or less. Its acceleration would be approximately 960 feet per second². To get some idea of the proportions of the craft and accommodations, the diameter is thirty feet across. With all the space that would be taken up by navigation and life support equipment, the only space that remains would be enough for three or four passengers and one pilot.

Diagram J

This diagram shows a more conventional design than the one outlined above, in fact it can even be retrofitted into a Lear Jet fuselage. But there is a tradeoff. The field generated by the nacelles is completely self-contained and doesn’t protect the crew from the effects of acceleration. So this is primarily a shuttlecraft, and of course with the limited acceleration comes a limit to the speed and range. In other words, this is not an interstellar craft. The top speed (if the fuselage were adapted to operate in a hard vacuum) would be approximately 1,000 miles per second. The range would be limited by the amount of supplies the ship could carry. The two “caps” on either end of the nacelles (“A” on the diagram) are the navigational radomes used during flight to gauge distance to the destination and detect foreign objects which might damage the craft. The items designated as “C” on the diagram supply power to the nacelles. Two are supplied per nacelle, with one used as a backup unit. This would probably be either a

stationary armature generator type or an N-1 power generation system. Cold fusion cells with Stirling engines are also a possibility. Struts run from the nacelles to the fuselage providing structural integrity and acting as conduits for power to the fuselage. The main drive is a gravitopile comprised of Biefeld-Brown disks stacked vertically to provide lateral acceleration. The number of passengers are limited to the fuselage selected.

Diagram K

This one shows the results of a great deal of research into the relationship between the gravitational field and the other forces in nature. It also shows what I term the “Energy Gradient”. This diagram shows the relationship between two primary fields named Phi and Psi whose phase relationships combine to form all the physical forces in nature. I’ll start with the bottom of the diagram, the one marked “Free Space”. In this position, Phi and Psi are 180° out of phase in what is termed as destructive interference. Since the phase difference between the two fields defines the physical dimensionality of free space, in this position there is only a pure vacuum in the absence of the interaction of any fields, something which is not seen in the universe. This diagram evolved out of the familiar electric-magnetic-gravitic triangle that is shown in diagram M. This earlier version did not explain the propagation characteristics of an electromagnetic wave, which made it somewhat incomplete. The earlier theory was very mechanistic and ignored the dynamic capacity of the space in which the wave propagated. Hopefully this will shed new light on the puzzling phenomena observed in the universe that we live in.

In diagram K I have pair-coupled two fields which are named psi and phi. These two fields are never seen alone. Each is always pair-coupled to the other. The phase angle between the two, depending on which one is leading and which one is lagging, determines which force exists in free space.

Beginning at the bottom of the diagram, I have shown that the two fields in destructive interference resembles free space. They would but... Free space in the diagram would have a zero energy density and thus would have no dimensional characteristics. Four dimensions- length, breadth, width and duration would collapse into one. In the space we are familiar with, there is always some amount of angular displacement between the two. Einstein had an adage which he used to explain his theory and which I’ll repeat since it has some measure of validity here. Mass tells space how to curve and space tells the mass where to go. But gravity (or the curve) also tells space how to expand. A gravity field induces an angular displacement away from 180° . That’s one way of looking at it. From another perspective, the angular displacement induces compression of the standing wave “bubble” of a particle and thus by shrinking it down gives the illusion that there is more space around it. Either way you’d get the same effect.

Moving along the diagram in a clockwise direction, we see the electric field. In this position phi leads psi by 90° . It would have an intimate connection to free space and to the gravitic field. In theory then, it should be possible to affect both by using the electric field. It is my contention that the Biefeld-Brown effect, the Searle effect, and other mechanisms used to generate electrogravitic fields does exactly this. A good rule of thumb to use with the diagram is this: Each field affects the fields that are at right angles to it in the diagram. All other fields that are not shown in the diagram exists between any two of the fields in the diagram.

Now on to the gravity field. In this case the components phi and psi are in constructive interference with each other. A very weak gravity field would have some of the same properties of a strong electric field, and vice-versa. With a 0° phase angle between them, the phi and psi fields would produce an

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infinite volume of space. This would be diametrically opposite to the position below it shown as free space. Of course from the other perspective, the absence of angular displacement induces an infinite compression of the standing wave “bubble” of a particle and thus by shrinking it down to a geometric point gives the illusion that there is nothing there. From this position on the diagram another inference may be made. It would be impossible then to have a strong gravity field which did not spill over into the electric and magnetic sides. And if that spillage pair-coupled, there would be a direct conversion of gravitational to electromagnetic energy. That possibility may be valid but I think another is far more likely. If a portion of this “leakage” went into self-oscillation an electromagnetic wave would be created. This very mechanism could cause heating of massive bodies of planetary proportions. It could quite possibly attain as much as 10^6 tons per second in a body 330,000 times as massive as the earth. This conversion is accomplished at the expense of the mass, however, and the body in turn suffers from a form of cosmic dry rot. Conceivably, this could be the cause of the 3° K. background radiation in the universe. More will be discussed in upcoming papers.

Proceeding to the magnetic side we see that psi is leading phi by 90° . If the magnetic field went into self-oscillation it theoretically would fluctuate between a gravitational field and free space with zero energy (also zero volume). Needless to say, this would make for some very interesting effects. Magnetic material saturated with this self-oscillating field would show relativistic effects standing still. Supersaturation could even possibly induce dematerialization.¹⁶

A magnetic field line is a special case unto itself. At the operational level of the field line which is in diagram L, we see that at the core of the field line in number 2 a singularity exists. At the “surface” of the field line, psi is thrown 90° forward. Penetrating the surface of the field line we come to position C on the diagram, which is a gravitational field in which phi and psi are at a 0° angular displacement from each other. This gives an infinite value to the gravitational field, and thus it exhibits the same properties as a singularity. It also produces an entity which has (for all practical purposes) a dimensionally transcendent geometry within itself. Moving on to position D, we see that an electric field is infolded within the magnetic field line. This means that if it were possible to rip the magnetic field line apart, or even flip one inside out, an electric field would be observed. In position E, a zone of free space exists at zero energy. This of course means that at position “E”, a condition exists that gives the zone a finite diameter on the outside and zero volume on the inside. This also implies that if the technology permits to inject a controlled source of energy into one end of a magnetic field line and into zone E, then that energy will “pop” out the end of the field line at the same instant that the signal was injected at the entry point. That signal would propagate at a seemingly infinite speed because physical space does not exist in the center of the magnetic field line in this scenario. And if the signal were injected and allowed to loop through a field line, then you would have a signal moving backward in time. That signal would probably move back to the point prior to the existence of the field line and then would exit and dissipate its energy. This could be a pretty simple way to induce temporal feedback, if it could be realized.

Table A

This table contains various effects that would be observed for a physical mass progressing through the velocity gradient. This table plots relativity and beyond, beginning with position C, the table notes a positive value for T, which is time. A positive is noted for S, which denotes space. These two values mean that at position C the object exists in positive space and positive time. Value M denotes the momentum of the mass. In this case, Aleph⁰⁺ means that the body contains an infinite amount of positive momentum. The aleph series was created for counting quantities greater than infinity. Aleph⁰ is infinite. Aleph¹ is infinity squared. Aleph² is infinity to the third power, and so on. Simply put, it

merely counts powers of infinity. Under distortion effects, time dilation is noted. This means that to an outside observer, the subject is moving more and more slowly as time slows down for them. Also noted is spatial contraction, which means that to the subject, much less space seems to exist between the subject and the destination point. The next point is somewhat debatable. This is seen on the table as “Local Spatial Expansion”, and is based on a rather strict interpretation of Einsteinian space. In this case, the subject and the ship are contracting (actually physically shrinking) in the direction that the ship is moving. So the ship and everyone on board becomes thinner with an increase in velocity. There is another effect that would be seen with dimensional transduction fields. The effect would still cause a spatial contraction in the direction of movement, but if the acceleration is outside of 3-space, then the atomic particles that comprise the ship and its’ occupants contract in three dimensions until they disappear into a collection of geometric points. The next point on the table is position C². In this position, the body is moving at the velocity of the speed of light squared. The body exists in positive time as seen by the + under “Value T”. Value S has “Null” which means that the object does not occupy physical space. Value M is also “Null” which means that the body has no momentum. Under “Distortion Effects”, positive contraction of time is noted as the body moves infinitely fast into the future. Spatial Suspension denotes that from the perspective of the occupants of the ship, our universe ceases to exist. Temporal Simultaneity (with the + symbol attached to it) is another assumption which may or may not be correct.

I will not belabor the point by plodding through the rest of the table. After the examples I have given, you probably have a pretty good idea about the rest.

Conclusion

The prospects of antigravity are looking up. Although I have not actually seen many of these devices (other than the N machine), I understand the theoretical basis for most of them. I usually consider devices which I have not personally seen as an unfounded claim. I’m not calling the inventors liars- on the contrary! I am an inventor myself. But after investigating devices which I have decided not to discuss here due to a lack of substantial evidence, I have gained a bit of skepticism.

I know many of the inventors mean well. They’re not trying to run a con game as John Keely did when his funding was reaching a critically low point. But objectivity is absolutely essential in researching this sort of thing. Extraordinary claims require extraordinary proof. That’s what I’m looking for- proof. Nuts and bolts physical devices which lift off and levitate above the lab bench or floor. Incontrovertible proof. There are a lot of parallels between UFOlogy and this field, probably because what I’m looking for is usually seen IN a UFO.

Is it a waste of time? I’ve asked myself that from time to time. I don’t think so. There’s too much dedication in inventors that I’ve seen to dismiss it out of hand. I wouldn’t do this full time, there’s just not enough going on to justify that. I’m not some scientist with a million-dollar research grant being paid to write the definitive, final word on the subject. I’m a hobbyist, a tinkerer, an experimenter. I network with those of like mind. I am like Diogenes, searching with a lamp in the dark (so many of us are, really). Perhaps someday I’ll find something. Maybe I’ll even build it.

But one thing I DO know....It’s out there!

Table A

Position	Value T	Value S	Value M	Distortion Effects
C	+	+	Aleph ⁰⁺	Time Dilation Spatial Contraction Local Spatial Expansion.
C ²	+	Null	Null	+ Time Dilation Spatial Suspension + Temporal Simultaneity.
C ³	+	-	Aleph ^{1 0}	Negative values for physical properties of free space.
C ⁴	Null	-	Null	Temporal Suspension - Spatial Simultaneity
C ⁵	-	-	Aleph ^{2 -}	Space/Time Inversion
C ⁶	-	Null	Null	- Time Contraction Spatial Suspension - Temporal Simultaneity
C ⁷	-	+	Aleph ^{3 -}	-Time Dilation Spatial Contraction Local Spatial Expansion
C ^{8-C⁰}	Null	+	Null	Temporal Suspension + Spatial Simultaneity

Diagram A

The Lotus

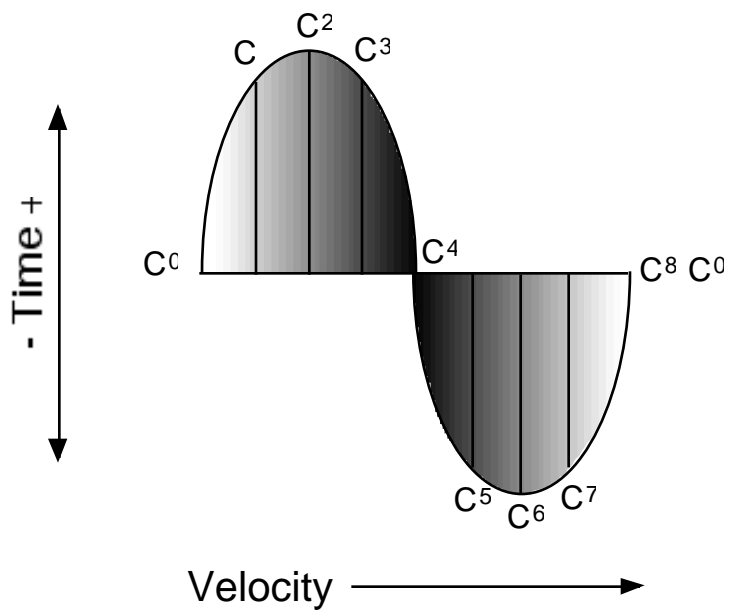
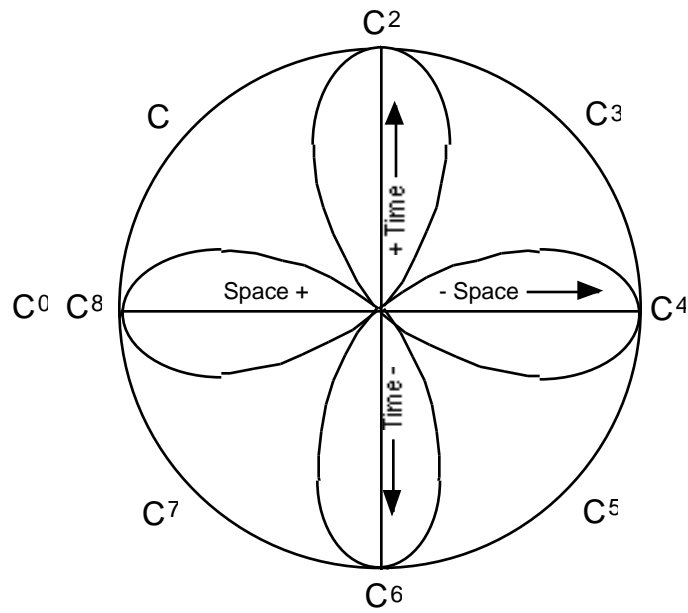


Diagram B
Field Configuration of T.T. Brown Disk
According to Ether Technology

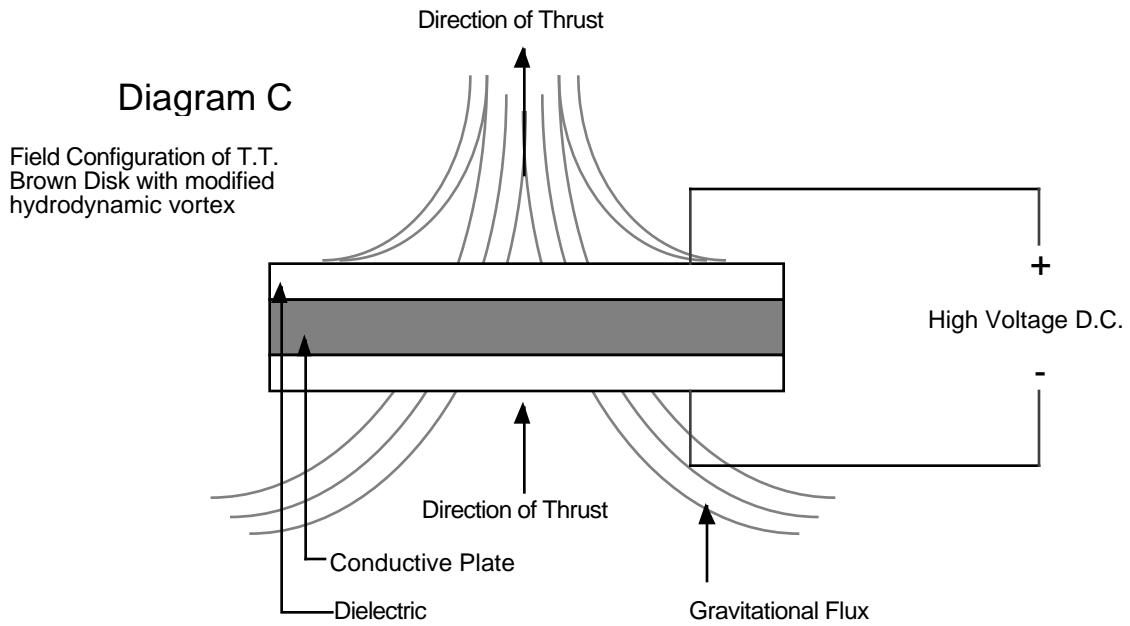
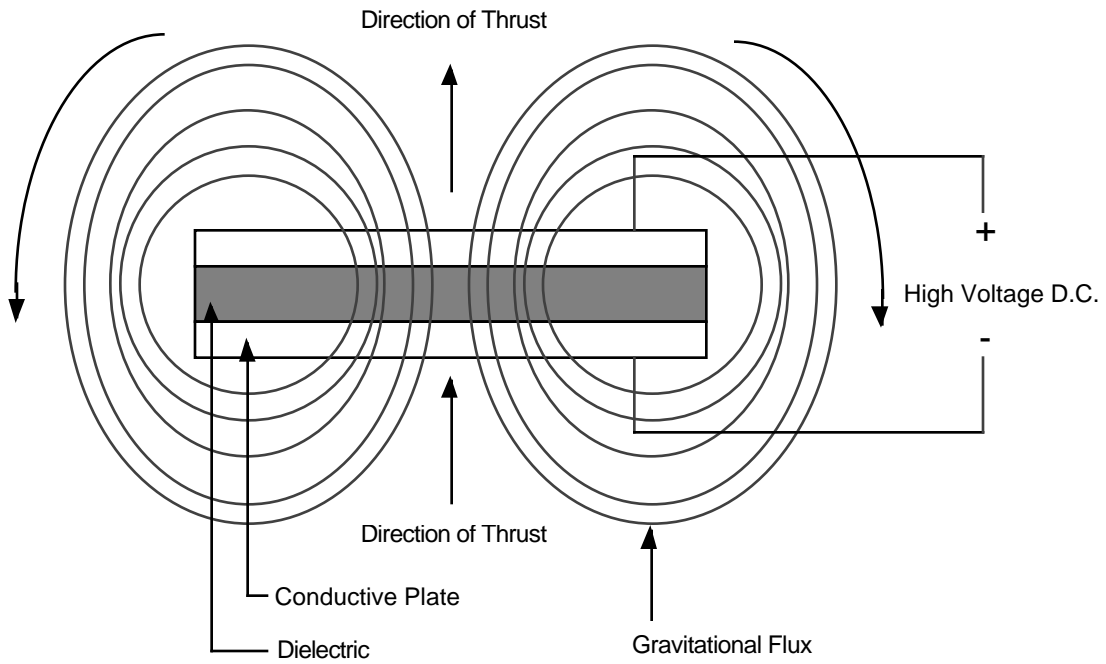


Diagram D

Field Configuration of T.T. Brown Disk with Conventional Radiation Pattern

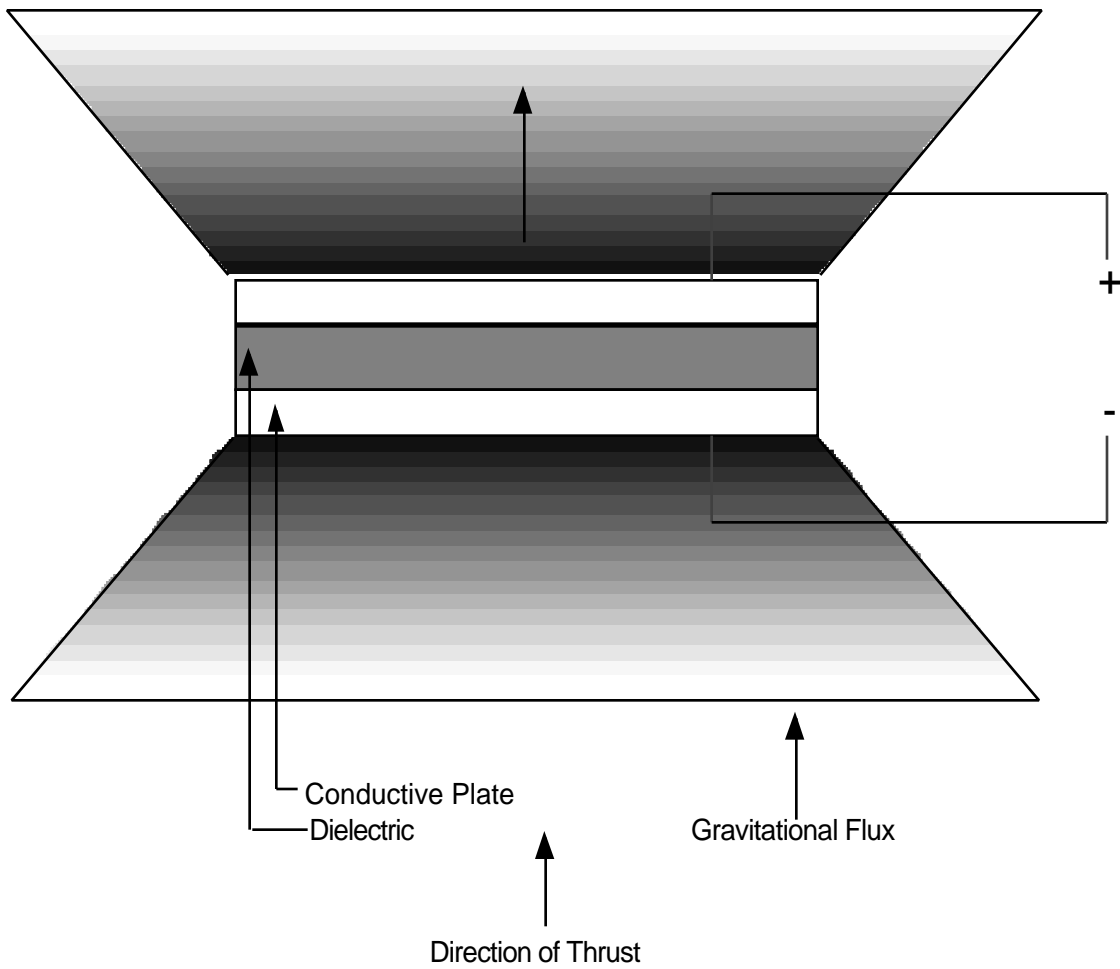
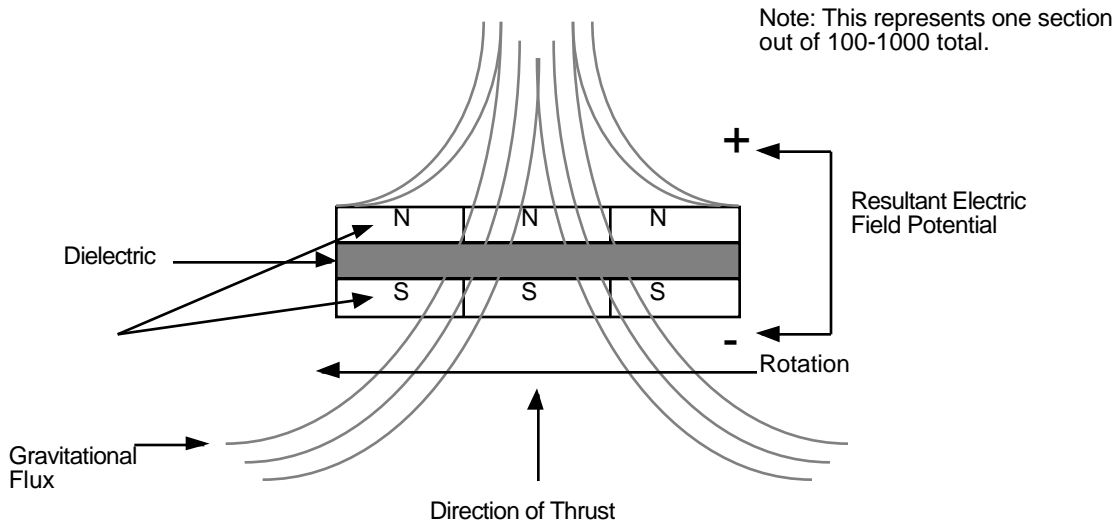
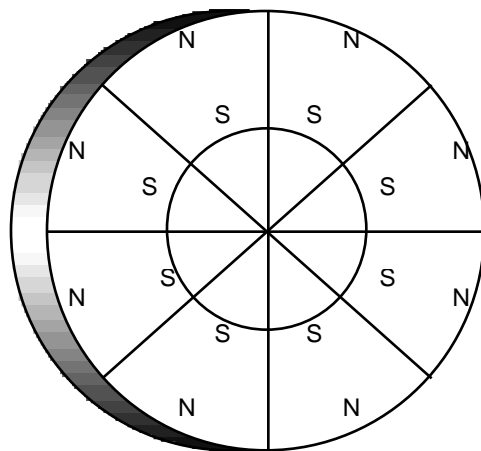


Diagram G



Field Configuration of Biefeld-Brown/Searl Disk Hybrid With Modified Hydrodynamic Vortex



Detail of the Upper Face Showing the Magnet Positions

Diagram H

Antigravity Craft With Biefeld-Brown Effect Drive

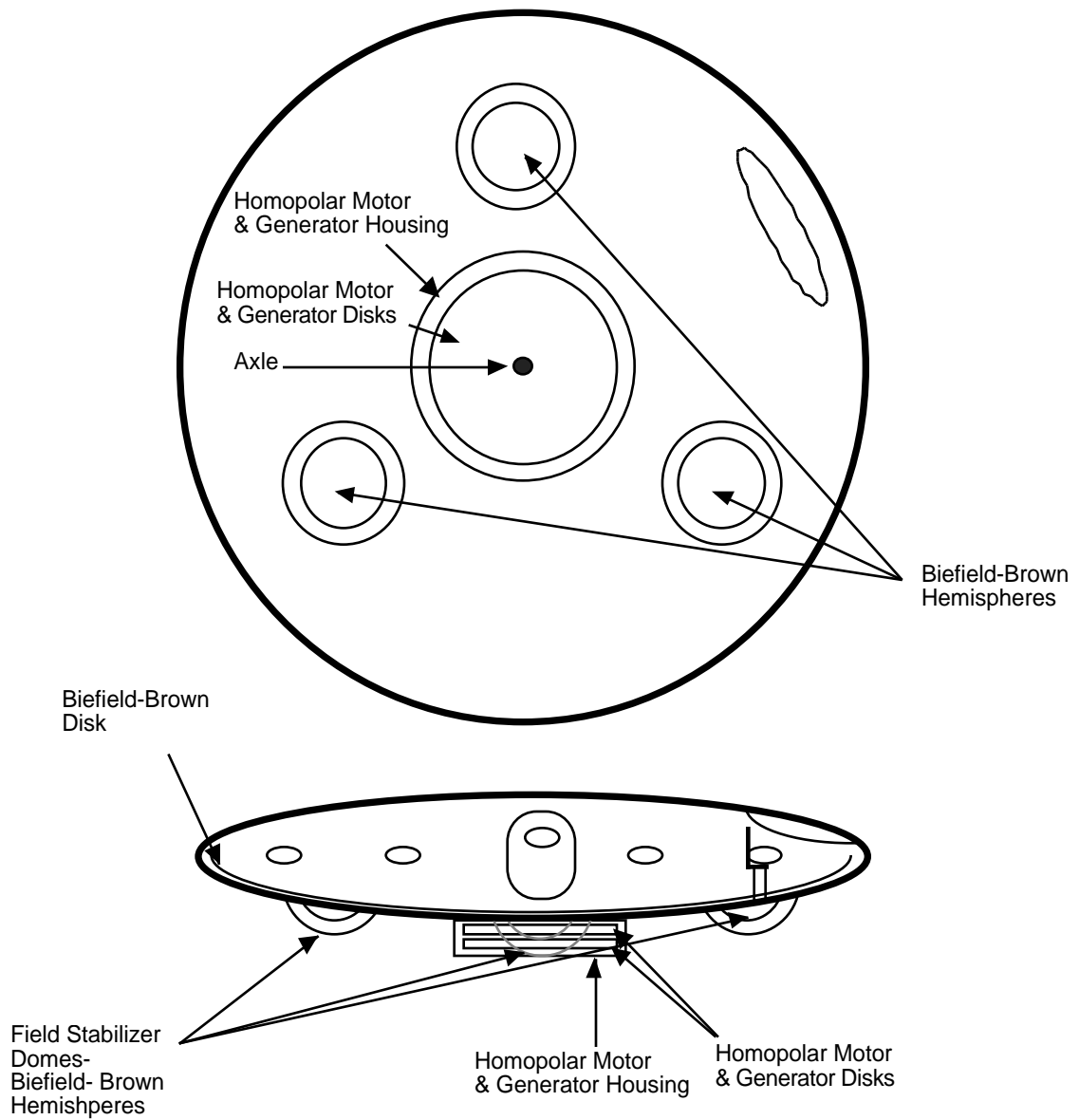
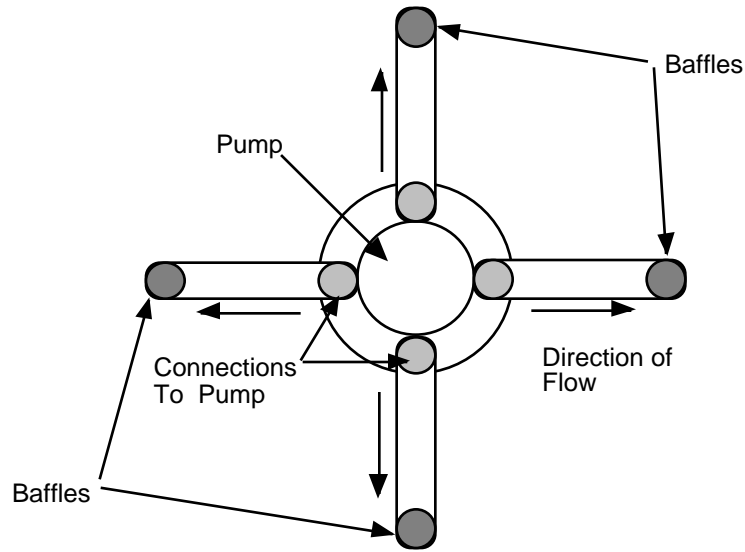
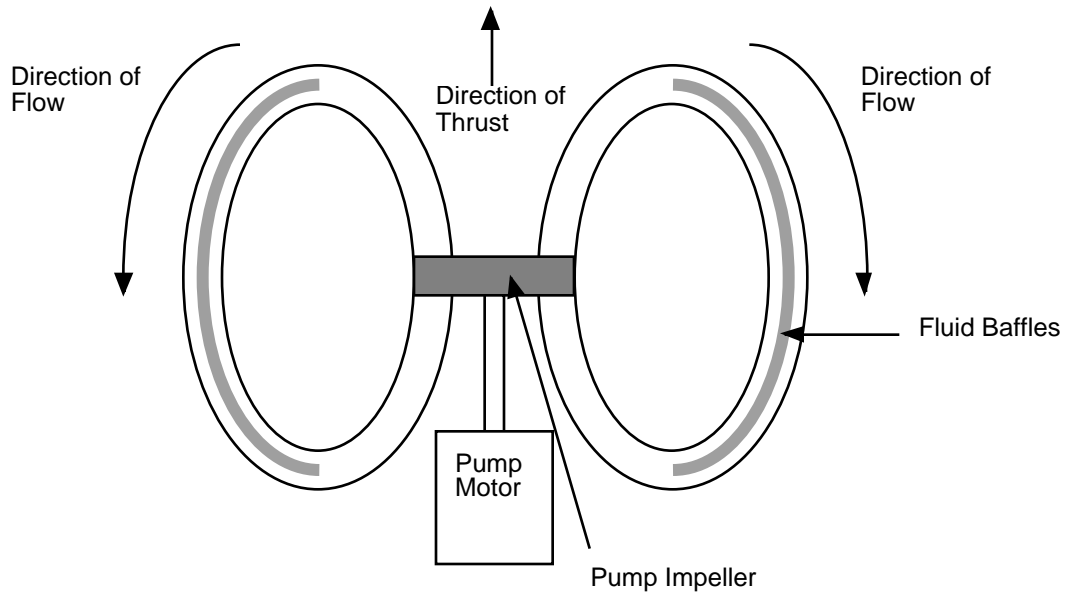


Diagram | Torqued Vortex Propulsion System



Top View

Diagram J

Conventional Fuselage Configuration
With Gravity Drive Retrofit

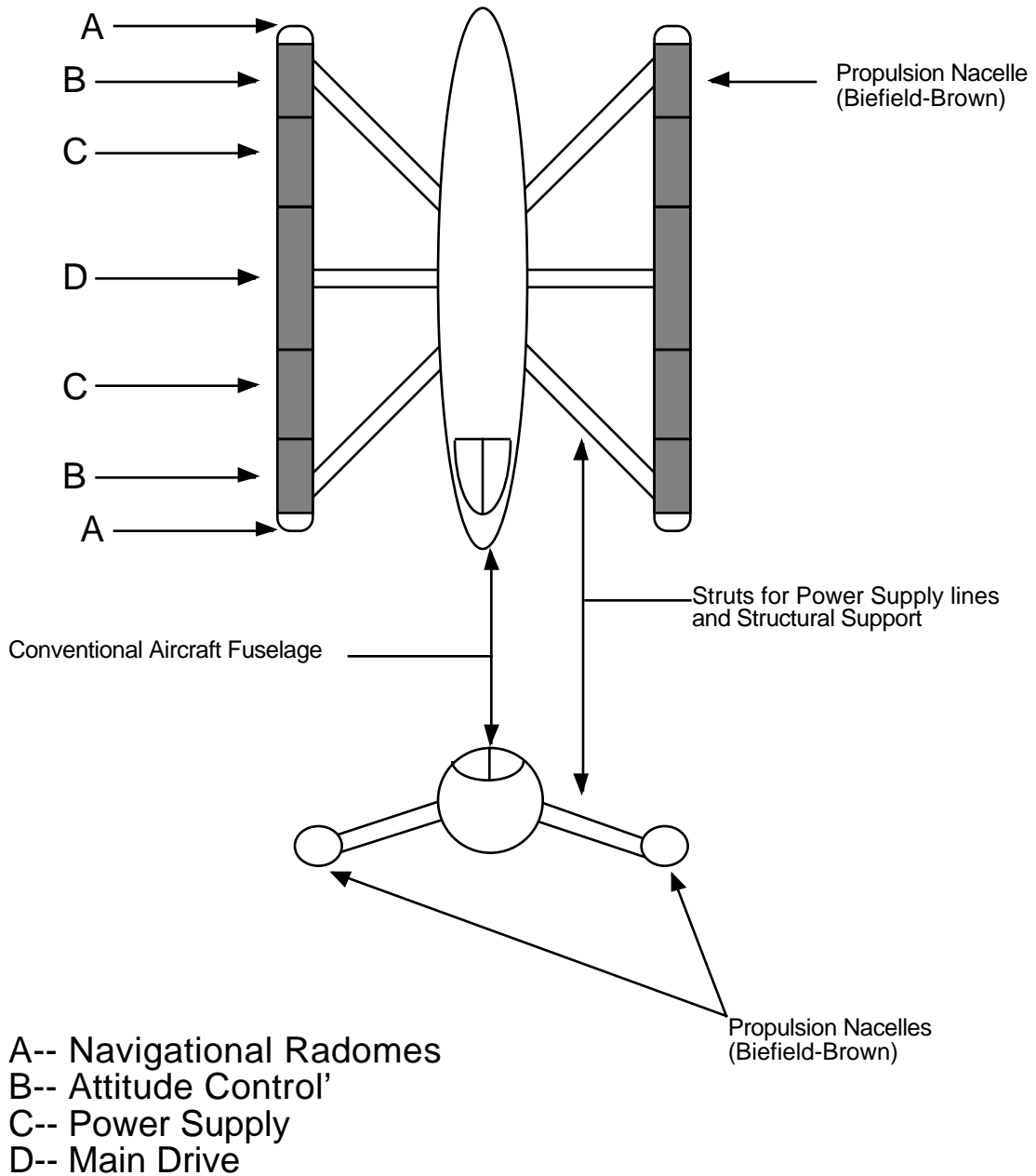
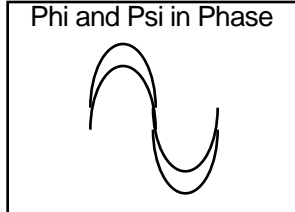


Diagram K

Unified Field Quadrangle and Energy Gradient

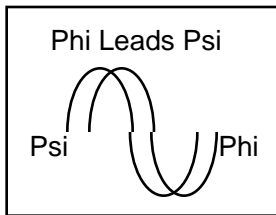
Gravitational

Phi and Psi in Phase



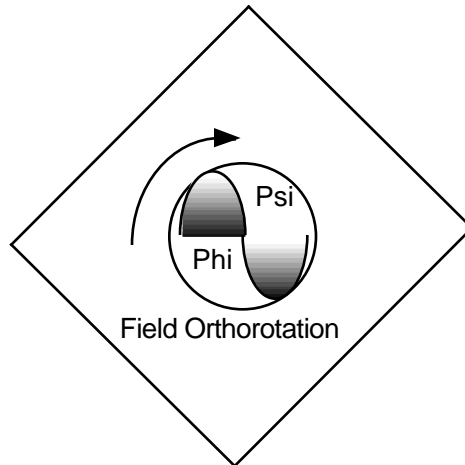
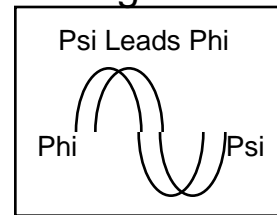
Electric

Phi Leads Psi



Magnetic

Psi Leads Phi



Free Space

Phi and Psi 108 degrees
Out of Phase- Destructive
Interference

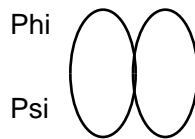
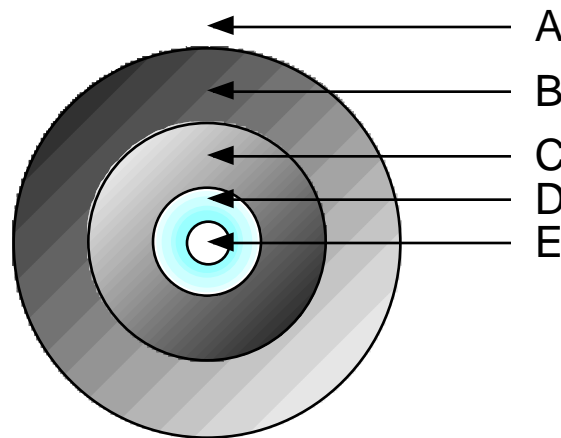
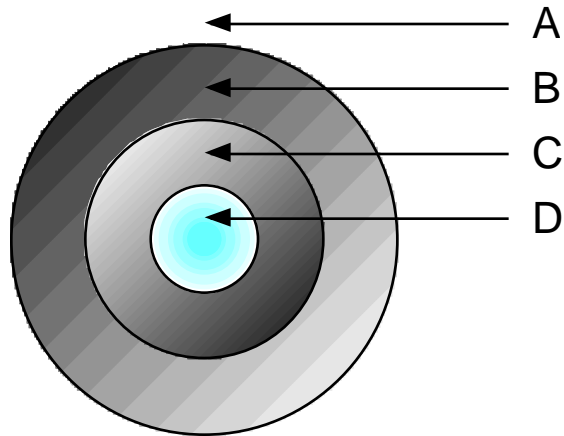


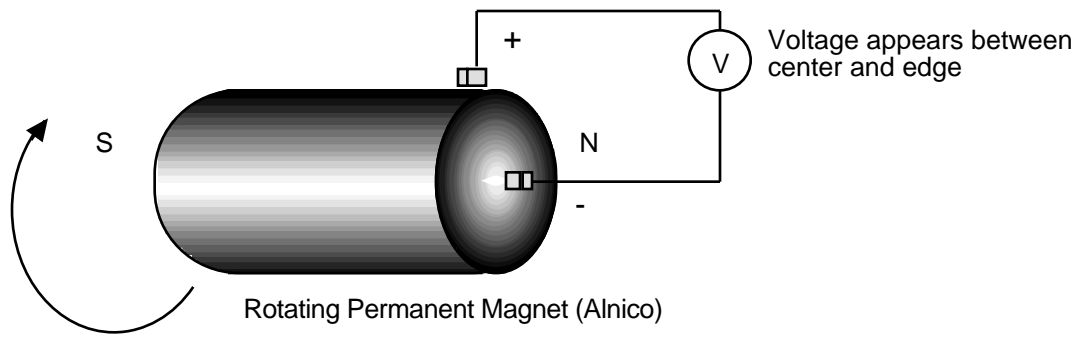
Diagram L

Cross Section of Magnetic Field Line

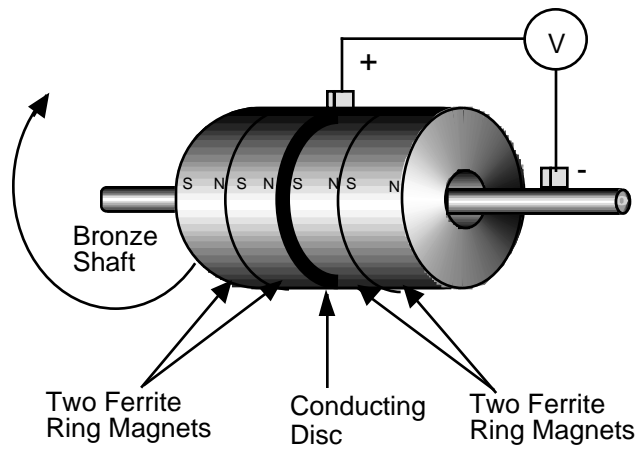


- A: Free Space
- B: Magnetic Field
- C: Gravitational Field
- D: Electric Field
- E: Free Space (Zero Energy)

Diagram N
The "N" Effect



The N Machine



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(Note: Take this one with a grain, or pound, of salt. Some good info mixed in with disinfo.)

Part II

The Kowsky-Frost Experiment

The next few pages will document the search for what I consider the real-deal as far as antigravity is concerned. It begins in a laboratory in Poland in 1927, then the story is picked up by a magazine called Science and Invention in September of that year. Then decades later, it was repeated by Jerry Gallimore, and published in the PACE Newsletter.

As far as I know no one has repeated the experiment since that time. I merely corrected Jerry's math, and sought funding to repeat the experiment under controlled conditions which would make it easily engineerable. It's been nearly 20 years since the data appeared in the Antigravity Handbook. The original copy of the 1927 article was obtained through an inter-library request from the Crystal Lake Library in Crystal Lake, Illinois in 1984. Since my move to Georgia, it had been lost, and I thought it would be relatively easy to obtain it once again through one of the university libraries which were nearby. I was very wrong in this assumption. Since publication of the article in the AGH, the article has disappeared from the archives of many libraries. I searched the library in Clemson University, the University of Georgia, and the Bancroft Library in California to no avail. As an interesting note, the contact at the Bancroft Library thought it odd that there was a copy of the August issue, and October of Science and Invention for 1927, but September seemed to be missing. I have come to the conclusion that there is a concerted effort to conceal this experiment, and that this effort lends credibility to the reality of its existence.

So where did I find it? Hilda Schaffranke, Rolf's widow found it among the source materials he had been collecting for publication before his stroke. Thanks, Hilda. Ken MacNeil sent copies to major universities to try to undo the damage that has been done. Thanks, Ken.

And why did the powers-that-be go through all the trouble to suppress the entire issue, instead of just one article which offended their interest? Well...

Take a look at the next page, and the cover of the issue in question, and you will see why.



(Reprinted from the September, 1927 issue of Science and Invention)

Gravity Nullified

Quartz Crystals Charged by High Frequency Currents Lose Their Weight

Although some remarkable achievements have been made with short-wave low power transmitters, radio experts and amateurs have recently decided that short-wave transmission had reached its ultimate and that no vital improvement would be made in this line. A short time ago, however, two young European experimenters working with ultra short-waves, have made a discovery that promises to be of primary importance to the scientific world.

The discovery was made about six weeks ago in a newly established central laboratory of the Nessartsaddin-Werke in Darredein, Poland, by Dr. Kowsky and Engineer Frost. While experimenting with the constants of very short waves, carried on by means of quartz resonators, a piece of quartz which was used, suddenly showed a clearly altered appearance. It was easily seen that in the center of the crystal, especially when a constant temperature not exceeding ten degrees C. (50 degrees Fahrenheit) was maintained, milky cloudiness appeared which gradually developed to complete opacity. The experiments of Dr. Meissner, of the Telefunken Co., along similar lines, according to which quartz crystals, subjected to high frequency currents clearly showed air currents which led to the construction of a little motor based on this principle. A week of eager experimenting finally led Dr. Kowsky and Engineer Frost to the explanation of the phenomenon, and further experiments showed the unexpected possibilities for technical users of the discovery.

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Some statements must precede the explanation. It is shown at least in part, that quartz and other crystals of similar atomic nature, have the property when exposed to potential excitation in a definite direction, of stretching and contracting; and if one uses rapidly changing potentials, the crystals will change the electric waves into mechanical oscillations. This *piezo electric* effect, shown in Rochelle salt crystals by which they may be made into sound-producing devices such as loud speakers, or reversely into microphones, also shows the results in this direction. This effect was clearly explained in August, 1925 *Radio News* and December, 1919 *Electrical Experimenter*. These oscillations are extremely small, but have nevertheless their technical use in a quartz crystal wave-meter and in maintaining a constant wavelength in radio transmitters. By a special arrangement of the excitation of the crystal in various directions, it may be made to stretch or increase in length and will not return to its original size. It seems as if a dispersal of electrons from a molecule resulted, which, as it is reversible, changes the entire structure of the crystal, so that it cannot be restored to its former condition.

The stretching out, as we may term this strange property of the crystal, explains the impairment of its transparency. At the same time a change takes place in its specific gravity. Testing it on the balance showed that after connecting the crystal to the high tension current, the arm of the balance on which the crystal with the electrical connections rests, rose into the air. The illustration, Fig. 3, shows this experiment.

This pointed the way for further investigation and the determination of how far the reduction of the specific gravity could be carried out. By the use of greater power, finally to the extent of several kilowatts and longer exposure to the action, it was found eventually that from a little crystal, 5 by 2 by 1.5 millimeters, a non-transparent white body measuring about ten centimeters on the side resulted, or increased about 20 times in length on any side (see Fig. 4.) The transformed crystal was so light that it carried the whole apparatus with itself upwards, along with the weight of twenty-five kilograms (55 lbs.) suspended from it and floating free in the air. On exact measurement and calculation, which on account of the excellent apparatus in the Darredein laboratory could be readily carried out, it was found that the specific gravity was reduced to a greater amount than the change in volume would indicate. Its weight had become practically negative.

There can be no doubt that a beginning has been made toward overcoming gravitation. It is to be noted, however, that the law of conservation of energy is absolutely unchanged. The energy employed in treating the crystal, appears as the counter effect of gravitation. Thus the riddle of gravitation is not fully solved as yet, and the progress of experiments will be followed further. It is, however, the first time that experimentation with gravitation, which hitherto has been beyond the pale of all such research, has become possible, and it seems as if there were a way discovered at last to explain the inter-relations of gravity with electric and magnetic forces, which connection, long sought for, has never been demonstrated. This report appears in a reliable German journal, "Radio Umschau."

Don't fail to see our next issue regarding this marvelous invention.

Fig. 1. The gravitation nullifier is shown in this illustration. The quartz crystal may be seen supporting a 55-pound weight. Dr. Kowsky is shown in a top coat because of the temperature at which the experiments were performed.

Fig. 2. The schematic diagram of the experiment is shown in this illustration. The high frequency oscillator has been omitted for clearness.

Fig. 3. This shows how the quartz crystal lost weight when subjected to the high frequency current. The original crystal was balanced on the scale.

Fig. 4. This illustration shows the relative sizes of the crystal before and after the experiment. It is approximately twenty times its original length on any side.

Some Notes on The Article

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Please note that the crystal increased its size “twenty times its original length on any side”. The density decrease would be the cube of that, or 8000. That’s quite a decrease. According to the Funk & Wagnall’s Standard Reference Encyclopedia, quartz has a specific gravity of 2.65. That means that the specific gravity went from 2.65 to 3.3125×10^{-4} . Another thing that was not mentioned in the article was the mass of the crystal. Since most quartz has a specific gravity of 2.65, and the volume is known (5x2x1.5 millimeters, or 15 cubic millimeters) a calculation for that can be made. There are 1000 cubic millimeters in a cubic centimeter, or 10x10x10 millimeters. So, we divide 15 cubic millimeters by 1000, or .015 cubic centimeters. One cubic centimeter of quartz will weigh 2.65 grams. So therefore, .015 cubic centimeters will weigh .03975 grams.

Now, we need to know the lift factor. In the article, we see that “the transformed crystal was so light that it carried the whole apparatus with itself upwards, along with the weight of twenty-five kilograms (55 lbs.) suspended from it and floating free in the air.” I previously determined the mass of the crystal to be .03975 grams. Assuming that the 25 kilograms did not include the mass of the crystal, the total weight then is 25,000.03975 grams. The lift factor is 25,000.03975 divided by .03975 or 628931.81761. That’s a fairly large number. This factor is applicable in both English and Metric systems. So, how much propulsive power does a 1 pound crystal have? It would amount to over 314 TONS. There seems to be a discrepancy between the above article and the later repeat of this experiment by Jerry Gallimore. Jerry’s experiment seemed to indicate that there was only a lift factor of 800. Why is there so much of a discrepancy? It might have something to do with the quality of the quartz, or the method of “conditioning” the quartz during the expansion process. Or, possibly an unknown factor which could be discovered when the experiment is repeated.

Next, we need to calculate the power density, in watts per cubic centimeter. The volume of the crystal is .015 cubic centimeters. Putting one watt into this volume would result in a power density of 66.66 watts per cubic centimeter. But, in the article we see that, “by the use of greater power, finally to the extent of several kilowatts and longer exposure to the action, it was found eventually that from a little crystal, 5 by 2 by 1.5 millimeters, a non-transparent white body measuring about ten centimeters on the side resulted...” Several kilowatts indeed. So, what would the power density of THAT be? Well, that would be approximately 7000 watts divided by an initial volume of .015 cubic centimeters, or 466,666.67 watts per cubic centimeter. But, let’s assume that the power density applied is constant, and varies during the expansion to accommodate a variable volume. Let us also assume that the 7000 watts is applied AFTER the 8000:1 expansion, and work the process backwards. 7000 watts applied to 8000 x .015, or 120 cubic centimeters comes to a power density of 58.33 watts per cubic centimeter. If we

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assume that this density is constant, then the beginning amount will be .87495 watts applied to the crystal. This will be slowly ramped up as the volume increased to 7000 watts.

Next, we need to calculate the efficiency. To pull up against Earth's gravity field is equivalent to accelerating the mass 32 feet per second per second. This 55 pound weight has 1760 foot-pounds impressed upon it to keep it above the lab bench. The conversion factor for foot pounds per second to watts is 1.356. This would amount to 1760 foot pounds multiplied by 1.356, or 2386.56 watts. Therefore, the efficiency would be the output, 2386.56 watts divided by 7000 watts in, or 34.093% efficiency. That's quite an impressive efficiency, compared to rockets or jet engines. This would amount to 127.27 watts per pound. How much would it take for a mass of 10,000 pounds? It comes to approximately 1.27 megawatts, or 25.45 amps at 50,000 volts. That's doable. Especially if Paul Brown's resonant nuclear cell is used.

When I ran the results through an Excel spreadsheet of the Gallimore experiment, I noticed that the efficiency seemed to "break unity" at low frequencies. One model seemed to suggest 400 Hz and lower would yield anomalous results. Very anomalous, with efficiencies ranging from 200-1000%. Is this what Tom Bearden was explaining in "The Lost Unified Field Theory of James Clerk Maxwell"? Quite possibly so. There could be 4-wave mixing going on, and the medium is EXTREMELY nonlinear and stressed. Maybe when the experiment is repeated we can determine this.

Conclusion

Is this a hoax? I don't think so. I know there was a later article that appeared in the October issue of Science and Invention that claimed this, but since Jerry Gallimore claimed that he obtained positive results using similar procedures, I tend to think that the hoax claim is in itself a hoax. It seems that something got out, that wasn't supposed to GET out. If Gallimore's experiment is genuine, then who knows how far this technology could have been developed since its inception in 1927? If it took a decade to develop chemical rockets to get to the moon, then two decades would not be unreasonable. And what happened in 1947? The first "UFO flaps"! My, what a coincidence.

There was a mention by Jerry Gallimore that the dielectric constant of the material "went through the roof". He estimated that it went to 10 million or above. So the Biefeld-Brown effect could also be responsible for this phenomenon as well. Is this the gravitational analog of a transistor? Possibly. In the Biefeld-Brown effect, the question was raised when I did the chapter for the Antigravity Handbook whether or not the field was completely contained within the dielectric or whether it was "leaky". I assumed that it was completely self-contained, and that there was no way to get it to propagate outside the dielectric. But, you know what happens with assumptions. What if there is a way to get a field flow to go around the ship? Well, then it's conceivable to get something that looks like a "warp drive." Or it's possible to produce an artificial wormhole and get a "stargate." Who knows how far they could have gone with this technology!

Finally, if this experiment which obviously has politically incorrect overtones, is repeated, perhaps the commercial exploitation of space can finally be realized. I believe that the results of this experiment is the key to man's future in space, perhaps whether man has a future in space at all.

Anti-Gravity Properties of Crystalline Lattices

In the summer of 1927, two scientists, **Kowsky** and **Frost**, in Poland noted specific anti-gravity properties of crystals. They were pursuing some discoveries in piezo-electricity made by **Meissner** of Telefunken, whereby it was found that crystals could lose their transparency and change their specific gravity at the same time.

By the oscillations of radio transmitters of several kilowatts, at protracted exposure, Kowsky and Frost managed to include an eight hundred percent volume increase to a clear crystal. The small, lightened crystal carried the apparatus which oscillated it as well as a weight of twenty five kilograms suspended from it, floating free at a height of about two meters above the floor of a laboratory.

Shortly after this discovery, reports and photographs of the tests were published in the German journal, Radio Umschau and in Science and Invention (September, 1927 issue).

Those published reports permit a definition of the phenomena in today's terminology.

An optical grade quartz crystal 5x2x1.5 mm of defined crystal lattice was piezoelectrically overloaded with a resulting opaqueness, a growth in volume and a structural change along with specific gravity change. The crystal was reported to increase dimensions along one side of two thousand percent (volume increase of 800%). Its weight of approximately one ounce was reduced by an unknown amount during the increase in volume. When electrically excited to lift itself, the crystal was capable also of lifting an additional eight hundred and eighty ounces. This lift occurred when the crystal was subjected to vertical oscillation via direct electrode contacts, and transverse oscillation via non-attached electrodes broadcasting radiation with the crystal interposed between them.

Radio Frequency Emissions and Magnetostriction of Mass

Magnetostrictive masses emit heat and undergo dimensional changes on a temporary basis when exposed to a varying magnetic field. The molecular alignment of the mass with the field of current induces mechanical pressures that cause a distortion or dimensional change. Normally such physical changes have been assumed to be temporary or of unimportant plasticity. Certain non-magnetic substances like dielectric crystals also react to an imposed magnetic field with molecular re-alignment.

The re-alignment causes a crystal distortion in one direction, and with alternating current fields, oscillation occurs. Such is the piezo-electric phenomenon. The angle of turn of the molecule on its axis is proportional to the "strength" of the induced magnetic field until a limit of saturation is reached: "weber angle", or maximum distortion potential of the dielectric.

If additional power is applied to create a still stronger magnetic field, molecules that happen to exceed weber angles are wrenched away to migrate along the field path, to form bonds at new positions of equilibrium. The displaced and re-positioned molecules are termed "deflexions", or displaced ions (**Maxwell, Jeans**, 1916).

The magnetic susceptibility of a substance varies inversely as the temperature (Curies Law). This experiment potentially justifies a “K”, or a susceptibility enhancement by the ‘freeze storage’ of all new re-positioning ions, and consequent stability in new positions. Ion bonds form slowly in a dielectric heated by intense magnetic field changes, known as ‘inductance heating’. Cooling of the dielectric by air currents around the dielectric which draws off heat allows the dielectric to escape destruction by melting, brittle fracture, or other heat-caused affects.

The migration of displaced ions is to a surface area of the dielectric, where the heat sink phenomena allows a re-bonding temperature.

Known research in electric action versus dielectrics leads to other supporting information about the physical phenomenon.

- **Helmholtz:** The value of “K” changes in a dielectric when it is subjected to distortion. (K equals the dielectric constant of that mass..)
- **Maxwell:** With displacement, the density of the medium (crystal structure) is changed so that its molecular structure is changed; as is its “K”.
- The K of quartz depends on the direction of the imposed magnetic field “relative” to the crystal axis. A vertical K of quartz is 4.55, and horizontal K is 4.49 where K is a reaction to the earth’s field.
- Magnetic conduction in a dielectric is altered as if the properties of the medium were altered during conduction by a change of the dielectric constant of the mass itself.

So far the phenomenon appears not to be rejected by known physical actions. About the phenomenon itself, a brief theoretical model may be postulated.

This may be a stress model of mass where changes of internal stress induce ‘deformation of mass’. Thus the model suggests a ‘two-part’ investigation; (1) the stress model, (2) the later physical phenomena produced as a product of distortion, and the physical performance relative to change.

The Stress Model

The electric force between charged particles is independent of the masses or energies of the particles, and depends only on their charge; whereas, the gravitational force is proportional to the masses themselves. Since in special relativity mass and energy are related by $E=mc^2$, the ‘strength’ of the gravitational field increases as the energies of the virtual particles increase.

An artificially induced increased ‘stress’ in mass increases the energy of both virtual particles and gravity.

In an electron flow such as common electricity along a conductor, the ‘pressure’ of the flow affects the mass of the conductor by several methods:

1. Free electrons are displaced by induced energy.
2. Torque from electrical action is applied to the mass.
3. Stresses are induced within the mass.
4. Compression is induced within the mass.
5. Structure bonds are affected by such imposed stresses.

6. Ion orbital structure is relative to the induced energy; greater energy produces energy absorption with smaller orbits, higher velocities, (packing fraction).

Electric/Dielectric Combinations

The electrostatic attraction of one object to another depends on charge, shape, and surface area; but the magnetic attraction to a fragment of dielectric is a molecular phenomenon 'independent of shape', but not surface area. A non-magnetic body will be components of/or magnetic particles when a magnetic field is imposed; i.e. an attraction. Finally, a magnetic field will exist in a dielectric after/when an induced field changes, or is no longer imposed. So it may be assumed that an intense magnetic field is the one force which is capable of externally affecting the dielectric molecular axis change.

Further Investigations

Alternating currents produce heat, and a magnetic field, in a dielectric to a depth proportional to the square root of the oscillation period; and to the applied strength. A magnetic particle, or ion, is capable of re-positioning, where 'all' mass particles are also susceptible. Unlike metals, a dielectric 'acts' as if it conducts one hundred percent of any imposed field. This is the single most important difference.

The molecular phenomenon may occur 'only' in a dielectric mass, and not in a metal. The magnetic conduction proportional to field depth with a strength sufficient to dislodge ions eliminates metals (exception: Bismuth) due to skin affect. The dielectric conduction of one hundred percent of imposed fields "throughout" the mass allows the 'total' mass to be involved, eliminating skin affect. So, it will affect all crystalline lattice structures (therefore metals affected), however the optimum solution for maximum affect of this phenomenon may reside within the electrical characteristics of dielectrics.

Magnetic Induction Currents

Magnetic induction postulated as a solenoidal induction throughout the field in the interior of the mass (all points equal) can occur in a dielectric, but not in a metal. Magnetostriction of dielectrics: there is an expansion of mass proportional to the induced strains (internal) to release pressure. This is a known, accepted phenomenon. There are 'diamagnetic' currents induced in the same crystal (opposite to magnetic) about which little is known, but which has been photographed at Gallimore Labs. Such currents are always found in 'stressed masses'.

Crystal Expansion Confirmed

Crystal expansion was examined from actual replication of the Kowsky and Frost experiment.

The crystal will have intense internal strains, generally 'only' in the direction of applied fields producing expansion, and diamagnetic currents of unknown effects or phenomena. (Many phenomena were detected).

The revised theory of phenomenon is stated as: The molecular motion and reaction of mass to intense magnetic fields may change the structure of the (dielectric) mass if the imposed field strength exceeds the force needed to rotate fixed molecules past Webers angle, where the result would

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be a dislocation of the molecule from the mass structure. Given this field strength, it is almost certain that the re-positioning of molecules will change the normal lattice structure, and will be accompanied by permanent expansion of the dielectric along the vector of the imposed field.

Such diamagnetic currents as exist will be intense, and could produce a host of phenomena. The proposed 'Anti-gravity' phenomena. The proposed 'Anti-gravity' phenomena fall within an 'acceptable' but not proven phenomena at the present time.

It is noted that from the **Chicago College on Gravity Research** that a 60 Hz. alternating current imposed on a solenoid when placed under an aluminum plate, will cause the plate to heat, as well as 'lift' upwards as much as eleven inches. Such a lifting effect cannot come from magnetic actions, but may come from molecular actions, and the little known diamagnetic currents.

Since magnetic fields in alternating currents become stronger as the frequency increases, higher frequencies are found more efficient in producing the 'stress fields' producing lift phenomena.

Of interest is that one dielectric has been shown to 'fall' more slowly under 'natural' conditions than any mass should fall. It is unknown whether aluminum silicate reacts to existent low intensity magnetic fields, or whether it has an excessive diamagnetic current capability occurring naturally.

Water Absorption/Emission

The expanded crystal has been found to be both effervescent and deliquescent. This is unusual in a single mass; to absorb and release water like a sponge where the material (silicon dioxide) is neither an absorber or emitter prior to change of the mass structure, a degeneration of the structure is seen after one water cycle, and is apparently not repeatable.

The Kowsky and Frost experiment was reported to have a visual sighting of air currents flowing around the crystal when under electrical excitation. It is a fact that the air currents so described are a reality, but are not known to exist by crystallographers, unless they have considerable experience in electrical testing. Likewise, electrical testers and engineers are not likely to have witnessed this. It is here noted that air currents have been found around excited (oscillating) crystals, but only when a frequency band of one hundred kilocycles to four hundred eighty kilocycles is utilized. This is a further verification of actual research being in the frequency range specified, and of a true research sighting being transmitted.

Electricity Produced

An expanded lattice crystal has been found to produce a remarkable phenomenon: when an 'imbalance' occurs by stress changes in a 'stress balanced' crystal, electricity is produced.

A crystal 'grown' in an unbalanced state will 'convert one hundred percent of all radiation reaching it to electricity'.

Lift Factor

the following equation is only generalized, and its veracity should be questioned. It may be a guideline of potential results. The resulting values are indicative within limits of what can be expected experimentally.

$$\frac{\text{Force applied in watts} \times \text{mass in Kg} \times \text{Expansion \%}}{\text{Frequency}/7770} = \frac{\text{Kg lift}}{100}$$

$$\text{Example: } 2000 \text{ watts} \times \frac{(5\text{kg} \times 300\%)}{777 \text{ kc}/7770} = 2000 \frac{(150)}{100} = \frac{3000}{100} = 30 \text{ kg lift}$$

Mass Structure and Potential Collapse

All mass is susceptible to change. Dielectrics by having an organized molecular structure are subject to massive change through force applied. It is considered a phenomenon where lattice structure is expanded, and re-formed to a new related structure by energy; and that the structure is now a “storage medium” of great energies by strain locked in structure.

The stability of the medium, or rather the changed medium, is now questioned, as well as its life span. A sudden sharp blow or even chemical activity may “detonate” or collapse the new structure with great release of energy. This potential is seen at the present time to be both real and hazardous. Should the crystal mass be capable of sudden collapse, it could take one of two forms; sudden disintegration to a powder state, or detonation with a massive release of energy, perhaps similar to atomic conversion of mass to energy.

Self Contained Lifting Device

The subject mass utilized in this research has been quartz dielectrics. Quartz, unlike many substances, does not shear easily; but has a conchoidal fracture. Providing it did shear, then the lattice structure could be pried open at selected locations, and slabs of the expanded variety utilized in different applications. Because of the energy storage phenomena, it is assumed it cannot be ‘sawed’ as the shock potential is high, yet proportional to the degree of the crystalline lattice expansion.

The crystal itself will resemble plastic foam in weight and rigidity. Perhaps it could be sliced by a laser or electron beam.

Very little power is required to oscillate the substance for high lift. This and the weight needed to supply that power allows a fully contained device to be a reality. Power applied as frequency would have six basic contacts regardless of design, size, or aerodynamic shape; i.e. left side, right side, front, rear, top and bottom.

With solenoid controls, the full range of flight could be obtained; forward, right, up, down, reverse. The control would be by reversing polarities of a given area of surface section to provide the desired result. Each lift/control section would be electrically isolated in a smooth surface design by interposing non-expanded dielectric strips between sections. Such skin or the dielectric isolators could provide shape, rigidity, and supporting design.

Such dielectrics as ceramics display temperature resistance, and could be included as “skin.” However, since speed is fully controllable, there should be no need for heat buildup; simply reduce speed.

Reverse Phenomenon

In trying to validate mass structure change as proposed, the ‘reverse’ method of gravitational

emission (i.e. “absorption”) was used.

If a mass may “produce” radiation under coercion, then it may also be susceptible to that same radiation when exposed thus providing a “reverse phenomenon.”

The lattice structure of a dielectric has been proposed as a storage medium of immense energies, when the energy applied produced a ‘deflexion’ change (deflected ions) or structural stresses of great magnitude. A first discovery was that by utilizing a ‘new’ means of electrical excitement, a “commercial” process of Deflexion crystals was realized. In further research, the ‘reverse’ phenomenon indicates that ‘all’ dielectrics having ‘any’ stress components may be susceptible to gravity radiation.

Discovered in 1974, the reverse phenomenon allowed for an on-time gravity monitor where a dielectric with a known stress component was seen to change proportional to the acting gravitational intensities. Later, in 1978 a new detector was discovered, the difference being that a ‘general’ state of stress was utilized here as opposed to a known ‘finite’ stress.

(J. G. Gallimore)

A Few Notes on the Article

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This article appeared in the February, 1981 issue of the Planetary Association for Clean Energy newsletter. It contains quite a bit of valuable information. It also has questionable information, which we shall review.

The reference articles that are referred to in Radio Umschau and Science and Invention was followed up in the October, 1927 issue of Science and Invention. This article is titled “Nullified Gravity-A Hoax” and completely disproves both the article in Radio Umschau and the one in the September, 1927 issue of Science and Invention.

The question arises: Why disprove all this early data if it is valid? And if it is not valid, why has J. G. Gallimore compiled all that data just to make an elaborate hoax look convincing? Obviously the answer must wait until further correlation from other researchers on this field has been published.

For now it would seem to be prudent to examine the work at hand. One questionable point is the equation. If it is examined closely, some simple errors in multiplication will be noted. Two corrected versions of this equation will be shown. Equation 1 is the original as seen in the article. Equation 2 is a corrected version based on the assumption that Equation 1 is wrong and the product would also be incorrect. Equation 3 assumes that the product is correct (it may have been the actual results of laboratory testing) and the equation is wrong. Equation 4 is a simplified version of the original based upon equation 3. Here are the equations:

Equation 1:

$$\frac{\text{Force applied in watts x mass in Kg x Expansion \%}}{\text{Frequency/7770}} = \frac{\text{Kg lift}}{100}$$

Example: $2000 \text{ watts} \times \frac{(5\text{kg} \times 300\%)}{777 \text{ kc/7770}} = 2000 \times \frac{(150)}{100} = \frac{3000}{100} = 30 \text{ kg lift}$

Equation 2:

$$\frac{\text{Force applied in watts x mass in Kg x Expansion \%}}{\text{Frequency/7770}} = \frac{\text{Kg lift}}{100}$$

$$\text{Example: } 2000 \text{ watts x } \left(\frac{5\text{kg x } 300\%}{777 \text{ kc/7770}} \right) = 2000 \text{ x } \left(\frac{15}{100} \right) = \frac{300}{100} = 3 \text{ kg lift}$$

Equation 3:

$$\frac{\text{Force applied in watts x mass in Kg x Expansion \%}}{\text{Frequency/7770}} = \frac{\text{Kg lift}}{10}$$

$$\text{Example: } 2000 \text{ watts x } \left(\frac{5\text{kg x } 300\%}{777 \text{ kc/7770}} \right) = 2000 \text{ x } \left(\frac{15}{100} \right) = \frac{300}{10} = 30 \text{ kg lift}$$

Equation 4:

$$\frac{\text{Force applied in watts x mass in Kg x Expansion \%}}{\text{Frequency/777}} = \text{Kg lift}$$

$$\text{Example: } 2000 \text{ watts x } \left(\frac{5\text{kg x } 300\%}{777 \text{ kc/777}} \right) = 2000 \text{ x } \left(\frac{15}{1000} \right) = 30 \text{ kg lift}$$

Another point of contention concerns this paragraph:

“Since magnetic fields in alternating currents become stronger as the frequency increases, higher frequencies are found more efficient in producing the ‘stress fields’ producing lift phenomena.”

Upon examination of the equation, the reverse would be true. A higher frequency would produce a higher divisor, and thus a lower efficiency. If this paragraph is right, then the equation is dead wrong (or vice-versa). If the equation is right, then efficiency would surpass 100% at low frequencies and result in more mechanical power output than can be accounted for in consideration of power input in watts.

In closing, it would seem that further corroboration of the research data is needed to clear up these points, possibly involving a second experiment to duplicate any observed anti-gravity effects.

The Kowsky-Frost Device Was a Free-Energy System!

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When I initially reviewed the article for The Antigravity Handbook titled, "Gravity Nullified", I didn't do an in-depth analysis. I thought it was interesting source material, but for some reason I didn't really get into the article and pick it apart. Perhaps it was because my attention became diverted by the allegation in the October, 1927 issue of Science and Invention that the previous article which appeared in September was a hoax.

When I recently DID do a review of the article, I noticed that the efficiency was rather high, approaching 34%. It seemed that the application of this technology was doable, after all, this efficiency was higher than jet and rocket propulsion. The figures seemed to hang together, unlike something you would expect from a hoax. So I wondered how the later experiment by Jerry Gallimore (published in the PACE Newsletter) would stack up, and I plugged the formula into an excel spreadsheet. I expected the system to break unity at a rather low frequency, probably at approximately 400 Hz. But at the frequency Jerry was using, the efficiency works out to 143%. That frequency was 777 KHz. So whether he knew it or not, he had a free energy device. What was the efficiency at 400 Hz.? It turns out to be 278,153%. The lift capacity in kg works out to be 29.1375 with a power input of just one watt. I can remember in a video that Tom Bearden did titled, "The Lost Unified Field Theory of James Clerk Maxwell", he mentioned that it would be possible to levitate a battleship with a flashlight battery. I always wondered what the phase conjugate material was in this case. After all, it would need to be a media which is highly stressed, nonlinear, and would possess a high dielectric constant. When I interviewed Jerry Gallimore in Los Cruces back in the 80's before he passed away, he mentioned that the dielectric constant of the material "went through the roof." He estimated that the constant was in the neighborhood of ten million. That's a very wealthy neighborhood. So it could have been phase conjugate material.

It could also be Biefeld-Brown material. Back in 1984, when I did the Biefeld-Brown formula, I noticed that a sort of breakeven point is reached at a dielectric constant of 8000-9000. At the time, I considered that the sintered barium titanates would be the way to go if one wanted to get a device to "lift-off" of the lab bench. I also knew that there were materials that went above that, but they were highly nonlinear in respect to their operating temperature, and their "window" was fairly narrow, about 10 degrees C. Anything above or below this temperature results in a severe drop in the K. What was not generally known, was that Townsend Brown experimented with a pulsating high voltage field, as well as pulsating low-frequency magnetic fields at right angles to the applied electric field potential. What does this do? Well, it turns the space between the plates into a waveguide. And the action of the pulsating fields at right angles to each other is equivalent to the application to a low-frequency electromagnetic wave. Was Brown aware of the Kowsky-Frost Experiment? It really depends on his magazine subscriptions. If he subscribed to Science and Invention in that time frame, or if he had access to back issues in the 50's when he resumed some of his experimentation, then he may have known about it.

Is there a connection between the Kowsky-Frost and Brown's experiments? I would say yes. When I originally did the Biefeld-Brown formula, I "invented" a Biefeld-Brown constant as a fudge factor to make the formula work. It represents a missing variable. What is that variable? I'm betting that it's the input frequency, or perhaps TWO synergistic variables, perhaps representing an input of electromagnetic

energy at right angles to the electric field. The original formula is still applicable to a DC field at high voltages, but the new formula would combine the characteristics of both effects. A hybrid formula would optimize this, and may lead toward a new propulsion concept. In the original article, "Gravity Nullified", they mentioned that only quartz and Rochelle salt crystals were considered. Are there others? Yes, there would be. What would the requirements be? Well, it would need to be a dielectric, and transparent to rf energy. Metallic crystals are out. Crystals which are semiconductors may or may not work, depending on whether or not they remain semiconducting AFTER the expansion process is completed. After these criteria are met, there are thousands of materials which are good candidates for investigation. They would not be limited to quartz and Rochelle salt. When Edison began his search for a suitable filament material, some of the most bizarre suggestions seemed to work the best. It may be so once again. As an example, why limit the investigation to inorganic crystals? Organic compounds may prove to be much more viable. Once a real civilian research program is started, there will no doubt be quite a few surprises.

I will now include my commentary which originally appeared after the "Gravity Nullified" article which I re-released lately, as well as a spreadsheet analysis of the Kowsky-Frost Experiment.

Here's the reprint:

Some Notes on The Article

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Please note that the crystal increased its size "twenty times its original length on any side". The density decrease would be the cube of that, or 8000. That's quite a decrease. According to the Funk & Wagnall's Standard Reference Encyclopedia, quartz has a specific gravity of 2.65. That means that the specific gravity went from 2.65 to 3.3125×10^{-4} . Another thing that was not mentioned in the article was the mass of the crystal. Since most quartz has a specific gravity of 2.65, and the volume is known (5x2x1.5 millimeters, or 15 cubic millimeters) a calculation for that can be made. There are 1000 cubic millimeters in a cubic centimeter, or 10x10x10 millimeters. So, we divide 15 cubic millimeters by 1000, or .015 cubic centimeters. One cubic centimeter of quartz will weigh 2.65 grams. So therefore, .015 cubic centimeters will weigh .03975 grams.

Now, we need to know the lift factor. In the article, we see that "the transformed crystal was so light that it carried the whole apparatus with itself upwards, along with the weight of twenty-five kilograms (55 lbs.) suspended from it and floating free in the air." I previously determined the mass of the crystal to be .03975 grams. Assuming that the 25 kilograms did not include the mass of the crystal, the total weight then is 25,000.03975 grams. The lift factor is 25,000.03975 divided by .03975 or 628931.81761. That's a fairly large number. This factor is applicable in both English and Metric systems. So, how much propulsive power does a 1 pound crystal have? It would amount to over 314 TONS. There seems to be a discrepancy between the above article and the later repeat of this experiment by Jerry Gallimore. Jerry's experiment seemed to indicate that there was only a lift factor of 800. Why is there so much of a discrepancy? It might have something to do with the quality of the quartz, or the method of "conditioning" the quartz during the expansion process. Or, possibly an unknown factor which could be discovered when the experiment is repeated.

Next, we need to calculate the power density, in watts per cubic centimeter. The volume of the crystal is .015 cubic centimeters. Putting one watt into this volume would result in a power density of 66.66

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watts per cubic centimeter. But, in the article we see that, “by the use of greater power, finally to the extent of several kilowatts and longer exposure to the action, it was found eventually that from a little crystal, 5 by 2 by 1.5 millimeters, a non-transparent white body measuring about ten centimeters on the side resulted...” Several kilowatts indeed. So, what would the power density of THAT be? Well, that would be approximately 7000 watts divided by an initial volume of .015 cubic centimeters, or 466,666.67 watts per cubic centimeter. But, let’s assume that the power density applied is constant, and varies during the expansion to accommodate a variable volume. Let us also assume that the 7000 watts is applied AFTER the 8000:1 expansion, and work the process backwards. 7000 watts applied to 8000 x .015, or 120 cubic centimeters comes to a power density of 58.33 watts per cubic centimeter. If we assume that this density is constant, then the beginning amount will be .87495 watts applied to the crystal. This will be slowly ramped up as the volume increased to 7000 watts.

Next, we need to calculate the efficiency. To pull up against Earth’s gravity field is equivalent to accelerating the mass 32 feet per second per second. This 55 pound weight has 1760 foot-pounds impressed upon it to keep it above the lab bench. The conversion factor for foot pounds per second to watts is 1.356. This would amount to 1760 foot pounds multiplied by 1.356, or 2386.56 watts. Therefore, the efficiency would be the output, 2386.56 watts divided by 7000 watts in, or 34.093% efficiency. That’s quite an impressive efficiency, compared to rockets or jet engines. This would amount to 127.27 watts per pound. How much would it take for a mass of 10,000 pounds? It comes to approximately 1.27 megawatts, or 25.45 amps at 50,000 volts. That’s doable. Especially if Paul Brown’s resonant nuclear cell is used.

When I ran the results through an Excel spreadsheet of the Gallimore experiment, I noticed that the efficiency seemed to “break unity” at low frequencies. One model seemed to suggest 400 Hz and lower would yield anomalous results. Very anomalous, with efficiencies ranging way above 1000%. Is this what Tom Bearden was explaining in “The Lost Unified Field Theory of James Clerk Maxwell”? Quite possibly so. There could be 4-wave mixing going on, and the medium is EXTREMELY nonlinear and stressed. Maybe when the experiment is repeated we can determine this.

Conclusion

Is this a hoax? I don’t think so. I know there was a later article that appeared in the October issue of Science and Invention that claimed this, but since Jerry Gallimore claimed that he obtained positive results using similar procedures, I tend to think that the hoax claim is in itself a hoax. It seems that something got out, that wasn’t supposed to GET out. If Gallimore’s experiment is genuine, then who knows how far this technology could have been developed since its inception in 1927? If it took a decade to develop chemical rockets to get to the moon, then two decades would not be unreasonable. And what happened in 1947? The first “UFO flaps”! My, what a coincidence.

There was a mention by Jerry Gallimore that the dielectric constant of the material “went through the roof”. He estimated that it went to 10 million or above. So the Biefeld-Brown effect could also be responsible for this phenomenon as well. Is this the gravitational analog of a transistor? Possibly. In the Biefeld-Brown effect, the question was raised when I did the chapter for the Antigravity Handbook whether or not the field was completely contained within the dielectric or whether it was “leaky”. I assumed that it was completely self-contained, and that there was no way to get it to propagate outside the dielectric. But, you know what happens with assumptions. What if there is a way to get a field flow to go around the ship? Well, then it’s conceivable to get something that looks like a “warp drive.” Or

it's possible to produce an artificial wormhole and get a "stargate." Who knows how far they could have gone with this technology!

Finally, if this experiment which obviously has politically incorrect overtones, is repeated, perhaps the commercial exploitation of space can finally be realized. I believe that the results of this experiment is the key to man's future in space, perhaps whether man has a future in space at all.

Here is the spreadsheet:

Watts	Mass (kg.)	Expansion %	Frequency	Kg Lift	Efficiency%	Unity Ratio
2000	5	300	1900000	12.2684211	58.5586459	0.58558646
2000	5	300	1800000	12.95	61.811904	0.61811904
2000	5	300	1700000	13.7117647	65.4478984	0.65447898
2000	5	300	1600000	14.56875	69.538392	0.69538392
2000	5	300	1500000	15.54	74.1742848	0.74174285
2000	5	300	1400000	16.65	79.472448	0.79472448
2000	5	300	1300000	17.9307692	85.5857132	0.85585713
2000	5	300	1200000	19.425	92.717856	0.92717856
2000	5	300	1100000	21.1909091	101.146752	1.01146752
2000	5	300	777000	30	143.1936	1.431936
2000	5	300	50000	466.2	2225.22854	22.2522854
2000	5	300	40000	582.75	2781.53568	27.8153568
2000	5	300	30000	777	3708.71424	37.0871424
2000	5	300	20000	1165.5	5563.07136	55.6307136
2000	5	300	10000	2331	11126.1427	111.261427
2000	5	300	9000	2590	12362.3808	123.623808
2000	5	300	8000	2913.75	13907.6784	139.076784
2000	5	300	7000	3330	15894.4896	158.944896
2000	5	300	6000	3885	18543.5712	185.435712
2000	5	300	5000	4662	22252.2854	222.522854
2000	5	300	4000	5827.5	27815.3568	278.153568
2000	5	300	3000	7770	37087.1424	370.871424
2000	5	300	2000	11655	55630.7136	556.307136
2000	5	300	1000	23310	111261.427	1112.61427
2000	5	300	900	25900	123623.808	1236.23808
2000	5	300	800	29137.5	139076.784	1390.76784
2000	5	300	700	33300	158944.896	1589.44896
2000	5	300	600	38850	185435.712	1854.35712
2000	5	300	500	46620	222522.854	2225.22854
2000	5	300	400	58275	278153.568	2781.53568
2000	5	300	300	77700	370871.424	3708.71424
2000	5	300	200	116550	556307.136	5563.07136
2000	5	300	100	233100	1112614.27	11126.1427
2000	5	300	90	259000	1236238.08	12362.3808
2000	5	300	80	291375	1390767.84	13907.6784
2000	5	300	70	333000	1589448.96	15894.4896

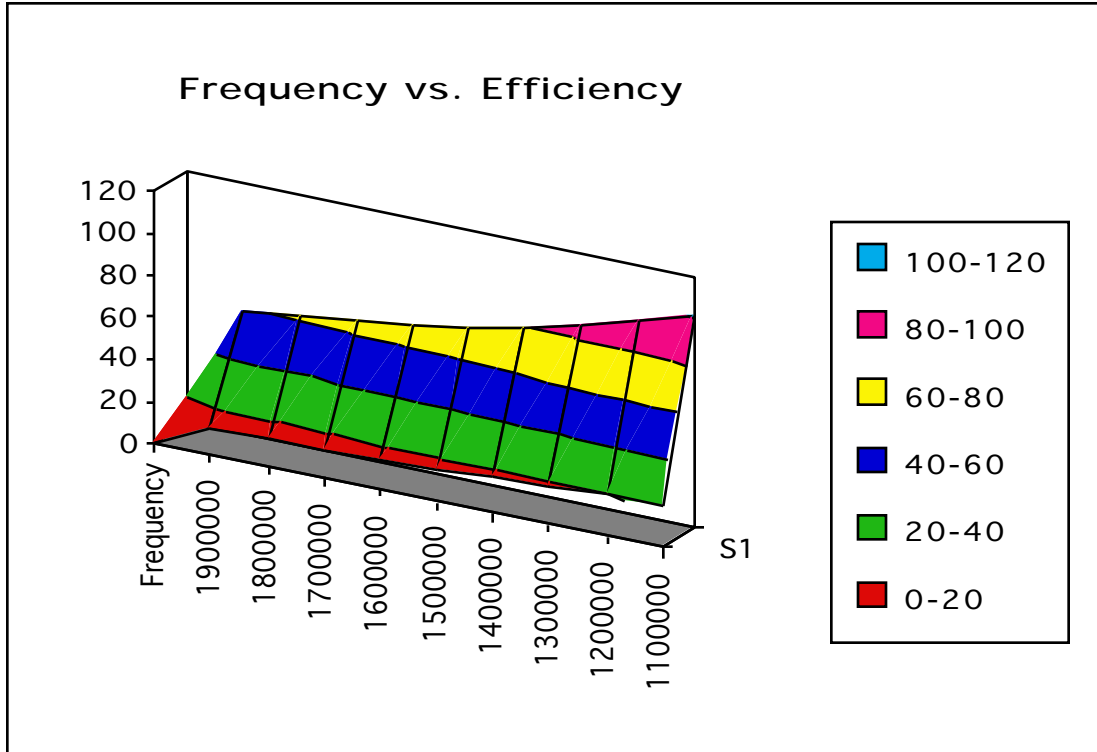
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2000	5	300	60	388500	1854357.12	18543.5712
2000	5	300	50	466200	2225228.54	22252.2854
2000	5	300	40	582750	2781535.68	27815.3568
2000	5	300	30	777000	3708714.24	37087.1424
2000	5	300	20	1165500	5563071.36	55630.7136
2000	5	300	10	2331000	11126142.7	111261.427
2000	5	300	9	2590000	12362380.8	123623.808

Conclusion-again

Are these figures for real? I assure you they are. I can't stress enough that there is a real phenomenon going on here, which is just waiting to be developed. The successful repetition of the experiment by Jerry Gallimore blows the claims of the original experiment being a hoax right out of the water. In a later paper, I will be getting the original source material from Radio Umschau if it is still available. I have contacts which can translate German, and can be trusted. Why did Science and Invention claim that it was a hoax? I think they were persuaded to do so, and not because of the antigravity aspects. There is a pernicious pursuit by those in power to keep this society on a short leash in regard to its energy resources. It's all about control. If this technology were allowed to develop back in 1927, then we would have colonized the solar system by now, and possibly the nearby star systems. But who would the penny-ante despots order around? Our political leadership has turned Earth into a prison planet.

Isn't it time to break out?



Nullified Gravity-A Hoax

In our issue of September, on page 398, we ran an article entitled "Gravity Nullified," with a subtitle "Quartz Crystals Charged with High Frequency Currents Lose Their Weight." At the end of the article we also ran a line, "*Don't Fail to See Our Next Issue Regarding This Marvelous Invention.*"

Those who were wise evidently must have had their suspicions aroused by the bottom line, and the wiser ones, if they inspected the main photograph carefully, no doubt at once saw the hoax.

The article, which came to us from Germany, appeared originally in a German periodical as an April joke, but it was so excellent that we thought that we could take a little liberty with our own readers. The question remains as to how many of our readers were fooled.

If you look closely at the main illustration, which we reproduce herewith, you will observe that the article labeled "1" is nothing more nor less than a microphone with a resistance. "2" is a pair of head receivers, and "3" is an old time German telephone transmitter with a mouthpiece which, in this case, serves the practical jokester as a handle. Naturally the critical inspector of the picture must have wondered what two microphones and a pair of head receivers had to do with the Gravity Nullifier. Also the supporting wire does not even touch the ring on the weight. Anyhow, we ask our readers' indulgence for the little hoax, for which we hope to be pardoned because the article surrounding it seemed quite authoritative and contained really a lot of good science tending to hide the hoax.

As a matter of fact, most of the statements are true, with the exception, of course, of those statements referring to the expanded crystal and to the loss of weight caused by the supposed high frequency currents.

There are so many wonderful things happening in science every day that he who would label anything as impossible may have to take his words back the next day. The real fact remains that gravity will be nullified sooner or later, and most likely by some such means as shown in the hoax in the September issue. That electricity and gravitation are closely allied no one doubts, and we would therefore not be surprised if even some of our more scientifically inclined readers, who did not pay close attention to some of the details, took the article as authentic.

Scientific hoaxes are no novelty. One of the most famous, which was not exposed as quickly as this one, appeared in no less than the *New York Sun*. At that time, in August, 1835, a certain professor was supposed to have submitted his report on a fantastic moon people to the *Edinburgh Journal of Science*, to which manuscript the *New York Sun* obtained the first rights, and the article ran consecutively over a period of time. These moon articles, written in a more or less scientific vein, aroused tremendous excitement, and the Moon Hoax was actually believed by thousands upon thousands of people at that time. Needless to say, the *Sun* afterwards exposed its hoax, but even though the newspaper did so, the hoax was still believed by thousands of individuals for years.

The moral is that we should not believe everything that we see, but do a little original thinking ourselves, because we may never know, otherwise, what are facts and what are not.

As a matter of interest to the editors, would like to hear from you as to your impression of the hoax article, and whether you believed it or not. This will give the editors a good basis for a compilation of interesting facts.

A Few Notes on the Article

In this short commentary we will examine the apparent inconsistencies in the preceding articles and the scientific evidence supporting the first article reported in a recently published experiment by J.G. Gallimore which follows this commentary.

It makes one wonder why such a magazine as *Science and Invention* would put their credibility on the line by publishing such a hoax. It is possible that they intended the sensational article to boost their sales much as the “fantastic moon people” article did for the *New York Sun* (this series of articles boosted the paper’s circulation to the highest of any paper in the world at the time). However, one must wonder, in light of current knowledge of harmonic math and the incredible properties of crystals, whether or not the real hoax is not *Science and Inventions* retraction. Also, J.G. Gallimore claims to have successfully reproduced this experiment as reported in the *Planetary Association for Clean Energy* newsletter, volume 2, Numbers 4 & 5, February 1981 (this article follows).

Can this be called a hoax because the equipment bears a resemblance to certain mundane articles? It is commonplace for engineers to build projects from any scrap materials that they could use to prove the viability of their project. In light of this, could those items be microphones, a German telephone transmitter, a head receiver, etc.? Quite possibly those items may have been the raw materials that they used for the experiment, and the “scrap” material that they used no longer functions the way it did originally. Is it true that high frequency currents may produce anti-gravity effects? Referring to the article “Nullified Gravity—A Hoax”: “As a matter of fact, most of the statements are true, with the exception, of course, of those statements referring to the expanded crystal and to the loss of weight caused by the supposed high frequency currents.” If the October, 1927 article is indeed a hoax, then this may be similar to the Orwellian “Newspeak”, and the very thing that they deny so vehemently is actually the truth. Actually, for the publication to take this stand would be an insult to the work of Nikola Tesla who experimented with the anti-gravitic effects of high frequency currents of high potentials and found them to “contain great promise” (see Bib.).

A number of inconsistencies have been revealed in the article “Nullified Gravity—A Hoax” through the evolution of our technology since its appearance in September, 1927. One inconsistency involves the digital reprocessing of the photograph that is in the article “Gravity Nullified”. Digitizing the photo reveals that the ring actually does seem to touch the supporting wire.

Another interesting point is the admonition:

“There are so many wonderful things happening in science every day that he who would label anything as impossible may have to take his words back the next day. The real fact remains that gravity will be nullified sooner or later, and most likely by some such means as shown in the hoax in the September issue. That electricity and gravitation are closely allied no one doubts...”

And why choose a frequency within the range that they selected to conduct the experiments? That “magic” frequency just happens to be within the same range used by other anti-gravity and “free energy” researchers. Which leads one to suspect that they knew exactly what they were doing when they performed the experiment. And why would a hoax have so much apparently valid experimental data? Usually scientific hoaxes have intrinsic inconsistencies concerning the experimental parameters that are used, and it is those very inconsistencies that reveal the hoax. This contrasts to the body of the article “Gravity Nullified”.

Also, in the article “Gravity Nullified,” in the second paragraph, first line, “The discovery was made about six weeks ago in a newly established central laboratory...” This statement was made in the September issue, which would have put the article’s appearance sometime in July. This would have been a bit late for an April fool’s joke, as is stated: “The article, which came to us from Germany,

appeared originally in a German periodical as an April joke...”, in the article above. It seems curious that a greater amount of inconsistency appears in the text debunking the original article than in the original article itself.

In conclusion, the only way the world will ever know what is really going on is to repeat the experiment as outlined in the original article, to see if the observed Anti-Gravity effects actually exist.

W.P. Donovan

2004 Postscript:

Since this article was written, I have obtained the original Radio Umschau article. It indeed was written in April, 1927. There are no indications that it is a hoax at this point, and a full translation has been made. There are additional photographs that were not included in the Science and Invention. Is it indeed a hoax? Ultimately, the jury is out until the experiment can be repeated, but so far I would say no. The full text of the translation courtesy of Steven Terecevicz will be supplied later in this work.

*“There was a young lady named Bright
Whose speed was faster than light;
She set out one day
In a relative way,
And returned the previous night.”*

--Arthur Buller, Limerick in Punch, 19 Dec. 1923

*“Genius...has been defined as a supreme capacity for taking
trouble...It might be more fitly described as a supreme capacity for
getting its possessors into trouble of all kinds and keeping them
therein so long as the genius remains.”*

--Samuel Butler, Genius, i.

EXTENSIONS BEYOND GRAVITY ANTIGRAVITY

Antigravity: What can be said about it except it's the future dream. We want it yesterday but do not expect it for another fifty years. If someone says it is here today, the reaction is disbelief!

Atomic energy was first noticed as a squiggly line on a video screen for twenty-two years before the first atomic bomb; yet it was accepted as a real phenomena of nature.

Antigravity is not so accepted. All "show me's" want a full-fledged high winging passenger carrying flying saucer as a "starting" demonstration. Antigravity then has an emotional impact proportional to it's potential uses.

Skyhooks to floating chimney painters, floating derricks to piano lifters, aircraft to auto, all starting points for applications. But, nature always has a "but" in there somewhere; all this is possible but... ! Even more - including new physics, chemistry, electronics and even direct application in medicine.

Postulate 186. The principle of equivalence: (established) Inertial mass, that is, the resistance of objects to being moved by an outside force, is exactly equivalent to gravitational mass. That is, the gravitational force a given mass will exert.

Postulate 187. General relativity treats gravity as a phenomena fundamentally different from the forces of nature such as electromagnetism. In general relativity, gravity results from distortions in the fabric of space itself; it is not really a force at all!

The maximum energy of distortion theory:

This theory relates the distortional energy of a point under a general state of stress to that of the tensile specimen at yielding. A hydrostatic state of stress occurs when all three principle stresses are equal and no distortion occurs. Any deviation from this state will cause distortion. A general state of stress can be thought of as a pure hydrostatic state plus a distortion state.

Hydrostatic stress in a mass can be measured by the strain stresses it introduces. The hydrostatic stress on mass is the result of a gravitational wave between two mass bodies which is a "space" curvature and not a true wave. It being more like a negative pressure wave; a strain of space! The corresponding physical phenomena is then a hydrostatic stress in masses affected.

A positive hydrostatic stress field has lines of force or waves that attract mass as a phenomena. But, the opposite also exists as a negative hydrostatic stress field and masses are repulsed.

GRAVITY RESEARCH TODAY

What is the present status of gravitational research? As you know, there are less than thirty patents existing on gravity. The monitor devices thus invented -patented - are in general of magnetometers which measure 'magnetic fields, not gravity. Only six to seven patents are of true gravitational monitors by intent. Of these, none have been verified as working!

Although Weber claims to have measured a gravitational wave, it was not verified. The other gravitational physicists around the world have been hard on him since several have tried to verify his discovery, and failed.

So, where is gravity today? The best answer is to include here an introduction to a paper (mine) which hopefully is in proper context here. This introduction was given at the 1981 Gravity Conference at Hannover, Germany. It was later deleted from the published transcript because, as they said, "too blunt and military potential too evident."

Here, then is a blunt status report!

INTRODUCTION

Gentlemen, it is not in my character to speak softly; or to provide a paper without giving away some new research toy for others to play with, in representing PACE, U.S. PSYCHOTRONICS, and GALLIMORE LABS; it is realized that content of the papers represent self only, and incur no responsibility by the supporting organizations. I wish to thank them for giving their support and a free hand in reporting my research.

This paper is an end result of research carried out by Gallimore Labs. It is the summation of eight years of laboratory monitoring of transducers to provide a practical framework of Gravity applications. The orientation of this research has been for electronic engineers so they could understand Gravitational radiation, and thus apply new transducers to current technology.

The existing situation is that we have the combined Einstein and Russian schools of theoretical Cosmos approach where extended math analysis is utilized to provide a Gravitational foundation of phenomena. This is selectively an area where only mathematicians can probe comfortably. We have the Quasars and black holes for the physicists to play with, again on a theoretical level; but nothing for the engineer to apply to the everyday world. We lack not application, but transducers.

The multi-level Swiss laser transducer to detect Gravity anomalies, or the Weber drums at Hughes Aircraft do nothing for the engineer who wants a cheap device which he can use in inventing new applications.

The National Aeronautical and Space Administration (NASA) dreams of Gravitational Astronomy, but lacks the Gravity-to-electromagnetic detection and conversion process to implement it. Their engineers and one hundred million dollars appropriated by the Congress of the United States in 1977 stand ready to attempt the Gravitational astronomy installation whenever Gravity technology becomes practical.

Let's look at some more applications waiting for control of non-electromagnetic radiation (gravity) or the transducers to detect.

Assuming that an inexpensive Gravity to E.M. conversion transducer is being discovered today; then tomorrow we will have Gravitational on-time analog monitors for examination of ore beds and ore location, earthquake prediction by a preceding gravitational shift, and biological examination of

life itself by frequencies of gravity. Planet monitoring and space itself become later applications.

When an emitter and a detector of G-radiation can be joined in a science, then we will have spectroscopes of unimaginable ability, useful for diagnosing and even curing diseases by direct gravitational effects on biological cells. Biological warfare then also takes on a new and deadly meaning where distance between any two bodies becomes totally unrestrictive to application.

With the discovery of gravity control comes the impossible to miss discovery of hydrostatic anti-gravity. Indeed this discovery has already been made. Practical Gravity and anti-Gravity technologies exist today. There is even a Gravity bomb possible, an artificial creation of a black hole which results from purposeful creation of "structure" instability of mass. Such a bomb going off would not even be heard by a person standing beside it, but would create a microscopic black hole that would suddenly grow as it consumed the Earth. It could be the ultimate fate of man, and the ultimate horror by destroying all life and even all traces of our planet.

The discovery of anti-gravity provides us with a possible realization of the flying craft, but few see that there is also free unlimited energy available for industrial nations. The 'excitation' of mass requires so little energy that a craft could be powered by a normal car battery, and visit any four planets before a replacement battery or charge was needed.

Let me speak frankly; all such technologies as described herein are known today. All the foregoing devices are a reality in some primitive or developed context. Such discoveries have been made at Gallimore Labs, and are in common usage daily. Even a laser equivalent, the 'Graser', which emits a coherent circular beam of three centimeters width. A Gravity/Space/Time beam which passes through the Earth unimpeded, and may be modulated easily.

Please note that while such discoveries are in existence, all patent applications to date have been rejected by the United States except one, which was given a patent, and later taken away.

Gallimore Engineering has no doubts that some, all, or more technology as discovered in its non-government lab are known to the United States and other governments, and are therefore classified top secret potentials which have not been released for the common good.

Such restrictions on a commercial industrial research lab as not allowing patent of discoveries has reduced said lab to a perpetual poverty level, and insured an ineffective status for further research.

From the research stated, this paper presents two views of Gravity technology, a theoretical exploration of Space/Time obviously in very general terms, but with some new concepts to excite theorists, and a practical new approach for engineers and crystallographers.

The discovery of Gravity and its control preceded the research which suddenly found that anti-gravity had somehow been discovered in 1927 by a Polish and German team of scientists working for the Telefunken company.

The theoretical understanding of Gravity itself came as a result of laboratory experimentation where published popular theories were found lacking in some aspects, all that is except Einstein physics. The foundations proposed by Einstein were found to be inhibited beyond a certain point. Whether this

was accidental or purposeful is unknown. Part one of this paper simplifies Space/Time physics and reaches beyond the Einstein matrix.

The best physicist in the world is an unknown school teacher in Michigan by the name of Rocky McCollum. His theoretical approach and knowledge has influenced the formation of the stress physics proposed. His work has passed as far beyond Einstein as Einstein passed beyond his contemporaries. The reference here as 'best' is defined by phenomena understanding and control, not popularity or awards.

My work has been best known in crystallography. The accepted theory of crystal growth and control derived from my research, but on being nominated in 1963 for the Nobel prize, contained no reference to me, but was instead proposed by a lab which provided the proof of the Gallimore theory of crystal growth, and their own men as the discovering scientists.

Of important here is the combining of separate sciences: The stress physics of McCollum, the crystallography of Gallimore, and the uncommon electronic theory of Sir James Jeans who in 1919 published an electromagnetic analysis which has never received an award, but contains the history of each principle which is not found in higher learning institutions. Jeans accurately defines Gravity and anti-Gravity by other names. A wealth of phenomena has been uncovered, as have the math relationships to conventional electronics.

Let me now proceed to part one of the submitted paper, and I hope it justifies the bluntness of this introduction.

J. G. Gallimore
Nov. 1, 1980

Gallimore Research Laboratory (Confidential)

RE: In-house research; such research to date on gravity, space, or time phenomena have produced the potential of one hundred thirty seven patents; but compression of related patents as coverage under one roof will reduce total patents to slightly over eighty.

Gravity achievements specified: Starting Dec., 1975, microsecond to microsecond measurements of gravity intensity transfers have been made, and this defined as 'on-time' monitors, with one patent pending thereof. Such control at present extends to 'emission' devices where artificial generation of gravity at earth relative intensities exceed earth normal by two thousand percent. As yet, no limitations have been found on future technology potential intensities. Such 'input' and 'output' control of gravity radiation have produced the following technology:

- a. Modulation of gravity (even through mass) and subsequent detection.
- b. 1/D attenuation of signals vs. distance.
- c. Solid-state emitters and detectors of gravity/space/time.
- d. Coherent emission of gravity radiation.
- e. Microwave-type control of collected radiations.
- f. Control of some anomalies of space/time, little exploration due to lack of equip.

- g. Control-gravity effects on mass structure, insufficient equip. to explore properly.
- h. Gravitational astronomy unit constructed, worked, now destroyed for parts.
- i. Bio-physical effects of gravity catalogued.
- j. Nuclear mass reactions from condensed g-radiation noted, defined, dangerous work!

Specifically, the research of J. G. Gallimore has aided gravity research by adding physical control and manipulation components, such discoveries being unfunded and unknown, are just now coming to be evident by patent applications for commercial usage of gravity radiations.

*“Books, we are told, propose to **instruct** or to **amuse**. Indeed!... The true antithesis to knowledge, in this case, is not **pleasure**, but **power**. All that is literature seeks to communicate power; all that is not literature, to communicate knowledge.”*

--Thomas De Quincey, Letters to a Young Man, Letter iii. De Quincey adds that he is indebted for this distinction to ‘many years’ conversation with Mr. Wordsworth.

“Common sense is the most widely shared commodity in the world, for every man is convinced that he is well supplied with it.”

--René Descartes, Le Discours de la Methodé

“To believe in your own thought, to believe that what is true for you is true for all men,---that is genius.”

--Ralph Waldo Emerson, Self-Reliance

And for those who ask if gravity control and free energy will remain a secret:

“Three may keep a secret, if two of them are dead.”

--Benjamin Franklin, July 1735

PATENT APPLICATION
of
JERRY GLENN GALLIMORE
(Case 2)

DEFLEXION CRYSTAL

This invention relates to a commercial process of altering the structure of a piezoelectric, anisotropic, organized dielectric without altering the chemical composition of the dielectric. More particularly, this invention relates to a structural expansion of the crystalline structure of a dielectric crystal which results in the alteration of the electrical characteristics of the dielectric, and produces internal and surface superconductive properties on the dielectric.

The process of changing a dielectric structure includes the addition of electrical energy to a dielectric crystal, the absorption of the energy by the crystal, the accumulation of shear stress upon the bonds of the crystal caused by the energy, and the reaction of the crystal to the stress. By inducing stress with unequal parts of a sine square wave, an increasing accumulative stress is obtained from one cycle to the next, causing the crystalline structure of the dielectric to break down along weak bonds and rebond in a manner wherein the rebonded internal crystalline structure is stronger than the original lattice structure.

A crystal which is created according to this process is found reactive to any induced field. A crystal which is reactive to purely cyclical or steady fields will tend to repel stress-inducing fields such as electrical and magnetic fields. By repelling magnetic fields, the reformed crystal will be able to achieve superconductive properties along the lines of force within and on the surface of the dielectric. A crystal reformed according to the present process may be made 30 to 100% superconductive, depending on and directly proportional to the amount of structural expansion obtained.

The reformed crystal has applications as a base or substrate for integrated circuits, or for a base or substrate underlying an integrated circuit. The electrical properties produced by the structural changes within the reformed crystal serve to reduce the capacitance and inductance losses of the dielectric. Capacitance and inductance losses tend to limit the reliability of devices such as integrated circuits, and therefore, by limiting these losses, the reformed crystal dielectric will increase the speed and reliability of devices such as integrated circuits.

According to the present invention, the lattice structure of a piezoelectric, anisotropic dielectric crystal is expanded by inducing into the crystal accumulative shear stress. During the expansion process, the crystal must be kept cool to permit the dissipation of heat from the crystal. The stress must be removed from the crystal prior to structural breakdown, or structural collapse will occur.

The invention may best be understood by referring to the following description and accompanying drawings which illustrate the invention. In the drawings:

Figs. 1-3 are a sequential schematic illustration of a crystalline arrangement being broken down to an amorphous mass by applying uncontrolled energy to the arrangement;

Fig. 4 is a schematic illustration of a crystal arrangement wherein the crystal structure and its bonds are depicted;

Figs. 5-7 are sequential, schematic views of the growth and reformation of a dielectric crystal wherein controlled force is applied according to the present invention;

Fig. 8 is a schematic representation of a circuit designed to achieve the controlled forces required by the present invention; and

Fig. 9 is a schematic representation of the path a crystal aggregation will follow when released from an unreformed crystal arrangement according to the present process.

The deflexion process is an electrical alternating current means of changing piezoelectric dielectrics with organized lattice structures, such as quartz and barium titanate, by expanding the lattice structure of the crystal. A single deflexion occurs when a molecule is forcibly disengaged from its location and then aligns with the internal pressures within the dielectric mass to take up a new position or bond. A number of weak crystalline and molecular bonds are easily moved, but soon greater amounts of power are needed to break the more stable bonds, and hence free the molecules and aggregations in the crystalline mass. In the preferred process, the natural frequency of the crystal is used for maximum effect.

The exertion of accumulative stress energy upon the crystal results in a new lattice structure slowly emerging. Continued forced deflexion repositions the molecules and crystal aggregations. Each new bond formed by this force constitutes stored energy. Electrical fields of alternating current which are induced into a dielectric produce tremendous stress and internal pressures within the crystal structure. This stress causes mechanical deformation and expansion to occur, with the displaced aggregations and molecules taking up new bonds. Further applied induced energy breaks more weak bonds in the basic structure, which results in additional expansion of the crystal lattice. New bonds are formed which result in a new, reformed structure for the crystal lattice. The molecules and aggregations which are the building blocks of the dielectric align with existing internal pressures and against further applied induced energy, which results in increased pressure within the crystal. A point is reached at which the polarization components of the dielectric are opposed to further induced energy. At this point, maximum deflexion occurs. At the point of maximum deflexion, the dielectric has reached maximum expansion, and no further changes can be made. In the reformed crystal, normal spatial properties are not exhibited. Anomalies in the electrical characteristics of the crystal results in surface superconductive phenomena.

A crystal will not necessarily reform when subjected to any stress. It is important to differentiate between compressional stress, equivalent reversing stress, and accumulative stress. Compressional stress results from energy being induced in the dielectric which either balances the stress within the crystal, or is insufficient to measurably affect the crystal. If too much compressional stress is induced into the crystal, the crystal will undergo structural collapse. Equivalent reversing stress results from cyclic alternating or pulsating electrically timed waves being introduced into the mass of the crystal, with the mass of the crystal being pushed one direction during one half cycle of the current, and in the opposite direction during the remaining half cycle. These two reactions normally neutralize each other. Accumulative shear stress results if the cyclic, alternating, or pulsating half cycles are of unequal magnitudes. The instant invention contemplates the application of shear stress by utilizing alternating polarities of unequal magnitudes. The stress induced in the crystal structure from one half cycle is therefore different than the stress induced from the remaining half cycle. This results

the first half cycle, the induced energy serves to push the crystal structure further than the unequal second half cycle can push the crystal structure in the opposite direction. This results in only partial dissipation of the induced energy exerted upon the crystal in the first half Cycle. The remaining energy accumulates from one cycle to the next, and is stored by the crystal. Gradually, this stored energy results in deformation of the mass because of the stress accumulated on structural positions within the crystal. The weak bonds tend to be broken first. When bonds are broken, the ions which are displaced release heat and reposition themselves along structural lines of major strength. The induced stress tends to break the weaker bonds first and then tends to attack the stronger sub-structural bonds. The mass continues to be deformed and heat continues to be released until either the crystalline structure collapses, or the stress is removed by the cessation of the exertion of electrical force upon the structure. The deformation will also cease when the energy needs for further expansion are greater than the energy being exerted upon the crystal. The crystal experiences an inversely logarithmic rate of growth over time, with increasing energy being needed to expand the crystal further as the crystal increases.

If the signal is removed prior to structural collapse, the mass continues to hold the structure caused by the stress-induced deformation, and does not revert back to its initial form.

Referring now to Fig. 1, an arrangement 10 of major crystal aggregations 12 is schematically represented wherein the major crystal aggregations 12 are held together through major structural bonds 14. The arrangement 10, although represented as a two-dimensional mass, should be understood to be a three-dimensional entity with the major crystal aggregations 12 being held by bonds (not shown) to other crystal aggregations (not shown) which are above and below the plane of the drawing. It should also be understood that the major crystal aggregations 12 represent a collection of more than one molecule of the particular dielectric, and that the views presented are not to be taken as views on a molecular level, but on a macromolecular level. Fig. 2 is a sequential diagrammatic view of the arrangement 10 of Fig. 1 wherein, according to existing technology, heat and electrical force are being applied to the arrangement 10, and thereby causing the major structural bonds 14 which unite the major crystal aggregations 12 to break. The result of this applied force is illustrated in Fig. 3 wherein the major structural bonds 14 are broken and the previous arrangement 10 is converted into an amorphous mass 16, which lacks any ordered arrangement.

Referring now to Fig. 4, an arrangement 18 of major crystal aggregations 12 contains sub-arrangements 20, 22, 24. Each sub-arrangement 20, 22, 24 contains six major crystal aggregations 12, with some major crystal aggregations being shared by more than one sub-arrangement. In sub-arrangement 20, only the major structural bonds 26 are shown. The major structural bonds 26 represent the attraction between adjacent major crystal aggregations 12. Sub-arrangement 22 shows both of the major structural bonds 26 and the sub-structural bonds 28. The sub-structural bonds 28 represent the attraction between non-adjacent major crystal aggregations 12. Sub-arrangement 24 shows the major structural bonds 26, the sub-structural bonds 28, and the sub-sub-structural bonds 30. The sub-sub-structural bonds 30 represent the attraction between minor crystal aggregations 32 and either major crystal aggregations 12 or other minor crystal aggregations 32. According to the present invention, when electrical force is applied to crystal arrangement 18, the sub-sub-structural bonds 30 will be the first to be broken, with the matter thereby released being the first to rebond. Upon the application of more energy, the sub-structural bonds 28 will later be broken, and finally the major structural bonds 26 will be broken.

Referring now to Figs. 5-7, a sequential view of the growth and reformation of dielectric crystal arrangement 34 is shown. Referring now to Fig. 5, an unreformed arrangement 34 contains sub-

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arrangements 36, 38, 40, 42. Each sub-arrangement 36, 38, 40, 42 contains major crystal aggregations 12 which are bonded to adjacent major crystal aggregations 12 by major structural bonds 26, which are bonded to non-adjacent major crystal aggregations 12 by sub-structural bonds 28, and which are bonded to minor crystal aggregations 32 by sub-sub-structural bonds 30. According to the present invention, electric and thermal energy flows through the dielectric crystal arrangement 34 during only one-half of an alternating cycle. This has the effect of causing the energy to flow in one direction which, for purposes herein, is arbitrarily defined as from left to right.

Referring now to Fig. 6, the application of energy causes the sub-sub-structural bonds 30 to break first, which frees the minor crystal aggregations 32 to migrate along the crystal and rebond down current of sub-arrangements 36, 38, 40, 42 to form new sub-arrangements 44, 46. The newly formed sub-arrangements 44, 46 are formed with the crystals forming along major structural bonds 26 to provide the new sub-arrangements 44, 46 with a structure formed primarily of major crystal aggregations 12 held together by relatively strong major structural bonds 26.

Referring now to Fig. 7, as more energy is applied to the arrangement 34, the sub-structural bonds 28 are broken, causing the ions and crystals held by the sub-structural bonds 28 to flow along the direction of current flow to form new sub-arrangements 48, 50. Like new sub-arrangements 44, 46, new sub-arrangements 48, 50 are formed along lines of major structural bonds 26 and are comprised of major crystal aggregations 12 held together by major structural bonds 26.

Referring now to Fig. 9, a schematic representation is shown of the path a crystal aggregation will follow when the crystal aggregation breaks away from an unreformed crystal arrangement. A crystal aggregation 62, when released from an unreformed crystal arrangement (not shown), will tend to migrate to the down current end 63 of the crystal 64, thereby causing the crystalline growth in the down current end 63 of the crystal 64.

It can be appreciated that during the formation of a reformed crystal by the introduction of electrical and thermal energy into the crystal, heat will be likely to build up within the crystal. According to the present invention, the heat will be dissipated due to the heat sink phenomena caused by the irregular microsurface of the crystal. The surface of the crystal before, during, and after reformation is irregular. This allows the surface of the crystal to dissipate heat, which consequently allows the crystal to rebond in new sub-arrangements 44, 46, 48, 50, as shown in Figs. 6 and 7. Without the dissipation of heat, the temperature of the crystal might be too high to allow rebonding.

There are several ways of achieving the aforementioned results of crystal growth along major structural lines. One method involves the timing of cyclic signals which are varied in different half cycles. Another method involves the use of repeated high-power DC pulses. A third method involves the use of a pulsed DC offset current, and a fourth method involves frequency-induced energy into the dielectric with either the timing or the intensity being unequal from one half cycle to the next half cycle. A fifth method involves the distortion of one half cycle (e.g., sine half cycle plus square half cycle, etc.) wherein two or more signals are applied.

One method successfully utilized by the applicant is the fourth method stated above, i.e., frequency-induced energy introduced into a dielectric with either the timing or the intensity unequal from one half cycle to the next. The induction of a 200 kilocycle frequency energy, used at 2,000 watts for thirteen hours, has provided in excess of 100% volume expansion in a crystal of barium titanate. In

this experiment, the dielectric was kept at approximately 45°F, which allowed the dielectric to cool, and thus prevented excessive heat buildup which would result in a melt-down of the crystal. It is believed that if the temperature were kept to between 0 and 20°F, the heat release of the dielectric would be further enhanced. Referring now to Fig. 8, another method which is believed to result in well-controlled crystal growth is to employ a capacitor discharge circuit 54 for a high-frequency, high-voltage spike to rip away ions. According to this method, a high-power silicon controlled rectifier 56 and capacitor 58, 60 (of approximately 4,000 watts) is designed so that one of the two capacitors discharges each half cycle, but the commutation signal discharge 62 caused by the circuit 54 is unequal in duration or intensity to the charging signal discharge 64 caused by the circuit 54.

The dielectric used according to this invention for crystal expansion must be a piezoelectric, anisotropic dielectric having an organized lattice structure. Quartz or barium titanate are examples of such piezoelectric and anisotropic dielectrics wherein the initial masses are susceptible to change by forced deflexion bonding. Amorphous glasses are examples of materials which will not respond to reformation by deflexion bonding.

A dielectric crystal which is expanded according to the instant invention has different properties than a dielectric crystal which is not expanded. The dielectric constant in an expanded crystal is changed from its normal dielectric value to a value defined by:

$$K_{(\text{reformed})} = (\overline{\text{expansion}}) (K_{(\text{unreformed})})$$

where $K_{(\text{reformed})}$ is the dielectric constant of a crystal reformed or expanded according to the present process, $\overline{\text{expansion}}$ is the square root of the expansion of the crystal as a result of the deflexion process and $K_{(\text{unreformed})}$ is the dielectric constant of a crystal before reforming or expanding by the process. The resistivity of the dielectric markedly increases proportionally by the same formula. These formulae are defined at room temperature (approximately 76°F) as permanent physical characteristics of superconductive surface phenomena. All induced electrical fields flow over the surface and also over metallic coatings which are deposited on the surface, without impairment or resistance. A metallurgically deposited dielectric stratum partially incorporates the new structure of a reformed dielectric with a corresponding increase of resistance value at the surface and a reduced value of surface resistance away from the surface. The net result is a surficial super-tunnel effect of minimum capacitance to existing electrical fields. A deflexion crystal is therefore an expanded structure of mass which is metrically reactive via spatial distortions. Also upon expansion, the optical transmission of a dielectric decreases, for example, from clear to opaque. Additionally, there is believed to be refractive index change, or frequency response absorption, of electrical signals which is proportional to the dielectric constant. It is also believed that if the reformed dielectric is kept at temperatures greater than 50°F, there will be a gradual stress reduction over ten to twelve years, which results from stress relief within the crystal.

The stress incorporated into the deflexion crystal during the deflexion process approaches the very limits of stress which a mass can sustain. The lattice structure of the crystal is used to permanently lock in the perpetual stress produced in the process. This results in a mass which will avoid absorption of any stress inducing energy radiation. Therefore, a deflexion crystal has the valuable peripheral property of reversing electrical characteristics of dielectrics. A reformed dielectric exhibits the following differences from an unreformed dielectric.

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(1) During the deflexion process, there is an abrupt change in polarization. In a reformed dielectric, there is one pole which is in the center of the mass;

(2) A reformed dielectric exhibits a marked difference in conductivity through an avalanche breakdown of the crystal structure;

(3) There is an abrupt change in permittivities, creating a stress field reactive to higher dimensional electromagnetic radiation, and to all metric fields (gravity, space, time);

(4) There is a coherence of the surface electron-tunnelling effect (local metric distortion);

(5) There is an abrupt change of the dielectric's "K" value.

In summary, the deflexion crystal is supersensitive to all energy fields and radiation, and is reactive in the polarization components contained within the mass. That is, there is an electrical change. Thus, the deflection crystal becomes the first real time monitor of gravitational flux, space curvature, and time stress anomalies. It is likewise sensitive to all electromagnetic fields with the polarization components of change being monitorable.

What is claimed is:

1. A process for expanding the volume of a piezoelectric, anisotropic dielectric crystal comprising the steps of inducing into said crystal, cyclic electrical fields wherein the half cycles of field are of unequal intensity while cooling the crystal to permit dissipation of heat, and ceasing the induction in said crystal of said fields prior to structural collapse.

2. The invention of claim 1 wherein the unequal intensities are achieved by applying at least two signals.

3. The invention of claim 1 wherein the unequal intensities are achieved by making the magnitudes unequal during alternate half cycles.

4. A process for expanding the lattice structure of a piezoelectric, anisotropic dielectric crystal comprising the steps of inducing across said crystal a pulsed direct current voltage while cooling the crystal to permit dissipation of heat, and ceasing the induction of said current into said crystal prior to structural collapse.

5. A process for creating a superconductive piezoelectric dielectric crystal comprising the steps of breaking down the sub-structural and sub-sub-structural bonds which bind together the crystal, freeing the crystalline particles bound together by the sub-structural and sub-sub-structural bonds, and rebonding the freed crystals along the lines of major structural bonds.

6. The process of claim 5 wherein the crystalline particles are aggregations of molecules.

7. A process for altering the structure of a dielectric element without altering the

chemical composition of said dielectric comprising the steps of breaking down the structural bonds of the crystal lattice structure of said dielectric, and forming a new crystal lattice structure for the dielectric wherein the bonds are made along lines of maximum strength.

8. The process of claim 7 wherein dielectric is a piezoelectric anisotropic dielectric having an organized lattice structure.

9. The process of claim 8 wherein the dielectric is comprised of barium titanate.

10. The process of claim 7 wherein the dielectric is comprised of quartz.

11. An internally and surficially superconductive piezoelectric, anisotropic dielectric crystal comprised of crystalline particles bound together preponderantly along major structural lines, said dielectric being formed by the process of inducing into said crystal cyclic electrical fields wherein the half cycles of said fields are of unequal intensity, while cooling the crystal to permit dissipation of heat, and ceasing the induction of said fields into said crystal prior to structural collapse.

12. A process for expanding the lattice structure of a piezoelectric, anisotropic dielectric crystal comprising the steps of inducing into said crystal accumulative stress while cooling the crystal to permit dissipation of heat, and ceasing the induction into said crystal of said stress prior to structural collapse.

ABSTRACT

A process for altering the structure of a dielectric element without altering the chemical composition of the dielectric includes the steps of breaking down the structural bonds of the crystal lattice structure of a piezoelectric, anisotropic dielectric and forming a new crystal lattice structure for the dielectric wherein the bonds are formed along lines of maximum strength. The bond breaking and forming are caused by introducing into the crystal a cyclic, alternating, or pulsating wave with half cycles of unequal intensities. The inequality in the waves half cycle intensities causes unequal elastic reactions within the dielectric crystal. The energy which accumulates within the crystal as a result of the unequal intensities causes the crystal to expand.

DECLARATION, POWER OF ATTORNEY, AND PETITION (Gallimore Case 2)

I, Jerry Glenn Gallimore, do solemnly declare: that I am a citizen of the United States, residing at 5627 E. Julian, Apt. 16, Indianapolis, Indiana; that I verily believe I am the original, first, and sole inventor of the invention entitled DEFLEXION CRYSTAL described and claimed in the foregoing specification; that I do not know and do not believe that said invention was ever known or used in the United States before my invention thereof, or patented or described in any printed publication in any country before my invention thereof, or more than one year prior to this application, or in public use or on sale in the United States more than one year prior to this application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States on an application filed by me or my legal representatives or assigns more than twelve months prior to this application; that I acknowledge my duty to disclose

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information of which I am aware which is material to the examination of this application; and that no application for patent or inventor's certificate on said invention has been filed by me or my legal representatives or assigns in any country foreign to the United States.

And I hereby appoint Thomas P. Jenkins, William R. Coffey, Jerry E. Hyland, David H. Badger, Richard D. Conard, James A. Coles, and Andrew James Richardson (Attorney Registration NOS. 13556, 24023, 20904, 22597, 27321, 28291, and 26983) my attorneys, with full power of substitution and revocation, to prosecute this application, and to transact all business in the Patent and Trademark Office connected therewith; and I specify that communications regarding the application be directed to:

JENKINS, COFFEY, HYLAND, BADGER & CONARD
One Indiana Square, Suite 3110
Indianapolis, Indiana 46204
Telephone: (317) 635-3519

Wherefore, I pray that Letters Patent be granted to me for said invention, and I hereby sign the foregoing specification, declaration, power of attorney, and this petition.

And I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Declared at _____

this _____ day of _____, 1981.

Inventor:

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Indianapolis, Indiana 46219

*“All theory, dear friend, is grey, but the golden tree of actual life
springs ever green.”*

--Juhann Wolfgang von Goethe, Studierzimmer

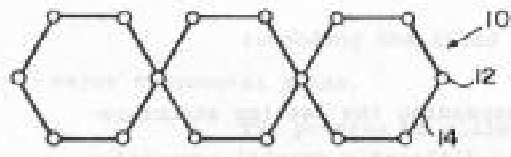


FIG. 1

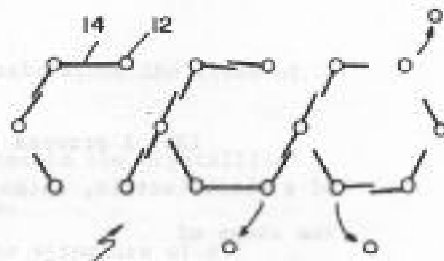


FIG. 2



FIG. 3

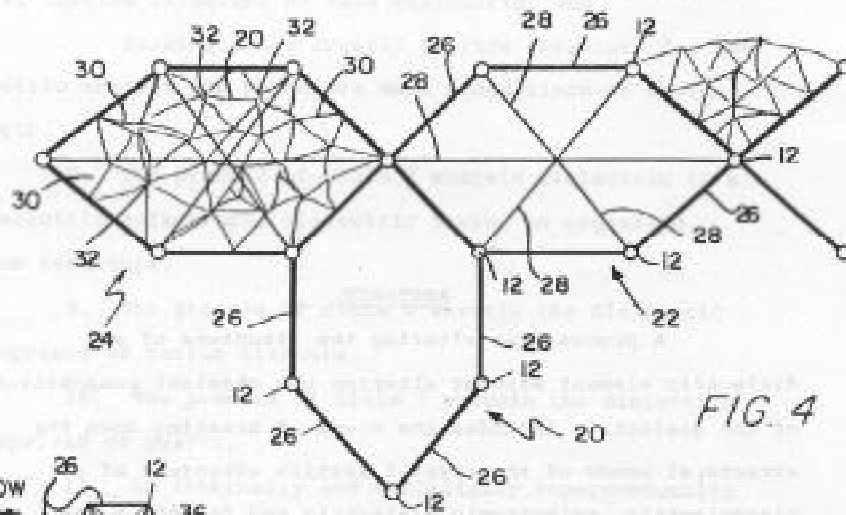


FIG. 4

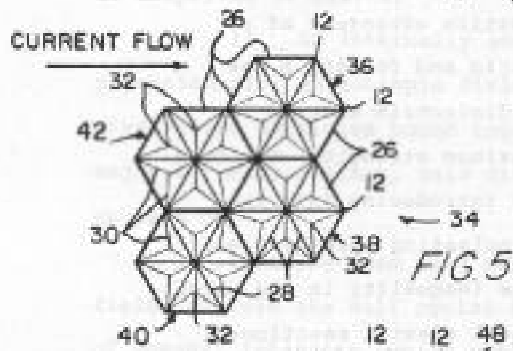


FIG. 5

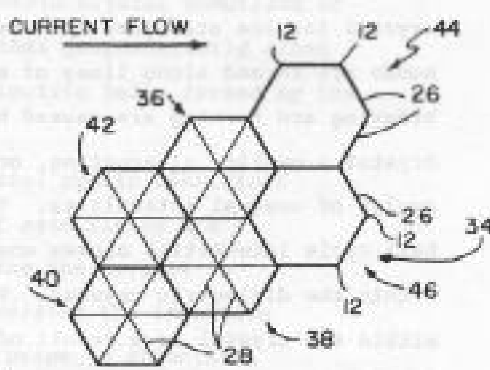


FIG. 6

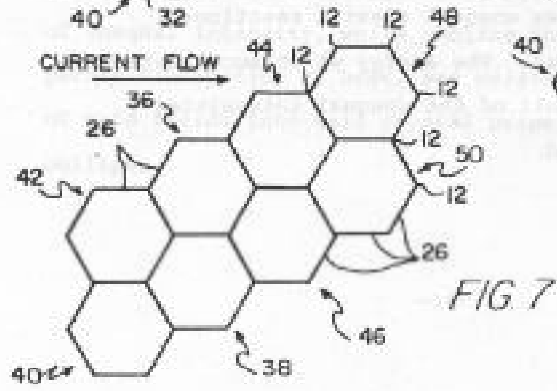
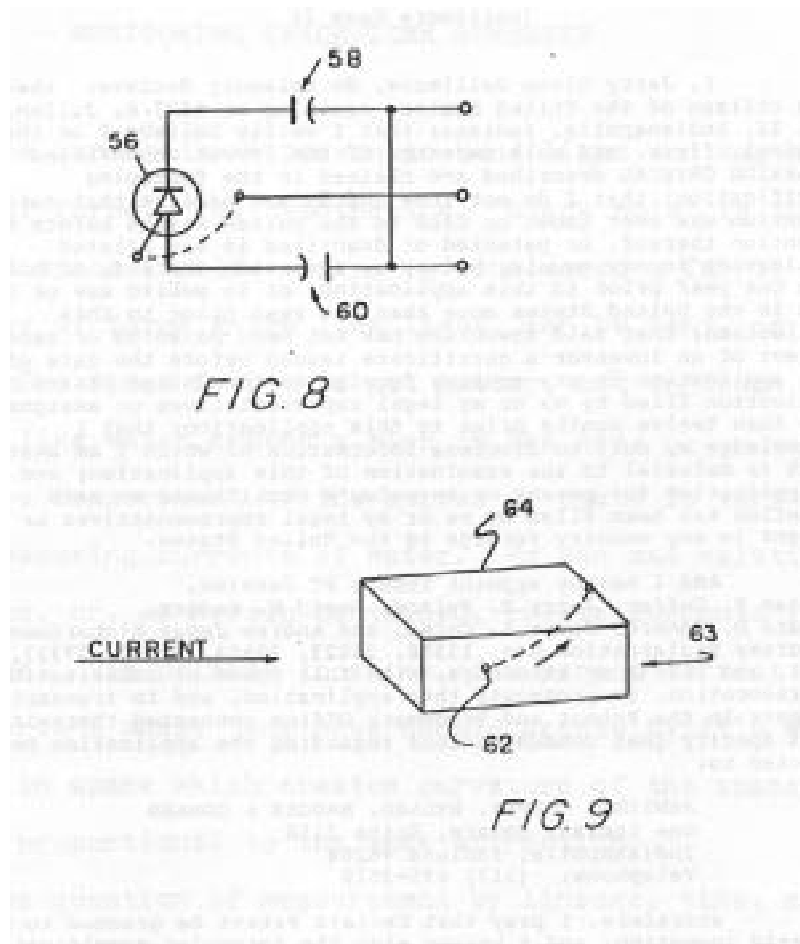


FIG. 7



Side Note:

A tube of deflexion material will exhibit unusual space/time properties. It is possible that with an electromagnetic field placed around it, that it may disintegrate all matter placed in, or passing through it. (i.e. A disposal unit for toxic chemicals, etc, but not radioactive materials, will react in deadly energy manner.)

Translation of Radio Umschau article, dated April, 1927, courtesy of Steven Taracevicz:

Over Coming of Gravity A Recent Success in Crystal Research

Already according to what is becoming known from initial data, we have the intention to report the apparently successfully completed experiments. However, in order to be oriented as exactly as possible, we have visited first the laboratory of the discoverer, Dr. Lertes, at his invitation. Today we are in a position to publish three very interesting pictures of experiments from that visit. Since the technical means for such experiments are not too costly, amateurs may undertake the experiments and decide for themselves. We are happy to provide the inventor with additional requests or questions.

If only for a short time, particularly from the technology perspective of short waves radio amateurs, each validation is ordered and useful innovations are eliminated following this path. Nonetheless, the validation of two young researchers in ultra-short waves, whose breath in scientific and technical respects has not yet today not been more closely examined. At the same time, the opinion of field experts that amateurs cannot be expected to advance science and technology, is contraindicated.

This discovery was announced six weeks ago in the newly built laboratory in Darredin, Poland by Dr. Kowsky and engineer Frost.

The applied piece of quartz used in experiments with short wave crystal oscillators with a constant temperature suddenly, clearly showed a changed appearance. It was easy to notice that the inside of the applied crystal, so long as the laboratory temperature did not exceed X Celsius, and was held constant during the experiment, milky drops appeared that became completely opaque. According to the examination of Dr. XX, whereby the subjected quartz crystal generates clear high frequency air waves, these crystals drove a small motor such as those motors mentioned in (_). Further bizarre observations were to be expected, and at first were inexplicable. Week long investigations finally yield the clue of the possible applications of the unexpected discovery.

Caption; figure 2: 25 kilogram weight lifted by a free hovering crystal. The quartz crystal has altered its structure and as a result generates a force able to hold a 25 kilogram weight.

In order to explain the occurrences, several things must first be presented. As we already know, different quartz and crystal of similar atomic structure have the qualities that a voltage applied in the direction parallel with the optical axis expands and contracts the crystal thereby converting electric energy to mechanical vibrations. These oscillations are indeed very small and already had a technical application measuring quartz crystal wavelength and holding transmitter wavelength constant. By changing the directional orientation of the applied voltage, at a certain orientation, the crystal expands but does not contract. This effect is apparently obtained by freeing electrons from their molecular conduction bands, which, at first irreversibly, changes the crystal structure, precluding return to the original structure. The opacity was explicable due to the expansion of the crystal, however a change in specific gravity must also occur. An attempt to weigh the crystal immediately after the application of the voltage raised the scale upon which the crystal sat. This is shown in illustration 3. The next logical experiment was to further change in specific gravity in order to see how much the specific gravity could be reduced. Through the continually greater application of energy (several kilowatts), a crystal measuring 5 x 2 x

1.5 centimeters became completely opaque and expanded to 10 centimeters (See figure 2). The crystal became so light that it finally lifted the entire apparatus and with it lifted a 25 kilogram free hovering weight. The exact measurement and calculation could succeed with thanks to the facilities and help of the laboratory in Daradein, showed that the specific gravity had been greatly reduced corresponding to the increase in volume. The weight had actually become negative. There are no underlying doubts anymore that the beginnings of overcoming gravity have been made. It may be noted that the accompanying energy principals remain preserved. The amount of applied energy to the crystal corresponds to the counter effect on gravity. Admittedly, the riddle of gravity has not been solved, and at this time, the same procedures are being pursued. It is the first time that such an experiment with gravity has achieved unassailable results. It appears that finally a path has been found to expose the dependency of gravity on the electro-magnetic force, which has been greatly sought after but never proved. Further scientific success with this discovery could lead to applications in air and other forms of transportation.

Conclusion to Part II: The Kowsky-Frost Experiment

We have 3 sources of verification for this experiment: Radio Umschau, Science and Invention, and Jerry Gallimore. Is this a hoax? I would say that the possibility is extremely slim at this point. It is an experiment which begs to be repeated, if only to verify the original claims. At the time of this writing, no laboratory has come forward to attempt such an experiment.

As the semantics of gravity control become blackballed, the proponents of this new technology are shuffling into retreat. At first the term “antigravity” meant certain death for publication, so the term was changed to “barycentric control”, and then “reactionless drive”. For a time “electromagnetic propulsion” was used, and then “electrogravity”, that term being used by Townsend Brown for his work. It is time for proponents of this technology to stop their retreat, and make a full frontal assault upon the politics which holds back the technology this civilization so desperately needs. Politics has so odiously contaminated science that we are now on the verge of a new dark age if we allow it to continue. It has been said that politics is the polar opposite of integrity, and rightly so.

Here is the most recent egregious example, posted on the Space.com site:

X-Prize Rejects Gravity Control Rocket Group

By Leonard David
Senior Space Writer
posted 05:30 pm ET
15 June 2003

It was a weighty decision, not taken lightly, but X-Prize officials voted last week to bar a group attempting to harness gravity from entering the contest aimed at promoting space tourism.

The X-Prize Foundation notified Gravity Control Technologies (GCT) of Budapest, Hungary that its application to become an X Prize team had not been accepted.

GCT was founded in 1999 and is a privately held aerospace research firm delving into superconductivity and Zero-Point Energy Field physics in the hope of achieving one hundred percent propellant-less propulsion technology for flight.

The X-Prize is a \$10 million prize to jumpstart the space tourism industry through competition between entrepreneurs and rocket experts around the world. The purse is to be awarded to the first team that privately finances, builds and launches a spaceship able to carry three people to 62.5 miles (100 kilometers) altitude, then returns safely to Earth, repeating the launch with the same ship within two weeks.

But in an X-Prize Foundation letter to GCT, the rationale for closing the door on the group's X-Prize status is up-front.

“In light of the novel and untried technology you propose, the Committee has a concern of the credibility of the technology. The X-Prize Foundation strongly encourages the use of all technologies for the X-Prize competition. However, over the past years, we've been besieged by a variety of groups making technological claims that weren't real,” explains Ken Davidian, Director of Operations for the St. Louis, Missouri-based X Prize Foundation, in a letter to GCT.

“We will be happy to reconsider your application when provided with evidence of the feasibility of your proposed technology. We strongly encourage GCT to continue with its research and keep us posted as developments warrant our attention,” the letter states.

Comment:

Why should they want proof that the technology works? After all, the prize is only awarded on completion of the task of creating a reusable space ship. The answer is politics. Most propellants are derived from petroleum products, and this threatens the petronazis. It is especially a threat when the company claims that it can run the ship on the free energy of the vacuum.

The technology (gravity control) is neither novel, nor untried. This is a lie, and a slap in the face to those such as Townsend Brown, Jerry Gallimore, John Searle, and others. It is a Neanderthal denying that the wheel works so he can sell more horses. These odious people will be indicted by history, and they will be damned by the citizens of the future for their avarice.

In their pursuit of a myopic agenda, the future of their children means nothing, and the future of the planet has no consequence. Here I am not merely speaking of those who run the X-Prize, for that is only a facet of the problem. A good analogy to this would be a hologram on a sheet of glass. One can drop the sheet of glass on the floor, and pick up a fragment and see the complete picture in it, albeit with a lower resolution. Everywhere we go we see the same problems, fragments of the same hologram. We refuse to acknowledge them as being similar, and assign different names to them. But they are nevertheless the manifestations of the same problem. Until we recognize that reality, it will continue to plague us, and we will continue to be led around by the nose by those who would keep us stumbling around in darkness.

Part III

Thoughts and Random Musings

This section is a sort of addendum, adding on some chapters on that were a work in progress as the book was written. I felt that it contained information that needed to get out, a speculative mix that might be thought provoking enough to spark imagination.

As I went to several conferences over the years, I lamented the fact that so few of the attendees were young. I looked out over a sea of grey hair, wondering if there might be anyone who would take up the torch and run with it. I thought about the span of time between Tesla's death and the first Tesla symposium in 1984, and the span of 100 years between Gregor Mendel and the implementation, or rediscovery of genetics. Will history repeat itself? Will the cabal be successful in the suppression of this technology? Were they successful in the sabotage of the educational system, such that the young now have no knowledge of the supreme sacrifice of researchers and scientists in the early 20th century?

I would hope not, but after speaking with young people who have been "educated" in the public schools, I consider their agenda an unqualified success. Today's youth are considered expendable cannon fodder, and do not need to know science, philosophy or history. However, the powers-that-be have made a most serious blunder in that military commanders need to know history, especially the history of warfare, to win battles. Those that are ignorant of the mistakes of history tend to repeat those mistakes over and over. Eventually, it is their ignorance and hubris which is their downfall. History teaches us this important lesson.

The articles which will follow this brief introduction span early electromagnetics (Screaming Through the Wires), to cosmology (Beyond the Black Sun) to a parallel path which we may take in this civilization, if it knows what's good for it (The Road Not Taken), and others.

Here it is, may you enjoy this collection!

Screaming Through The Wires: Resurrection of the Phonon Theory

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It all began with a question that I asked when I worked in the Engineering Lab at Gearmaster. I had just studied Electronics Technology, and there were things that just didn't jibe. Unfortunately for the teachers of the course, and much to the chagrin of my co-workers, I asked questions. I was never satisfied with any answers that weren't consistent with theory—any theory. Everything had to hang together. Consistency and integrity were the name of the game. There were some things that seemed to make sense outwardly, but when you started examining them close enough, the explanation simply fell apart.

I asked an Engineer, "How is it possible for a single entity to be out of phase with itself? How can a current have a voltage 90 degrees out of phase, if the voltage *and* the current are carried by the *same* entity?" The engineer looked at me with disdain, realizing that he didn't have the answer to that question.

In fact, it's not even addressed in electronics. It is quite deliberately ignored to the extent that the silence is deafening. This hypothesis may be partly baked, and lacking in some respects, but I shall attempt to answer that question in this paper, and perhaps in the years following, I will endeavor to collect supporting documentation either proving or disproving this concept.

One of the Clues Was Keely

John Worrell Keeley. Some swear by him, others simply at him. Was he a con man or a genius? Perhaps both, according to the evidence. Whatever the controversy, I think he was on to something. Let's look at sound, what it is and what it does. The current theory of sound propagation is that it is carried by longitudinal compression of the material. On the molecular level, electron shells undergo compression, and respond by the transfer of photon-like particles called phonons. These phonons do not propagate in the vacuum. They are a peculiar kind of beast, only propagating in matter. I know that there is an argument that the structure of the vacuum has some of the properties of matter, but this particle cannot travel in a vacuum, in the absence of matter. It acts like a ripple of particles alternately absorbed and released by the outer electrons of the material. It seems interesting that materials, which are either good conductors or good dielectrics, are also good conductors of sound. The conductive materials seem to conduct low frequency sound well, and the dielectrics high frequency. This makes sense. Up to a point, the electron shell distortion would act as a virtual current, and a conductor would have a fixed inductance, with the impedance going up with the frequency. The dielectrics would be capacitive with a fixed value, and the capacitive reactance (impedance) would go down with frequency. Keely knew this, although he gave different terminology for the same phenomenon.

Then we have the phenomenon of piezoelectricity, the property of certain materials such as crystals and certain dielectrics/ceramics that produce a potential when they are either compressed mechanically or are in the path of longitudinal sound waves. Here we have the analogy with sound again. The higher the intensity of the sound, the higher the voltage which appears on the piezoelectric material. Keep in mind that it is the phonon that propagates through the piezoelectric material. The higher the energy of the phonon, the higher the potential on the material. This is a direct link between the energy of the phonon and the potential on the material. We know that phonons not only carry sound, but also carry momentum.

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We can prove this by a curious little toy that has a series of steel balls suspended on strings. When one pulls one of the balls away from the line, and releases it, when it impacts the first ball that kinetic energy seems to be invisibly and magically transferred through the line of balls, until it reaches the last one. Then that ball suddenly jumps away from the line, swings away and back, repeating the process until the energy is dissipated. This energy is dissipated as heat from the energy of deformation of the material. Down at the atomic/molecular level, it is an impedance of the material to the virtual current induced in that material. It is essentially resistive heating. But that energy is propagated as phonons from shell to shell.

Another example is the Crookes radiometer. It is another curious toy which has four blades mounted on a central bearing. Each blade has a flat black coating on one side, and a silver finish on the other. The bulb is evacuated, and typically has a hard vacuum as possible. When it is placed near a light source, the blades begin to spin around as if they are in a brisk wind. This is of course impossible since the bulb is in a vacuum. The conventional explanation is that there is surface heating on the black blades that causes the molecules of gas to expand and push against the surface of the blades. Excuse me? How can you have gas expansion where there isn't any? But this is the "conventional" modern explanation. What was the older explanation? Einstein proved that photons also carry momentum just after the turn of the century. That explanation is that on the black blades, photons are absorbed carrying momentum. Those blades with the momentum imparted to them experience more torque than the ones that reflect those photons. And so therefore we have rotation. That makes much more sense.

The Model

So therefore we know that photons, like phonons, carry momentum. Let's go back to that little toy with the steel balls. We know that on the macroscopic level, those steel balls that are composed of billions of atoms, all absorbing and emitting billions of phonons, can have this effect. What about one particle, such as an electron, and one phonon? Specifically, this would be a free electron in a conductor, or semiconductor. Let's look at two facts, which tend to support this model:

- 1) The electron drift velocity is only centimeters per second in a conductor. It varies somewhat between materials, but that's about it. "But..." You say, "the signal velocity is much faster than that..." I'm coming to that.
- 2) The signal velocity IS the speed of light, or sometimes a little less than that. The instances where the velocity is less than light appears to be analogous to a refraction phenomenon.

These two properties are irreconcilable with one another if we assume they are assigned to the same entity. Why is this? Let's look at relativity, one of those little things that are no longer taught in many schools, let alone technical schools. If the electrons were moving at the speed of light, they would become so massive that it would change the masses of the conductors themselves. In the older texts, it is acknowledged that the drift velocity is a low number. That is omitted in the later texts.

Then there is the discrepancy in the relaxation time. This phenomenon is the time required for electrons to begin moving in a conductor when a potential is applied. It is analogous to the acceleration of a mass once a force is applied. But it doesn't happen in one big jolt. You're talking about billions of phonons impacting billions of free electrons. It ripples through the conductor, taking a discrete amount of time to be absorbed and emitted from electron to electron. Which, going out on a limb here, leads me to postulate number 3:

- 3) The REAL relaxation time is the signal speed divided by the drift velocity. For an example: If the signal speed is 3×10^{10} cm second, and the drift velocity is 3 cm per second, then the relaxation time is 1×10^{-10} seconds.

The postulate above will vary from material to material. But the essence is that we really have two entities: the phonon that carries the potential, and the electron that carries the current. Another proof of low electron drift velocity is the lack of gyroscopic moment of inertia of coils that carry current. Another proof is interferometric effects in plasma tubes, which indicates that this rippling effect is taking place. As the energy of the phonon increases, the potential increases. As the number of circulating electrons increases, the current increases.

This may explain the effects that take place in capacitors. One in particular is known as the displacement current. This is a totally reactive current where no true (or resistive) power is consumed. The conventional explanation is that when electrons flow into a capacitor, electrons piling up on the negative side tend to repel electrons off the other plate. In the phonon theory, there is no electric field doing the work. It is due to a flow of phonons from the negative side to the positive, imparting kinetic energy to the electrons there, and causing a current to flow off that plate and into the circuit. This effect is very important, as we shall see later, as it suggests several possibilities for circuit design, which would make no sense with conventional theory.

In a paper authored by Tom Bearden, "The Final Secret of Free Energy", he suggests that one of the ways to tap into this energy source is to provide a switching system that is faster than the relaxation time of the circuit itself, that is, the conductors as well as the components of said circuit. In this case, you allow the phonon pulse to propagate through the circuit, but switch it off before the electrons, being massive bodies, get a chance to accelerate and flow through the circuit. It becomes a mass-free potential. There is still energy flowing in the circuit, since the phonon pulse carries kinetic energy, but that kinetic energy is constrained within the conductors, the pulse duration being too short for the electron gas in the conductor to react.

These short pulses would lend itself to a very bizarre phenomenon within the circuit. For example: let's say we have a coil, and apply a current-free potential to it. What do we see? Can we measure a magnetic field emanating from it? The answer is no, since there are no conduction electrons flowing in the circuit. Can we measure a potential? Assuming that the conductors within the meters we use are of the same material as the coil, the answer is no, since it requires a movement of conduction electrons within the meter to do this. So our meters tell us there is no net energy flow within the circuit, which would of course be a false assumption. All energy flow in this case is taking place on the quantum level. Our meters do not detect this. One would need metrology that has a relaxation time less than the circuit to be measured, so electron flow would take place inside the meter, to see what is going on.

The same thing would apply for a capacitor, or any other circuit component. As Mr. Bearden mentioned, if one used *two different* materials, one with a high relaxation time for the switching element, and another with a lower relaxation time for the external circuit, then one could theoretically tap a potential source indefinitely without dissipating it. There is another way of doing this, but I will be getting to that one later.

Dr. Peter Lindemann also had some revelations on the subject in his video, “The Free Energy Secrets of Cold Electricity”. He showed how Ed Gray, and Tesla knew how to tap into this current-free potential. As I mentioned earlier, it gets a bit tricky when one tries to get devices to run off this type of energy. One must use two different types of materials, or the insurmountable problem of getting devices that run off moving electron currents (which do not *see* electron flows) results. The one point in the video that I do not agree with is that he believes that what the brush discharges are at the end of the wires are ether flows. I do not agree. I believe what we are seeing in this case is a phonon inrush into the atmosphere causing the ionization. The ionization will be cold, since photons produce heat, while phonons do not. Also, the current-free potential would tend to propagate across the coil, rather than through it, producing a sheeting action upward. I suspect that the relaxation time for gases varies as well as for solid and liquid conductors, so depending on which gas is used, one will have varied effects.

Phase Conjugation and Phonons

In the Second International Symposium on Non-Conventional Energy Technology, Alex Guy Obolensky demonstrated a device that produced pulses, which traveled faster than the speed of light. The explanation at the time was that the current was time reversed. This is impossible using even the conventional theory of current propagation, and here is why: If one time reversed the electrons in the circuit, they would be converted into positrons, which would annihilate only after a short distance in the conductor.

However... If one time reversed the phonon component of the energy flow in the conductor, what would be seen? For one thing, the longer the circuit length, the greater the discrepancy between the values of C will be seen. For another, phase conjugating the phonon component, which carries the potential, will produce what some call a negative resistor. The farther the pulse travels, the greater the potential. Entropy is reversed. The conductor grows colder. If an arc is drawn, a brilliant flash will be seen, and the contacts will freeze over. I believe that what Alex Guy Obolensky has seen in his circuit is phase conjugation of the phonon component, commonly known as the potential. That would produce the temporal effects as have been reported.

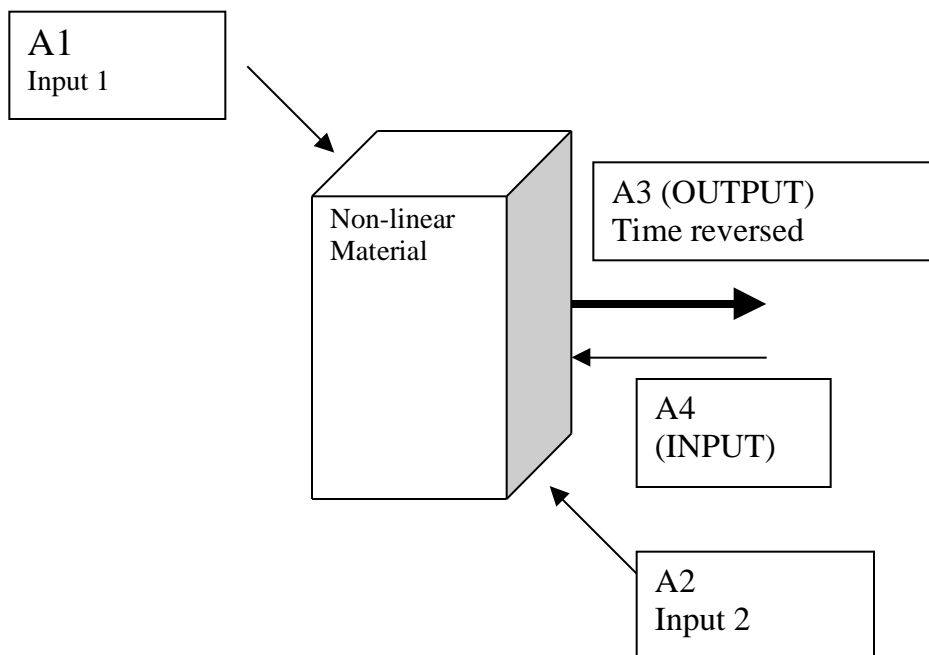
What many have been calling “negative energy” is this phase conjugated phonon component. It is a time-reversed potential acting on a positive-time conduction electron. What would be the effect of this? Well, other than the negative resistor effect mentioned earlier, the inertial properties of the phonon would also be reversed. Instead of carrying positive momentum, and positive energy, it would be negative. That means that it would tend to pull electrons through the circuit, rather than pushing them. Electrons would flow from the positive terminal to the negative, completely opposite to what we’re used to. Intense arcs would cause implosions rather than explosions. A big enough jolt may cause Bose condensates to form.

What can we run with this? Anything that does *not* use resistive elements. Anything that uses these elements, such as light bulbs and toasters, will cool rather than heat. Fluorescent tubes will give out a brilliant light, as well as other gas discharge tubes. Electric motors will work, although it is debatable whether or not the current creates a diamagnetic field as opposed to a magnetic one. It will also run cold, and the more it is loaded down, the colder the windings will get. What a perfect solution for global warming! If the current does indeed create a diamagnetic field, then it would tend to repel ferrous materials, so solenoids may not work. Semiconductors would act like semi-superconductors with bizarre behaviors, and betas off the chart. And what would laser diodes produce? Photons or anti-photons? That would be a very good question.

There was a device that Bob Beck produced that was called a “zapper”. It was similar to a TENS device, in that it would produce a signal pulse train on dermal contacts, with varying effects on the blood stream. Some claimed that it could produce a beneficial ionization of the blood, with alleviation of various illnesses. So now the question is: what effects would a time-reversed potential in the current have on a biological system? I would think that since it is inherently entropy reversing, that it would have the same effect on the system. A fountain of youth? Maybe, maybe not. No pun intended, but time will tell. One possibility that *is* a fountain of youth, or regeneration is what Mr. Bearden suggested in his talk to the USPA called “The Lost Unified Field Theory of James Clerk Maxwell”. I will be referring to this video again, but specifically what I wanted to mention is that Mr. Bearden suggested taking the delta (the rate of change per unit time) of the disease state in the biological system, phase conjugating it, and feeding it back to that system, or body. Since aging can be called a disease state, it would work with that as well, backing up the body toward an earlier, younger, healthier state. It would be true rejuvenation. That would be possible with an extension of this technology.

A Phase-Conjugate Power System

And now we come to the piece-de-resistance: a power system that uses a time-reversed potential. How do we do this one? I refer once more to the talk “The Lost Unified Field Theory of James Clerk Maxwell”. I believe this one is available through the USPA. I viewed this one several times before the true meaning sank in. Perhaps it took that long, but it was there in front of me all the time. This is also the secret of Sparky Sweet, and several others who produced the same type of energy flows which had a time-reversed potential. It started with this diagram:



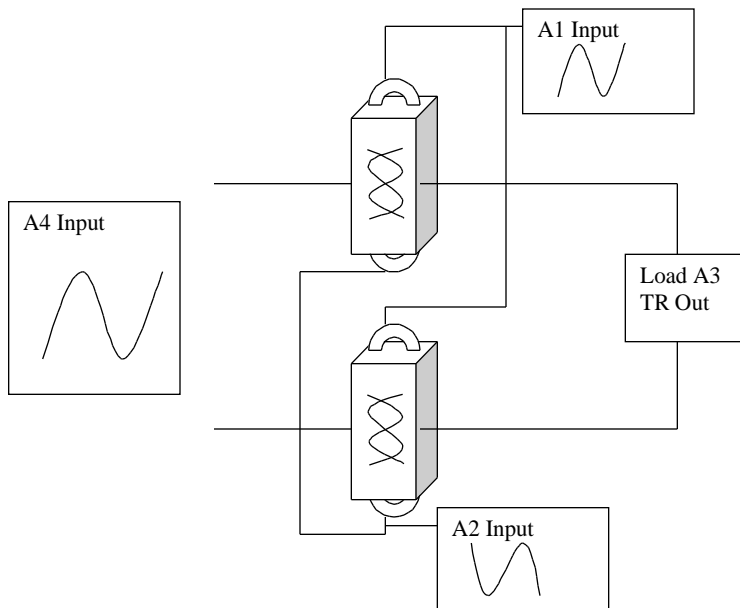
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Here's the explanation of the diagram above: A1 is one electromagnetic wave broadcast, or signal-injected, into the material. It can be any frequency, but the lower the better. A2 is another signal injected into the material, but at 180 degrees out of phase with A1. A1 and A2 combine inside the material, and pump the nuclei. Together these are called a pump wave (again deriving this material from Mr. Bearden's lecture). All the energy input from A1 and A2 is stored in the mass, in particular in the nucleus of the material. In this case the mass acts as a nonlinear capacitance. A4 is the input into the material, at the same frequency as A1 and A2. A4 is the output. All the energy input into A1 and A2 is coupled to and emitted along the same vector as A4. If A4 has a 1-watt input, and the energy stored in the material is 1000 watts, then the A3 output has 1000 watts on it.

Now here's the tricky part: A3 is time-reversed. So all the entropy contained in A4 is phase-conjugated as well. If A4 contains a complex waveform from a biological system, which has a lot of entropy in it, disease waveforms, age-related illnesses, etc., then these are swamped by the A3 wave. The only question now is what would be a safe level of phase-conjugate EM input into the system to reverse those disease waveforms. It has been estimated that the human body can broadcast a total emission of about 5 watts of EM. Dumping 1000 watts of negative energy into the body all at once might just turn it into a massive block of ice. It would be like being in a microwave oven in reverse. One must be selective about which frequencies one uses, and power levels. One other thing, the diagram above is the mirror image of the one in the talk, so if you see the video, the functionality is the same.

What we see in the diagram is pretty much the model-T of time-reversed energy manipulation (no pun intended). What we need to come up with is a closed-loop system. We can do this using fiber optics, which is possible, and have lighting and cooling based on that (time-reversed infrared would tend to do the trick for air conditioning). What would be more desirable at this time is something that would power a limited number of electronic devices. I think I have just something that would do the trick. It's the diagram below:

Phase-Conjugate Power System



Here's an explanation of the diagram: As in the "Model T" version above, the A1 and A2 waves are inputs for the pump wave of the material. They are 180 degrees out of phase and combine within the material to pump the nuclei, analogous to a laser tube pumping the electron shells of the lasing medium. (The material itself is probably a form of barium titanate.) They are preferably running at the same frequency as the output of the power system. The A4 input is the conventional power connection, preferably an external oscillator and not a connection to the grid. I will explain why later. The A3 output is where the magic comes in. This is the time-reversed output, where all the energy put in on the A1 and A2 sides comes out as a PC replica. But it gets better. Since it operates in the negative time domain, it reminds me of one of those magician's trick glasses or pitcher, the one that never runs dry. Anything that would normally load down the system with positive power becomes a source with negative power. And anything that acts as a source...

Now let me explain why it is so important to connect an independent oscillator to the input. Taking a look at the diagram, it occurs to me that a certain amount of feedback is possible in the negative time domain on the input. Why is this so important? Any generator will act as a load in the negative time domain. Ever wonder why Tesla blew out the generators in Colorado Springs? If one connected the device to the grid, it would immediately be connected to whatever generating station produced the power. But that's not all. It would be seeing every resistance in the lines to the power station as a source, and the farther the device is from the generator, the bigger the amplitude the backfeed will become. Every appliance in every house will also act as a negative resistance, amplifying the backfeed, until a whopping negative energy pulse reaches the generator.

At first, one would hear a groan in the wiring to the generator, as the negative phonon component overpowers the positive one. Then briefly, the current will come to a stop as the amplitudes match. There will be no EMP, as the magnetic and diamagnetic components would tend to cancel out. Then the generators would become motors as the diamagnetic component takes over. In the negative time domain, back EMF becomes forward EMF. The generators would accelerate and overspeed. Mechanical overspeed protection would take over, and massive breakers would trip. Technicians would notice a brilliant flash from the arc of the breakers that they have never seen before. Then the power would be disconnected from the generator, but for a brief moment a standing wave would be produced between the generating station and the device plugged into the wall. For perhaps a minute or two everyone connected to the grid would be running on negative power. Consumers scratch their heads as they pull bread out of their toasters and stare at the frost on the elements. Shopkeepers look at their fluorescent lights, and marvel at how bright they are, and how they have taken on a bluish tint. And then after the blackout has passed, and the generators have been restarted, everything goes back to normal, assuming the device has been unplugged.

Conclusion

Perhaps some day this civilization can run on this form of energy, and I hope that day comes sooner than later. It will take some getting used to, since translation devices will be needed to run electric heating elements and the like, but in the long run the environmental benefits would far outweigh any temporary inconveniences. It has been estimated that it takes a civilization 20 years to switch over to a new source of energy. I have read reports by reputable individuals, and according to them we do not have that long before this condition becomes irreversible.

If this theory is engineerable, and I believe that it is, then we can begin the first steps toward implementation. And at that point, Pandora's box that came with the old technology slams shut, and the magic box that comes with the new technology opens to us.

The choice is ours.

A Plate Full of Gravity

(Without Mashed Potatoes)

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There are times where gravity is more important than antigravity. When does this occur? Well, technology is merely a tool, and the application must fit the need. Normally, when one mentions "antigravity", it is usually in the context of some kind of propulsion system. One may propel a craft, and the acceleration mimics a gravity field. The long-sought after "1G" spacecraft would come under this heading. With enough fuel, or energy, the craft merely accelerates for one half of its journey, and decelerates for the other half. This gives the crew the appearance of an earth normal gravity field which prevents the rather nasty effects that go along with prolonged weightlessness— such as muscle wastage and loss of bone density. To be sure, it *is* a brute force approach, and energy intensive.

What other alternatives can we have to the aforementioned approach? Well, there's the centrifuge. This would require a large diameter to prevent the astronauts from feeling that they're riding a tilt-a-whirl. Rotational speeds of greater than 1-2 RPM tends to induce nausea due to the swirling effect of fluid in the middle ear, evidenced from the long streams of vomit along the walkway from the tilt-a-whirl. Therefore, *if* the diameter were large enough, then it would be practical. Two shuttles tethered together with about a half-mile length of cable would do the trick. The shuttle external tanks would also work, and I'm a bit surprised that the NASA engineers never attempted this. Then again, maybe they were the ones who rode the tilt-a-whirl.

But what we really need is something that is elegant. I mean elegant in the sci-fi sense. Something that is not an energy hog, and doesn't twirl the astronauts around. What I am about to propose will do just that.

To give you a little background, I would recommend seeing the video "The Lost Unified Field Theory of James Clerk Maxwell" by Tom Bearden. In this video, he explains how four-wave mixing could be used to "pump up" the nuclei of the phase conjugate material. I tend to disagree on the antigravity effect, though. Why is this? Well, gravity itself is operating in the negative time domain, and pumping the nucleus, which is also operating in negative time, just makes more gravity, not antigravity. But, as I said earlier, for what we need, gravity is far more useful.

If we do pump the nuclei, what would theoretically happen? It goes like this: the mass acts like a scalar capacitance. We're charging up the capacitor, and what we get is more apparent mass. That mass is occupying the same volume of space, so therefore we're really getting an increase in the density of the

material at the same time. Gravity tends to increase nonlinearly with the increase in density. To give you an example: There is approximately 4000 miles of mass between you and I and the center of the Earth. That mass is about the density of 5.41 or so, depending upon the source of the data. This is what gives us the acceleration of 1G (gee), or 32 feet per second per second. If this density were doubled, and the radius were halved, then allowing for the increase due to the inverse-square law, we would have 4 gees of acceleration. Let's say we crunch the mass down to 4 miles of radius, which would give us a density of 5410 grams per cubic centimeter. That decrease of a factor of 1000 is squared, and what you get is one million gees of gravity. (Is that a mega gee or a golly gee?) If we take the 21,120 feet of material and lop off everything but 21 feet, we get 1000 gees (it decreases at a linear rate at this point). If we take it down to a quarter of an inch thickness of material, it drops it down another factor of 1000, and we get one gee.

So what happens if we take a sheet of material a quarter inch thick, and pump it up to a density of 5410 grams per cubic centimeter? We get one gee radiating from that sheet. Mr. Bearden recommends phase conjugate material for the application in the video, which has a capability of being a weapon, but in this case, what we're really after is density. We could use rhenium, platinum, iridium or osmium. That last one, osmium, has a density of 22.61 gm/cm³. All we would need to do is pump it up 239.27 times its natural density and we've got it. If we do not choose osmium, the next best bet would be rhenium, which is a rather tough material which would resist structural collapse nicely. A variant can be made which allows machinability and resistance to structural collapse, similar to the way aluminum is toughened into duralumin. Let's call this material durhenium. A polymer form of this would be polydurhenium, which would have a density of 31.53. We will be getting back to this material later, which could be used as a hull for the ship, but for now let's stick with the durhenium.

A typical plate would have electrodes on the edges. This would be to facilitate the pump wave to saturate the material. A sensor would be remote from the panel to prevent saturation from the pump wave. This is configured as a feedback loop for the amplifier, to keep the emission at an optimum level. This plate is then covered with a composite that contains barium titanate. This is a flux inhibitor for secondary emissions, and tends to keep the plate that acts as a resonant cavity tuned for optimum operation. It would take a finite amount of time to get the material up to the virtual density where the correct amplitude of emission would take place. Different plates would be engineered for different applications. The primary difference would be in flux recovery time, and the high performance versions would be used for inertial damping. This application will be discussed shortly. The difference between "natural" gravity and this artificial form would be a slight ripple riding on top of the DC potential. It would be felt as a very slight vibration as one ran their hand over the panel. This would drop off at any distance away from the panel, and the DC potential would predominate.

Uses and Applications

So what do we use it for? The uses in space applications are obvious, but how about something on the home front...such as a grav plate above an Olympic swimming pool at a health club? With the plate above running at 9/10 of a gee it would negate all but 1/10 of the earth's gravity. One could perform slow-motion swan dives only seen in the movies. Those with long-term physical infirmities could have plates built into the roofs of their homes, and live in reduced gravity while they recover. The same health club mentioned earlier could have variable gravity workout rooms, allowing members to exercise in either reduced or enhanced gravity, depending upon whether the plates in the roof or floor were energized. The same clubs could have zero-gee rooms used for sports. Handball played in a zero-gravity spherical room would give the sport a whole new dimension, as well as injuries.

And then there are the elevators-- Have you ever had a ride on one of those gut-dropping express elevators? That only happens due to the acceleration downward giving the illusion of reduced gravity. Our new and improved elevator would have plating on both the floor and ceiling. Let's say you get in on the ground floor, and want to go up to the 60th. Normally, even in an express elevator, this takes a while because you don't want to subject the passengers to rather severe inertial effects. With the plating in place, you can accelerate the car up to any speed you want and just compensate for that acceleration with the artificial gravity field. After you get on, the plate on the top energizes, and the car accelerates at 3 gees. You only feel one. At the top, it decelerates at 3 gees, and the plate on the bottom energizes. You still feel *only one gravity*. That 60-floor trip may take as little as 6 seconds using the plating. Since the plating is attracting the mass to itself, it is a conservative system and is therefore not a propulsion system. You still would need cables or perhaps even a linear induction motor. But it certainly would be much faster than what we have now.

Speaking of cars, how about using it in those? Let's say you place gravplates in the back of the front and rear seats of a car. Accelerometers are placed in or near the seats. If the deceleration threshold is set to about one gee, then anything over that is compensated for. One may set the threshold to a level less than that, so that if one had to slam on the brakes, then the gravplates would kick on and compensate for the deceleration effects. This is what I mean by inertial damping. Now this would only be effective in head-on crashes- side and rear end impacts would not be compensated for. One way to solve those problems would be to flood the compartment with the pump wave, and increase the apparent mass of the vehicle and occupants. With the increase of the mass of the interior, it would take an enormous amount of energy to affect the occupants. They would effectively freeze in place until the pump wave is extinguished.

How about racing? In this case, plates are installed in both the floor of the car as well as the sides. The plates in the floor increase the weight of the vehicle. This way you no longer need airfoils on the body which also increase the aerodynamic drag of the vehicle. The plates on the sides of the vehicle compensate for the centrifugal force, and allows one to take curves at greater than 1 gee. Why stop with the vehicles? How about placing plating in the track, or the inside wall? The plates in the inside walls allow tighter turns around the track, and the plates in the track itself allows that track to take on bizarre geometries. When you generate your own gravity, you are no longer constrained to conventional architecture. This especially applies to the race track, contorting the track into a structure that looks more like a roller coaster with 180 degree turns on the vertical and horizontal axis, including vertical loops.

Let's get back to architecture. With plating in buildings, limitations on compressive strength is reduced or perhaps even eliminated. The dream of a "space elevator" to geosynchronous orbit is possible. In Arthur C. Clarke's book, "3001", a city is being built around the Earth at the level of a geosynchronous orbit. The difference with the scenario in the book and what I'm proposing is that with plating in the buildings one has a choice whether or not gravity is needed. Personnel can live in a normal gravity environment while working in zero gee. It gives a new scenario with an increased dimension of flexibility. Even with normal buildings, one can put plating inside ramps allowing one to walk "up" to the next floor while remaining on level ground. And those ramps can have acute angles as well- as much as 90 degrees. Imagine walking up the side of the building to get to your floor, or driving there as seen in the movie, "Minority Report".

Now let's look at things off-world. Even without the space elevator, artificial gravity can be used in space stations and starships. This obviates the need to rotate the structure to provide centrifugal force that simulates gravity. The plating would go in the lowest level of the ship, and all the decks above the plate will be attracted to it. Why be limited to just a few gees of acceleration when it can be compensated for? The ship can accelerate up to the limit of the inertial damping compensation. How high is that? Perhaps over 1000 gees: for an acceleration of over 32,000 feet per second per second. This, divided by 5280 feet per second (one mile per second) gives us an acceleration of 6.06 *miles* per second per second. At this rate, one would approach relativistic speeds after 8 1/2 hours. Therefore, a relativistic starship is possible, although when one tinkers with gravity, it is also possible to engineer changes in space and time. Using a variation of this technology, it would be possible to create a faster-than-light drive which I will cover at a later date. For a starship hull, if you use a material which can have its mass or density "adjusted", then you have a material which can not only absorb massive amounts of kinetic energy in the form of micrometeorite impacts, but acts as a radiation shield as well. Those of you who are familiar with the works of Nikola Tesla would undoubtedly point out that it would be far more efficient to use the "Tesla Shield" as an alternative, or perhaps as an adjunct to this method. This is true. When we place a structure in deep space, we are placing it in a hostile environment and subjecting it to highly energetic events kinetically as well as radiologically. That means that the ship can use all the help it can get to survive that environment. This is why I proposed using a metallic polymer of Rhenium for the hull. A composite sandwich of this and nitinol should do the trick. Applying the pump wave to the hull has some negative effects, such as unintentionally generating a gravity field around the hull, which would also attract all kinds of debris and accrete it to the hull. This is why it should only be used as an adjunct to the primary shield projected around the hull of the ship. One can use it, but not at as high a level as the plating generating the artificial gravity field inside the ship.

Now let's look at this technology in use at a space station. Let's look at possibilities and limitations. One of the things you want to do with this, is put it underneath whatever structure will be in the gravity field. The field will be symmetrical over both sides of the plate, so some kind of causeway would be needed to access whatever is on the other side of that plate. Also, the plate should be relatively thin. Why is that? Well, the field radiates from the center of the mass, and if the plate radiates a field of 1 gee at a thickness of 1/4 inch, if it is 250 inches across, you wind up with a field with a small cross-section on the edge that has an amplitude of 1000 gees. Since the point that it is radiating *from* is still 1/4 inch across, it would tend to drop off to the square of the distance. Therefore at a distance of 7.90 inches it would drop down to one gee. Putting a radius on the plate helps as well to get as convex a wavefront as possible. Did you catch that implication? Yes, engineering a radiative surface that produces plane-parallel wave fronts would amount to a gravitational laser. This in the Star Trek mythos, is equivalent to a tractor beam.

When the station starts becoming large, the field becomes unwieldy unless some forethought went into the ultimate design for the station. You can literally build upon several pancake-like structures in space, or make it big in the first place and allow for internal expansion. It also makes sense to make it in the form of a sphere, and eliminate that nasty problem of edge leakage. Remember that the same field exists on both sides of the plate, so both the inside and outside surfaces of the sphere would have earth normal gravity. What about the wavefronts, what's going on there? Let's look at that. On the outside, the wave front is convex, and drops off normally. However, on the interior, the wave fronts are *concave*, and increase in intensity toward a point in the center of the sphere. That point, though microscopic in size, may be the site of a singularity, or a white hole. The "Hollow Earthers" would call this a central sun. We will never know if this is true until it is actually built, but it remains a possibility. Speaking of

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which, how big can this thing get? One mile, ten miles, a thousand? Ten thousand? There might be two significant factors that govern a limit. One is the radiation thrown out from the white hole in the center of the sphere. Another limitation is the actual virtual mass of the structure. If the virtual mass causes a severe curvature in the space-time surrounding the sphere, then it would produce a recursive geometry. What is this? It is a condition that causes the geometry of space time to curve in on itself, and the inhabitants on both inside and outside surfaces of the sphere would see a flat plane, rather than a curving horizon. If one had a powerful enough telescope, they could focus on the back of the observer wielding the telescope.

It actually gets even more bizarre than that. All light in the vicinity of the sphere would be subject to gravitational lensing, and thus would render the sphere invisible to outside observers. They could detect the lensing effect, all right, but they couldn't see what was causing it. Let's say the sphere was at the same distance from the sun that the Earth is. What would an observer on the surface of the sphere see? They would see a diffuse glow in the sky, due to the gravitational lensing. They would see no stars. There would be daylight across all 360 degrees of the surface of the sphere. There would be no polar and no equatorial regions, and all points on the surface would be illuminated equally. An observer on the inside would see the singularity directly overhead wherever they went. And the inside of the sphere would appear to be a plane as well, so the observer would not know they were inside an artificial structure at first glance.

If the structure were large enough, and the field intensity high enough, then another bizarre possibility unfolds: For really large structures, the stress on the space time around the "station", or at this point, artificial world, would cause a complete collapse or pinching off of the virtual event horizon. This would cause the structure to form what amounts to an island universe, with access to all points in this one. It would be invisible until an inhabitant decided to leave it, in which case they would seem to appear out of empty space. A failure of the artificial gravity system on the structure, or world-ship, would be disastrous in that it would cause an implosion of the bubble in which it existed. This would tend to cause the material structure of the world-ship to be spread like an infinitesimally thin jam across an infinite number of universes. No one would even know such an event happened, since physical events inside the bubble are insulated from our universe, and the infinitesimal amount of matter distributed to this universe from the event. The only thing it would affect is the virtual state, which is unobservable to us anyway.

Conclusion

Using Mr. Bearden's postulate, it *is* possible to construct artificial gravity systems, and engineer them for the real world. It is also possible to use these same systems to change our way of life, and perhaps finally become citizens of the galaxy, and eventually, the universe. I have also concluded that there are powerful political interests that are suppressing this technology to preserve their power base. Empires only last as long as their reach, as evidenced by the collapse of the Roman and British empires. These interests believe that as long as mankind is shackled to this planet, that their power is secure. They couldn't be further from the truth. The truth is that empires are extremely energy intensive structures, and by suppressing alternative forms of energy, free energy in particular, they have already sealed their doom. Once the gas tank goes dry, that's it, end of story. Of course, there are those who argue that the elite have already made an escape plan which includes the technology that they have suppressed all these years. Such may be the case.

I predict that the covert, underground development of this technology will continue for perhaps decades to come, until the political structures weaken and crumble under the weight of their own corruption. Then, and only then, will we see this technology come out into the open.

It's a day to look forward to.

The Road Not Taken

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Biotechnology has become a dirty word of late, and I wondered about that. Perhaps since technology is merely a tool, the misapplication of that tool gives it a bad reputation. Using a screwdriver to drive nails into the wall would tend to have the same effect, if one were ignorant of the existence of a hammer.

What biotech is used for at the moment are primarily two things:

- 1) Biological warfare, to create killer bugs that would result in the eventual extinction of the human race, and...
- 2) Redesigning life forms without regard to the ultimate consequences of that action, such as inserting insect genes into tomatoes. Using the general population as a test bed for toxicity and adverse reactions is generally not a good idea, and leads to the charge of predatory capitalism. It also demonstrates a gross disregard for not only human life, but all life as well.

For those two reasons, the clarion call has trumpeted forth to demand a moratorium on biotech. It's a good reason, since we need to stop using screwdrivers to pound those nails into the wall.

To be fair, biotech in the form of artificial selection has been around for thousands of years. Farmers would select seeds from the best crops from year to year, and over time artificially evolved better crops. They have done this to their livestock as well, and the animals that we have now have no resemblance to their ancient cousins. Therefore, if done right, biotech is a good thing. It is relatively benign.

And then gene splicing came along, and we discovered how to splice the genes that produce luminescence into tobacco plants, making them glow in the dark. I believe that is the first step in the right direction, toward bioengineering living organisms.

The New Technology

So what am I advocating? Simply this: we have at our disposal, the means to replace every machine, every appliance within certain limitations, with bio-engineered organisms. I do not make this statement lightly. How do we do this? We do it incrementally, and with great reservation recognizing the consequences of our actions. After each step, everything is tested to the utmost of our capability before implementation. The public will not be the guinea pigs, or beta testers for the new technology. When it is released, we will know that it will work, and that it is benign for both the consumers and the environment.

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Phase 1 will combine temporarily the biological with the existing machine technology. We will have cyborgs, if you could call them that. This will be necessary in the short term, and it will allow the population to get used to the idea of being around living things doing their bidding instead of machines. The inhabitants of modern-day farms, and those in the 19th century didn't have problems with this, but the general population does. Let me give you an example of this: your automobile has an engine, which produces torque that drives the wheels. All that is required is something which produces torque, and has nearly the same performance characteristics. There is nothing magical about internal combustion, despite the effective brainwashing job on the public at large. Muscle tissue anchored to assemblies on cranks can do the same thing, although with much higher torque and lower speed. So we change the gear ratios. The bio-engine consists of muscle tissue in an oxygenated nutrient bath. Electrical stimulation of the tissue causes it to contract, and pull the crank toward itself. At the bottom of the stroke, the stimulation is switched off, and the muscle relaxes. A support system would consist of kidney tissue to filter off the waste products, and a pH monitor to make sure things are not going acid. A scrubbing system is also used to keep the CO₂ concentrations within limits. In the beginning, it will run a conventional alternator and battery, but we'll fix that one later. The consumer dumps the urine tank after it is full, and refills the nutrient tank.

One of the differences between a mere machine and a living being is that it is "on" all the time. It may be in a quiescent state, or asleep, but it still requires life support to keep the tissues oxygenated and fed. In fact, a sleeping period for an organism is usually required to regenerate damaged or worn-out tissue. When was the last time your car changed its own parts? A drawback to a biological system is that it requires a more friendly environment compared to its machine counterpart. For example, it can overheat. Heatstroke would be a concern, as would frostbite. Internal heating systems would be needed to keep the internal environment within working parameters. Also, the system would be prone to infection by unfriendly biological agents. Colloidal silver may be added to the nutrient bath to discourage bacterial infection.

What about electric cars? Is that possible with this technology? The answer is a resounding yes. There are tissues found in nature which are natural generators of electrical currents. One of the most famous of these is the electric eel, nature's biological battery. An eel can have up to 200,000 plates in its tail, the equivalent of a series configuration of separate battery cell elements.

It produces approximately 600 volts of potential, with about an amp of current. If this tissue were grown on what is known as "scaffolding", which is little more than a plastic mesh to hold the cells together, then we can make battery plates this way, and wire their output in parallel. If the mesh includes a porous conductor, with another conductor in the nutrient bath to complete the circuit, it just might work. One hundred of these would give a whopping 100 amps of current at 600 volts, yielding 60,000 watts of electrical output. When was the last time you heard of a battery rack for an electric car that could do that? Again, the bio-battery would require support systems for oxygenation and feeding the tissue, but it would far outperform present-day fuel cell systems.

Can this be used in the home? Again, the answer is yes. Remember, it is "on" all the time, so instead of the house recharging the electric car, it is the other way around, with the car producing energy which can run the house.

Remember, all we have discussed so far is Phase 1 systems, where a biological element is yoked to a mechanical component. What about Phase 2? This phase goes all the way, with the appliances being grown from a single cell, with total bioengineering. What would this world look like?

Let's first look at the home. It is a literal tree-house, grown from a seedling. It takes perhaps 20 years before the inhabitants can move in. The interior walls are engineered to produce bioluminescent light. This again, is on all the time, and is an indication of the health of the dwelling. During the maturation process, sap has been exuded on the floor and hardened, producing a hard surface. The water supply is pumped by the dwelling from the ground, filtered, and is stored in pockets on the second level. Rain water is similarly filtered and stored in catch-pockets. The old problem of bugs in the cistern is no longer an issue due to the filtration. The filters are washed clean after every rainfall, so no maintenance is required. Waste is processed and absorbed by the tissues of the tree, forming a symbiotic relationship. Methane produced by the decay and absorption of the waste is stored in another catch-pocket at a slightly elevated pressure. This is used for cooking. Unfortunately, the cooktop is the only non-biological element in the dwelling. Due to the temperatures developed, insulation is necessary between the burning elements and the portions of the tree, to prevent them from being roasted. Waste gases from the inhabitants are absorbed by the walls, and through osmosis oxygen is exchanged, producing a higher percentage of oxygen in the inside of the house. Chitinous, membrane-windows allow light to enter the dwelling, spaced at regular intervals. This, combined with the luminescent walls, makes for a very light interior.

The refrigerator. Hmm. That one is problematic. You could conceivably have a bio-cell running tissue designed to use the peltier effect. This would produce enough of a temperature differential to keep food cold. For the freezer, the tissue would be designed to have its own antifreeze, such as fish that live beneath the polar ice caps. They have an elevated level of glycol in their blood which prevents ice crystals from forming. The refrigerator is plugged into sap lines which run inside the walls, providing nutrition. A waste line runs into the catch pocket which processes waste products, and of course the CO₂ output is absorbed by the walls of the dwelling.

Let's look at some biological forms of transportation, other than a horse. A caterpillar has one of the most impressive ratings for traction and power in the animal kingdom. Imagine a tractor for a farm, which is nothing more than a large caterpillar. This idea might work, but efficiency might be a problem. Remember the old adage, "Eats like a horse?" The caterpillar is much worse, eating several times as much by body weight. So with an increase in physical strength, comes an increase in metabolism. And going along with a metabolism like a house on fire, is the respiration problem. Tissues would tend to build up CO₂ faster in the interior of the insect than can be eliminated. The poor thing would be anoxic. So therefore, to make this work the basic biology of the caterpillar would need to be redesigned, while keeping the basic function and structure intact.

How about a car? Designing an animal which uses wheels rather than legs poses a problem. For one thing, other than the euglena, and some other single-celled organisms, rotary joints are usually not seen in nature. Since the wheels would not receive a blood or nutrient supply, it probably would be a separate creature in a symbiotic relationship with the rest of the vehicle. I thought about the possibility of nutrient exchange through the synovial fluid in the joint, but this would promote bacterial growth, and gas exchange would be problematic. So therefore, everything on the other side of the joint would be another biological system, with nutrient and waste storage tanks within it, or putting it another way, a stomach and bladder. Emptying one and filling the other would be no more difficult than filling your tires with air. This would be done in conjunction with the other maintenance for the rest of the vehicle.

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Mileage would still be in miles per gallon, it's just that it would be a nutrient solution. And where would you get that? Why, the house we described above can be designed to do that nicely.

Earlier, I outlined how there would be 3 phases toward the implementation of a biologically based power technology.

Phase 1 would be using bioengineered tissue from life forms known to generate large amounts of energy, and literally wiring that to known technology.

Phase 2 would be the combination of biological and mechanical forms, using science fiction parlance, a cyborg, if you will. The cyborg is a temporary stopgap measure toward full biological technology.

Phase 3 is the direct engineering of life forms to replace mechanical devices, which are "power hogs" in our civilization. The first to be targeted are those relating to transportation and the infrastructure, the backbone of our civilization.

Transportation

For mass transit and shipment of raw materials and finished goods, the rail is the most efficient method in terms of energy expenditure in ergs per pound. This is despite the fact of the dismal thermodynamic efficiency of diesel electric propulsion. In the beginning, what would be done is the substitution of a biocell to replace the diesel electric generator. This biocell, mentioned earlier, will have a higher efficiency than the fuel cell currently proposed. This will be routed into the present-day motor and control systems.

In this case, it would be possible to jump directly from phase 1 to phase 2. One of the problems of a rail system is the upkeep of the rails themselves. Oxidation, chemical corrosion, shifting of the rails on the surface of the soil, and other factors make rail maintenance a headache. If only they could do that themselves... Let's suppose that they can. What material tolerates shock loading every day, and if it is not abused terribly, can regenerate a new surface? How about bone? If we design a rail system that uses a very dense bone tissue, in symbiosis with plant tissue to keep it fed, this might do the trick. I thought about the possibility of tooth enamel for the surface of the track, but there are a multitude of environmental factors that can lead to embrittlement. To aid in traction for the wheels, the rails can be engineered to have a skin of cartilage. This will aid in the regeneration process of the rail tissue, and mitigate shock loading. In this case, rail breaks would heal over just as any bone break would.

Phase 3 would involve eliminating the wheels. It is possible to engineer the rail system into trough geometry, and give it a high concentration of aluminum ions in the bone tissue, which would make the rail surface conductive. The maglev trains of Europe use aluminum rails to generate eddy currents that provide lift. The train itself would be bio-engineered, grown from a single cell. Its hull would either be bone or chitin, the exoskeleton material that is used by insects. It is both strong and resilient, absorbing energy more effectively than most artificial materials in existence. This is why when you drop an ant from the equivalent height of a ten-story building, it doesn't go splat. Now we need either a very good conductor, or a superconductor. Are these found in nature? The answer is yes. Some biological systems use a long-chain form of acetylene, known as polyacetylene. It conducts electricity with an efficiency ten times better than copper. Is there anything better? Yes there is. Some life forms have evolved a defense to the electric eel by forming single molecule chains of bismuth that run the length of their bodies. It is the equivalent of an electric shunt. Ron Bourgoïn, in his presentation to the Second International Symposium on Non-conventional Energy Technology in 1983, found that these "bismuth

catwhiskers” have no appreciable resistance. That means that they are superconductors, conducting current without resistive loss. Therefore we design our train using nerve tissue incorporating bismuth filaments. One amp or a thousand, it doesn't care. It just conducts it. This would be connected with the biocell power plant.

We already have a nervous system on the train, but it needs a brain. Why not design one? You hear about “smart” technology every day, but what is not said is that machine intelligence just can't compare with our own neural net architecture. Our train would have a brain, a limbic system to control metabolism and structures similar to animals, an instinct of self-preservation to prevent wrecks, and higher centers to communicate with other trains using bio-circuits, which generate and receive radio waves. (Don't think of it as a group of trains, more as a pod of whales.) Sensory systems would be designed so the train could see where it is going, as well as identify threats from the inside, from passengers or malfunctioning systems. If we give it a sense of smell, it could also “sniff” for explosives. Its respiration system would also provide ventilation for the passengers.

If the upholstery inside the passenger compartment looks like animal hide, that's probably what it is. The interior would be designed to take as much wear as possible while regenerating during its down time, and hide may fit the bill. Maybe not as cushy, but it's certainly durable. Windows would be tissue similar to the lens of the eye, covered with a transparent protective membrane, which allows fluid flow to provide nutrition to the lens tissue. The membrane would be gas permeable, allowing oxygen to flow into the lens tissue, and carbon dioxide to flow out.

The display panels would be composed of bioluminescent cells, stimulated by nerve endings. They would regenerate as well.

The only disadvantage of this system is that each “train” is a fixed length. If you wanted to make it longer, you would have to grow a new one that length. The other alternative would be to have several units playing follow the leader if they were going to the same destination.

Boats/Ships

Remember the allusion to whales earlier? I'm coming to that. Our ships would be designed with both an exo- and endoskeleton for structural strength, and other than the biological superconductors (which may be used anyway) it resembles the design of the train. As far as propulsion is concerned, there are two very efficient means: the undulating tail of the whale is one (you'd be right if you guessed that), and the other is the jet propulsion of the squid. Our supertanker can either use the tail, or another method similar to the squid: peristalsis. Along each side of the ship, one sees two throats, rhythmically opening and closing. On the aft end, one sees the exiting ends of the throats expelling water. Looking at the sides, one sees muscle rippling down the sides of the throats, swallowing the water and pushing it backward. Using this method, the ship can easily match the same performance characteristics of the squid in propulsion. If a filtration system is also used for krill, then the ship can feed itself. Steering is accomplished by varying the thrust of the throats, and thrust reversal is possible by reversing peristalsis. Echolocation would be used for navigation, and subsonics and radio waves for communication. I am not ruling out more exotic means, such as a type of scalar electromagnetics used by biological systems that we commonly call telepathy.

Flight & Spaceflight

Hmmm. Another dilemma. You can't use peristalsis for air effectively, and wing flapping is extremely energy intensive. For our phase 1 system, we can use the biocell to run electric motors that either turn props or turbofans. That would work as a stopgap measure. But what we really need is antigravity, or something that looks a lot like it for our phase 3 systems. What do we have in nature that does that? Ever look at a bumblebee? Aerodynamically, it is impossible. It is supposed to crawl from flower to flower. It was once proposed that it flew by brute force, but that is incorrect. It cannot produce sufficient reaction force by flapping those wings, which are too small for its body to begin with. However, if you look at the vascular system next to those wings...

In a previous paper, "IIM Possible?" I outlined a hydraulic approach to what might be termed antigravity. This began by looking at the vascular system of the bumblebee, and some flying insects, in particular some peculiar looking fluid loops that ran back and forth inside the exoskeleton. Not very remarkable at first glance, but you wonder what they're there for. And then I saw the same effect-taking place in some very large machines in the factory where I worked, in tightly looped hydraulic lines, and it clicked. So I built some models using the same type of fluid loops on a smaller scale, and lo and behold, it was lighter when the fluid loops pointed up, and heavier when they pointed down. So I did some Excel spreadsheets to confirm what I was seeing, and it proved out. Do other insects have this peculiar vascular configuration? I don't know, but it would be interesting to find out.

So to produce lift, all we would need is a series of vascular loops. To produce forward motion, these loops would point both forward and backward, to provide acceleration and deceleration. Multiple hearts, with perhaps peristaltic pumps to assist, would be needed. To be sure, this would not produce a gravity field. It is merely a unidirectional force which can be used for propulsion purposes. So to call this antigravity is a bit of a misnomer, but by using Tom Pawlicki's definition in "How to Build a Flying Saucer", it would be. His definition is that anything that opposes the force of gravity is antigravity. Perhaps we only argue over semantics.

Trevor James Constable proposed that there is a biological component to the UFO phenomena, and called these creatures "critters". There is some very convincing evidence to the argument that we may have life forms that are not native to any particular planet, analogous to our migratory birds that fly from continent to continent. These life forms appear to have their own intelligence, and survival instincts. I am not proposing that all UFOs are life forms, but that merely some of them belong in this category.

In the genre of science fiction, there are many stories promoting a biological theme to space flight, having "living ships" with a symbiotic relationship to its crew: Farscape, with a ship by the name of Moya. Also, Lexx, with a ship by the same name. There was a Dr. Who episode in which the crew was part of the ship, and produced autonomous agents whenever interaction with the outside world was needed. I believe it was called "Terror of the Axons". It is a recurring theme, and the fact that it keeps popping up seems to indicate a place in the collective unconscious.

There is no doubt that biological air and space craft has definite advantages. Over time, the intelligence associated with the craft would recognize those whom it would prefer not to fly with it, in much the same manner that a horse has a preference for certain riders. Those individuals with unbalanced psyches would be literally spat out, if it didn't like them. It would be able to detect sabotage when its nutrient tanks were tampered with by adding poison or a drug. It could take evasive maneuvers in the air faster than a human pilot. Those human pilots flying the craft would be companion intelligences to that which

the craft inherently possesses. That reminds me of an old cowboy saying, “Be nice to your horse, she’ll always take you home.”

Architecture

We’ve covered transportation, and earlier applications in the home. What do we do with elevators? That one is easy. Think of muscle fibers replacing cables. They contract, and the car goes up. They relax, and it goes down. For really long spans, peristalsis can be used. The car would have a radius on the top and bottom. To go up, the muscles contract underneath the car, forcing it upward. It would do so both silently and smoothly. To go down, it merely relaxes bands of muscle in sequence underneath the car.

Waste processing would be by separating the stream into inorganic from organic and metallic and glass. This would determine how the waste gets recycled- or should I say digested? There would be several tank digesters in the basement of the building. One has cellulase in its mix of digestive enzymes, the one which termites use to convert cellulose to glucose. Another has friendly bacteria which break down petroleum products, including plastic into carbohydrates. We have this bacteria now, and use it to control oil spills. Yet another has an acid mix including perchlorate and perfluorate, which would dissolve metals and glasses. When the solution progresses farther into the system, the acid would be neutralized, and the pure precipitate sent to recycling. Those digesters which produce nutrient solutions as a by-product will route this into the biocells which power the building. Each home and building will be self-sufficient unto itself. Even the waste products from the digesters can be used as compost for growing plants.

The high-rise buildings themselves would be a form of land-based coral, an animal/plant symbiosis which renews itself. The plant side absorbs the carbon dioxide from the interior, and the animal side regenerates the structure of the building, both getting nutrients and electrolytes from the tank digesters (stomachs) in the basement of the building. The interior walls of the buildings are engineered to be bioluminescent, and can use those bacteria as part of the coral structure in the interior as another symbiotic relationship. The walls would provide a soft glow.

Minimizing Infrastructure

One of the long-term effects of building by building self sufficiency is minimizing the demand that each has on the infrastructure as a whole. The power grid as we know it would be rendered obsolete through the use of the biocell. If water and waste is reclaimed on-site, there is no need of a central network of reservoirs and sewage treatment facilities. Using tank digesters on site minimizes the waste that gets sent to recyclers or to a dump. The keynote is decentralization, and massively so.

There will still be a need for additional raw materials, and using the biological approach can lead to new innovation toward that end. We already know that the deposits of manganese and some rare earth elements were concentrated in deep sea “black smokers” through the action of bacteria that use chemosynthesis instead of photosynthesis. They have lessons to teach us that we need to learn.

It has been said that pollution is merely an unreclaimed resource. An example of this is polluting landfills with organic waste. There are newspapers in New Jersey landfills from the 50’s that still haven’t broken down. What no one thought of was that it takes aerobic bacteria to break down the cellulose in those newspapers, and burying them away from the presence of oxygen means that they never degrade. This is typical of the thinking that got us where we are today. It could be said that

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mechanistic thinking is the cause, but that would not be correct, because in a polluted environment, machines corrode. Pollution may be poison to living things, but it causes deleterious effects on nonliving systems as well. What it really represents is a lack of thought, and consciousness.

The world that this paper sees is one in which there is less pollution primarily because it is a resource to be reused. It has different needs. This world runs on sunlight, food and water instead of petroleum. It has no need of nuclear power, therefore there is no radioactive waste to reclaim.

I titled this paper "The Road Not Taken." We may have passed the on-ramp, but it's not too late.

There is always a choice.

Beyond the Black Sun

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These are a few insights which I had after The Black Sun was written. Hindsight is truly 20/20. Everything that was postulated in the original work still rings true, it's just that the story is more intricate and bizarre than I ever imagined.

You see, in the first chapter/article, I ignored the effect that relativity might have. As you approach an event horizon, (assuming that the gradient is small enough that tidal forces do not cause the body to become stretched, or sheared apart) matter tends to become compressed as seen by an outside observer. It can also be said that space is dilated, but for the sake of argument this perspective will not be used.

To better visualize this, let's do a thought experiment in which a traveler approaches a black hole with sufficient mass to produce the effects without resulting in the destruction of the traveler. Let us also assume that the black hole has an equatorial rotation equal to the speed of light. Many others have described what the external observer sees happening to the traveler, such as the slowing down of the passage of time. However, there are other effects as well which cannot be ignored. I will be addressing those here.

It is well known that gravity tends to compress mass. It lends toward a discrepancy between rulers that exist inside and outside a gravity field. For example, standing on the surface of the Earth, we are slightly shorter than if we were outside the earth's gravity field. This goes beyond mere mechanical compression: it has quantum mechanical and spatiotemporal properties to it.

Gravity and relativity are one, as if they were different sides of the same coin.

That one statement changes everything. It is also where things get really bizarre. For example, that ruler inside the gravity field seems the same length for the observer sitting inside the field. But remember, as in the version of relativity dealing with extreme velocities, it all depends on the observer. Therefore, for the observer outside the field, they see a foreshortened ruler, shrinking in the direction of the gravity field. For the observer inside the field, they see the rest of the universe shrinking in the direction of the

same gravity field. It may not be much, but when you deal with precision that deals with counting wavelengths of x-rays, it becomes significant.

So let's go back to that black hole. What does the external observer see? They see the traveler undergoing a length contraction similar to that approaching the speed of light. They also see a red shift associated with time dilation. What does the traveler see? Now things get interesting. The traveler sees the rest of the universe undergoing a length contraction in the direction of the gravity field from the black hole. They also see the rest of the universe undergoing red shifting and time dilation. As the traveler approaches the event horizon, the rest of the universe implodes around them. If they decided to leave the vicinity of the event horizon, they would then see the rest of the universe rushing away at tremendous velocity. But for the moment let's say the traveler decides to cross the event horizon. What do they see? Just prior to the crossing, they see the universe becoming two-dimensional, and every black hole in the universe rushing toward them. The black holes will still maintain their three-dimensional quality; it's just that the rest of the universe will be two-dimensional by comparison. As the traveler crosses the event horizon, they see that the event horizons of every black hole in the universe merge with the one they are crossing into. So in deference to Mr. John Gribbin, yes, you can cross the universe using black holes. But once inside, you are within a sort of sub-universe composed of nothing but black holes. It becomes a one-way trip. Once inside, the event horizons blend seamlessly, and the traveler jumps from one expanse to another without realizing that they have done so. However, there is one way that the traveler can detect the difference between one expanse and another:

Each black hole has specific unique characteristics. Among these are angular momentum, mass, and electric charge. Carl Sagan once said, "A black hole has no hair". Yes, that is true. But we can determine if it has blond roots. The difference in angular moment can give an apparent shift to the velocity of the propagation of light, or anomalous red and blue shifts. The difference in charge can cause polarization shifts. The mass differentials would mean that there would be gravitational lensing effects where no mass appears to exist, causing the path of light to pursue a zigzag course. I'd bet Halton Arp would have something to say about that one. One could argue the point that we ourselves exist inside one of those sub-universes. If this were true, it would either cause a re-thinking of the big bang theory, or perhaps the scrapping of that theory altogether. I would not consider it a big loss. Theories are merely tools, thought-constructs to test to see how viable they are in the real world. If they do not hold up to that testing, then they must be discarded in favor of one that actually works.

Firing Up the Stargate...

So we have seen how once inside a natural spherical event horizon, you never get out. It truly is a cosmic roach motel. But what about something artificial, would it behave the same way? Weeel... yes and no... For one thing, it would need to be flat as a pancake, planar as a matter of fact. It would need to be as close to zero as possible for a gradient to the field. With an interior volume of zero, the matter would have nowhere to go, and would not be trapped inside. We can accentuate the effect by adding a regeneration frequency to the artificial event horizon, in other words, making it "flicker".

So let's look at our stargate. It is composed of the Kowsky-Frost expanded crystalline material, the stuff that Jerry Gallimore was planning on using for his "graser", or gravitational laser. It is composed of annular segments, wider on the outside, and tapering inward like a wedge. It is in a circular configuration, just like the Stargate in the movie by the same name. Mr. Gallimore mentioned that this material could turn an incident gravity wave back into an electromagnetic one, kind of like a gravitational piezoelectric effect. So we can set up a standing wave with positive feedback, with a minimal expenditure

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of power. One segment generates a gravitational wave, which is absorbed by the opposite segment, amplifies it, and that one in turn converts it back to gravity. This one fires a pulse, which the opposite one does the same with, and so on. As you can see, this would result in a feedback loop, and with zero damping or losses it would keep building until a maximum field density is reached. That field density is the event horizon.

In operation, there would be paired sets. One gate communicates to the other that a transport is to occur. A regeneration frequency is agreed upon, and phasing of event horizons is locked to 180 degrees. Call it GCP, or Gate Communications Protocol. Ideally, a faster-than-light communications system would be needed, as well as networking using torsion fields. The field is allowed to build until a stable event horizon is generated. No, it doesn't go "whoosh". You would at first see a gravitational lensing effect, with the annulus first turning red, and then dark, and then you would see through the other gate. The event horizon would be invisible, and both horizons would be contiguous with one another and would blend seamlessly as seen by the observer.

When the traveler approaches the event horizon of the departing gate, as the matter of their body contacts the event horizon, the entire universe appears to collapse around the two event horizons, causing them to merge. So to the matter of the body entering the event horizon, there really is only one event horizon, with an interior volume of zero. The external observer sees them enter the event horizon and vanish. Is there a wormhole connecting the two? It really becomes a matter of semantics at this point, no pun intended. Yes, there is a theoretical wormhole, even though it is a mathematical construct, and would be there only as an aid to the process of visualization.

How much power would one of these need to operate? Tom Bearden once said that you could levitate a battleship with a 9-volt battery. A little electromagnetic energy can be converted to a lot of gravity. In the beginning, with high regeneration frequencies, it would take on the order of perhaps 200 kilowatts to start it up, and ramped down to perhaps 1 or 2 kilowatts. Later, with an improvement in efficiency, perhaps only a few watts would be needed. Each gate would need a unique operating frequency to lock on. If you had thousands of gates running simultaneously, harmonics may be set up that might have unpredictable consequences. This problem would need to be resolved at some point.

Time Gates?

What if you could set up a pair that would activate at two separate times? After all, theoretically wormholes produce connections in space as well as time. Let's say you had two gates, sitting next to one another. One is set to activate at 11:00, which is the receiving gate. The other one is set to activate at 12:00, and is the departing gate. The phasing is easy enough to determine, and so is the frequency. The receiving gate starts up at 11:00, and shuts down at 11:01. The departing gate starts up at 12:00, and shuts down at 12:01. One could enter the departing gate and exit the receiving gate getting there 1 hour earlier. You truly could get your package there yesterday. Of course then there is the problem with paradoxes-- If the temporal separation were great enough, these might resolve themselves. Is this what was used at Montauk? Possibly so.

One other detail concerns a remark that was made by the physicist Kip Thorne, that to stabilize the field of a wormhole, one would need exotic matter. According to David Hudson, monatomic gold is exotic matter, and this could be used as a field stabilizer. It would theoretically be used as another ring, inside the annulus. When the event horizon becomes established, it would oscillate between gates, locking

them together more effectively. Not very much would be needed, perhaps only a thickness of half an inch or so, forming an inner ring.

From the Macro to the Micro

We have seen what relativistic effects there are in the macro world concerning black holes. Now let's look at the black holes that compose the vacuum, which are also called the quantum foam. These entities, which were mentioned in the first "Black Sun", are typically 10^{-33} centimeter in diameter. They are very small indeed. However, they pack a wallop as far as mass/energy is concerned. The energy density computed to cubic centimeters comes to 10^{94} ergs cm^3 . One gram of mass converts to 9×10^{20} ergs, so we're looking at somewhere in the vicinity of 10^{73} gmcm^3 , as far as mass density is concerned. That is a very large number, more than enough mass to form a black hole. In fact, at that density, with a diameter of one centimeter, it would form a black hole with an event horizon several thousand miles in diameter. But how about those "quantum foam" black holes? They still have the same energy density, after all. Well, for a black hole 10^{-33} centimeters in diameter, it would produce an event horizon about a centimeter across.

Here we have a dilemma. The event horizon, which we can compute is microscopic, but the actual event horizon is many orders of magnitude larger than that. Where does this "other" event horizon exist? It must exist outside the main event horizon, but at right angles to the one that we can see. Therefore, I must invoke the concept of either hyperspace, or 5-space (four dimensions of space, and one of time).

Let's go back to the concept of black holes in *our* universe. We know they have large separations in space, but when we get close to them, those separations vanish. And when we cross the event horizon, we see a smoothly contiguous space devoid of event horizons. Sound familiar? I am describing the structure of our universe at the macro level. So let us imagine we are outside our universe. We see these "quantum foam" black holes. These entities can have a separation of anywhere from centimeters to miles between them, depending on energy density. In this space, there are energy waves flowing. Some of them flow as waves of probability, a flattened shadow of energy flows between the spatial quanta of our universe. We see other energy waves (5-space) once in a while intercepting one of the miniature black holes, and disappearing from our larger universe. From the perspective of the energy quanta, when part of it impinges on the event horizon, it first undergoes a severe distortion, as gravitational lensing takes place. It then sees all the separate "foam" quanta imploding toward it, and then it finds itself in our universe.

What this represents is a one-way energy flow from outside our universe, and into this one. Very little of the energy in the "outside universe" impinges on those microscopic event horizons, but when it does, it drives them farther apart, and acts as a safety valve, or a controlled leak. It slows down further flow into our universe. This also means that the universe is not really expanding in 4-space at all, rather it is expanding in 5-space, where we cannot directly see it.

What this also represents is a kind of quantum-sieve through which all mass/energy of this universe must pass. Do these waves of probability have a maximum speed of propagation in the larger universe? If they do, then this will have a direct bearing on speed maxima of both matter and energy here. This may directly relate to the speed of light here, and the property of inertia inherent in matter. I'm not sure whether this would have a bearing on what we perceive as a gravity field, but I would require further data to confirm this. I would tend to think that the velocity of propagation of the probability waves

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would appear to have an infinite velocity from our perspective. Why is this? From the “outside” the mass/energy of the particles of the quantum foam, which are black holes, would make it appear as if time were standing still for those entities. Therefore, time would flow at an infinite speed from our perspective. So why doesn't this universe just suck up all the energy flowing on the outside? It's quite simple. The difference in the rates of flow of time causes a bottleneck on this side. The rate of time flow may be infinite there, but the absorption rate is finite here.

But are we forgetting another possibility? Yes we are. Let's look at relativity again. If we invoke relativistic frames of reference, then each side sees a zero rate of flow of time for the other. In this universe, immersed in our quantum foam black holes, we see the universe outside as standing still. In that universe outside our quantum foam, it sees this one as standing still. If we acknowledge the validity of this argument, then there can be no energy transfer between universes, even if it were one-way. This would mean no expansion in 5-space, and a steady state would result, which would prevent tapping into that part of the zero-point bleedoff which is in fact the leak from outside this universe. Somehow, intuitively, this doesn't seem right. I have yet to spot the chink in the armor of this model, but perhaps it is forthcoming.

In the first paper, I described how “quantum foam” white holes, or their time-reversed counterpart, make up the other half of the continuum. In the “larger universe” they see the same amount of separation based on their energy density. Let us imagine waves of probability being emitted from a positive time QF (quantum foam black or white hole) and vectoring toward another positive time QF. In the way, it sees a negative time QF. It must flow around it to get to its next point in our universe. Can we call this resistance inertia?

One other possibility is for the wave to curve off and vector into the next adjoining QF at an angle. If this occurred, it would tend to distort the mass/energy of the particle on a mesoscopic level, increasing its entropy the farther it moved, and causing a long-term instability in matter. I would tend to discount this particular part of the theory at this time, until further substantiation is received. Matter would not exist very long if this were indeed the case.

Conclusion:

Once again, there are implications which involve free energy, and on the periphery, gravity control. If one part of this scenario is correct, then we have a “leak” of energy from higher space into this one. Engineering a controlled leak into this universe may be easier said than done, but it is nevertheless possible. I tend to think that the static version is false, although I cannot present the logic to refute it at this time. All evidence that I have seen thus far indicates that we live in a dynamic universe, where the only true constant is change, and where in fact, the very constants that we live with change over great periods of time. If black holes are engines of the zero point, and sources of astronomical amounts of energy, then it behooves us to understand them. Especially when they are the bricks which construct the vacuum itself. Understanding this leads to travel across galactic distances in the blink of an eye, time travel, gravity and inertial control, and materialization directly out of the vacuum. That means an end to shortages of energy, food, consumables and commodities. It also means an end to an economy based on scarcity, and a new one based on what we can't materialize, human creativity.

It is only when we move forward and embrace this concept, that this civilization will move forward.

Scalar Electromagnetics As a Nuclear Fusion Ignition Source

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After reviewing material from Tom Bearden and others, it occurred to me that it might be possible to use what was termed the “scalar howitzer” to initiate nuclear fusion. Scaling a technology down is much easier than scaling it up. The added benefit is that if something goes wrong, it is a small enough scale to minimize the damage that may incur.

With that in mind, let’s look at the consequences of going from the macro to the micro scale with this technology. According to Nick Begich, co-author of “Angels Don’t Play This HAARP” the phased array that is used in Alaska which has been implicated to cause everything from weather manipulation, ionospheric heating, sudden deaths of flocks of geese, and painful corns to practically every other malady, operates in the peak power of megawatts to gigawatts. Big projects are energy hogs, and typically show poor payback. Unless it can be proven that HAARP can disintegrate rogue asteroids, its usefulness to the planet is in question. Otherwise, it is a big toy for those who have access to more money than common sense.

Simply put, when a beam of electromagnetic radiation (it doesn’t matter what frequency) is combined out of phase with itself, it is considered scalar. The electric and magnetic vectors of the wave are cancelled out, and all that is left is the stress in the vacuum. Some have called it an electrogravitic wave, which is not really accurate, as the electric field is also cancelled out. It can be said that there is an infolded E field vector inside the gravity wave, and that is true. But we are not going to cover that topic at this time. What we are after is the combination of the two scalars in phase cancellation (phase canceling a wave that is itself phase canceled, a “Zenny” concept if there ever was one). They are combined at right angles to one another.

Phase canceling two scalars has the effect of causing the original EM to reappear in the convergence zone. All the power put into the two beams appears there. What we are after here is not gravity, so the frequency needs to be as high as possible, to transfer the energy to the matter in the convergence zone. The higher the frequency used, the smaller the convergence zone. So we want to use something in the infrared band on up. What we’re after is the injection of energy into the convergence zone.

Let’s dive right into the numbers and see what we get. For a convergence zone, a volume 1-millimeter in diameter would be sufficient. Let’s use a carbon dioxide laser, although a nitrogen laser would work just as well. The beam splitters and interferometry rig is placed outside of the reactor sphere, which is about 10 centimeters in diameter. The scalars pass through the steel of the reactor as if it weren’t there. They combine in the center of the sphere, in a zone 1 millimeter in diameter. For the sake of argument, let’s use light water in the sphere, at a density of 1 gram per cubic centimeter. What does that give us?

The mass undergoing irradiation is 1 milligram. Let’s make the effective radiated output (or input) of the beam as 1 watt. In the English system, 1 watt is equivalent to 3.413 BTU. That is, one watt will heat one pound of water 3.413 degrees Fahrenheit. One pound is 453.6 grams, or 453600 milligrams. Therefore, we multiply 3.413 times 453600 to get the temperature rise per hour. That is 1,425,029 degrees Fahrenheit. Not enough for an efficient fusion reaction. If we increase that to 10 watts, it puts us in the ballpark with a temperature of 14,250,290 degrees. At the distance of 10 centimeters, the surface of the vessel will have a temperature of 142 degrees, assuming perfect radiative transfer. The

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fireball will have approximately a 1-centimeter diameter with a temperature of 14,250 degrees. Farther from this, dissociation of the hydrogen and oxygen within the water will take place, and those gases will bubble to the surface. If the beam is pulsed at the ion acoustic frequency of the hydrogen, then there will be transfer into and outside the recombination zone.

Let's look at energy outputs. We can lowball the mass-energy conversion and assign it a 1 percent conversion fraction. Using $E=MC^2$, one gram of mass converts to 9×10^{20} ergs, and one milligram 9×10^{17} ergs. At 1 percent conversion this knocks it down to 9×10^{15} ergs. One BTU is equal to 1.0548×10^{10} ergs. So $9 \times 10^{15} / 1.0548 \times 10^{10}$ is 85,324 BTU. Dividing this by 3.413 gives us 24,999 watts thermal out for 10 watts in, for a ratio of power out to power in of 2,499.9:1. That's nearly a 2,500 to 1 ratio. If we assign 50 percent conversion efficiency to mechanical energy, then the output would generate 16.75 horsepower.

Sounds good, but what about the thermal spike on ignition? That would raise the initial temperature 9,892,076 degrees for a maximum of 24,142,366. This should be sufficient to make the reaction stable within the convergence zone. Please note that I'm using two different rates of dissipation, one for the reaction, and another for the convergence zone. That is because the "zone" acts as an energy bottle, with very little dissipation. It is only the products of the reaction, EM and otherwise, which bleed off.

How about fuel consumption? If we assign one milligram per second, then we have a burn rate of 3.6 grams per hour. If the reaction vessel is filled with water, using the formula for volume as $1/6 (\pi) D^3$, then a vessel 10 cm in diameter would have a volume of 523.6 cubic centimeters, and with a density of 1 gram per cubic centimeter, it comes to 523.6 grams. The reaction vessel would stop production when it gets half-full, so that would amount to a run time of 72.72 hours. What if we fill the gas tank with water? The typical gas tank is anywhere from 10-15 gallons. Let's make it 10. One gallon of water weighs approximately 8 pounds, which is 3.628 kilograms. At a burn rate of 3.6 grams per hour, it would run 1007 hours per gallon, or over a year continuously for a full tank. If we want lots of horsepower, then the burn rate will be higher, and as a consequence consumption will increase. But this gives us a good idea for a baseline.

Roadblocks on the Energy Highway

The main question is this: What is out there to prevent implementation of this technology? The data on scalar electromagnetics have been around for over 20 years, and in the open literature as other names for longer than that. Why has there been no experimentation using this methodology as a thermonuclear ignition source? I have searched, and to my knowledge there has been no laboratory attempting to do this. I remember speaking to an electrical engineering student at the University of Boulder during a Gaia Conference, which I was attending. The topic turned toward scalar electromagnetics and various applications. He didn't believe that universities didn't have ongoing experiments concerning this, and told me he would talk to his professor and set up an experiment the next day. He met me with a grim face the next day, explaining that his professor would not allow him to do the experiment. He didn't want him anywhere near the equipment. He shook his head, not understanding why. I knew, as I was beginning to understand the political angle in the energy field.

Those who are in the pursuit of truth are absolutely befuddled when confronted with the unholy politics, which presently infects science. It blindsides them. They are so single-mindedly devoted toward the ideal of truth that it is beyond their understanding to know why the corruption takes place. The search for truth is, in itself, an act of faith. I always found it amusing that some researchers call themselves

agnostics, knowing that without a dedication to finding the basic truths about the universe, they wouldn't be in their profession. The detractors called science a priesthood, and for some it is. It is when politics invades faith that priesthoods are born. Heresies are acts that are politically incorrect. The same applies to scientific "heresies".

The Solution

So how do we get past this? The technology is a snap, but the implementation of that technology seems to be an insurmountable problem. We have lobbies for petroleum, electric utilities, nuclear power, law, environment and every conceivable industry... Except for free energy and gravity control. As far as I know, there isn't a cohesive lobby for alternative energy either. Have we in the industry been asleep at the switch? I remember a quote from Will Rogers that went to the effect that we have the best politicians money can buy. He was right- those lobbyists are the ones who buy the politicians. Bribery is not only legal in Washington; it is necessary if you want your industry to get anywhere. So that is what we do. We shift gears, and stop begging for funds from various sources, and start badgering politicians. These guys will get alternative energy grants just to get rid of us, and leave them in peace. We develop a cohesive alternative/free energy lobby: One that is formidable, which is as powerful as the nuclear or pharmaceutical lobby.

We develop a legal defense fund for those who are targeted by the Military/Industrial/Government complex. These guys do not like competition, and will do anything to keep innovation off the market which threatens their power base. We have seen this with cold fusion, as well as an ongoing assault on alternative energy proponents. If they jail someone on trumped up charges to get them out of circulation, the legal defense platoon goes into action. The lobbyists jump into action and badger the politicians in the district where the incident took place. Putting pressure on the corrupt system is the only incentive for them to change. If we can teach them that it is easier, and takes less effort and grief to do the right thing, then using this behavior modification might just work. Just treat the system as a delinquent child, since that is how they're acting. Letting them have their way just reinforces negative behavior patterns. It's time to stop doing that.

If we do this, then the future just might have a chance. If not, then there is no future.

“Human history becomes more and more a race between education and catastrophe.”

--Herbert George Wells, *The Outline of History*

Last Word

It reminds one of Alice's trip through the looking glass. Perhaps the universe is stranger than we imagined it to be, and is too large to try to stuff it into a box neatly. But it has always been there, waiting for us to awaken to its true nature, despite how badly we wanted it to be otherwise.

When Galileo showed members of the clergy sunspots, they became enraged when their notion of a perfect universe was challenged. "Why... blemishes upon the Sun? How absurd!" But they always were there, even before we knew about them. True science, like true philosophy, is a search for the truth, accepting it without concealment or distortion. At times it is a challenge to the psyche, and at other times it is a barometer for who we are.

Thomas Paine said in *Age of Reason*, Page 20:

"The sublime and the ridiculous are often so nearly related, that it is difficult to class them separately. One step above the sublime, makes the ridiculous; and one step above the ridiculous, makes the sublime again."

Thank you for reading my book, and coming with me on my journey.

Was that one step, or two?

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