Article:Free Electric Energy in Theory and Practice

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News

I have written a small news article about the theory presented here, you may want to check out and send around to your friends and relatives, for example by twitter: http://beforeitsnews.com/story/180206 And there's an article over here, based on a comment by me: http://royaldutchshellplc.com/2010/09/14/energy-source-of-the-future-won%E2%80%99t-be-a-fossil-fuel/ -- If you like this stuff, please do vist, comment and spread the word!

Open source: work in progress

This is a work in progress! While I am fully convinced the basic principles and theory are correct, I am pretty sure there are still some mistakes in the details, which will be corrected over time, either because I notice the errors myself, or because of feedback by others. It is because of this that I have chosen to do this the "open source" way, using Linus's law:

Given enough eyeballs, all bugs are shallow. *- See: [Release Early, Release Often (http://www.catb.org /esr/writings/cathedral-bazaar/cathedral-bazaar/ar01s04.html)]*

So, if you notice any mistakes or have any feedback, please use the talk page or join the discussions on the forum. I have started a new thread (http://www.energeticforum.com/renewable-energy/6440-my-article-free-energy-meyer-gray-puharich-explained.html) dedicated for the discussion of this article.

If you want to help spreading this information and structuring it, please don't hesitate to go away and edit this article. You can see here how the format of this wiki works. Any help is most appreciated. Even if you don't really understand the stuff, just copying and pasting the info from energeticforum to here (linking it back there) and structuring it would be marvelous! To be honest, I'm really not too good in doing that, so again: any help is most appreciated. I mean, this isn't supposed to be my property. This is what supposed to be Tesla's gift to humanity, so it belongs to all of us and it's up to all of us to share and nurture Tesla's magnificent gift, a gift that will finally become reality if we put our minds to it!

If you want to get your hands dirty and make this work, you may also go here for more details and discussion: http://www.energeticforum.com/renewable-energy/6270-ultimate-secret-free-energy-split-postive-negative.html

At the moment there is mostly theory here. More practical tips, etc. are at the forum. I'll be there to answer any

questions that may turn up, but please do study the stuff that's there first and do follow the links. This ain't a piece of cake. You will have to work hard and study in order to be able to understand all this and straigthen this out in your mind. Took me a couple of years, so don't expect the practical solutions to be handed to you on a silver plate at this moment.

PDF

Pdf versions of this article are available at my website: http://www.tuks.nl/pdf/ under the name "Free_Electric_Energy_{date}.pdf".

The latest one (current one: September 23d) will always be: http://www.tuks.nl /pdf/Free_Electric_Energy_latest.pdf

MIBs

For those who may fear "they" are not going to let us have this, you may want to check my posts here:

http://www.energeticforum.com/renewable-energy/6270-ultimate-secret-free-energy-split-postive-negative-2.html#post108655

http://www.energeticforum.com/renewable-energy/6395-fait-accomli.html#post110619

http://www.energeticforum.com/renewable-energy/6270-ultimate-secret-free-energy-split-postive-negative-2.html#post108816

http://www.energeticforum.com/renewable-energy/6270-ultimate-secret-free-energy-split-postive-negative-2.html#post109117

Contact

If you want to contact me, the first place to go would be the energetic forum, because then all information exchanged can be shared. You can also post a message at my personal talk page using the "+" button on top next to "edit", and you can drop me a mail at lamare over at gmail at the dot com domain if ye can't use the forum for one reason or another. I also have an account at my own server which I hardly ever read: lamare over at tuks at the dot nl domain. For that one, I have pgp (http://gpg-keyserver.de/pks/lookup?op=get&search=0x6C1968A025E3DC8B), so if you want to mail me confidential that would be the way to go. I really don't mind being contacted with serious questions or anything, and would even like to be contacted by serious peoplen with feedback, etc., especially in or around Twente, but if you only have questions, please do study the available documentation first to see if your question has not already been answered and, more importantly, please, please, please don't bother me with stuff in the direction that this is impossible and the like. I mean: been there, done that. And that is totally useless anyway, cause I'm **proud to be a Tukker**!

-- Arend --

Foreword

This document is being submitted in memory of Stanley Meyer and Gerrit Stokreef. Stanley Meyer was a great tinkerer who dared to challenge the powers that were and paid for it with his life. Gerrit Stokreef was one of my neighbors in the place where I grew up. It was a very warm neighborhood filled with loving, honest people that all had to work hard to make a living. Gerrit was always there when you needed him, he just never said "No". He lent me his oscilloscope years ago. I hardly used it until after he passed away and he left it to me. Now I know he lost his fight to cancer because the powers that were didn't want us to use the cures invented by Royal Rife. But the rules of the game have changed now. The genie is out of the bottle

folks and there is no way to put it back in there. May Stan's dream finally be realized and may there be peace on this planet, beacuse when there's no need for oil anymore, which will put the powers that were out of business, who in his right mind would ever fight a war again?

While studying various articles and discussions about Free Energy, it struck me that there were some striking similarities between a number of systems, notably those made by John Bedini as well as Stan Meyer's Water Fuel Cell. At some point, it occurred to me that there might be a common explanation behind these different systems, which all appear to be some form of (electrolytic) capacitor. In various discussions at the Energetic Forum I have made an attempt to formulate a theory to explain a number of phenomena that have been reported in relation to these systems. Since the relevant information has been scattered all over the forum, it is my intention that all that information be brought together and assembled here.

The first direction I investigated was the idea that the excess energy observed in all these systems concerned was being extracted from the vacuum or ZPE or whatever you want to call it by means of an electric field generated by a polarized dielectricum. It turned out that this theory was correct and did explain what John Bedini was really doing with his batteries. But at the time, I could not explain what Stan Meyer was doing.

Then I took a fresh look at Gray's system and I tried to envision how his spark gap oscillator worked. It occurred to me that this was basically generating HF, HV spikes just like the ones Bedini uses, with sharp rises, and soft drops. Since Bedini's pulses go through just about anything, I finally discovered the secret of Gray's system. He was driving an open coil from both sides, in phase.

From that, I went back to Bearden's "don't kill the dipole" and compared what I got from Gray with what Meyer did. And as if by magic, someone also posted how Puharich did it. Then the pieces dropped into place one by one. They were all using the same principle.

Of course, there were quite a few loose ends in the beginning but now I can finally explain the whole trick in just a few lines.

I hope that this information is helpful to those people that are better experimenters than I am, so that this technology will be further developed in the spirit of open source. I hope other engineers and scientists will study this article and the referenced material and make products that put this technology in the hands of the people of this planet, so disasters as in the Mexican Gulf will never have to happen again. I also hope that none of this will ever be patented, because this technology is worth the most when it is actually used, not when it is put behind bars because of greed and selfishness. Haven't we had enough of that by now?

Power to the people! (pun intended)

-- Arend Lammertink, MSc. --

The electric field as an energy source

According to the law of conservation of energy (http://en.wikipedia.org/wiki/Conservation_of_energy) it is impossible to create energy out of nothing:

> *The law of conservation of energy is an empirical law of physics. It states that the total amount of energy **in an isolated system** remains constant over time (is said to be conserved over time). A consequence of this law is that energy can neither be created nor destroyed: it can only be transformed from one state to*

> *another. The only thing that can happen to energy in a closed system is that it can change form: for instance chemical energy can become kinetic energy.*

It is this law that causes any machine that appears to produce "useful work" without the use of a visible or obvious energy source is considered to be "impossible" and done away with as perpetual motion (http://en.wikipedia.org/wiki/Perpetual_motion):

> *Perpetual motion describes hypothetical machines that once started operate or produce useful work indefinitely. This definition has been expanded to include any machine that produces more work or energy than it consumes, whether or not it can operate indefinitely. Despite that fact that such machines are not possible within the framework of our current formulation of physical law the pursuit of perpetual motion remains popular.*

Even though the law of conservation is correct, this does not mean it is impossible to create "machines that once started operate or produce useful work indefinitely" at all. It's really just a matter of finding an appropriate energy source. Fortunately, an energy source exists that is available everywhere in the universe for free. It's an energy source that can provide limitless energy without any pollution whatsoever. This energy source is the electric field emitted for free by each and every charge carrier in the universe, 24/7, 7 days a week, 365 days a year. Indefinitely. These are like tiny little stars that emit a different kind of light. All we need is a different kind of solar cell to utilize this and we can get all the energy we need whenever and where ever we want.

Once we really understand the electric field and how it is "created" it will be just a matter of a bit of trickery to be able to utilize this wonderful energy source without paying for energy ever again. Stanley Meyer did it; John Bedini did it; Edwin Gray did it; and there is absolutely no reason why humanity should not have the luxury of cheap and clean energy.

Don't kill the dipole

Tom Bearden has made a number of video's as well as an article (http://www.bibliotecapleyades.net/bearden/bearden09.htm) in which he explains how electrical circuits are actually powered.

> *Here's a simple explanation of what powers every electrical circuit. When we crank the shaft of the generator and rotate it, the rotation transforms the input "mechanical" energy into internal "magnetic field" energy. In that little part of the circuit that is between the terminals of the generator and inside it, the magnetic field energy is dissipated on the charges right there, to do work on them.* ***This work (expending the magnetic energy) forces the negative charges in one direction, and the positive charges in the other direction****. [...] That's all that rotating the shaft of the generator accomplishes. None of that input shaft energy was transformed into EM energy and sent out down the powerline, as electrical engineers assume.*
>
> *Not to worry, energy does get sent down the power line but not from the generator shaft energy or its transduction. Essentially then, all the energy we put into the shaft of the generator is dissipated inside the generator itself, to push the positive charges in one direction and the negative charges in the other. The separation of the charges forms what is called a "dipole" (opposite charges separated from each other a bit).* ***That is all that the generator does****. That is all that burning all that coal or oil or gas does. It heats a boiler to make steam, so that the steam runs a steam turbine attached to the shaft of the generator, and turns it -- and therefore forcing those charges apart and* ***making that dipole between the terminals of the generator****.*

This is a very important principle to understand, even though Bearden is a bit off, IMHO, and it is very hard to get this straight. It **does** take energy to separate the charges and that energy is used to change the configuration of the electric field. The field is not the same before and after a separation of charges has been done, so the applied energy is converted into a form of energy that can perhaps be described as a *stress*, a *disturbance*, of the overall electric field. And when the charges flow trough the circuit, one way or the other, the same amount of energy is released to the circuit as the amount of energy needed to separate the charges. If really "all the energy we put into the shaft of the generator" would be "dissipated inside the generator itself", big generators would heat up like hellfire.

Imagine a room with a fan and a door. When the door is opened, the airflow, wind, generated by the fan pushes against the door and tries to shut it. While opening the door, you have to push it against the air flow, which costs you energy. You can get that same amount of energy back, when you use the pressure of the airflow pushing against the door to do work, like cracking a peanut. However, the fan is not powered by the energy you have spent to open the door, it is a **separate energy flow** that is **powered by something else**. In this analogy, the door stands for the charges (mass) that move around and can be used to do work while the airflow (wind) stands for the electric field that causes the charges to move around. The only thing is that the door **is** the fan. So, we get all those little fandoors we can push around and as long as we keep using the same fandoors to create the airflow and to do the work, we will never ever be able to extract more energy from the airflow than we have spent ourselves to open the door.

So, these fandoors (charges) are really wonderful things. You open the door and mother nature (the vacuum) spins the fan and gives you a flow of energy you can use. Now the good news is that you can not only use this free energy to get your door shut again to do work, you can also use it to push on your neighbour's door. The bad news is that your neighbour's door also has its own fan, which has the nasty habbit of blowing in the other direction, that is, it will **oppoze** your airflow, which makes it very hard and certainly not straightforward to get a foot between these doors and keep the air flowing without paying for it. So, if you may have had the idea of taking an electret, a piece of permanent polarized material that continuously emits an electric field (the airflow) for free, to induce a current in a nearby wire, you're in trouble. The charges inside the wire will oppoze this exteral field and neutralize it faster than you can blink your eye and then the party is over. So much for that one.

So, are the engineers right and is Bearden wrong after all?

Well, the engineers are right in that you do convert mechanical energy into potential electric energy by opening the door against the airflow. But, Bearden is right that the dipole that has been created is a energy source. That energy source puts out energy in the form of a electric field, real energy that is converted from ZPE or whatever into a "static" electric field, mostly to be sent into space without ever being used, except for that part that is needed to close the door again.

To sum this up: **besides** the energies that are normally considered, **there is a second energy flow** that is totally being ignored. And **that** is interesting, because if the law of conservation practically holds for the first flow (the opening and closing of the door) it means **we can use this second, hidden, energy flow** (the fan) **for free**! This also means that electrical circuits can never ever be considered being "isolated systems", so if you want to throw "law of conservation" stuff into the equation, you have to make damn sure that whatever energy is being exchanged by the electric field with the environment can be neglected in the case at hand. In other words: electrical circuits are always interacting with the environment, even though you can often ignore that when doing energy conservation calculations. But let's read a littlebit further in Bearden:

> *So we "see" the dipole as if it were just sitting there and pouring out real EM energy continuously, in all directions, like a spray nozzle or giant energy gusher. We don't see the input energy from the vacuum at all! But it's there, and **it's well-known in particle physics.** It's just that electrical engineers -- particularly those that have designed and built all our electrical power systems for more than a century -- do not know it.*
>
> *So, **according to proven particle physics and a Nobel Prize, the easiest thing in all the world is to extract EM energy from the vacuum. All you wish. Anywhere in the universe. For free.** Just pay a little bit once, to make a little dipole, and that silly thing is like a great oil well you just successfully drilled that has turned into a mighty gusher of oil without you having to pump it. The dipole just sits there and does its thing, and it pours energy out forever, for free, as long as that dipole continues to exist.*

Well, it may be right that particle physics says it's easy to extract EM energy from the vacuum, but that does not tell us how we can use that, nor how we can engineer systems that are able to make use of this unknown, or better: overlooked, territory. Where is that energy? Where does it come from and where does it go?

The answer to these questions can be found in the paper Conversion of the Vacuum-energy of electromagnetic zero point oscillations into Classical Mechanical Energy (http://www.wbabin.net/physics/turtur1e.pdf) by the German Professor Claus Turtur. In the chapter "A circulation of energy of the electrostatic field" (pages 10-14) he

makes a straightforward calculation of the energy density of the static electric field surrounding a point charge using nothing more than Coulombs law and the known propagation speed of the electric field, the speed of light, and shows that there must be some kind of energy circulation between the vacuum and charge carriers:

> *If electrostatic fields propagate with the speed of light, they transport energy, because they have a certain energy density. It should be possible to trace this transport of energy if is really existing. That this is really the case can be seen even with a simple example regarding a point charge, as will be done on the following pages. When we trace this energy, we come to situation, which looks paradox at the very first glance, but the paradox can be dissolved, introducing a circulation of energy. This is also demonstrated on the following pages.*
>
> *The first aspect of the mentioned paradox regards the emission of energy at all. If* ***a point charge*** *(for instance an elementary charge) exists since a given moment in time, it* ***emits electric field and field's energy*** *from the time of its birth without any alteration of its mass. The volume of the space filled with this field increases permanently during time and with it the total energy of the field. But from where does this "new energy" originate? For the charged particle does not alter its mass (and thus its energy), the "new energy" can not originate from the particle itself. This means:* ***The charged particle has to be permanently supplied with energy from somewhere****. The situation is also possible for particles, which are in contact with nothing else but only with the vacuum. The consequence is obvious:* ***The particle can be supplied with energy only from the vacuum****. This sounds paradox, so it can be regarded as the first aspect of the mentioned paradox. But it is logically consequent, and so we will have to solve it later.*

[...]

> *Important is the conclusion, which can be found with logical consequence:*
> *On the one hand* ***the vacuum (= the space) permanently supplies the charge with energy*** *(first paradox aspect),* ***which the charge (as the field source) converts into field energy and emits it in the shape of a field****. On the other hand* ***the vacuum (= the space) permanently takes energy away from the propagating field****, this means, that* ***space gets back its energy from field during the propagation of the field****. This indicates that there should be some energy inside the "empty" space, which we now can understand as a part of the vacuum-energy. In section 3, we will understand this energy more detailed.*
>
> *But even now, we can come to the statement:*
> *During time, the field of every electric charge (field source) increases. Nevertheless the* ***space*** *(in the present work the expressions "space" and "vacuum" are use as synonyms)* ***causes a permanent circulation of energy, supplying charges with energy and taking back this energy during the propagation of the fields****. This is the* ***circulation of energy****, which gave the title for present section 2.2.*
>
> *This leads us to a new aspect of vacuum-energy:*
> *The* ***circulating energy (of the electric field) is at least a part of the vacuum-energy****.* ***We found its existence and its conversion as well as its flow****. On the basis of this understanding* ***it should be possible to extract at least a part of this circulating energy from the vacuum*** *– in section 4 a description is given of a possible method how to extract such energy from the vacuum.*

So there we are. The electric field (the airflow in our fandoor analogy) is on the one hand powered by the vacuum and on the other hand it powers the vacuum. So, at least part of the energy in space / the vacuum, referred to with names as "Zero Point Energy" (ZPE), virtual particle flux, the Dirac sea, Orgone, etc. is not only fueled by the electric field, it is continuously converted back into an electric field by each and every charged particle in the universe, which makes the electric field a source of energy. The implications of that are staggering. It means that **the law of conservation of energy does not apply to electrical systems, because they are not isolated**. After all, Turtur shows without a shadow of a doubt that **energy is being extracted from the active vacuum by each and every charged particle and thus every electrical system** in existence in the Universe.

Based on all this, it is clear that we need to look at electrical systems in a different way, we need a way of thinking that does account for the energy source that is really powering our systems. In a way, we need a similar change in our models as the change from Newton to quantum mechanics. While Newtonian mechanics can still be used in mechanical engineering most of the time, at some point they are no longer valid, for example in the

calculation of satellite orbits. In the same way, the current electrical engineering model is fine for most applications where it suffices to consider only the door part of our fandoor analogy, that is, by considering electrical systems basically as an analogy of hydraulics, which is literally just a variation of Newtonian mechanics. However, if you want to be able to utilize the energy source the electric field provides, there just ain't no way to do that without taking the energy exchange between an electrical system and the vacuum completely into account.

So, let's do that. In the old Newtonian model, we consider the voltage across an impedance to be the cause for a current to occur, which in our fandoor anology would be the pressure that the door "feels" being enacted by the airflow on its surface, while in reality it is the airflow (the electric) field that acts upon the door and not the pressure itself. In other words it *seems* like the "pressure" the electric field enacts on our components is static, hence the name "static electric field", while in actual reality **this force is a dynamic force**, something **flows** along the surface that creates the pressure. Tesla already realised this in [1892 (http://www.tfcbooks.com/tesla/1892-02-03.htm)]:

> *There is no doubt that with the enormous potentials obtainable by the Use of high frequencies and oil insulation luminous discharges might be passed through many miles of rarefied air, and that, by thus directing the energy of many hundreds or thousands of horse-power, motors or lamps might be operated at considerable distances from stationary sources. But such schemes are mentioned merely as possibilities. We shall have no need to transmit power at all. Ere many generations pass,* ***our machinery will be driven by a power obtainable at any point of the universe****. This idea is not novel. Men have been led to it long ago by instinct or reason; it has been expressed in many ways, and in many places, in the history of old and new. We find it in the delightful myth of Antheus [Antaeus], who derives power from the earth; we find it among the subtle speculations of one of your splendid mathematicians and in many hints and statements of thinkers of the present time. Throughout space there is energy. Is this energy* ***static or kinetic****! If static our hopes are in vain;* ***if kinetic — and this we know it is, for certain —*** *then it is a mere question of time when men will succeed in* ***attaching their machinery to the very wheelwork of nature****.*

It is nothing less than a shame that even more than a hundred years later, we still burn fossile fuel for our energy, basically because of arrogance, selfishness and ignorance. Still, the question remains the same. It is **a mere question of time**... Anyhow, there basically is a deeper cause we have to account for: the electric field itself, which is present everywhere in the Universe. With that in mind, we continue with Bearden:

> *The external (attached) circuits and power lines etc. catch some of that available EM energy flowing through space (generally flowing parallel to the wires but outside them). Some of the flowing energy is intercepted and diverted into the wires themselves, to power up the internal electrons and force them into currents, thus powering the entire power line and all its circuits.*
>
> *However, the power system engineers use just one kind of circuit. In the standard "closed current loop" circuit, all the "spent electrons" (spent after giving up their excess energy in the loads, losses, etc.) are then forcibly "rammed" back through that little internal section between the ends of the source dipole (between the terminals). These "rammed" electrons smash the charges in the dipole away, and destroy the dipole then and there.*
>
> ***It can easily be shown that half the "caught" energy in the external circuit is used to destroy that source dipole, and nothing else****.*
>
> *For more than a century, our misguided engineers have thus used a type of circuit that takes half of the energy it catches, and uses that half to destroy the source dipole that is actually extracting the EM energy from the vacuum and pouring it out of the terminals for that power line to "catch" in the first place! The other half of the "caught energy" in the powerline is used to power the external loads and losses.*
>
> *So half the caught energy in the power line is used to kill the source dipole (kill the free energy gusher), and less than half is used to power the loads. It follows that our electrical engineers are trained to use only those power circuits that kill themselves (kill their gushing free energy from the vacuum) faster than they can power their loads.*
>
> *Well, to get the energy gusher going again, the dipole has to be restored in order to extract the energy*

and pour it out again.

So we have to pay to crank the shaft of that generator some more, to turn that generator some more, so that we can dissipate some more magnetic energy to re-make the dipole. We have to work on that shaft at least as much as the external circuit worked on that source dipole to destroy it. So we have to "input more shaft energy" to the generator than the external power system uses to power its loads. Since we pay for the input shaft energy, we have to keep on burning that coal, oil, and gas etc. to do so.

All our electrical power systems are "suicidal" vacuum-powered systems, freely extracting their useful EM energy from the seething vacuum, but deliberately killing themselves faster than they power their loads.

All that the burning of all that coal, oil, gas, etc. accomplishes is to continually remake the source dipole, which our engineers insure will then receive be killed by the system itself faster than the system gives us work in the load. "

Now isn't that interesting, *half the caught energy in the power line is used to kill the source dipole, and less than half is used to power the loads*? Think about it, how can that be?

There is an essential difference between the Newtonian analogy we use in electrical engineering (closed circuits) and the actual reality. The analogy of a capacitor in hydraulics (Newtonian analogy) is a piston moving back and forth in a closed cylinder wherein gas is pressurized. And here's the difference: Imagine moving the piston inwards, pressurizing the gas, and put the thing on your workbench. The piston will immediately move back, because of the gas pressure. Now charge a capacitor and put it on your workbench. See the difference? The capacitor will just sit there, **keeping it's charge**. In other words: our hydraulic analogy is unstable, it 'wants' to release it's energy, while our actual electrical component is stable when 'pressurized'. It will only 'release' it's energy when something external is being done. It has to be disturbed, because the charges in a capacitor actually attract one another, which makes them like to stay where they are. So, when 'discharging' a capacitor, as a matter of fact, these attraction forces have to be overcome. And that does not release energy at all, it costs energy to do that. So, it actually takes the same amount of energy to charge a capacitor as the amount of energy it takes to discharge the capacitor.

It is undoubtedly because of this that Steinmetz (http://www.borderlands.com/dollardandtesla.htm) wrote, already in the beginning of the twentieth century:

*"Unfortunately, to large extent in dealing with dielectric fields the **prehistoric** conception of the electrostatic charge (electron) on the conductor still exists, and by its use destroys the analogy between the two components of the electric field, the magnetic and the dielectric, and makes the consideration of dielectric fields unnecessarily complicated. There is obviously no more sense in thinking of the capacity current as current which charges the conductor with a quantity of electricity, than there is of speaking of the inductance voltage as charging the conductor with a quantity of magnetism. But the latter conception, together with the notion of a quantity of magnetism, etc., has vanished since Faraday's representation of the magnetic field by lines of force."*

So, it may seem that the conservation law holds when considering electrical circuits in their 'prehistoric' analogy, in actual truth this is only the case because the interactions with the environment, the active vacuum, balance one another out. In reality twice the amount of work has been done than seems to having been done!

Summary

Any charge continously emits an energy field, an electric field, spreading with the speed of light, which is the real energy source that makes our circuits run. This energy-field, generated by the charges in our wires, is not created out of thin-air. Since there is a continuous flow of energy out of every charge, there also is a continuous flow of energy going into every charge. And that is where the energy eventually comes from, right from the vacuum itself. For our purposes, it doesn't really matter how the energy that ends up in the electric field is being taken out of the vacuum. It may be ZPE, it may be a "virtual partical flux", it may be anything. It doesn't matter, because we don't

need to know.

All we need to know is that somehow, some form of energy flows into each and every charge in the universe and this energy flow is continuously converted into an outflowing electric energy field by each and every charge in the universe, 27/7, 365 days a year, for free.

And this is the basic concept to understand. **The electric field comes for free, as long as you keep the charges separated and don't disturb them**.

So, where does all this leave us? We can spend the effort of turning the shaft of a generator, which will separate the charges in the system we want to power and creates a dipole. When we do this, we do not actually store energy in the dipole, we change the configuration of the electric field. When we subsequently send those same charges trough the system we want to power, it is the active vacuum, the environment, which is kind enough to provide us with the energy that is needed to kill the dipole we have created to be able to power our load and with the energy to actually power our load as well. As we have seen, this is an exercise with a closed wallet from our point of view. The load receives the exact same amount of energy that we have put in the system ourselves as mechanical energy, apart from the losses. So, all things considered, the Newtionian analogy we use in electrical engineering is perfectly valid and applicable. Except for one tiny little detail.

We **change the configuration of the electric field** when we operate an electrical circuit and since we eventually get the same amount of energy back trough our load while doing this, this means **we can actually manipulate the electric field for free**, just by powering our circuits the way we always do. Get the point? While we are opening and closing our fandoor, we influence the airflow in our neighbourhood without having to pay a dime for that in terms of energy! That means we can manipulate our neigbors fandoor for free. So, all we need to do is **figure out how to use our free manipulative power to put the fandoors in our neighborhood to work** such that it is the environment that delivers the energy to power the neighbors load, just as it powers our load. In other words: we have to manipulate the electric field in such a way that charge carriers in the environment of our systems are moved around in such a way that they perform useful work, in such a wat that it isn't us that provides the energy, but someone else: the electric field itself. That means most of all that we have to make sure that those neighboring charges don't end up in our circuit, since then they will kill our dipole and we will have to pay the price, and secondly that we have to make sure that we don't disturb the charge carriers that make up our voltage source.

Now let's take a look at how three inventors managed to do just that by using the power of resonance.

Resonance

One of the most intriguing phenomenon in nature is resonance, a phenomenon that has been used in the construction of musical instruments for ages. In the picture above, you can see me blowing the horn of an ox, a tradition that dates back thousands of years and can be traced to Germanic mythology, where this instrument was used to call upon Woden or Odin (http://en.wikipedia.org/wiki/Odin) , the God of death and storm, who would

wake up and chase the Fenris wulf (http://en.wikipedia.org/wiki/Fenrir) . The wulf that ate the sun from june 21st until december 21st. So, if this wulf would not be stopped, there would be darkness forever on Earth. So, my ancestors would take this horn and imitate the sounds Wodan would make with his army of the death, flying trough the skies, sitting on his six legged horse called Sleipnir (http://en.wikipedia.org/wiki/Sleipnir) , and do all they could to help him defeat darkness. At some point in history, the Roman Catholic Church banned the tradition of the horn blowing and replaced Odin with a new figure, Saint Nicholas (http://en.wikipedia.org /wiki/Saint_Nicholas) , who in The Netherlands also rides a white horse, not trough the skies but on the roofs of the houses to deliver presents to the children at december 5th. It is this same fellow who became Santa Claus (http://en.wikipedia.org/wiki/Santa_Claus) in most Western Countries. If you're interested in how this oxen horn sounds, you can take a look at our homepage (http://www.ossenhoorn.nl/) , which is in Dutch, but there's a small YouTube video on there that shows us in action.

Some time ago, just out of curiosity, I attached an earphone to my horn and drove that from the sound card of my computer, feeding it with sine waves with various frequencies. At the resonance frequency of the horn, the sound was really amplified by the horn. With the earphone out of the horn, I could hardly hear it, while in the horn, I could clearly hear it. This of course leads to the question: Is this a real gain, or just "impedance matching" such that all the power is actually coming from the driving circuitry in the computer? The textbooks say the latter, but are these right, or are they applying the law of conservation of energy incorrectly?

After all, one of the most interesting details regarding a horn is that it is capable of amplyfing a signal, an effect used in early phonographs, such as this one:

The amplification effect of these kinds of resonators is mentioned here at Wikipedia (http://en.wikipedia.org /wiki/Phonograph) :

> *Early "mechanical" gramophones used the stylus to vibrate a diaphragm radiating through a horn. Several serious problems resulted from this:*
>
> **The maximum sound level achievable was quite limited, being limited to the **physical amplification effects** of the horn,*
> **The energy needed to generate such sound levels as were obtainable had to come directly from the stylus tracing the groove. This required very high tracking forces that rapidly wore out both the stylus and the record on lateral cut 78 rpm records.*
> **Because bass sounds have a higher amplitude than high frequency sounds (for the same perceived loudness), the space taken in the groove by low frequency sounds needed to be large (limiting playback time per side of the record) to accommodate the bass notes, yet the high frequencies required only tiny variations in the groove, which were easily affected by noise from irregularities (wear, contaminates, etc.) in the disk itself.*

They say the same thing in their article about loudspeakers (http://en.wikipedia.org

/wiki/Loudspeaker#Horn_loudspeakers) :

> *Horn loudspeakers are the oldest form of loudspeaker system. The use of horns as voice-**amplifying** megaphones dates at least to the 17th century, and horns were used in mechanical gramophones as early as 1857. Horn loudspeakers use a shaped waveguide in front of or behind the driver to increase the directivity of the loudspeaker and to transform a small diameter, high pressure condition at the driver cone surface to a large diameter, low pressure condition at the mouth of the horn.*

So, it is clear that there is more to the phenomenon of resonance than meets the eye, and even tough the textbooks do their best to explain the amplification effects associated with resonance away because they apply the law of conservation of energy incorrectly, we will see wether or not we can get real energy gains using resonance. Energy that is not created out of nothing, but tapped from the electric field, the ether, exactly as Nikila Tesla, Master of Resonance (http://www.intuitor.com/resonance/tesla.php) , has figured out years ago:

> *It was an innocent experiment. Tesla had attached a small vibrator to an iron column in his New York City laboratory and started it vibrating. At certain frequencies specific pieces of equipment in the room would jiggle. Change the frequency and the jiggle would move to another part of the room. Unfortunately, he hadn't accounted for the fact that the column ran downward into the foundation beneath the building. His vibrations were being transmitted all over Manhattan.*
>
> *For Tesla, the first hint of trouble came when the walls and floor began to heave. He stopped the experiment just as the police crashed through the door. It seems he'd started **a small earthquake** in his neighborhood smashing windows, swayed buildings, and sending panicked neighbors rushing into the streets. The police had frequently responded to complaints about Tesla's unusual activities.*
>
> *Although Tesla was not the first to discover resonance **he was obsessed with it** and created some of the most incredible demonstrations of it ever seen. **He studied both mechanical and electrical versions**. In the process **he created an artificial earthquake, numerous artificial lightning storms, knocked an entire power plant off line in Colorado, and nearly caused the steel frame of a sky scraper under construction in Manhattan to collapse**. Tesla realized that the principles of resonance could be used to transmit and receive radio messages well before Marconi. In fact, many knowledgeable sources now credit Tesla as the inventor of radio rather than Marconi. This includes the Supreme Court which in 1943 ruled that Tesla's radio patents had preceded all others including Marconi's.*

I mean, a bit more sound out of a horn because of "impedance matching", all right. But explaining "an artificial earthquake", knocking out "an entire power plant" and nearly causing "the steel frame of a sky scraper" to collapse as "imdepedance matching"? Come on, give me a break.

Resonating a coil

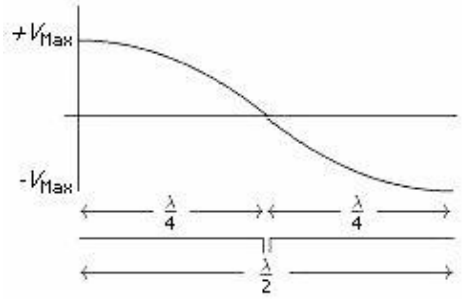
Normally, when you drive a half open coil at its natural resonance frequency, such as in a transmitter, you connect one side of the coil to ground and that is the side you drive. This is what Dr. Stiffler (http://www.stifflerscientific.com/) does in some of his circuits. With this technique, you make a tap in the coil somewhere at about 25% of the coil and at exactly the right time, you pull that tap trough a transistor up to the positive of your power supply. That way you basically steer **a current** trough the coil, you move the charge carriers around. On the other, open, side of the coil obviously no current flows and as you can see from Dr. Stifflers experiments, there is high voltage at that side of the coil. Dr. Stiffler has performed various experiments using resonating coils and he has shared a lot of his work here (http://www.energeticforum.com/renewable-energy /3934-high-voltage-thin-air.html) .

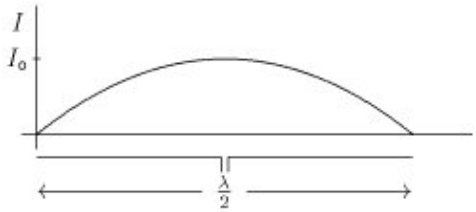
Now let's get that straight. When you drive a half open coil at its natural resonance frequency, at one side of the coil you have zero voltage and high current, while at the other side you have **zero current**, but high voltage. Now this is obviously interesting, since we already know we can create high voltages almost for free. That is, we can create a strong electric field for free and as long as the charges outside our system that may be affected by this field cannot influence the charge carriers in our system, we can use that field for free.

Comparison with antennas

See: http://en.wikipedia.org/wiki/Dipole_antenna

> *Typically a dipole antenna is formed by two quarter wavelength conductors or elements placed back to back for a total length of λ/2. A standing wave on an element of a length ~λ/4 yields the greatest voltage differential, as one end of the element is at a node while the other is at an antinode of the wave. The larger the differential voltage, the greater the current between the elements.*





Gain of dipole antennas

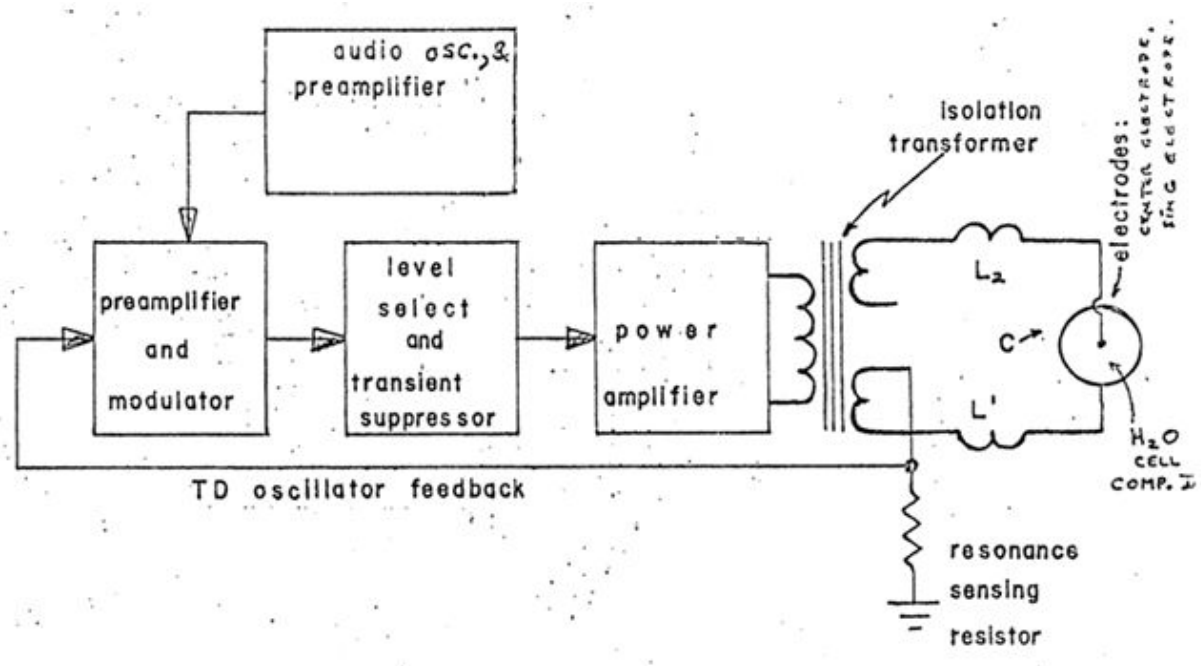
length **L** in λ	Gain	Gain(dB)
≪ 0.1	1.50	1.76dB
0.5	**1.64**	**2.15dB**
1.0	1.80	2.55dB
1.5	2.00	3.01dB
2.0	2.30	3.62dB
3.0	2.80	4.47dB
4.0	3.50	5.44dB
8.0	7.10	8.51dB

From theory to practice

Dr. Andrija Puharich

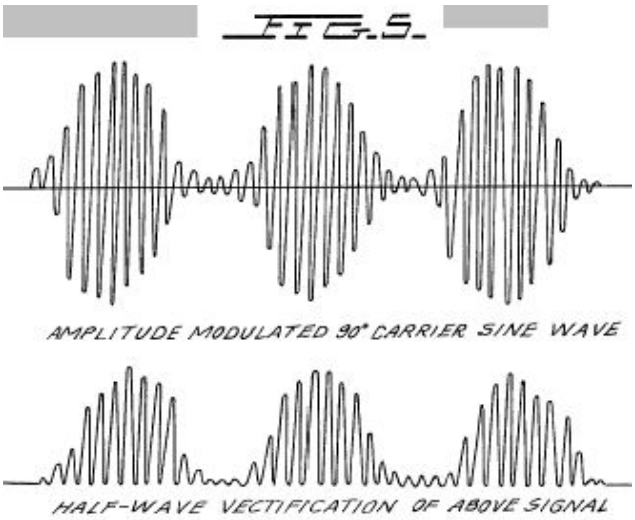
Let's first take a look at what Puharich did, because this one is the easiest to understand. Figure 1 in his patents shows his signal generator block diagram (page 3):

http://www.free-energy-info.com/PatE7.pdf http://www.thelivingmoon.com/41pegasus/32garys_files /Water_Decomposition/1puhar.htm



You see that L1 and L2 are driven from an open transformer and therefore no current flows in and out of the outer terminals of the whole train, which starts at the open end of the "insulating" TF and ends at the "resonance sensing" resistor.

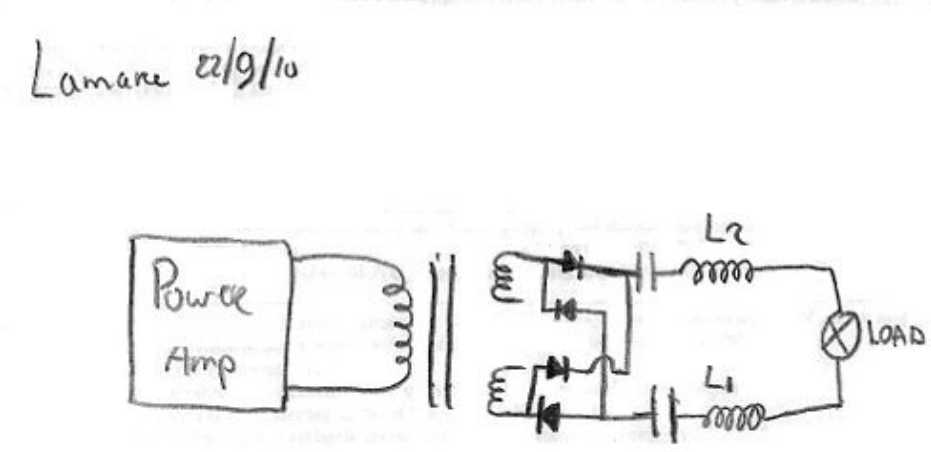
What is particulary interesting about Puharich is the wave form he used in figure 15 at page 17:



Here he shows a full-wave rectified waveform, there are no "silent" periods in between the pulses, even though he writes in the caption that the wave is half-rectified. What is important to realise is that he eventually used unipolar pulses in one direction, but matched to the resonance frequency of the load train. If you look carefully at the lower wave form, you'll see that you can easily draw a sine wave across the tops of the high frequency waves. That is the wave that matches the resonance frequency of the load train. And the he uses the "resonance sensing resistor" with some kind of feed back circuit to make sure his load train is always in resonance. Very clever and elegant!

If you look at his block diagram, you don't see any rectifier. This suggests he did his rectification before his power amplifier, before his "insulation transformer", which would be a bad choice in terms of energy he has to spend himself in order to drive the transformer. After all, the primary of the transformer is an inductive load and at the zero crossings, you need to spend a considerable amount of power in order to get the current the other way around. So, it would be much more efficient to do the rectification **after** the insulation transformer and then drive the transformer with the signal shown in the upper half of the picture.

If you want to do that and drive your load from one end of a half open coil (as shown in Puharich's figure), then you cannot use full wave rectification, but you would have to use a single diode (which would be half wave rectification) as also done by Meyer, which has the disadvantage of introducing imbalances in the system.



As shown in the figure, you can accomplish full wave rectification by using a sort of diode bridge, driven from two secondaries. And because you don't want any disturbances created by the load to end up in your driving coil, it would be best to also use couple capacitors which act as high pass filters as shown in the figure.

Careful reading of Puharichs papers revealed (http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-4.html#post110588) quite a surprise:

> *There is an `Open Circuit` reversible threshold effect that occurs in Component III due to water* ***polarization effects*** *that* ***lead to half wave rectification and the appearance of positive unipolar pulses****;*
>
> *A secondary effect of the* ***change in the RC constant of water on the wave form shows up as a full half wave rectification of the carrier wave*** *indicating a high level of polarization of the water molecule in tetrahedral form at the outer electrode.*

So, to my surprise, Puharichs rectifier is to be found inside his fuel cell and works very similar to how they made **electrolytic rectifiers** in the old days, rectifiers that produced a glow on the electrodes during operation, as described by Horace Heffner (http://www.mtaonline.net/~hheffner/GlowExper.pdf) :

> *A blue-green glow has been observed on electrodes of high voltage electrolytic cells and electrolytic rectifiers. Electrodes to create the blue-green glow can be made from metals like Ni, Zn, Ti, Al or Zr that form insulating oxides. The glow has been created in cells containing a weak electrolyte like Pickling Lime (CaO), Baking soda, sodium metasilicate, or acetic acid, by gradually increasing the AC voltage through them typically to 200 - 400 V AC. Zn can only be conditioned to about 76 volts. As the electrodes are "conditioned" using high voltage AC* ***they begin to act like opposed diodes and the cell then acts like a capacitor with a low current bypass resistor****.*

Nyle Steiner (http://home.earthlink.net/~lenyr/borax.htm) describes the same thing:

> *In the early days of amateur radio, the dc plate voltage power supply for the transmitter, was often made using* ***homemade rectifiers****. From what I have read, these rectifiers would usually consist of an aluminum and lead electrode in a jar of Twenty Mule Team Borax solution. Borax is another name for sodium tetraborate. The aluminum becomes the cathode after a forming process of applying some ac current through the rectifier. Often, many jars were used in order to accomodate high voltages. It has been reported from various sources, that* ***these rectifiers would also emit a faint glow when in operation****.*

Steiner also explains the difference between an electrolytic capacitor (2 aluminum electrodes) and an electrolytic rectifier:

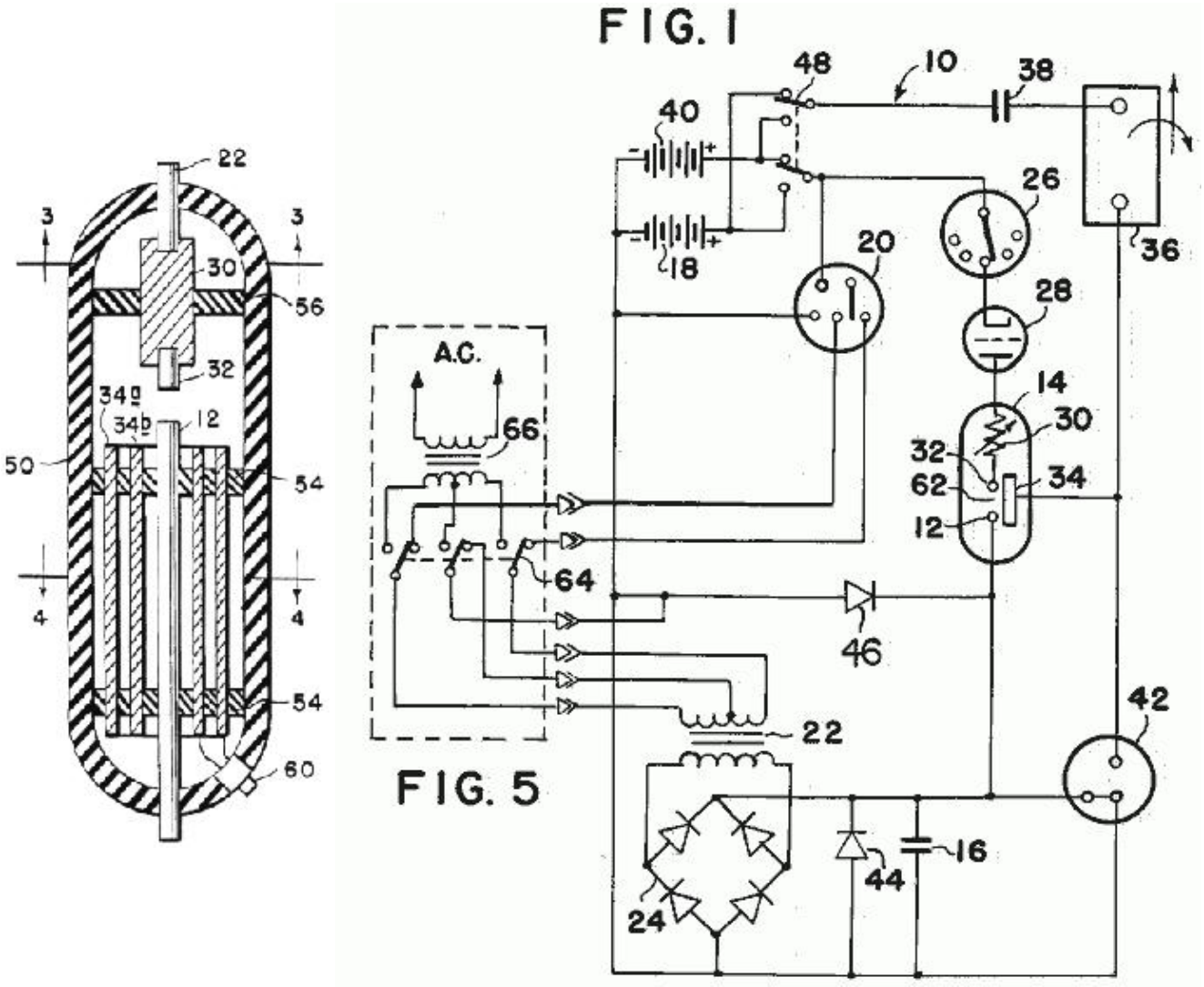
> *The "diode effect" can be seen by replacing a conditioned electrode with a fresh electrode which is not yet conditioned, or* ***a metal that does not form a similar layer****, like lead, magnesium, or carbon. In one half of the trace there is close to an ordinary linear ohm's law relation, while in the other half the conditioned electrode's rectification and breakdown voltage remains evident.*

Based on this, it is clear that at least Puharichs WFC should be regarded as being very similar to an electrolytic capacitor and/or an electrolytic rectifier, which means that there must have been a dielectric layer on at least one of his electrodes. This suggests he used a nickel alloy that forms a protective surface layer, as aluminum and stainless steel does. Since Puharich also talked about being able to use seawater in his WFC, he may have used Cupronickel (http://en.wikipedia.org/wiki/Cupronickel) :

> *In seawater, the alloys have excellent corrosion rates which remain low as long as the maximum design flow velocity is not exceeded. This velocity depends on geometry and pipe diameter. They have high resistance to crevice corrosion, stress corrosion cracking and hydrogen embrittlement that can be troublesome to other alloy systems. Copper-nickels naturally form a* ***thin protective surface layer*** *over the first several weeks of exposure to seawater and this provides its on-going resistance.*

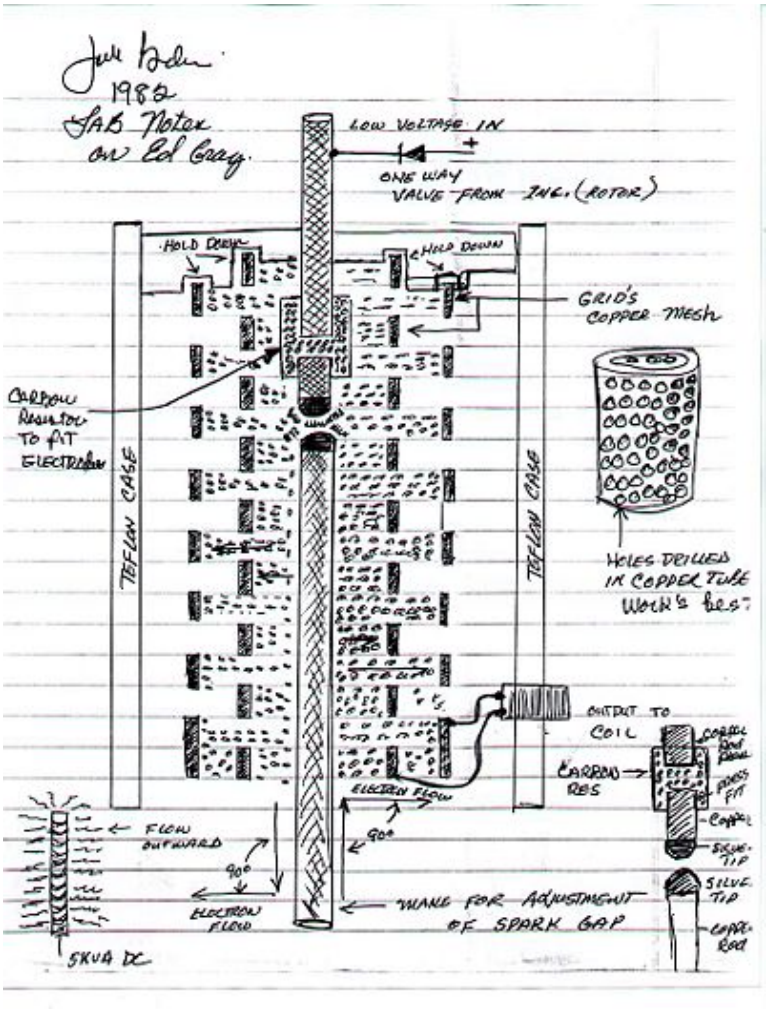
Edwin Gray

Now enter Gray's "Conversion Switching Element Tube" (CSET). This consist of two rods, "connected" trough a spark gap, and concentric with those two grids, both in the shape of a tube, as you can find in his patents (http://www.rexresearch.com/evgray/1gray.htm) :



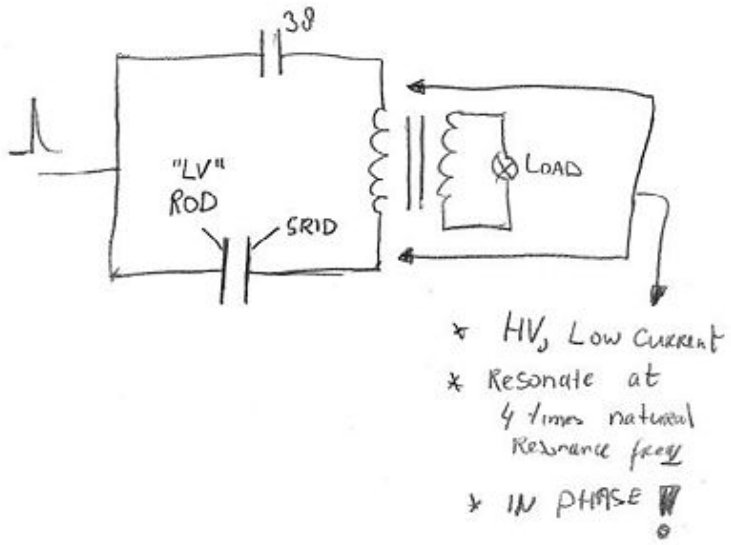
Now obviously, if you would connect that grid to the open end of a resonating coil, the voltage of the grid would go up and down in the rythm of the coil resonance frequency. Note that: the **coil resonance frequency**. That's another frequency than the spark gap oscillator frequency, it is much, much lower. And **that** is essential.

As you can see, there is a "resistive element" in there, which is shown as variable in the schematic. It appears that only the long, HV rod is capacitively coupled to the grid, while the other rod gives you sharp HF spikes once the tube is properly tuned, at very high frequencies. So, it seems like the action takes place at the long rod, which is at HV DC. How can that be? Well, the **actual** tubes were constructed a bit different than shown in the official documentation, as drawn up by John Bedini:



So, the action really takes place **at the short rod**, that tiny little thing on top of the "resistive element", which is also capacitively coupled to the grid and gives you those HF, HV spikes that go trough just about anything as is shown by John Bedini in his video's.

So, these spikes not only go to the grid because of the capacitive coupling between the short rod and the grids, they will also go all the way trough the diode, commutator, batteries, etc. and end up on a second couple capacitor, component 38. So what we have here is that you have HV, HF spikes that end up **in phase** on both capacitors, which can both be considered to be shortcuts at high frequencies. With that in mind, we can reduce the essence of Gray's circuit to just three components:



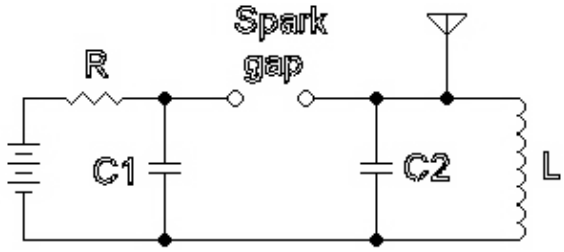
In essense Gray is driving his coils with HV, zero current, in phase at both sides of the coil. That suggests the coil must be resonating in full wave resonance. Only then you have HV, zero current at the terminals in phase.

But Gray also has his couple capacitors. These are such that the HF signal can go trough, but especially the capacitance between rod and grid is very small. I measured something in the order of 10 pF in my replication for the long rod. What this means, is that these can be considered to be high pass filters. And because the frequency of the oscillator is very high, these capacitors can be very small, so any disturbance signals created by the load inductor, cannot reach the HV source. That suggests that it could also be that the coils are not in resonance at all in Gray's system. Given that Gray also did some demonstrations where he "popped" magnets with his coils also points in the direction that with proper high pass filters you can pull this trick off without driving the coils into resonance.

In other words: here we have the trick that prevents the charge carriers in our voltage source, our dipole, to be disturbed and therefore we don't kill our dipole and are able to use the energy provided by the electric field for free.

The spark gap oscillator

At first glance, the oscillator has similar features as the spark-gap transmitters (http://en.wikipedia.org/wiki/Spark-gap_transmitter) used in the first three decades of radio:

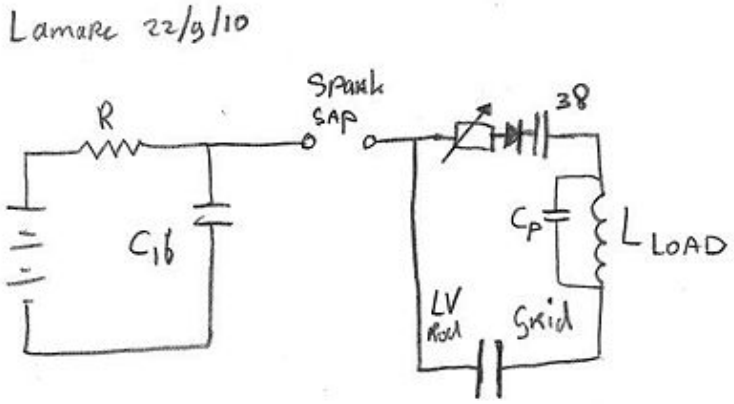


> *In its simplest form, a spark-gap transmitter consists of a spark gap connected across an oscillatory circuit consisting of a capacitor and an inductor in series or parallel. In a typical transmitter circuit, a high voltage source (shown in the schematic as a battery, but usually a high voltage transformer) charges a capacitor (C1 in figure) through a resistor until the spark gap discharges, then a pulse of current passes through the capacitor (C2 in figure).* ***The inductor and capacitor after the gap form a resonant circuit****.*

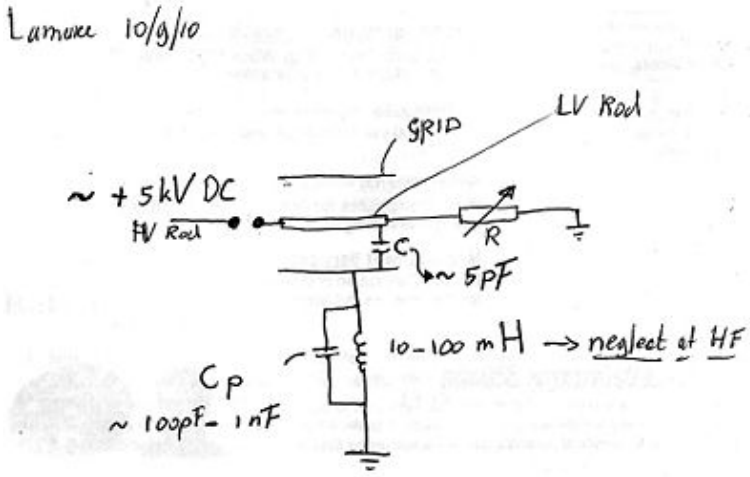
After being excited by the current pulse, the oscillation rapidly decays because energy is radiated from the antenna. Because of the rapid onset and decay of the oscillation, the RF pulse occupies a large band of frequencies.

The function of the spark gap is to present initially a high resistance to the circuit to allow the capacitor to charge. When the breakdown voltage of the gap is reached, it then presents a low resistance to the circuit causing the capacitor to discharge. The discharge through the conducting spark takes the form of a damped oscillation, at a frequency determined by the resonant frequency of the LC circuit.

Compare this with Gray's:



Grays CSET oscillator is not an LRC circuit. It's a nonlinear RC oscillator, which can only work because of the way a spark gap works:



In this picture you see the essential components involved with the oscillation. The oscillation frequency is very hard to determine or control, but is mainly determined by the RC time. The capacitance is dominated by capacitance between the LV rod and the Grid, while the resistance should be dominated by the (variable) resistor, the "resistive element", which is shown to be variable in Grays schematic shown above. When the spark gap breaks, the capacitor is charged within a very short period of time, something in the order of nano seconds. At that moment, there is no voltage difference between the HV and LV rods anymore, so the spark shuts off and the capacitor is discharged trough the resistor, until it reaches such a low voltage that the spark gap breaks again. The grid is connected to an inductive load, which also has some parasite capacitance, estimated somewhere between 100 pF and 1 nF for a power transformer, while the capacitance between the LV rod and the grid is estimated to be in the order of 1-10 pF.

For simplicity, I have drawn the variable resistor and the load inductor as being connected to ground. In the actual device, this is not the case, which means this system is extremely difficult to control and/or tune. The timing depends not only on the capacitance between the LV rod and the grid, but also on the parasite capacitance of the load, for example. It also depends on the discharge circuitry behind the variable resistor, which is also very

complicated. So, to make a long story short: this is a nightmare to tune and/or control in the way this has been done. No wonder so far most people that studied this concluded that the CSET did not work. Well, it does work in theory, but getting this to work in practice is very challenging indeed.

Stanley Meyer

Aaron Murakami posted (http://www.energeticforum.com/renewable-energy/972-stan-meyer-bifilar-chokes.html#post7449) the schematics Meyer used along with some comments. The schematics come from Meyer's Water Fuel Cell Technical Brief (http://www.tuks.nl/pdf/Reference_Material/stan-meyer-water-fuel-cell-technical-brief.pdf) .

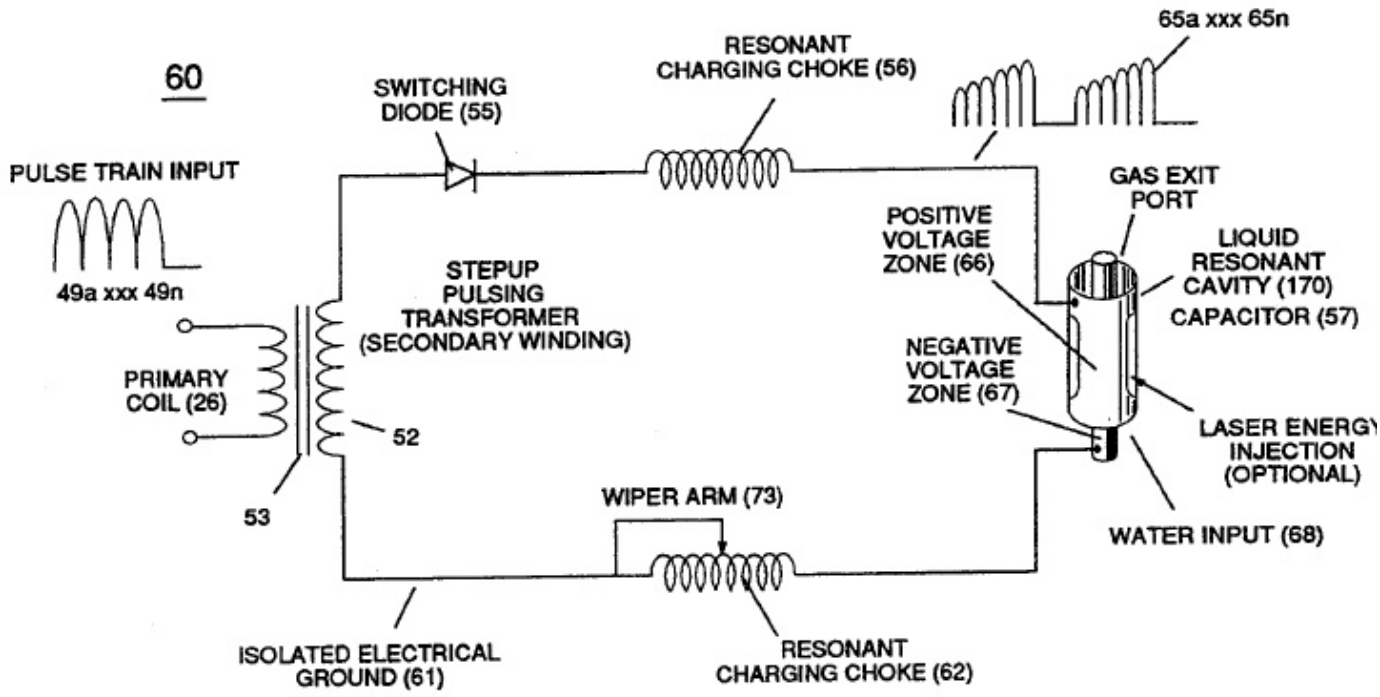


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

This is the basic schematic Meyer used. We immediately see the similarities with Puharichs schematics, both use two coils in series with their WFC. While Puharich had his rectifier inside his WFC, Meyer used a single rectifier diode, which makes it a half wave rectifier. An interesting detail is what Meyer calls "capacitance charging effect", shown in the above picture as the wave form in the upper right, and in the following figure he shows how to model this in electrical components:

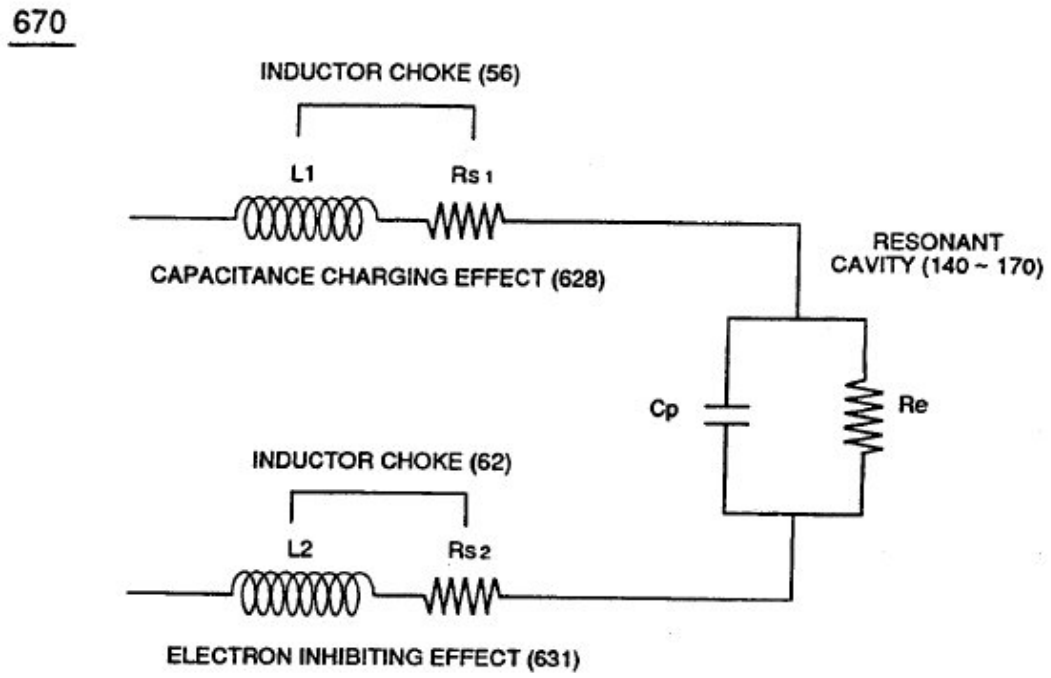


FIGURE 7-6: RESONANT VOLTAGE EFFECT

From this, we can deduce that Meyer was using tubes with a dielectric layer just like in electrolytic capacitors, so his WFC can be considered to be an electrolytic capacitor indeed. Given that he observed this capacitor charging effect, it is hard to imagine he was driving his WFC using high currents, because if that were the case, the dielectric layers would have to breakdown and therefore you would not get this capacitor charging effect.

Another interesting detail is how Stan configured his "resonant chokes":

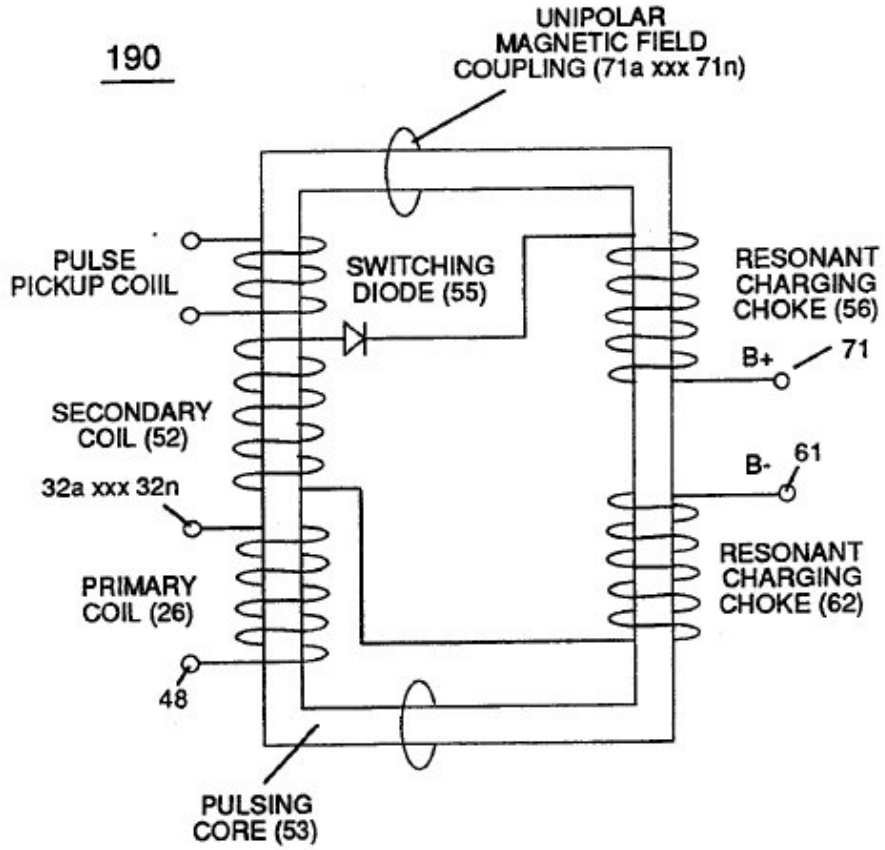


FIGURE 3-23 : PULSING CORE CONFIGURATION

Aaron's comment on this picture:

> *choke #56 is drawn incorrectly - they are wrapped in the same direction. I'll get to that later.*

I don't think that is necessarily the case, though. Both are wrapped around a single core and in resonance, but the core shape in figure 3-23 is completely different then in the following figure:

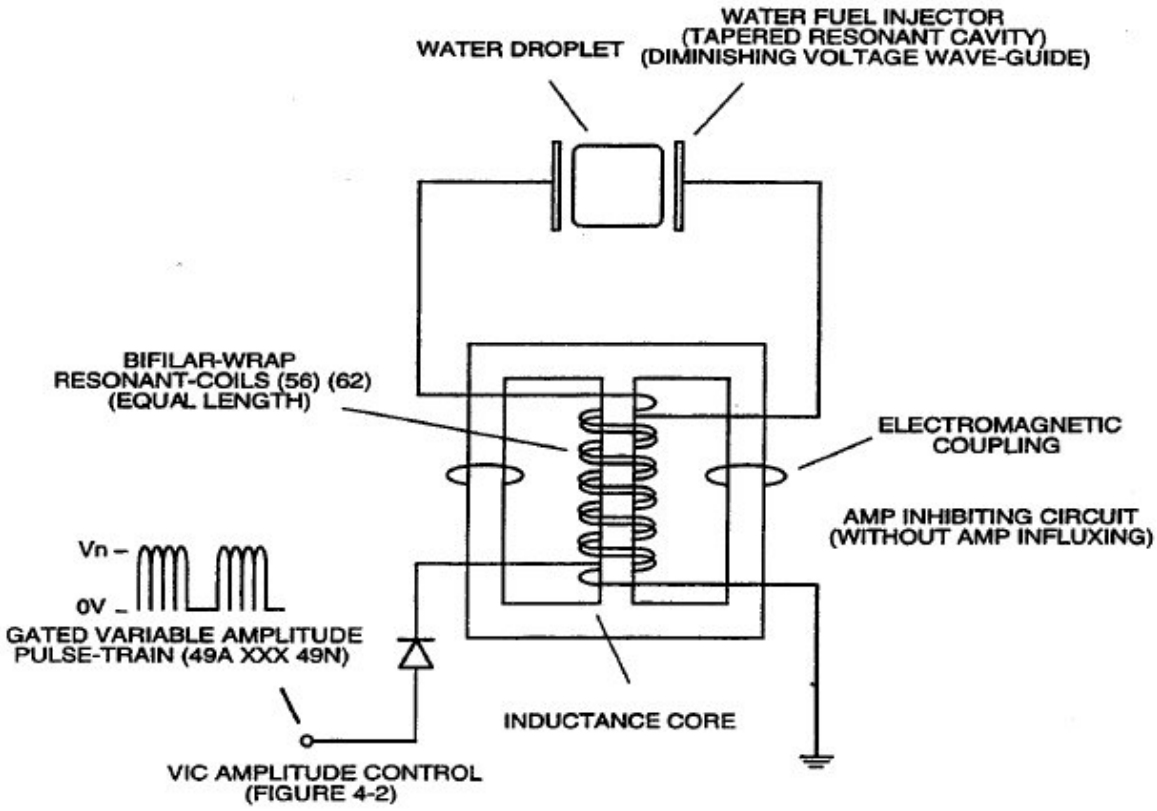


FIGURE 10-3B:VIC BIFILAR-WRAP ASS'Y

So, you really can't compare the two cores. At first sight, the upper picture appears to be hard to control. At least, I don't really know how/if there are standing waves inside the core too, and if so, how the phase inside the core will be. Note that figure 10-3b is from his injector, which suggests in a later development Stan decided to use a separate core for the resonant chokes, which is much easier to control.

Given the way Stan shows how he drives his chokes, out of phase, the fact that they are bifilar wound, and the very strong indication that he was driving his WFC with high voltage, low current one can hardly conclude anything other than that his resonant chokes must each have been resonating in half wave resonance. And since they are completely out of phase, you get zero current at the WFC side, while getting maximum voltage across your WFC. With this configuration, the dielectric layers on the tubes much be such that they can withstand the maximum voltage produced by the coils in resonance.

Conclusions

Based on my analysis of the systems built and demonstrated by Gray, Meyer and Puharich, I came to the conclusion that the basic principle is that you decouple load circuitry from driving circuitry in an unusual way, using a rectified carrier wave. By making sure that any frequencies the load circuitry may create are much lower than the carrier frequency, you separate the frequency bands wherein driving circuit and load circuitry are operating. Once you have done that, you can use a simple high pass filter to completely decouple load circuitry from driving circuitry in that sense that virtually no current goes back and forth between driving circuitry and load circuitry. So it's in essence **a separation in the frequency domain** combined with **a high-pass filter** trough which only the HF electric field from the carrier wave can pass. No charge carriers are actually exchanged between driving circuitry and load circuitry.

The basic theory for this is Tom Bearden's "don't kill the dipole" as described in this article. Basic conclusion of that: the electric field comes for free. Potential (voltage) comes for free as long as you don't influence the charge carriers that create your dipole, your voltage source. In the analysed systems, they all excite two inductive loads

in series. Gray excited both terminals of the load train in phase, while Puharich and Meyer did this out of phase. This explains why Gray most likely used bifilar wound coils. To understand the basic principle, it is perhaps best to think in the line I have been following towards the solution of this mistery, which is as follows.

When you resonate an open coil in full wave resonance, you get high voltage, zero current at the terminals, in phase. So there you have the basic connection to using the voltage source for free, but you have to figure out a way to do that without disturbing the charge carriers that give you the voltage source.

With a single coil, the current stays inside the coil, so you can't use that. So, when you split the coil into two, you get the current in the middle for free, provided you don't disturb your voltage source, your driving circuit. So normally, when you use the current, you will disturb the resonance, which will eventually also disturb your driving circuit (because it is somehow coupled with it), so you still have to provide current to keep the system in resonance and pay the price.

And here's the trick: the driving signal is delivered to the coil on top of a half rectified carrier wave, which is fed into the circuit trough a high pass filter. Because the carrier is half rectified, you basically "touch" the coils into one direction, so you don't get any HF in there.

That way, you get the current and the power, but the disturbances caused by using the power, cannot reach the driving circuit, because of the high pass filter! And then you finally got what you want. You can use your voltage source, without disturbing it, so then you don't have to pay the price.

Once you have that clear, you can also imagine that you can drive this principle much further. As long as you make sure you have a proper decoupling between driving circuitry and load circuitry, you can most likely get by without driving the load train into resonance after all. At this moment, this still has to be experimentally verified.

If you would want do go beyond what these three did, the final trick would be to drive two identical loads in opposite phase, so the whole system is perfectly in balance and in resonance.

Latest developments, to be incorporated

I have uploaded the pdfs with my sketches as well as the summaries of my posts kindly provided by Slovenia to: http://www.tuks.nl/pdf/ You can also find lots of reference material there, like patents and the excellent work of Eric Dollard. And there is an audio library I got my hands on some time ago, which contains a.o. interviews with Andrija Puharich, Royal Rife, John Bedini and Tom Bearden: http://www.tuks.nl/audio /Open_Mind_with_Bill_Jenkins/

http://www.energeticforum.com/renewable-energy/6227-stan-meyers-secret-preventing-electrolysis-5.html#post109013 So the key concept to understand here is that you get the energy for free using the trick with the rectified carrier wave and the high pass filter. Coming to think of it, I don't think that really puts any restrictions on the kinds of signals you can feed into the system on top of the carrier wave! (provided the frequency of your carrier wave is high enough.)

So, you can basically tinker with the low frequency signal that is being modulated on top of the carrier wave all you like. I think that won't change a thing in terms of the price you have to pay for the energy, but I'm not 100% sure on that.

Since we now really understand the trick, it seems that you can also get away with driving other inductive loads in various configurations this way. Your mileage may vary, but the basic trick definately has a lot of potential. (pun intended)

http://www.energeticforum.com/renewable-energy/3235-gray-tube-replication-69.html#post109152 So, the most basic trick is to use a HF half-wave rectified carrier wave (which can be HF spikes as Gray did) on top of which

you have the signal that energizes the inductive load (as done by Puharich most elegantly, but can be a "block" wave as Meyer and Grey did), *trough* a high pass filter. The filter makes sure that any LF junk created by the load cannot disturb your voltage source. And then you don't have to pay the price.

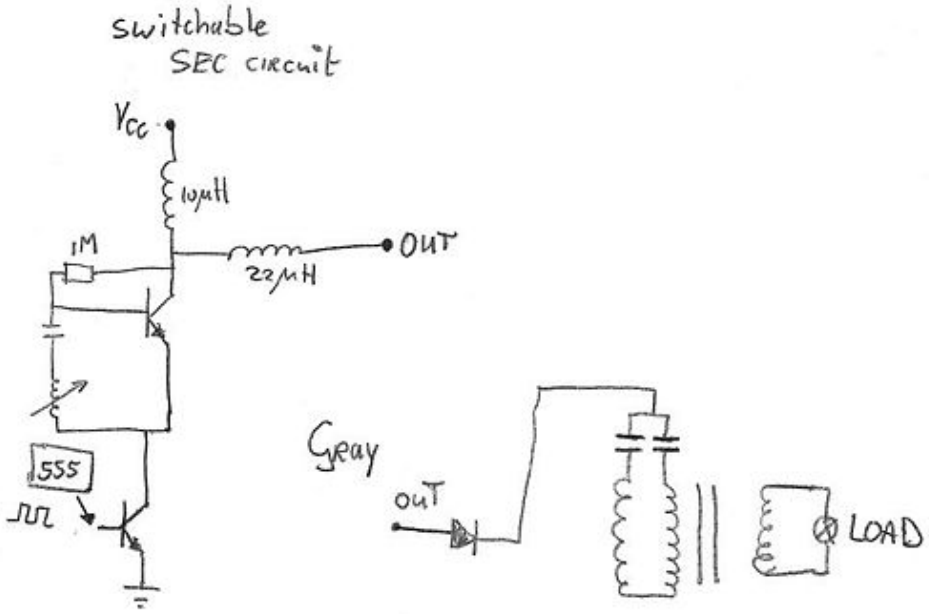
Switchable SEC circuit

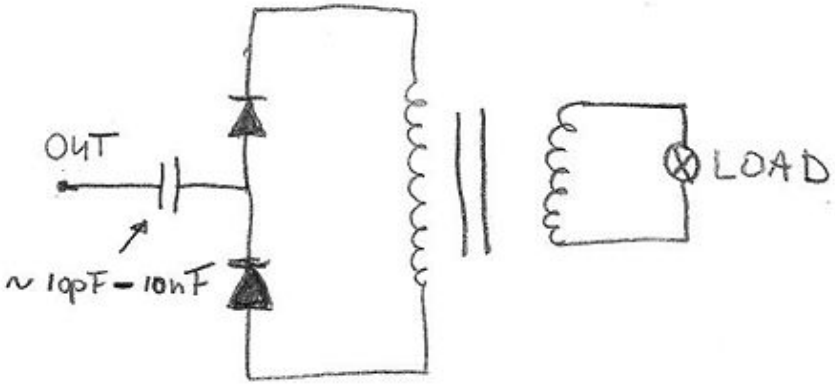
http://www.energeticforum.com/renewable-energy/6227-stan-meyers-secret-preventing-electrolysis-6.html I'm beginning to think that you don't have to drive the load train in resonance, but you need the zero current, so you do need an inductive load train.

As long as the frequency of the rectified carrier wave is high enough and you use a high pass filter, then you should be able to drive the load with any signal you like.

But have to give this more thought.

What would happen if you would take Doc's SEC circuit, switch that on/off at 50 Hz and drive the HV primary of a tf with that, trough a couple cap and an AV plug?





http://www.energeticforum.com/renewable-energy/6227-stan-meyers-secret-preventing-electrolysis-6.html#post109533 There are multiple versions [of Dr. Stifflers SEC circuit], this one needs an adjustable coil. IIRC, there is also one which does not need that and is tuned with a variable cap. So, based on this one, you find the schematic attached which I had in mind. I didn't draw all the decoupling caps, etc. but you get the idea. Just switch it on and off using a 555 timer or something like that. If this SEC circuit starts fast enough, I think this should work.

I also drew a comparison with what Gray was more or less doing, so you can see the similarities. If I finally understand this right, with Gray's stuff, you would need a bifilar wound coil or two identical coils in series (as you see with Meyer and Puharich, but for different reasons), because he drives both terminals in phase. With an AV plug, you should not need a bifilar wound primary, so this should work.

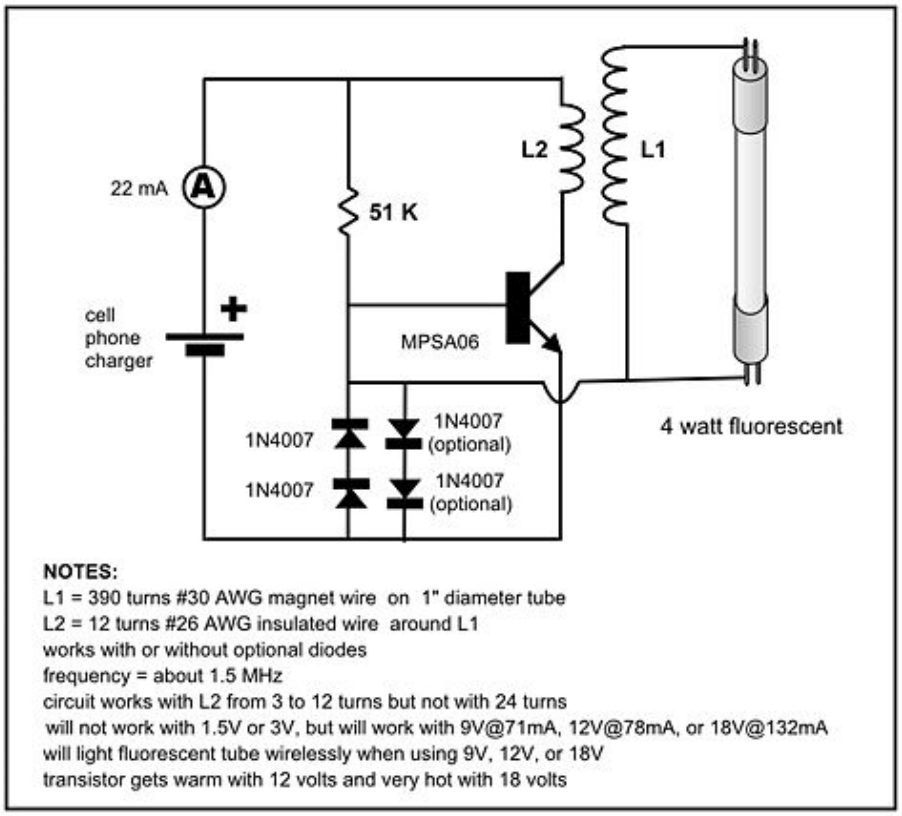
Gray used a spark gap oscillator and this is also an oscillator, but one that is much easier to build, tune and control. And because of the ultra wide bandwidth of Doc's circuit, this is about as close as you can get to a real spark gap oscillator with modern electronics.

I have drawn the couple cap before the AV plug, but it may be that you need two couple caps and place them after the AV plug, more or less as I have shown with the Gray equivalent.

So, it will be interesting to experiment with this circuit and make your own variations. It is very similar to what Gray did and with this we will at least get some answers to some of the questions that remain. And with a bit of luck, we hit the jackpot straight away.

Slayers circuit

The following schematic has been posted by Slayer and shows a similar exciter circuit:



Slayer exciter test (MPSA06)

http://www.energeticforum.com/renewable-energy/3235-gray-tube-replication-69.html#post109690 When you talk about driving an ordinary power transformer as used in power supplies from an exciter circuit, you are talking about inductances that differ by orders of magnitude, because of the magnetic core used in power transformers. In

your SEC circuit and similar devices, we are talking in micro Henries, where in power transformers you are talking in milli Henries.

So, as far as I can tell, when you drive a power transformer from a SEC circuit trough a couple cap and an AV plug (half wave rectifier) you can neglect the inductance of the power transformer in the frequency range your exciter operates. But it *does* have its parasite self capacitance and that one we have to take into account.

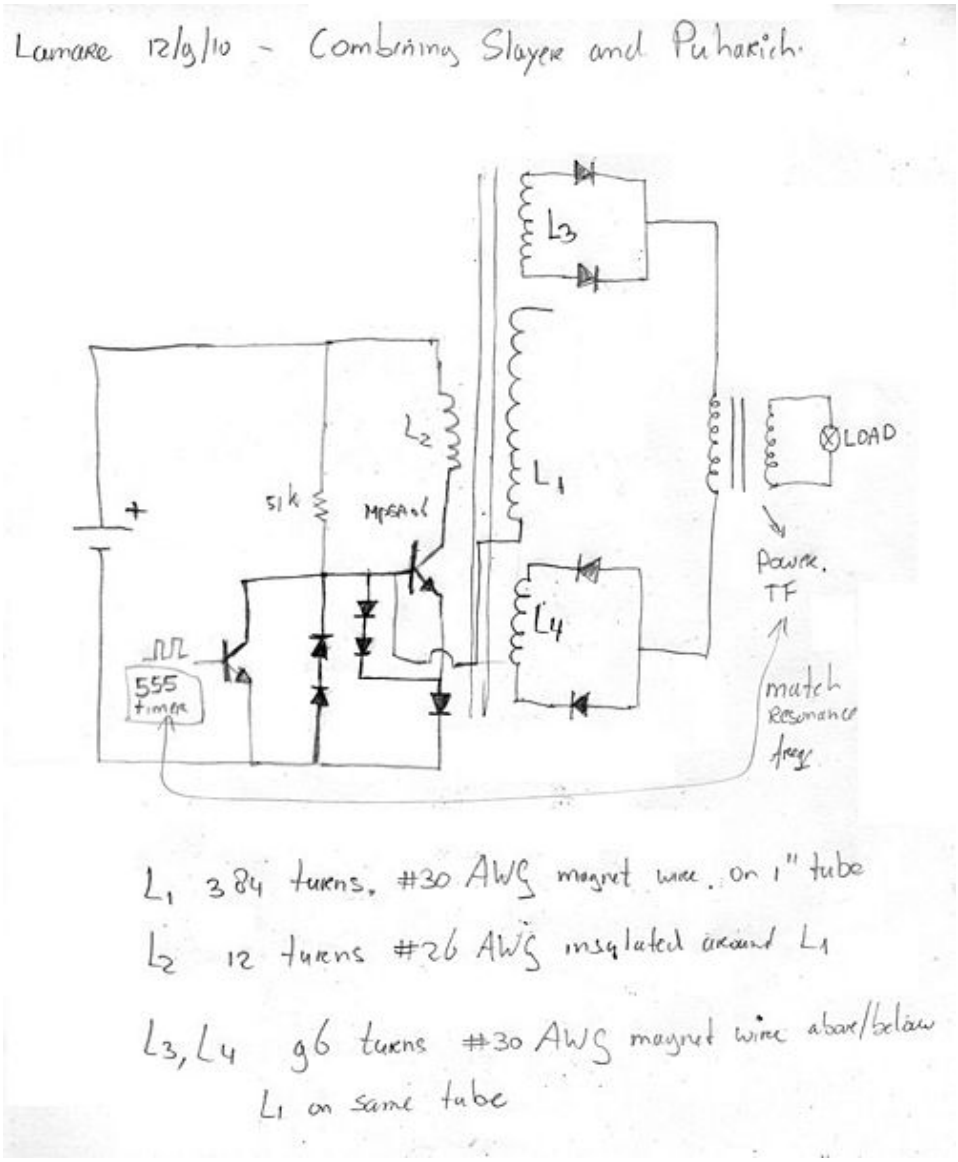
If I assume the power transformer has some kind of virtual ground, then the resonance frequency of your exciter will no longer be determined only by the parasite capacitance of your driving coil, but you get the combination of your couple cap and the parasite capacitance of the power transformer you're driving (which are in series to one another) more or less in parallel to the parasite capacitance of your driving coil. So, you get a bigger capacitance and therefore the resonance frequency of the whole will be lower than that of a naked exciter.

I hope you understand what I'm trying to say, because the details are not clear to me. I see you have to take the parasite capacitance of the transformer into account for determining the value of your couple capacitor, but I can't say how you should model the parasite capacitance of the power transformer, because I don't know how to account for the diodes and/or any virtual ground that I think comes into the equation somewhere.

So what you want to do in essence is charge the parasite capacitance of the primary of your power transformer as efficiently as possible, keep it charged for a while and let the transformer do it's thing, then switch off the exciter and let the transformer do it's thing for a while again. And then start the whole exercise again....

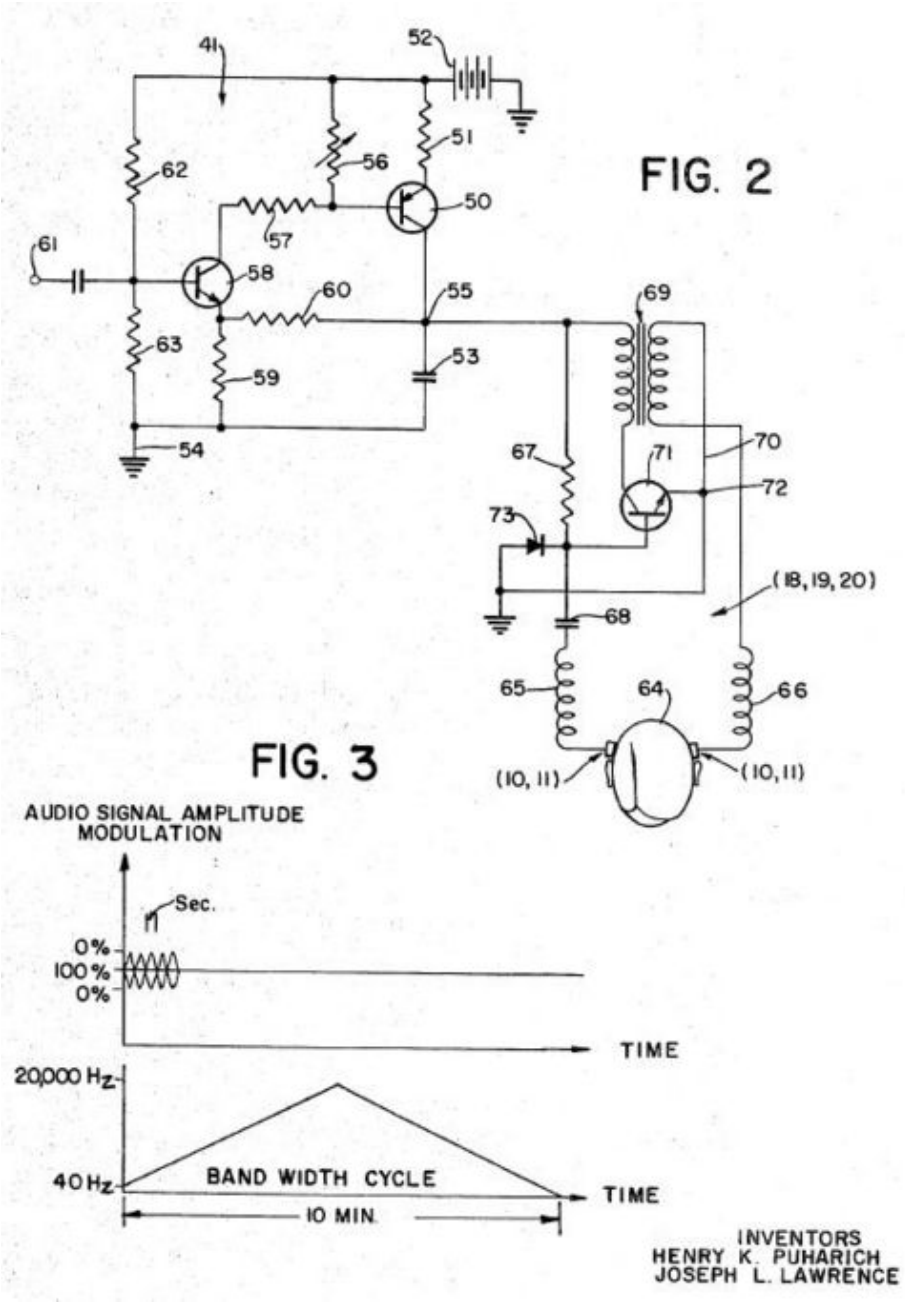
Combining Slayer and Puharich

The following schematic shows another possible combination of an exciter circuit with what Puharich was doing:



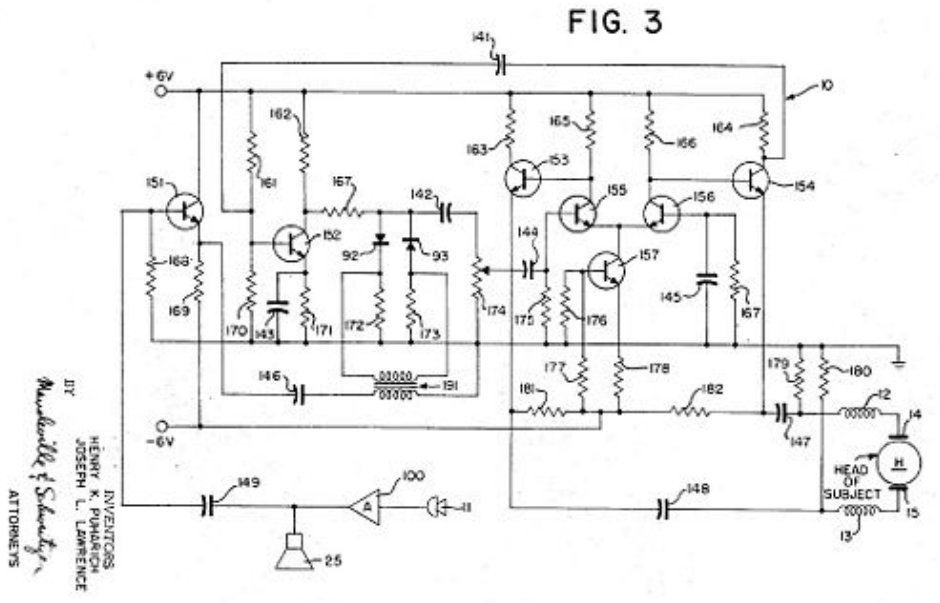
The question that remains is wether or not you have to drive the power transformer in resonance, or that you can get results without doing that. In the latter case, probably a high pass filter is needed.

If we compare this with Puharich's schematic from his AM modulator in his patent US3563246 (http://www.tuks.nl/pdf/Patents/Puharich/US3563246A.pdf) , we immediately see the similarities. The modulator at the right side of the schematic around transistor 71 is virtually the same as Slayer's circuit:

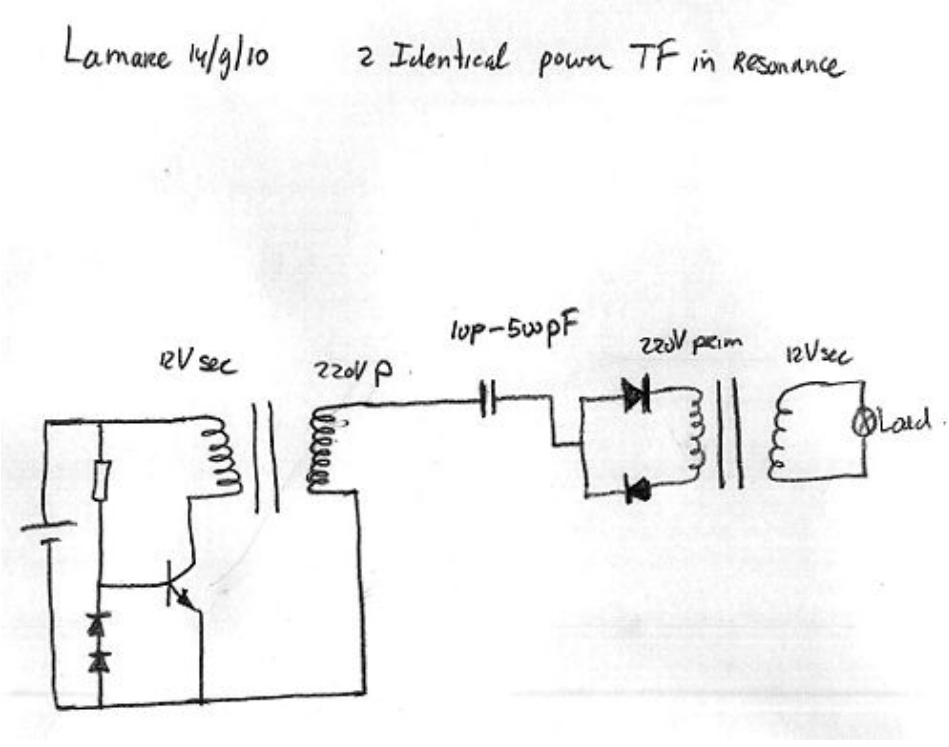


The values for the various components can be found in the patent.

For completeness, the circuit described by Puharich in his patent US3629521 (http://www.tuks.nl/pdf/Patents/Puharich/US3629521A.pdf) as "A circuit arrangement of a transdermal transmitter having a balanced output and 'automatic carrier frequency control'":



The following schematic shows yet another possible variation of some of the above circuits. A combination of a low frequency exciter circuit with what Gray was doing:



The idea is to take two identical power transformers. The first one you drive just like is done in Slayer's circuit. Then, you use one open side of the high voltage coil to drive the second one into resonance, trough a high pass filter. Then you should get the power at the secondary of the second transformer for free, if you have the right harmonic resonance frequency in your transformers. I have drawn the connection of the high voltage coil of the first transformer to ground. Slayer connected that one to the base of the transistor. I don't know the reason for that, but it may be necessary to get the transformer in the desired resonance mode.

Update: Coming to think of it, you probably have to drive two identical transformers in series if you want to do this, so you need three identical transformers. You see, the driving transformer is in quarter wave resonance and

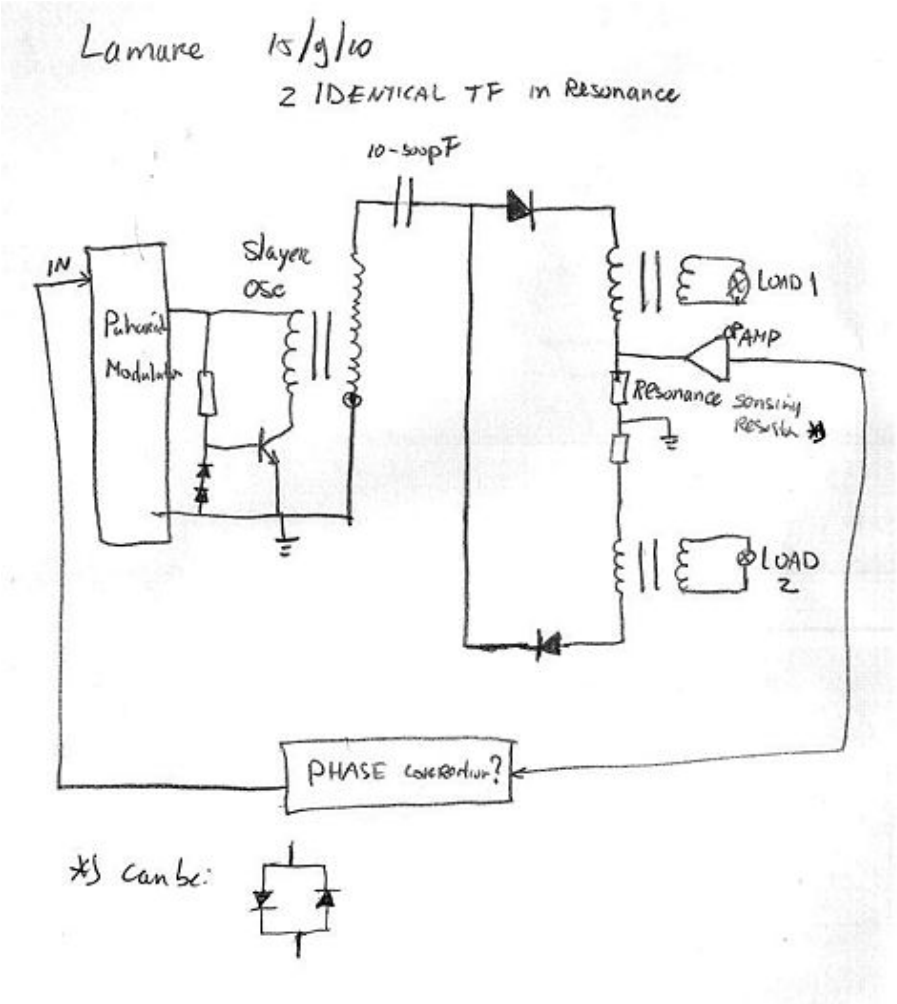
the load should be in half wave resonance. So, you would need two of the same transformers in series as load....

Update 2: I am not so certain about the requirement to drive 2 transformers anymore. It depends on wether or not the driving transformer is in half or quarter wave resonance. And that probably depends on how/where you connect the negative terminal of the secondary of the driving coil. So, some experimentation will have to be done to determine the details.

Update 3: A feedback loop is required in order to steer the transistor. See #Canaries_saving_the_day

Driving two identical transformers combining Slayer and Puharich

When we combine all the pieces, then we can come up with the following principal schematic:



As can be seen in Puharichs modulator schematic, his oscillator is virtually the same as Slayers. So, it should be a piece of cake to use Puharichs modulator schematic in combination with Slayers oscillator. So, then we have an exciter that produces a carrier wave in the MHz, which can be modulated. As can be seen in Puharichs block diagram, you can use this modulator to get a load into resonance at its own resonance frequency, which is independent of the carrier wave frequency. All we need for that is a feedback signal. This can be had easily using a "resonance sensing resistor" as done by Puharich, but I think these can also be 2 sets of diodes, so you only loose 0.6 V across your sensor. If you want to achieve half wave resonance of the coils, you also may want to consider using capacitors instead of a resistor or diodes.

This feedback signal has to be fed into to modulator, with the right phase. I have drawn an opamp for amplification, but of course this can also be a simple transistor amplifier circuit. Puharichs schematic suggests it already has the right phase, but it may be necessary to correct for that, also depending on your amplification circuitry and the desired resonance mode (see below). So, some more details have to be filled in, but as far as I

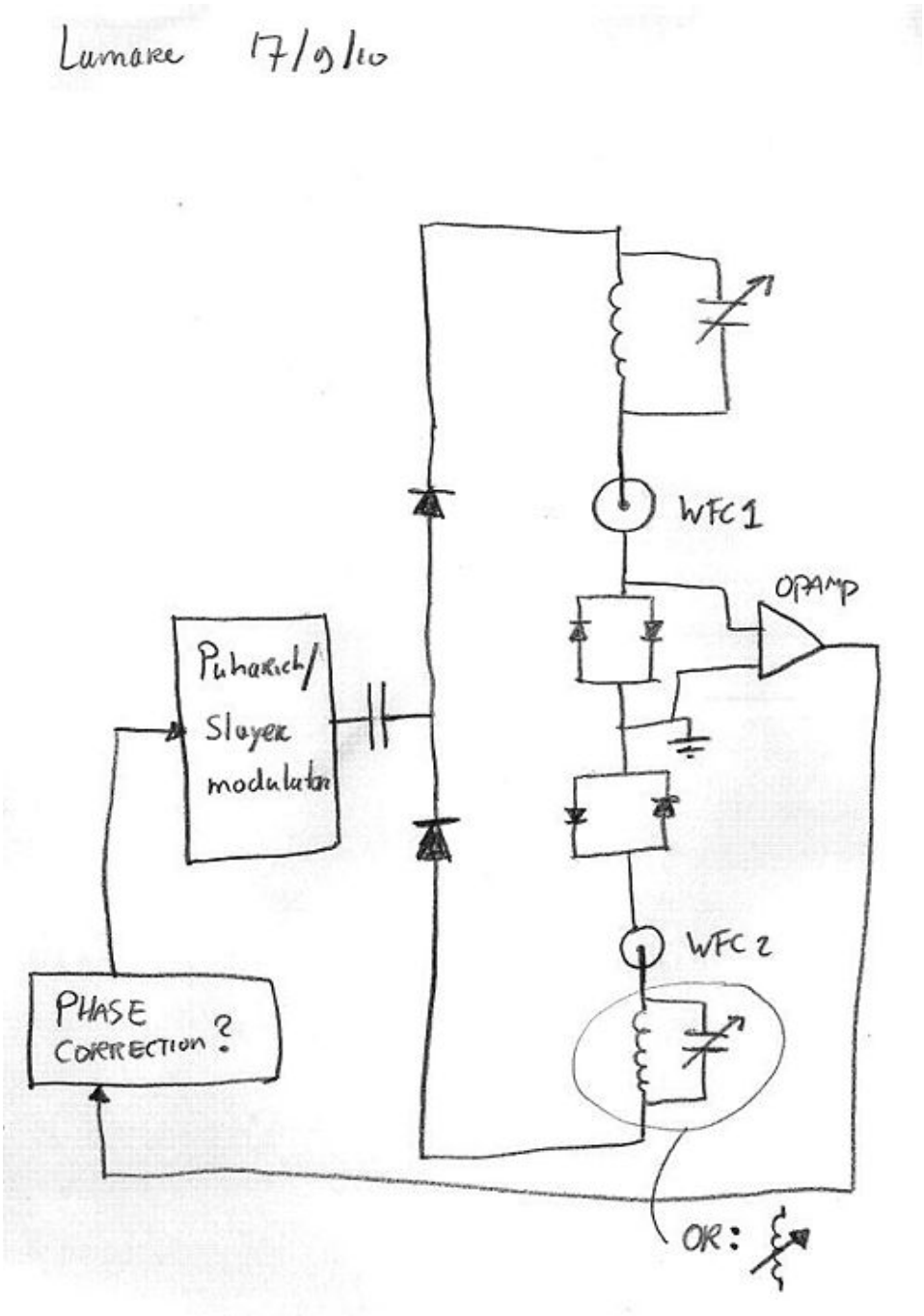
can tell, this should work in principle.

Note that I drew the opamp the wrong way around...

Update: A feedback loop is required in order to steer the transistor. See #Canaries_saving_the_day

Driving two identical WFCs combining Slayer and Puharich

If we apply the same line of thinking to the question of how to drive a WFC most effectively, we would get this:



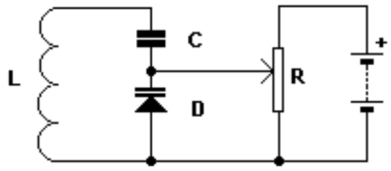
Since the WFC should be considered as being a resonant cavity, in Meyers words, we should match the resonance frequency of the driving coils to the resonance frequency of the WFCs we want to drive. Since we want to drive the whole thing from the electric field, without having to provide current ourselves, we have to make sure everthing is in balance and therefore we have to drive two identical loads out of phase, such that we can tap a signal somewhere that we can use to maintain the resonance in the WFCs with trough a feedback circuit, basically as Puharich did.

With this principal schematic, you can choose what kind of signal you want to feed your WFCs with. If you want

to drive them with current, then you have to make sure your driving coils are in quarter wave resonance. If you want to drive them with voltage, you have to make sure your driving coils are in half wave resonance.

And if you want to go more advanced, you can tune the resonance of your driving coils using voltage controlled varicaps, like this:

http://www.hobbyprojects.com/the_diode/varicap_diode.html



Controlling the resonance mode of the driving coils

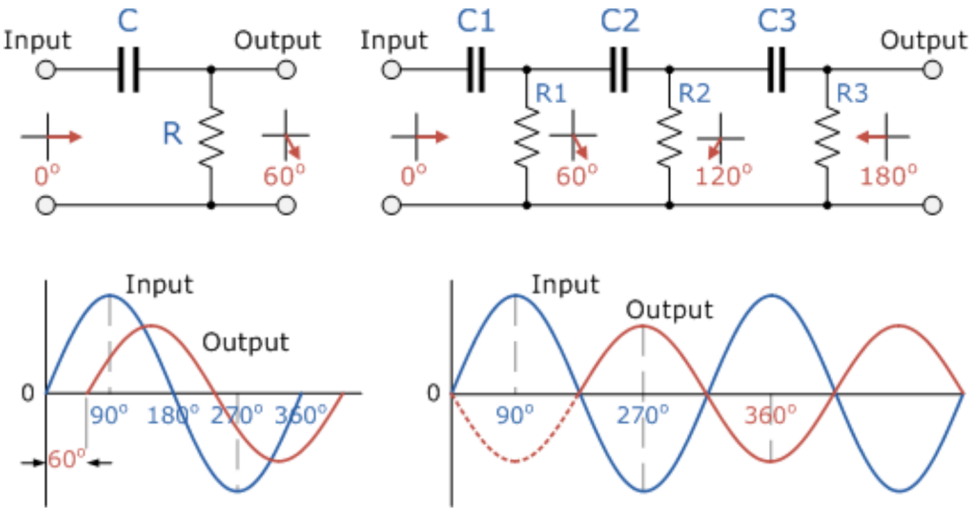
I have stated above that you can choose what kind of signal to feed your WFCs with by controlling the resonance mode of your driving coils. Quarter wave resonance (with respect to one coil) gives you low voltage, high current in the middle, half wave resonance gives you high voltage, low current in the middle. But how can you control this?

The answer to that question lies in the phase difference between voltage and current going trough a coil. There is a 90 degree phase shift between the voltage and the current. And it is that difference you can use to control the resonance mode of the driving coils, simply by making sure the resonance mode you want has a 360 degree phase shift all around the feedback loop, as explained here: http://www.electronics-tutorials.ws/oscillator /rc_oscillator.html

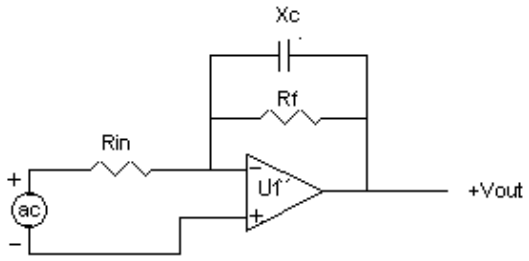
For an oscillator to oscillate sufficient feedback of the correct phase, ie "Positive Feedback" must be provided with the amplifier being used as an inverting stage to achieve this. In a RC Oscillator the input is shifted 180o through the amplifier stage and 180o again through a second inverting stage giving us "180o + 180o = 360o" of phase shift which is the same as 0o thereby giving us the required positive feedback.

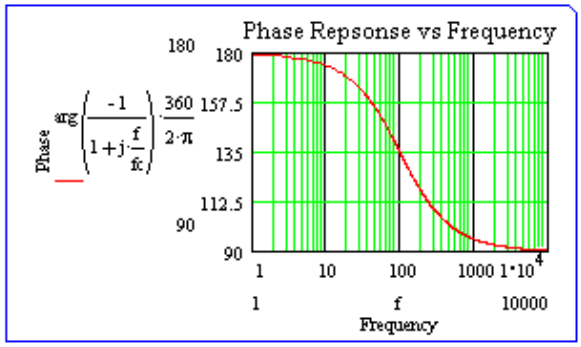
In a Resistance-Capacitance Oscillator or simply an RC Oscillator, we make use of the fact that a phase shift occurs between the input to a RC network and the output from the same network. for example.

RC Phase-Shift Network



The phase shift network can also be implemented active, as explained here: http://webpages.charter.net/wa1sov /technical/allpass/allpass.html





[2] $$H_f = \frac{-K}{1 + j\frac{f}{fc}} \qquad \phi = -\tan^{-1}\frac{f}{fc}$$ [2]

and $$K = \frac{G}{1 + G\frac{Rin}{Rf}}$$ G >> 1

where: G is the open loop gain of the Operational Amplifier U1
And the Gain Bandwidth product (GBW) is sufficiently large not to distort the signal at audio frequencies (> 1MHz)

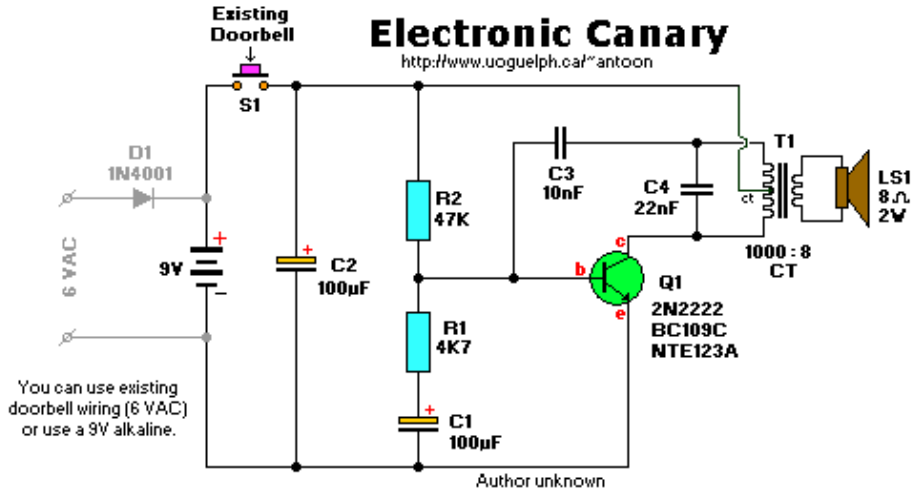
Canaries saving the day

Over at YouTube, there is a very interesting video showing a schematic with similar characteristics as the circuits described here:

http://www.youtube.com/watch?v=GtKjKSUhuOw

As I posted at EF, I found a very interesting circuit simulating a canary: http://www.energeticforum.com /renewable-energy/6521-dont-kill-dipole-8.html#post113646

http://www.sentex.ca/~mec1995/circ/canary.html



This actually comes very close to the schematic schown in the above YT video. Just remove C1 and you have the same circuit in principle, except for the secondary where the loudspeaker is connected to and the loads.

The oscillation is determined by the transformer as well as C4, where C3 is just the feedback loop to steer your transistor with. The interesting detail with this circuit is that the power supply is attached to the central connection of the primary of the transformer. Since the upper and lower half of the primary is one coil, the current going trough the coil is equal in the upper and the lower half of the primary. So, virtually all current going trough the coil has only one place to go: C4 and thus cannot reach the power supply and therefore no killing of the dipole.

So, IMHO this is a very interesting circuit to play with. If you leave C1 out, you should be able to grab more power out of the secondary then you need to put in in order to keep the oscillation going.

What this circuit also shows is how to implement the feedback loop, which is what is missing in some of the circuits in other parts of this article.

About tuning of tubes of WFC

http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-3.html#post110313

I'm not buying into this tuning stuff at all. The minute you glue the tubes into the vessel, any previously individual resonant frequencies become irrelevant as the tubes then become part of a larger whole. It makes little sense to me.

Let's see what we can say about this.

If you look at what Meyer and Puharich did, then from an EE point of view, they have their load in between two coils, which are most likely resonating. But resonating such that the overall resonance, which would be over the whole load train (coil 1 - WFC - coil 2), is such that you have high voltage, low current at the driving terminals of your coils. And that would be so called half or full wave resonance.

Now if you can consider your WFC to be a nice linear capacitor, then you would basically have a simple LC oscillator with a single resonance frequency. But if your WFC is not a nice linear capacitor, like when you have ions moving back and forth, you get interference patterns between what we might call the "LC" resonances and the resonances in your electrolyte, whatever those may be. The problem is that these resonances in your electrolyte, insofar electrically relevant (ions), also end up in your coils. Whenever you mix two waves of different frequencies, you end up with the so called "differential frequencies" or "beats" as the are called in acoustics.

This principle is used all over in radio and signal processing and is called heterodyne (http://en.wikipedia.org /wiki/Heterodyne) :

In radio and signal processing, heterodyning is the generation of new frequencies by mixing (multiplying), two oscillating waveforms. It is useful for placing information of interest into a useful frequency range following modulation or prior to demodulation. The ***two frequencies are mixed*** *in a vacuum tube, transistor, diode, or other signal processing device.* ***Mixing two frequencies creates two new frequencies****, according to the properties of the sine function;* ***one is the sum of the two frequencies mixed, the other is their difference****. These new frequencies are called heterodynes. Typically only one of the new frequencies is desired—the higher one after modulation and the lower one after demodulation. The other signal is filtered out of the output of the mixer.*

So, if we can assume that whatever resonances are taking place in the WFC generate electrical signals, because there are ions in the electrolyte if the electrolysis is basically Faraday-like, then you get these differential frequencies in your coils as electrical disturbances. And it is these disturbances that eventually reach your driving circuit if you don't do anything to prevent that. And that means you don't have your nice "high voltage, zero current" situation at the terminals of your coils anymore and you will have to pay for that.

As far as I can tell, there are two ways to prevent these unwanted and expensive disturbances to reach your driving circuit:

1. Use a high-pass filter, as I explain in my article.

2. Match the resonances in your WFC to the resonances in your driving coils, so they resonate all at one and the same frequency (or at least harmonic to one another). Then you don't get these "beat" frequencies and so you don't have to pay the price of having your dipole, your voltage source, killed by the beat....

IMHO, option 2 would be the hard way to do this....

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Turns out you have to consider a WFC also as an electrical component, capable of resonating. The dielectric layers on the tubes, which are always there, form non-linear capacitors between the tubes and the fluid, just as in an electrolytic capacitor. Depending on the voltage across these dielectric layers, you either get a short cut, so current going trough, or you get capacative coupling of the fluid with the metallic capacitor plates, the tubes.

http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-4.html#post110368

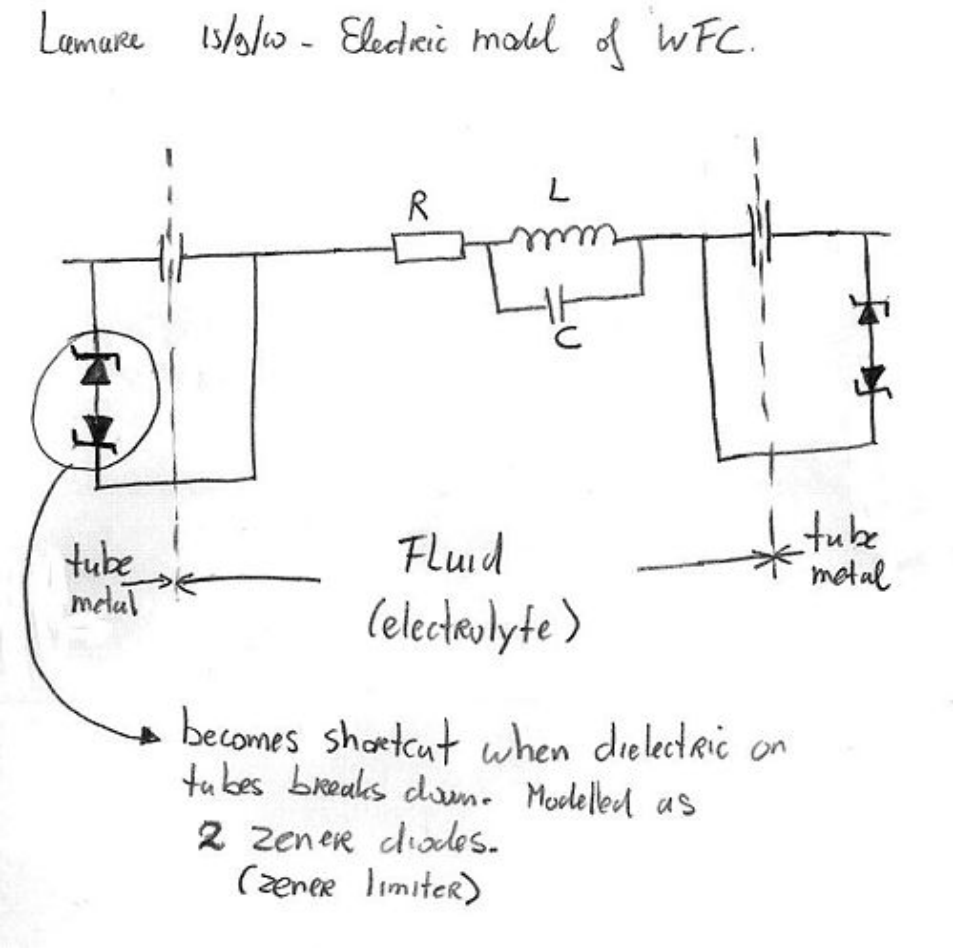
I have done some analysis of resonating coils some time ago, which you can find in my article. Now if you manage to get a higher harmonic standing wave in between your tubes, which would be both electric and acoustic, then you get the same current at the hot spots, but you only have to pay for the current at the hot spots at your tube surfaces. So, that way you can get a real power gain, power which is tapped from the electric field by the charge carriers in your fluid. The ones that don't reach your tubes....

The only question then is: is electrolysis possible with "in fluid" currents? I guess the answer is yes, cause otherwise this won't work....

http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-4.html#post110440

Farrah Day: *Look Lamare, you can't have it both ways here, either the dielectric oxide coating on the ss is breaking down at very low voltages - basically the voltage required to initiate electrolysis in the first place - and so not doing anything or it plays a part as a dielectric at higher voltages.*

This is how I think the WFC should be modelled in terms of electrical components:



On either sides, you have the capacitors between the fluid and the tube, because of the dielectric layer on the tubes. Now the characteristics of these capacitors depends mostly on the thickness of the layer. And these are non-linear capacitors. Below a certain voltage, depending on the thickness of the layer, they act as capacitors. Above that voltage, the dielectric breaks down and you get a shortcut. I have modelled this as a zener limiter (http://www.globalspec.com/LearnMore/Semiconductors/Discrete/Diodes/Zener_Diodes) :

Zener limiters are constructed with two opposing zener diodes. Each individual diode can limit one side of a sinusoidal waveform to Zener voltage while keeping the other side near zero. When the two opposing Zener diodes are paired, the waveform is limited to Zener voltage on both polarities.

So, you can actually have it both ways! And, more importantly, you have to make sure you use the one you want!!!

When you are talking about electric (or electromagnetic) resonance, electric standing waves, there is a very interesting relation between current and voltage, or field. At the hot spots in the current, the field or voltage has a dead point and vica versa.

You can see the difference when resonating a coil. When you drive a current trough the coil by making a tap somewhere, you drive the coil as if it were "closed" and you get a **current hot spot** at your terminal. When you drive the coil using high voltage taken of an *open* resonating coil, you get a **voltage hot spot** at your terminal.

So, depending on how you drive your WFC, you either drive it with low voltage, high current to get the resonance such that you deliver the current, or you drive it with high voltage, low current and you get the same resonance, only with a different phase, so you don't deliver the current yourself.

http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-4.html#post110465

Capacitors also act as high pass filters. So, at higher frequencies they act as shortcuts. That is the effect Gray was using, and Meyer as well. So, I was wrong in that Meyer and Puharich should have used couple capacitors. They did, they just were at a place where I didn't see them.

Now things really start to make sense in this part, too. It appears that wat Fast Freddy is doing, is force a current trough his WFC because the dielectric on his tubes breaks. That explains why his tubes detoriorate, because the protection the dielectric provides works because no electrons can reach the metal inside, so the metal cannot oxidise.

So, if you want to get the fluid into resonance and want the electric field to power your WFC, you do want to use capacitative coupling and you do want to make sure your dielectric layer does not break down. So, on the one hand you want large capacitance between your tube and your fluid, and on the other hand you want the layer to be thick enough so it can withstand the voltages you torture it with.

In order to do that, aluminum would be a much better choice for your tubes as stainless steel, because with aluminum we know how to grow dielectric layers with just the right properties. You can grow them electrolytically in a bath with soda, just like when you make an electrolytic capacitor. Only in this case, you want a relatively thick layer on both tubes, so you would grow the layers using AC instead of DC. And if you use the circuitry you intend to use to drive your WFC with, the layer will automagically grow until the optimal thickness is reached...

See the exercise with the soda rectifier over here: Borax or Baking Soda Rectifier and the glow (http://home.earthlink.net/~lenyr/borax.htm) .

http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-6.html#post111121

Dave found the BEST gas production at the VERY SAME frequency that just so happens to be where his tubes

resonate ACOUSTICALLY IN WATER ... HMMM... Maybe it is nothing at all but a coincidence, but maybe there is just something to it.....

OF COURSE!!

The pipes are just like the pipes in an organ, for example. The walls are stiff, because of the metal, so you can't get accoustic resonance perpendicular with respect to the tube walls. The resonance has only one way to go and that is in the length of the pipes. And the way to keep it going is by exciting it electrically, meanwhile providing power extracted from the electric field.

http://www.energeticforum.com/renewable-energy/6235-future-energy-hydroxy-cell-6.html#post111131

Hmm. This is not entirely correct. You can have resonance in both directions, but the resonance frequencies in the length direction of the pipes are much lower then the frequencies between the pipes, because of the difference in distance the sound has to travel. This is analog to the difference between closed versus open cylinders:

http://en.wikipedia.org/wiki/Acoustic_resonance#Cylinders

Note that in this example, the tube is open or half open....

Both stiff walls and open ends are possible.....

Some more on coil resonance

http://www.energeticforum.com/renewable-energy/5009-discussion-re-physics-behind-negative-energy-systems-radiant-spikes.html#post75837

Let's look a bit deeper into resonating coils. As I stated before, Stifflers circuit resonates a coil at a multiple of its natural ground resonance frequency. Since the coil windings have a parasite capacitance towards one another, part of the electric energy, which is a wave, travels across these capacitances.

Usually, these parasite capacitors are only considered as a whole in order to calculate the natural ground resonance frequency of a coil. But they are very significant when we want to understand what happens with Stifflers circuit, the Joule Thief, Stanley Meyers stuff and all other resonating free energy coil systems.

I have been thinking about this for quite a while, but up to yesterday, I never understood what is actually happening inside a coil and wondered wether or not you could get the same effect by putting a bunch of caps in series and put those in resonance.

Then I realised that a coil wire is round and that the current, the electrons, actually travel across the surface of a wire. If we only consider the longitudinal component of the resonating waves along a coil, we are looking into the electrical wave traveling along the coil, perpendicular to the coil wires. In other words: we consider an electrical component that travels perpendicular to what we usually consider the direction of the currents going trough the wire.

I made some sketches which I have attached. The first page is just a rough sketch with some notes illustrating my line of thinking, but not much more.

If you take a look at the second pge, you see at the top-left two parts of coil windings, with at the top-right a model made up of capacitors, which is how you would usually think about these kind of things. If we consider the wire in the model connecting the different capacitors, and consider a current going trough there, you will have a magnetic field H curling around the wire.

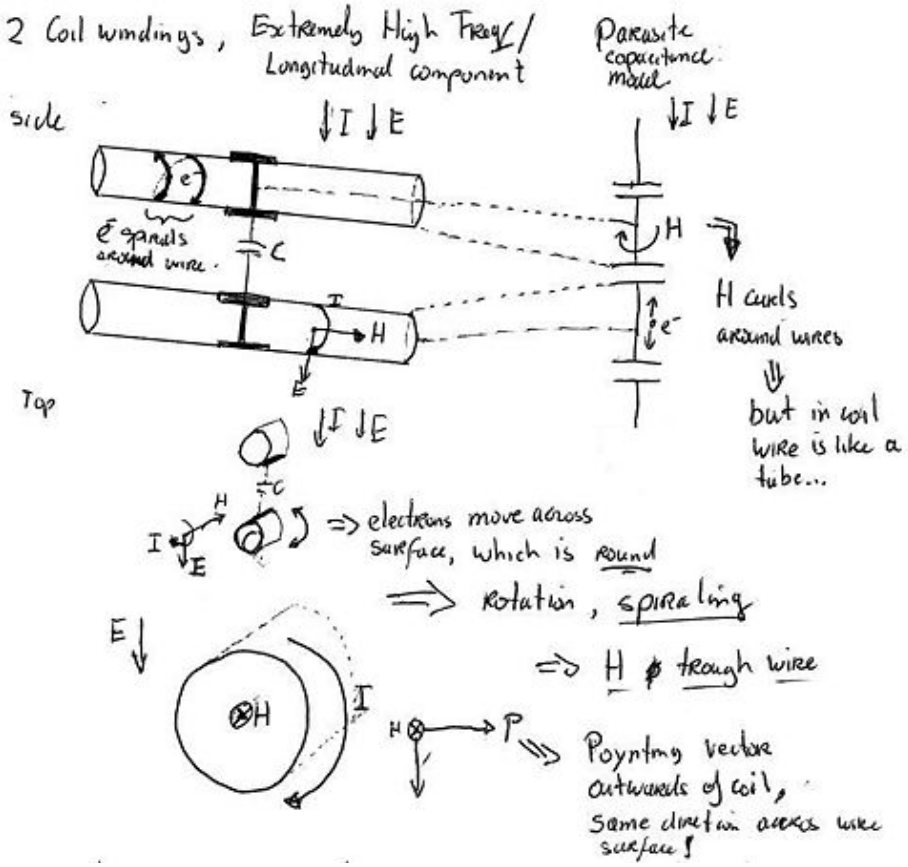
However, the real parasite capacitors at the surface of coil wires are not at all connected to one another with straight wires. It’s a round surface, so the electrons will make curves, spirals, moving between the “capacitor plates”. So, you won’t get a H field curling around, but you will get an H field in parallel with the coil wires!

When I made this second page, I assumed there would be a resulting current spiraling around the surface of the wire. Then I realised that there is actually no reason to assume this spiralling current to have any preference for a particular direction. In other words: half of the electrons traveling between the capacitor plates will go in one direction, the other half will go in the other direction. And that is very interesting, since we now have an electric field propagating between the coil windings, *without* a resulting magnetic field!!!

And, if there's no magnetic component, there's no Poynting vector, and therefore no radiation of energy…

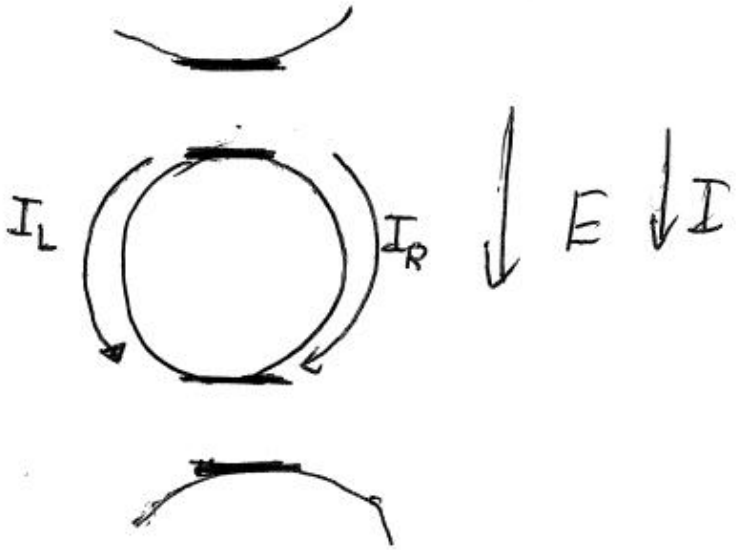
Very interesting, because this might give us some hints on how to make signal guides for longitudinal electric waves. One tends to think in the direction of putting several isolated wires in a row. Then, you would have the capacitive coupling to propagate the energy, while the spiralling currents prevent any magnetic component to spring up and radiate our precious energy away into outer space……

The sketches, page 2:



Conclusion: The longitudinal component of the wave across coil windings has the magnetic field component H in parallel with the wire, while the current moves perpendicular to the coil wire, across the surface. In order words: when f goes to infinity, the external supplied current goes to zero.

Page 3:



There is no reason to assume there is a difference between I_l and I_r. Probably 50% of the electrons go left, 50% go richt. So, H_left == H_right. Or: H_result == 0.

Conclusion: Because of the shape of the coil wires, a pure electrical wave is possible, without magnetic component and without et electrical current to feed in from the outsite.

- Transversal component requires external current to keep going
- Longitudinal component powers itself, delivers "pure" potential.

Also see: http://jnaudin.free.fr/html/lmdtem.htm

Extracts of some relevant discussions

- http://www.energeticforum.com/renewable-energy/5009-discussion-re-physics-behind-negative-energy-systems-radiant-spikes.html#post75378 (11-24-2009) - "So, it is the electric field that causes the charges to move (do work), while this same movement of charges (current) kills the very reason of it's existence: the field, or the potential on your battery or generator. If you could somehow use the potential of any dipole without killing it, you could get an infinite energy source. In other words: you have to disconnect "current" from "potential" one way or another. [...] Probably the most important thing to realise is that there are two energy flows in any circuit or wire: 1. the electric (or EM) field(s) - or "radiant energy" as John likes to call it. 2. the current -- charge carriers moving along inside a conductor. The E(M) field comes for free, it's a continous stream of "vacuum energy" being converted by any charge carrier."

- http://www.energeticforum.com/renewable-energy/5009-discussion-re-physics-behind-negative-energy-systems-radiant-spikes.html#post75700 (11/26/2009) - "Bearden absolutely has a point in not killing the dipole and that the Maxwell equations are incomplete as taught today. And I believe he is right that this has been done on purpose, even though that is not so relevant in the technical discussion. Anyway, Meyl re-derived the Maxwell equations directly from Faraday's experimental observations and comes to the same result, as far as I understood. So, Meyls work gives a solid foundation of the Maxwell equations as they should be. In essence a straight-forward mathematical exercise without any postulates, based on observed physical measurements. The most essential difference between the classical Maxwell equations and Meyl (and Bearden, I assume) is that Meyl no longer postulates the existence of charge carriers as the cause for the EM fields. In other words: Meyl basically proves that EM fields can exist without any need for matter to be present. EM fields are the cause matter exists and not the other way around. As a result of that, it is clear that both longitudinal and transversal EM waves can exist in vacuum, while in the classical view the former cannot exist, because it is assumed there are no charge-carriers present in the vacuum. So, essentially, with Meyls Maxwell equations we have a set of equations that describe the propagation of waves trough a

medium, which at the same time reflect the characteristics of that medium. And these resemble the characteristics of a fluid/gas very nicely, hence we have basically a description of a fluid/gas like medium we used to call aether. And on its turn, the waves that flow trough this medium have the ability to form the localised waves we call matter. According to Meyl, matter actually is some kind of vortex and it appears logical to assume that these vortexes can "suck" up some kind of aether energy flow from the environment and convert that into a steady outflowing energy stream known as the electric field. In other words: a charge appears to be some kind of spherical (combination of) aether vortex(es) capable of continously converting some kind of incoming aether energy flow into a "static" electric field. This is an ever-lasting process, which can be considered as a monopole. However, that "static" field is not static at all. It's a continuous flow of energy. Interestingly, there are two kinds of charges. We call them positive and negative and it appears these generate two distinct kinds of energy flows. One from positive to negative, and one back from negative to positive. When superimposed on one another, these appear to (largely) cancel eachother out in terms of the ability to do work, that is, the ability to apply a resulting force onto free charges (electrons) in order to make them move. Of course, once charges are moving, they are moving in such a direction that these two energy flows eventually balance each other out."

- http://www.energeticforum.com/renewable-energy/6258-resonating-tf-using-bedini-circuit.html#post108175 (08-24-2010) - "Then I realised that also when using a normal capacitor, no charge can actually flow trough the capacitor. So, Grays's tube is in essence nothing but a capacitor. The rods in the centre as capacatively coupled to the grid. However, because of the significant distance between the "plates" you have a very small capacitance. So, if you want to send anything like a signal over to the other side, you will need to use very high voltages and sharp pulses. But the basic principle for getting free energy is to avoid killing the dipole. As I explain in my article, it is possible to manipulate the electric field for free, so if you can find a way to couple the driving circuit to the circuit that you want to drive by means of only the electric field, you can use the energy from the electric field for free. And that basically means that you don't want to have any charge carriers being exchanged between the driving circuit and the load circuit. And since no charge can flow trough a capacitor, you can do that in principle using a capacitor. Adding one and one together, it should be possible to drive a (almost) "half open" coil into resonance by driving it from the side where there is high voltage, but no current, by a simple (small) capacitor that should not be an electrolytic capacitor, and feed that with sharp pulses, since these are easily transmitted trough a capacitor. A Bedini kind of coil driving circuit should deliver you just the kind of driving signal you need: a spike, with a sharp rise at the front. However, at the other side of the coil, there is zero voltage, but high current. In other words: at the other side of the coil we need to have charge carriers available. That is why we have to connect that end of the coil to earth. Plenty of charge carriers there! And then suddenly it also becomes clear why Tesla's single wire transmission is so interesting. Because if you have the primaries of multiple transformers resonating at their natural resonance frequency, all it takes to extract free energy from the electric field is to connect the "cold" side of these resonators (there where no current flows) to one another...."

http://en.wikipedia.org/wiki/Talk:Stanley_Meyer%27s_water_fuel_cell#Theoretical_explanation

Let me add one more thing to the discussion about what this is all about, cause in the end this is not so much a scientific or technical issue. It's really the same thing as what we are doing for ages. At some point, somebody thought "hey, the wind is blowing and delivers energy. Can't we use that to get power?" Good idea, let's make a windmill. Next thing, hey, water is flowing in a river and delivers energy. Good idea, so we got the watermill. Hey, the sun is shining light to the earth, which delivers energy. So we got solar panels. Hey, there is heat in the earth, can't we use that? Good idea, so we got heat pumps. And now someone comes along and says: "Hey, the electric field spreads with the spead of light from every charge carrier in the universe and delivers energy. Can't we use that to get power?". And all of a sudden that is "fringe" science, "impossible" and the like, while it's really the same thing. The difference is not a so much technical issue, but a political issue, because this energy source is so cheap and readily available that it will put a whole lot of companies out of business and frees the people of the earth of the burden associated with the need for energy. And that is why the whole scientific community acts like a bunch of religious zealots, as if it were written "Thy shalt not use an energy source that is cheaper than oil". And that is also why this technology will not be introduced to the people of this planet trough the scientific community, but it will be introduced bottom up, it will be a grass roots movement which is unstoppable now the knowledge how to do it is out in the public.

And one final issue to finish my point: in the Maxwell equations the scientific community says that it is the matter that creates the electric and the magnetic fields, while in Quantum Mechanics they say it's the fields that create the matter. It is so obvious that one of the two is incomplete, that this issue should have been solved 50 years ago. The fact that it is not says enough about how independent the scientific community really is these days.

[...]

It ain't no dead horse, my friend. It's a Phoenix rising from the ashes, and believe me, it is awesome to be a part of that. It is an honour and a privilege to finally be able to give Nikola Tesla the credit he deserves. There simply is no physicist neither alive nor dead that can come even close to standing in his shadow, but we have allowed him to be almost forgotten and allowed the oil companies to strip us naked. Now their days are numbered, so let me leave a message to whom it may concern:

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Sehr geehrte Herr Wissenschaftfuehrer,
You can fool all of the people some of the time,
You can fool some of the people all of the time,
But you cannot fool all of the people all of the time.
- Abraham Lincoln -
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References

1. http://www.bibliotecapleyades.net/bearden/bearden09.htm - How An Electrical Circuit is REALLY Powered - Bearden for Dummies - "Let me put it this way. Every electrical system we ever built, and every one today, is powered by EM energy extracted directly from the active vacuum by the source dipole in the system." - Further quoted here: http://www.energeticforum.com/renewable-energy/5009-discussion-re-physics-behind-negative-energy-systems-radiant-spikes.html#post75558
2. http://www.wbabin.net/physics/turtur1e.pdf - In this paper, Prof. Klaus Turtur shows that the electric field emitted by any charge carrier not only is dynamic (spreading with the speed of light), but it also contains energy. That energy comes from somewhere, which you might call "the Dirac sea" or ZPE, or whatever. Bottomline is: any charge carrier continuously converts some of this "vacuum energy" into a constant stream of "static" electric field energy: "On the one hand the vacuum (= the space) permanently supplies the charge with energy (first paradox aspect), which the charge (as the field source) converts into field energy and emits it in the shape of a field. On the other hand the vacuum (= the space) permanently takes energy away from the propagating field, this means, that space gets back its energy from field during the propagation of the field. This indicates that there should be some energy inside the “empty” space, which we now can understand as a part of the vacuum-energy."

Related patents

See http://www.tuks.nl/pdf/Patents/

See also

- OS:Water Fuel Cell
- Directory:Stanley Meyer
- Directory:Electrolysis
- Directory:Hydrogen from Water
- PowerPedia:Water as fuel
- Directory:Water as Fuel
- Directory:_Hydrogen_Hog_by_Future_Energy_Concepts,_Inc.

- Articles
- PESWiki home page

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"When you're one step ahead of the crowd you're a genius.
When you're two steps ahead, you're a crackpot."
-- Rabbi Shlomo Riskin (Feb. 1998)