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oh dear thx I never intended you suffer three hours of that video ! Sorry you did .

No, I didn't watch the full 3 hours. I looked at the parts you referenced and thought I recognized it and then skipped to the end.

As for flooding (HARRP?) there are thousands in a far worse state.

I've been wondering about that myself over the last year or so. There was an international treaty (back in the 70's I think) that was to not use weather modification as a weapon of war. That, however, wouldn't prevent a rogue leader from using it against his own populace. I suspect it might be the American president using it considering all the droughts, flooding, etc. and the flooding in England may be either an unintended or, actually, intended consequence. It's evident he has animosity toward England because of its colonial past.

Anyway as we conjecture and then conjecture again on that probable outcome the validity and truth of what we consider becomes more unlikely. It is really why I proposed a/one heavily sulphated battery and a brushed motor Then b/ capacitive charging . I knew each would work every time without fail. conjecture is fine (in fact absolutely essential) but here and there must be a dependable peg to hang our hats on.

If the energy has no volts or amps or anything we are familiar with that we can measure then there is nothing we can "hang our hats on". That is, essentially, the problem I have with the concept. And if it has none of that we can't use it in our machines and since we can't get any real world contact with it I don't see how we can convert it to useable energy to run our appliances. IMO, it's not reasonable to have to re-engineer every electrical device on the planet to use this new form of energy if it exists. It would require resources as great as those of the very people who would fight it tooth and nail which are immense.

You wonder at the feeble voltage Troweger records to be Honest I'm very surprised to see much at all I believe we are looking at a somewhat twisted and backward version of a RF receiver.

Considering that quartz is piezoelectric I wasn't surprised that he got something but I was expecting to see much more and he did not show any current reading so overall it was very disappointing.

One of the sentences of EPD tells us that that for longitudinal wave work SWR must be infinity and not unity as with normal transverse wave RF work

I believe Tesla's "longitudinal wave" is unidirectional transmission of charged particles, i.e. X-rays and the like. With a unidirectional transmission there would be no SWR at all because it is unidirectional and thus there is no standing wave. I guess that would be the same thing because the divisor would be zero and any number can be divided by zero an infinite number of times.

This huge observation of yours ..

Researching the lead acid battery electrochemistry, sulfation, etc., I took a look at dendrites in lead acid batteries which are the lead crystals that grow in a battery that eventually short out the plates.

It kind of brought it all together - fractals, crystals, batteries, etc. Dendrite means "tree like". When examined under a microscope they clearly show their tree like structure and it immediately reminded me of Yagi antennas.

I've learned a bit more since then. There are actually two kinds of dendrites in a lead acid battery. The lead dendrites are problematic in lead acid batteries because they can cause shorts between the plates but the sulfate dendrites are intentionally created to expose more surface area of the sulfate to the electrolyte which makes it easier for the sulfur to be moved back into the electrolyte when charging. Barium is intentionally included in the plates that get sulfated to act

as seeds for the dendrites. The barium creates an instability between the plate and the electrolyte and it is at the location of this instability that the dendrites grow.

There is also a separator between the oppositely charged plates that prevents the chemical energy exchange of ions until a sufficient gradient is present. That is what prevents the battery charges from neutralizing while the battery is sitting idle. It is a microfiber porous material which allows ions to pass through when under sufficient voltage gradient but hinders their movement otherwise. It doesn't totally prevent the transfer when idle and that is the cause of a battery's "self discharge" – the ions are neutralizing without flowing through any circuit.

So there are actually four active fractal structures in a lead acid battery: lead dendrites, sulfate dendrites, the sponge lead used on one set of plates, and the separator.

If any part of that could be shown true and definitely 'part of reception' and conversion are search would be greatly reduced. My train of thought was much the same as yours .. Where's the tuning ? This is a very simple construct for an SWR meter based on a wheatstone bridge

I'm very aware that this isn't the 3BGS and am very eager to dive into the Dendrite fractal relationship which is where the answer has to be . Still if you redraw the 3BGS as a bridge circuit it seems quite possible Its a variable ATU unit thats also making overtones available for cascading.

Troweger has no tuning at all . You might regard a radio example as being a crystal set with no tuning ... ergo broadband and feeble .. stochastic background (if you like) in this case.

I'm eager to get well away from the 3BGS stuff because simply looking at batteries and DC motors confounds people into thinking in terms of DC. Arsing about with motors and taking the path of least mental strain. Just my opinion you understand but I think the following applies ... The sulphated battery is thousands of Dendrite fractals ... A super demodulator – It is (if you like) taking the place of the little crystal diode .. but in parallel and by the thousand . It isn't dealing with volts or Amps as you know it, nor the electromagnetic wave . It is receiving Telluric current ... reactive current; from the ground and converting it to instant energy.

By a happy accident the rest of the 3BGS thing made up a balanced (ish) matched impedance – (maximum power transfer) ATU .

Now that I've learned a bit more I'm not sure that "reception" is occurring but I haven't ruled it out. The sulfate dendrites are used for bidirectional transfer of charge – grown from the sulfur in the electrolyte during discharge and destroyed during charging to move the sulfur back into the sulfuric acid electrolyte. But this is chemical charge movement rather than reception.

On the other hand, galena (lead(II) sulfide) is the most important base ore from which lead is extracted and, interestingly, galena is what was used in early "cat's whisker" diodes for crystal radios which are self powering. So the lead dendrites might be receivers of a sort even if they aren't still in the galena. At first I thought there was no way the lead dendrites were receiving anything because they are surrounded with the liquid electrolyte. Upon reflection, however, the fact that the electrolyte itself is conductive, throws a monkey wrench in that idea. I know that a pool of mercury can be used as a sort of diode in that it only allows current to flow in one direction. See mercury arc rectifiers. Tesla also used pools of mercury in some of his circuit controllers as a means to create unidirectional pulses. Could the lead dendrites work the same way when immersed in the electrolyte?

<http://www.electricstuff.co.uk/mercarc.html> - Mercury Arc Rectifiers

<https://teslauniverse.com/nikola-tesla/patents/us-patent-609245-electrical-circuit-controller?pq=bWVY3VyeQ%3D%3D> – Tesla circuit controller using mercury

<https://en.wikipedia.org/wiki/Galena>

https://en.wikipedia.org/wiki/Crystal_radio

As for tuning, consider how a Yagi antenna is engineered. The element lengths and spacing determine the frequency to which the antenna responds best. Different sized dendrites would be “tuned” to different frequencies, i.e. broadband and at micrometer wavelengths. But there is a major difference: the elements of a Yagi antenna are electrically isolated from each other whereas the projections on dendrites are all connected to the main stem. So the analogy might be meaningless.

Any kind of reception would, however, be dependent on the waves penetrating the battery case in the first place to reach the electrolyte which I’m unsure about. Most battery containers and their covers are made of polypropylene. Since polypropylene is a dielectric material used in capacitors I’m doubtful any low power signals could penetrate the case.

There’s no reason that I can think of that batteries and DC motors should be confounding. If what is happening is as we suspect, I don’t see any reason we couldn’t consider it as a sub-millimeter wave with a DC offset similar to a magnetic amplifier.

As you perhaps begin to see everything’s balanced on a knife’s edge but the bits fit .

“...balanced on a knife’s edge...” may be more accurate than you know. On the edge of instability? Like the instability that allows lightning to form in the atmosphere and sulfate crystals to grow in a lead acid battery?

As for armature action that’s a bit more ‘fudge’ ‘back emf’ we talk of in volts and amps too as if it were just a direct ‘opposition’ It is an opposition of sorts but an algebraic opposition in all dimensions. Consider your yagi beam in normal radio use the conversion is from the pure (ish) sine wave to a different dimension , The electromagnetic wave – (unit wavelength) the conversion event happens at resonance.

A fractal dimension, perhaps. That might be why we’re missing it. We’re looking at integer dimensions. The word “fractal” comes from the idea of fractional dimensions, i.e. 2.64 dimensions. As we know, fractions are infinite so there are infinite dimensions in fractal geometry. It could be not only a fractal dimension but multiple fractional dimensions interacting with one another. So when you say “...in all dimensions” you are saying quite a lot.

Here then is why I suspect motor or di-electric breakdown action is so important

[url=http://www.hersheyenergy.com/harmonics.html]Harmonics, Triplen Harmonics, Adjustable Speed Drive, Power Quality[/url]

It can separate harmonics from overtones .. as a Radio works on transverse electromagnetic waves So this contraption ideally requires tuned ,longitudinal (waves) , at fundamental overtones This in turn attracts Telluric current into the series resonant circuit.

(just as a radio does with a parallel tuned circuit and the electromagnetic wave)

- The conversion you all ready seem to have a better grasp of than me .. that is already a step to far IMHO without another ‘solid peg’ still .. it fits .

I don’t have a better grasp than anyone else at this point. This is just what I’m thinking about while trying to come up with a new perspective that might be closer to reality. It seems to me that resonance, longitudinal waves, etc. have been worked over for 150 or so years without developing a device that efficiently and reliably extracts usable energy from the medium. I’ve seen some of EPD’s videos and read a lot of his work but as far as I know he hasn’t developed anything to

extract energy from the medium. Transmit via natural mediums, yes; extract from natural mediums, no. As far as I know his reception is on the specific frequency transmitted, not from the medium itself.

So it might be worthwhile to look into some alternative perspectives. As far as I know EPD's work is based on the same old math and Euclidean geometry applied or interpreted in new ways rather than fractals. His interpretations make sense in regard to historical references but fractal geometry wasn't even possible before the development of modern computers. I'm wondering at this point if quaternion math is an early form of fractal math but I don't understand it sufficiently to even guess. I see that quaternion math is used in crystal texture analysis but it seems to still only deal with integer dimensions. Quaternion math might get interesting using fractional dimensions but I'm definitely not that level of mathematician.

"Today's scientists have substituted mathematics for experiments, and they wander off through equation after equation, and eventually build a structure which has no relation to reality." – Nikola Tesla

And the mathematics of Tesla's day was not fractal mathematics which might explain why the structures have no relation to reality.

*"Why is geometry often described as 'cold' and 'dry'? One reason lies in its inability to describe the shape of a cloud, a mountain, a coastline, or a tree. Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line... **Nature exhibits not simply a higher degree but an altogether different level of complexity.**" - Benoît Mandelbrot*

It seems to me that if we want to extract energy from the medium we need to understand fractal geometry, or roughness, because that's how nature continually changes the medium. I don't see any solid pegs sticking out anywhere so I feel like I'm just stumbling along in the dark even if it does make some kind of sense, albeit far too vague to be useful so far.

Here is one new perspective that is, once seen, obviously correct. Think about molecules and atoms while watching it. Also consider that the sun has both magnetic and electrical fields in which our planet is embedded. Now add in the fact that all solar systems in the galaxy are doing something similar and you get a sense of what Mandelbrot is talking about when he says "...an altogether different level of complexity." This is the "medium" from which we want to extract energy.

<http://www.djsadhu.com/the-helical-model-vortex-solar-system-animation/> - Helical Solar System Model

<http://www.djsadhu.com/the-helical-model-part-2-our-galaxy-is-a-vortex/> - Helical Galactic Model

Once you get a grip on that, consider that the entire galaxy is traveling through space also so we might apply the helical movement model to the galaxy as well. So everything from subatomic particles to galaxies is traveling in helices. It gets mind bogglingly complex but that's exactly what Mandelbrot is talking about.

I know I'm going on and on about fractals. I think this might be important, though: everything we're talking about seems to be happening at the interface between two materials which is to say the boundary condition between the two materials influences the flow of energy. Whether it is crystals, lightning, capillaries, neurons, trees, or rivers which convey different forms of energy, it's the boundary conditions that determine their branching and so the flow of the energy. And one of those materials is whatever medium in which the boundary exists – like dendrites existing in the medium of sulfuric acid. Thinking of a capacitor or a battery, there are two boundaries between the medium, the medium being the dielectric material and electrolyte, respectively. In both cases the boundary with the medium is different. In an aluminum electrolytic capacitor one plate has highly roughened surface and the other less roughened. In

a battery cell it's lead dioxide on one plate and sponge lead on the other. Note the plates are the same material with different roughness and that fractal geometry is a description of roughness. I guess it can be said that the dielectric in a capacitor and the electrolyte in a battery also have a roughness because nothing is perfectly smooth. I suspect it is the instabilities at the interface between materials that encourage energy movement rather than the materials themselves. Selecting specific materials and/or treatments on those materials is just a way to vary the roughness or fractal geometry between the materials and the medium. Some might say this train of thought focuses too much on matter rather than fields of energy. From Tesla:

"There is no subject more captivating, more worthy of study, than **nature**. To understand this great mechanism, to discover the forces which are active, and the laws which govern them, is the highest aim of the intellect of man.

... we must remember that **we have no evidence of electricity, nor can we hope to get it, unless gross matter is present**. Electricity, therefore, cannot be called aether in the broad sense of the term but nothing would seem to stand in the way of calling electricity aether associated with matter, or bound aether, or, in other words, that the so called static charge of the molecule is aether associated in some way with the molecule. Looking at it in that light, we would be justified in saying that electricity is concerned in all molecular actions."

"Nikola Tesla Experiments with Alternate Currents of very high Frequency and their Application for methods of artificial lighting", *Lecture before the American Institute of Electrical Engineers, Columbia College, May 20, 1891*

The following paragraph started out to propose why gross matter and boundary conditions are important. I'm now unsure what I've ended up with. It seems I'm still stumbling around in the dark. I must say I had no idea the following paragraph would end up with that last sentence when I started it. It was a train-of-thought process. Does it explain what aether is? I'll probably get beat up for it. I considered removing it. We'll see if it stands on its own. If it is correct, however, there is no dichotomy between aether physics and particle physics.

To understand Tesla's references to molecules in the above quote one must understand that at that time the atom was still thought to be the indivisible minima of matter. The scientists of the day were not just unaware of subatomic particles but believed that subatomic particles could not possibly exist. In that context, we could call aether subatomic particles. What we know today as electrons, protons, neutrons, photons and the zoo of other particles. To paraphrase Tesla, "...nothing would seem to stand in the way of calling electricity [subatomic particles] associated with matter, or bound [subatomic particles], or, in other words, that the so called static charge of the molecule is [subatomic particles] associated in some way with the molecule. Looking at it in that light, we would be justified in saying that electricity is concerned in all molecular actions [via subatomic particles]."

Think about how that paragraph applies to what we today call covalent and ionic electron bonds between the atoms making up a molecule. I'll need to come back to this at another time in another thread.

To resume on the ideas of boundary conditions, what determines the boundary condition of atoms? Valence electrons. Atoms with a "closed" outer electron shell (a balanced number of electrons) are inert. Those with extra valence electrons are what is necessary to create positive ions. Those with fewer electrons in the outer electron shell than what is required for a closed shell are what is necessary to create negative ions.

The lead acid battery's method of moving charge is via ions. The lead acid storage battery only stores the energy we put into it by creating an unbalanced charge using those ions. Can we use the same or similar fractal structures to extract energy from the medium? What conditions can we establish to allow and even encourage nature to pour energy into our device, be it aether or "the dielectric" energy or ions, so that we can capture or transform some part of it and put it to work? And how do we introduce instabilities into that medium through which the charge has a path to flow? For that matter, which medium – solid, liquid, gas, plasma, or some combination of those are we trying to influence?

Or, as explained in Bearden's "Energy From the Vacuum", is the medium we need to influence that of the intra-atomic forces? One of the interesting things about this article is the reference to barium. And not just barium, but barium ferrite, i.e. two materials (atoms) that must have an interface. Barium shows up in a lot of normal and alternative energy projects and always in conjunction with another material – barium ferrite in the Floyd Sweet Space Quantum Modulator and Vacuum Triode Amplifier and the McClain and Wooten Magnetic Resonance Amplifier, barium in the lead plate of the lead acid battery to grow sulfate dendrites in the 3BGS, barium titanate in ceramic capacitors, microphones and transducers, non-linear optics like phase conjugation mentioned in Bearden's work, electro-optic modulation in ranges over 40 GHz, barium oxide in the cathodes of cathode ray tubes, etc. In fact almost all barium compounds are used in energy related products, .i.e. involving light, ferroelectricity, and even superconducting materials. The first "high temperature" superconductor discovered in 1986 was lanthanum barium copper oxide.

<http://www.cheniere.org/correspondence/070904.htm> - Energy From the Vacuum – Tom Bearden

https://en.wikipedia.org/wiki/Category:Barium_compounds – Barium compounds

https://en.wikipedia.org/wiki/Lanthanum_barium_copper_oxide - Lanthanum barium copper oxide

It appears to me that barium is precariously balanced in its lattice structure with other elements, the molecular lattice structure being the interface between the atoms of the constituent elements. That would, IMO, be a key to establishing the instability that we need as one of the properties of our device. If we can then oscillate that instability between two states via externally applied oscillating energy fields at some harmonic frequency as Bearden describes in "Energy From the Vacuum" we could tap into the intra-atomic forces. If that material has two constituent parts which both respond to lower and higher harmonics of the same frequency and the same can be made to act in opposite phase we would have an amplifier of intra-atomic forces. At the following link Bearden describes such a process: "E.g., in the Bohren experiment, one uses conducting particles with particle resonance at UV frequency, and insulating particles with particle resonance at IR frequency. The forced self-oscillation of the particle then has the particle sweeping out a much greater geometric reaction cross section (interception) perpendicular to the energy streams comprising the incoming field or potential. So the resonating particle absorbs (and then reradiates) 18 times as much EM energy as we conventionally calculate by static particle field interception..." Consider "a much greater geometric reaction cross section" as roughness or a fractal cross section and, in this case, an oscillating roughness or fractal structure.

<http://www.cheniere.org/correspondence/032303a.htm> - Bearden on "negative resonance absorption of the medium"

I can, however, see a very real danger in this approach. Bearden is talking about oscillating the components of the atomic nucleus. We are aware that sufficiently strong oscillations can, when oscillation starts building, destroy the object oscillating. Think of Tesla's oscillation experiments where he could have taken down an iron framed building under construction or his "earthquake machine" or the Tacoma Narrows bridge. What do we have if that occurs in the nucleus of an atom? Nuclear fission. I guess it would be relatively safe as long as there wasn't a sufficient density to cause a chain reaction but it's still a spooky thought. It might not cause a nuclear explosion but it would still be radiating neutrons and protons. So any device built would need serious thought on controlling the oscillations and shielding that control mechanism so that if the device did start radiating particles they wouldn't destroy the controller which might lead to a runaway condition.

Going back to Troweger and/or Aspden, how can we modify the surfaces of the materials used and/or the medium contained in the tubes to achieve the above goal?

My first thought was to grow the crystals on the tubes that make up the plates of the capacitor rather than stuffing quartz sand into the tube as Troweger does. Which got me thinking of how to grow crystals, not on a flat surface, but on a curved surface. Searching for "how to grow crystals on a curved surface" is eye opening.

It reminds me of magnetic field fluids or ferrofluids. That gets me thinking of the demonstrations done that show an object slowly falling through a copper tube which is in a strong magnetic field, partially negating gravity. That led me to a search on “growing crystals in a magnetic field” which led me to a search on “growing crystals in space” (low gravity). As it turns out scientists have determined how to use a magnetic field to negate gravity when growing high purity crystals not in space but on the surface of the planet.

What happens when we try to grow crystals on the inside or outside surface of a copper tube that is suspended in a strong magnetic field, in effect negating gravity? At this point I have not a clue.

On second thought, what if we just coat the surfaces with some kind of crystals like barium titanate? Possibly coat the inner and outer surfaces of the cylinders with different materials that respond to different harmonics of the same frequency. One of the problems I had with Aspden’s three cylinder capacitor to tap the aether was how to have three cylinders of different diameters creating equal capacitance on either side of the centered cylinder. The answer appears to be, considering the foregoing, by changing the dielectric between the cylinders with materials that both respond to harmonics of the same frequency.

I’ve gone on and on for far too long again. Arrrrgggghh! More questions than answers again.