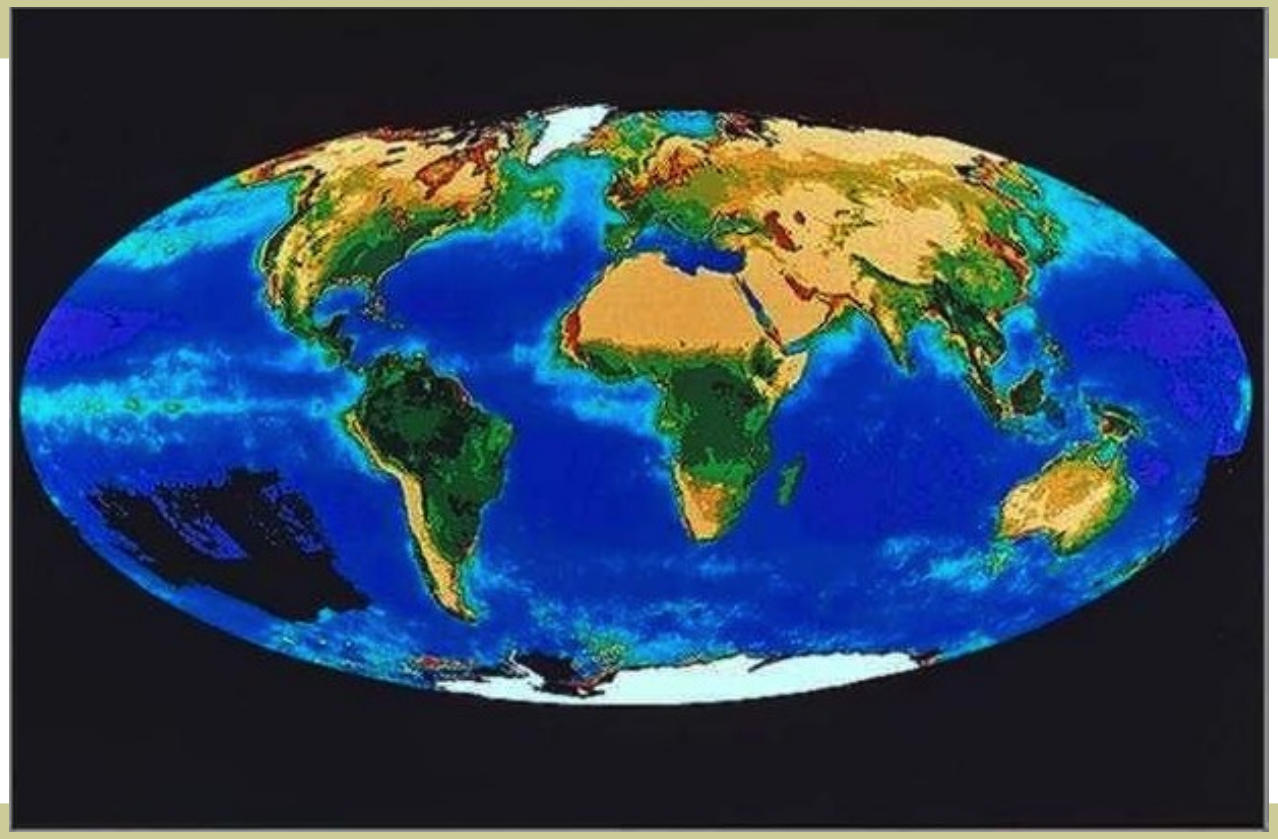
What Makes

The Planet

Spin?



And, How Come

it Never Runs Out of Power?

ENERGY CAPTURE 101,
a.k.a.

Smitty's Gift,

a.k.a…

“A Function of
HUMAN STUPIDITY”:

How the ill-informed
PAY DEARLY for
ENERGY
they **don't have** to pay for,

call it “scarce” when it is, in fact,
Incalculably Abundant

“Energy **cannot be** created or destroyed,
energy can only be **transformed** or **converted**”

[http://energyfaculty.com/]

Starring

Donald Lee Smith,

with Cameo Appearances by

Michael Faraday,

Nikola Tesla.

Also featuring: distinguished supporting roles by

Vladimir Utkin, Lars Persson, Eric P. Dollard,

and the indispensable Patrick J. Kelly,

of Practical Guide notoriety.

SECTION 1 – Historical Overview

It all starts from

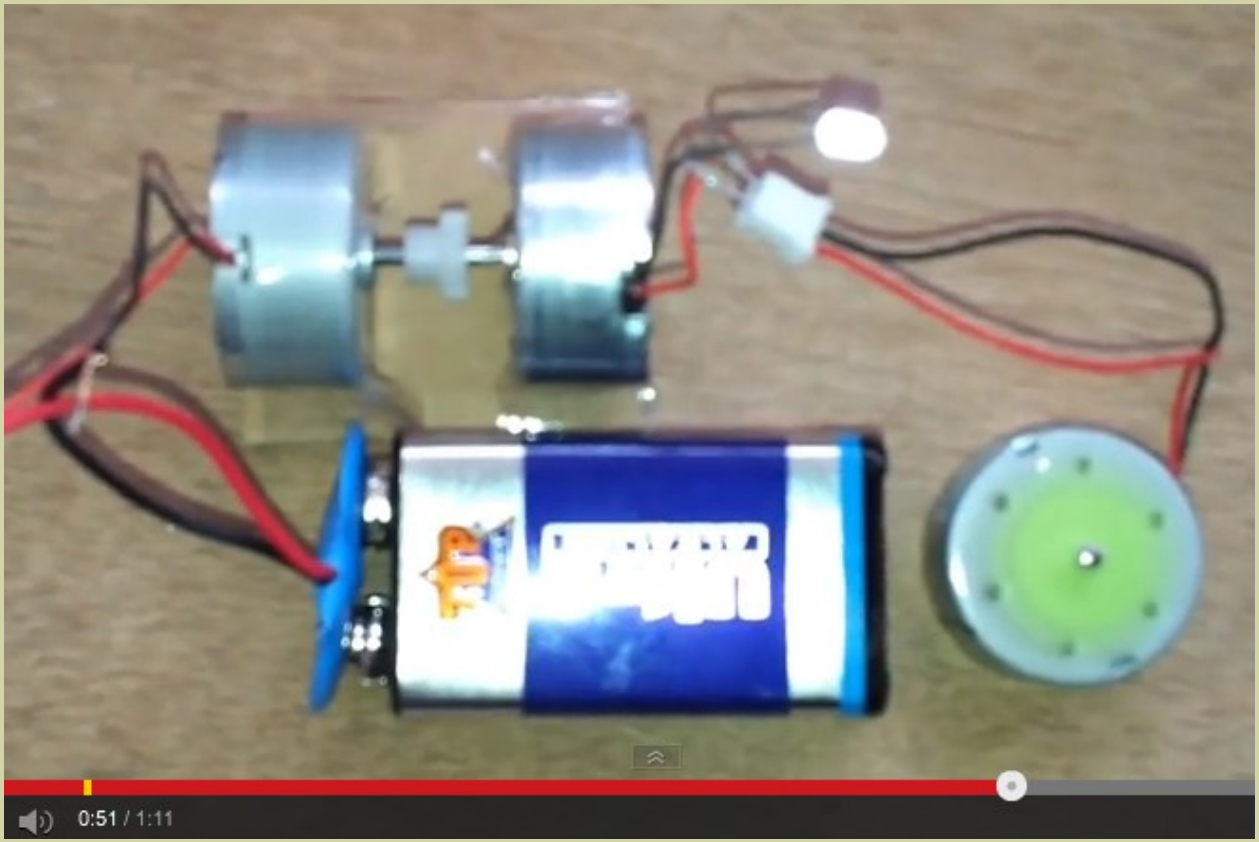
A Newbie's Perhaps Naïve Question:

Given that

IT IS clearly possible
to “reverse” the functionality of a device
designed to work as an electric MOTOR,
and operate it, instead, as a GENERATOR…

Turn
an electric motor
into a generator

[https://www.youtube.com/
watch?v=oiIVkp7mMwE]



WHY in the world would it NOT be possible to do
ESSENTIALLY THE SAME THING
with a MUCH SIMPLER type of device, such as
an INDUCTOR?
(which is, aside from anything else,
a plain old conductor, a “length of wire”)

What do you mean by “essentially the same thing”?

How would one operate an INDUCTOR in reverse?

Well, see, all the way back in the 1800's

FARADAY established the fact that

"a **voltage** would be generated across **a length of wire** IF that wire was exposed to a perpendicular magnetic field flux **of changing intensity**".

In addition,

"Faraday was able to mathematically relate the **rate** of change of the magnetic field flux with induced voltage"

[http://purco.qc.ca/ftp/Learning%20Electronics/DC.pdf - page 475>>] [*emphasis added*]

Which suggests that…

… rather than
operating the inductor in its
most frequently assigned function as

an electromagnet,

one could, instead, EXPOSE IT to

a perpendicular magnetic field flux
of changing intensity

and proceed to
"harvest"
electricity from the terminals.

Novel Idea?

Not really.

We have untold numbers of
isolation transformers
whose secondary coils
operate in the manner described.

Yet,

the clear possibility of employing this method
MUCH MORE BROADLY,
for the purpose of
obtaining electricity,
is – somewhat inexplicably –
ignored and **disregarded**

This is all the more disconcerting
when one considers that,
in the case of the **motor**, or **motors**,
one would have to

separately apply mechanical force
on **each** of their shafts

to succeed in driving them in reverse;

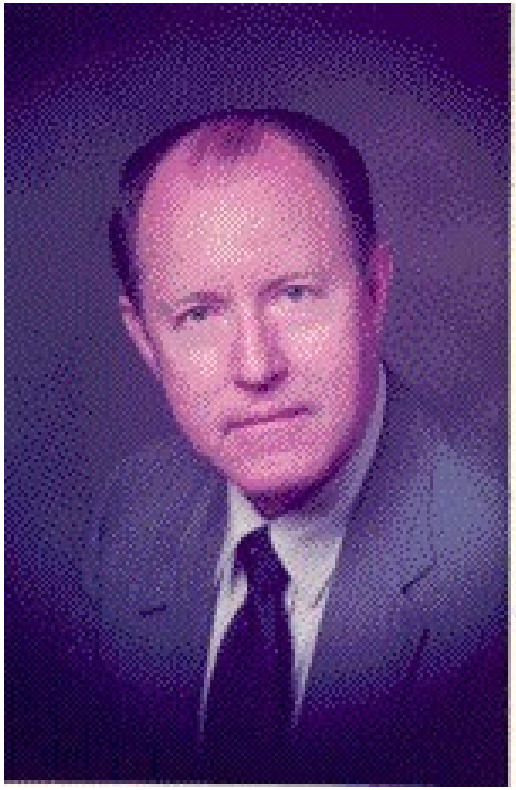
Whereas,
in the case of

a group of **inductors**,

one could count on the **field** flux associated with
HIGH FREQUENCY magnetic waves,
naturally **propagating** from a **single** source point,

to effortlessly trigger induction in **the whole set**.

It was **incongruities** such
as this that



Donald Lee Smith,

– a native of the U.S., who,
according to the best information available, lived
between the years of 1928 and 2010 –

found difficult to understand,
and even harder to passively tolerate.

A notable saying of Smith's was:

There IS no energy shortage;
only [*a shortage of*] grey matter.

Smith.pdf, page 71 [emphasis added]

Having resolved
to look into the issue,

Smith started

by carefully studying the work of

Michael Faraday, Oliver Heaviside,
and James Clerk Maxwell

But he didn't stop there.

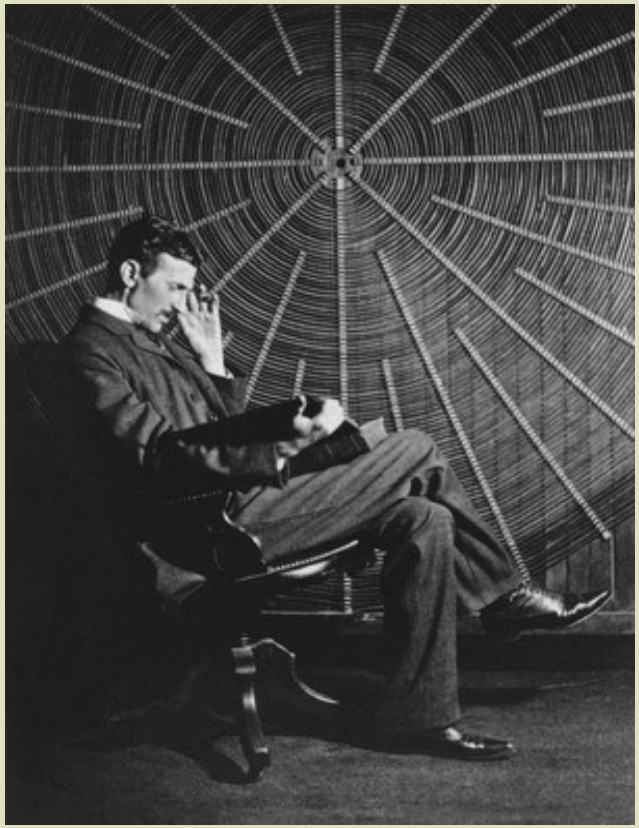
Word got to him about a certain,

highly creative,

Croatian-American

engineer, and gifted inventor, by the name of

Nikola Tesla



It's fair to say that

Nikola TESLA

(1856-1943)

produced

an enormous amount

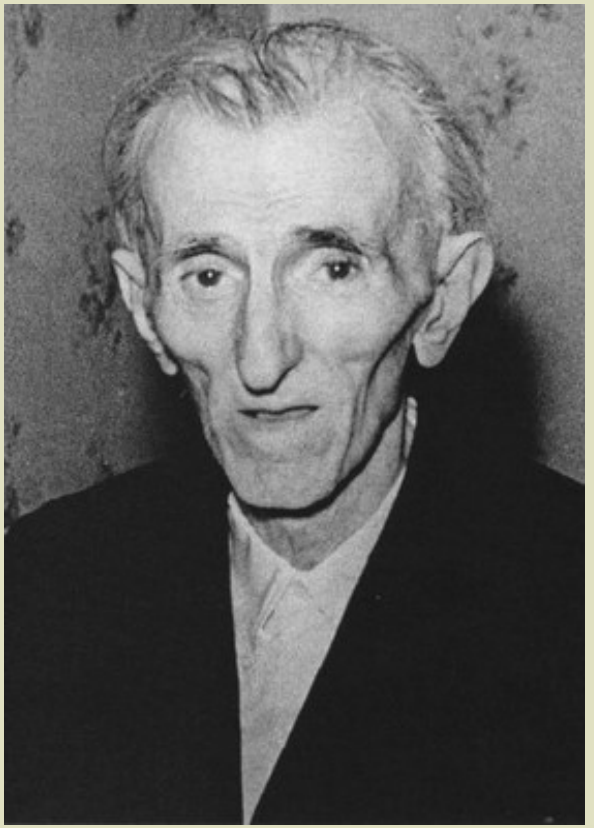
of useful work over his

prolific 86 years of life.

In part because of

this prodigious

inventiveness of his,



TESLA's LATER, and most fruitful, discoveries

have been, one could say,

STUDIOUSLY and METICULOUSLY

avoided and "**forgotten**"

by the official science and technology establishment.

Tesla Portraits: [http://teslauniverse.com/images/categories/nikola-tesla-portraits]

Enter Smith,

who saw them as

a worthy challenge to tackle

during his retirement years.

Tesla's work with

HIGH FREQUENCY

electromagnetic – as well as **electrostatic** – waves, and fields, became a central subject and focus of Smith's historical / theoretical research, and subsequent practical experiments, to put those theories **rigorously** to the test.

And so…

"When I first started doing these things, I went through **every one** of (the) **experiments** in Thomas_Commerford Martin's… official authorized biography of TESLA… **in great detail.**

THAT WAS MY LEARNING PROCESS
for **understanding** what **TESLA** had done.

So **all the things I've done** are EXTENSIONS off of Tesla.

And they're beyond – in many cases – beyond where Tesla had arrived at when he completed his work". [emphasis added, lightly edited]

Smith at the 2006 Tesla Tech
[https://www.youtube.com/watch?feature=player_detailpage&v=tASY07r9AD0#t=669]

The Inventions, Researches And Writings Of Nikola Tesla – Th Commerford Martin, 1894
http://www.tuks.nl/pdf/Reference_Material/Tesla/The_inventions_researches_and_writing_of_Nikola_Tesla.pdf

The Science and Engineering Establishment was
far from supportive of Smith's views on
how to obtain electricity:

"Basically, I heard that
it couldn't be done,
and all the **experts** told me that.

And that didn't ring very true to me.

So I decided I would see if
what they were saying was actually true".

[https://www.youtube.com/watch?
feature=player_detailpage&v=Mnoy2D4wuf8#t=111]

"[W]hen people told me that
this thing **would not happen**… to **forget** about it,
that was
the match that lit the haystack!"

[https://www.youtube.com/watch?
feature=player_detailpage&v=Mnoy2D4wuf8#t=246]

*Notice the similarity with Tesla's experience at the Polytechnic Institute in Graumltz, Austria, in 1875. The issue was his (not yet fully developed) concept of the **rotating magnetic field**.*

[Prof. Poeschl] ended his lecture with the statement:

"Mr. Tesla will accomplish great things, but he **certainly never** will do this. It would be equivalent to converting a steady pulling force like gravity into rotary effort. It is **a perpetual motion scheme**, an **impossible** idea".

Prodigal Genius, a biography of Tesla by John O'Neill, page 35. [brackets, emphasis, added]

Smith's “Proof of Concept” Prototype,

The Plasma Tube Device,

was quite a remarkable opening salvo.

He selected as his driver an off-the-shelf gadget that helped limit costs, while incorporating Tesla's key developments in

high voltage and high frequency.

As a whole, the unit was an effective and straightforward demonstration of

Faraday's inspired INSIGHT

that…

Plasma Tube image - Carl Willis, YouTube
https://www.youtube.com/watch?feature=player_detailpage&v=ECGtUUSL7nQ#t=402

ALL it takes

to **“generate” electricity**[1] is

a **conductor**,

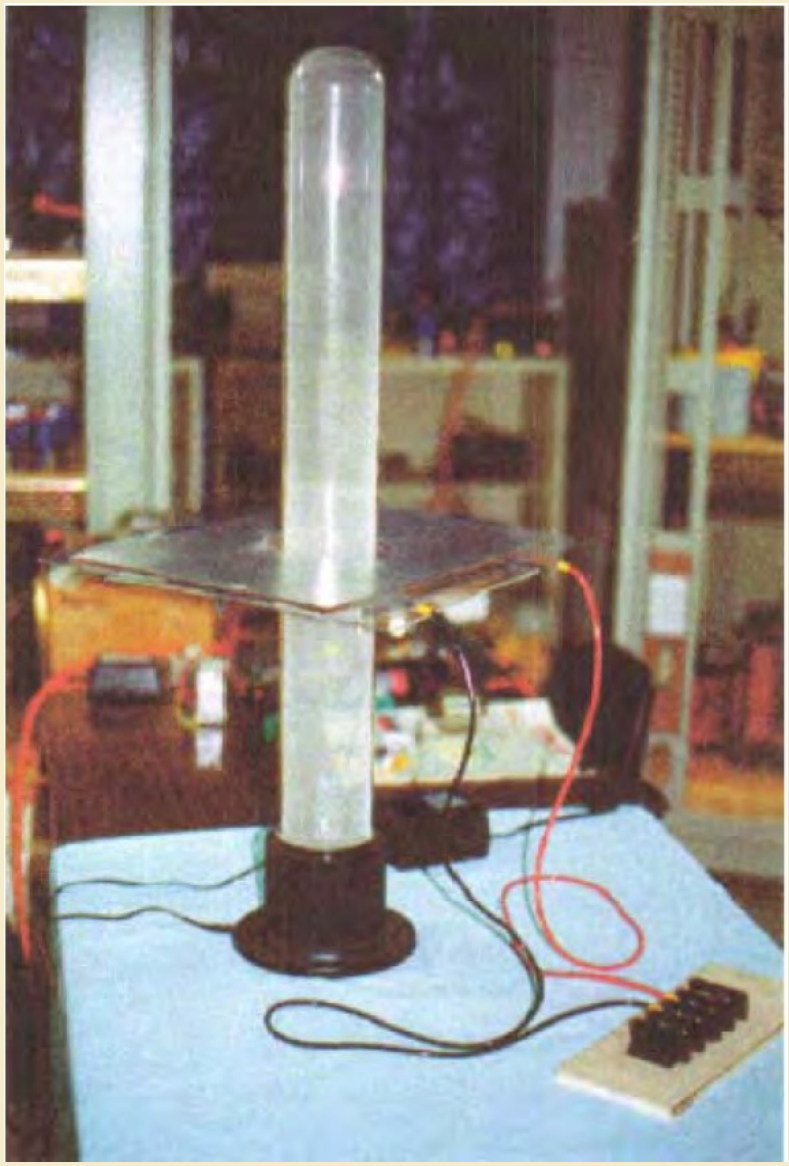
and

“a perpendicular magnetic field flux

of **changing intensity**”.

[1]Electricity is not “generated”. It is “captured” by conversion of widely available magnetic flux into electrical flux. Nature does the conversion. Humans trigger it by creating the appropriate (catalytic) conditions, as listed above.

Smith's “Proof of Concept” Prototype:
The Plasma Tube Device



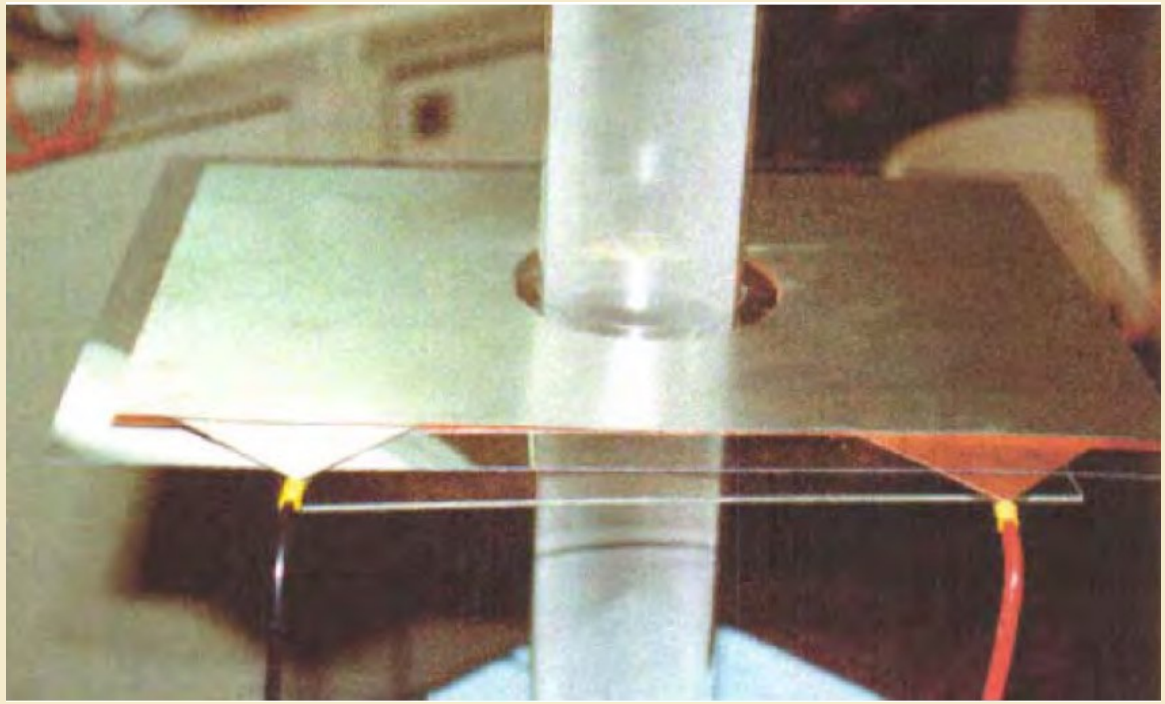
The “conductor”, in this case, is a flat plate capacitor, with one plate made of copper; the other, aluminum.

Excited by High Voltage, High Frequency electronic circuitry in the base of the unit, the plasma emits intermittent electromagnetic waves, which travel alongside the tube, from the bottom to the top.

In so doing, they intersect the metal plates at right angles (perpendicularly). This triggers **induction** in the plates, causing them to **put out electricity**.

(65 Kw, according to Smith).

https://www.youtube.com/watch?feature=player_detailpage&v=-NbmheIGG_Y#t=968



Images: Smith.pdf [http://free-energy-info.co.uk/Smith.pdf]

The Plasma Tube Proof-of-Concept Device as presented in Smith.pdf

(page 68)

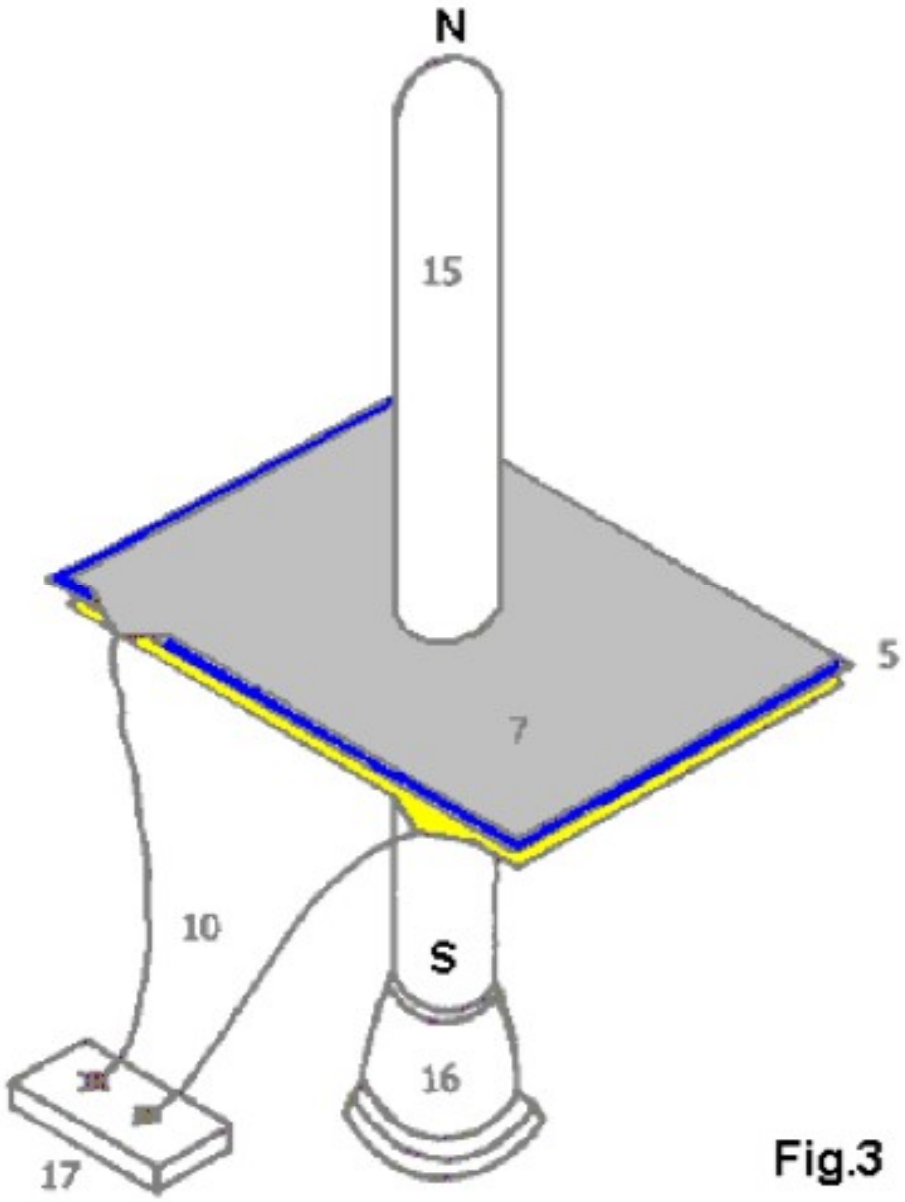


Fig.3

[http://free-energy-info.co.uk/Smith.pdf]

Fig.3 is a Proof Of Principal [*sic*] Device using a Plasma Tube as an active Dipole.

In this drawing, **5** is the plastic sheet dielectric separator of the two plates **7** of the capacitor, the upper plate being aluminum and the lower plate copper.

The connecting wires are marked **10** and the plasma tube is designated **15**. The plasma tube is four feet long (1.22 m) and six inches (100 mm) in diameter. [*Note: six inches is more like 150 mm*].

The high-voltage energy source for the active plasma dipole is marked **16** and there is a connector box **17** shown as that is a convenient method of connecting to the capacitor plates when running tests on the device.

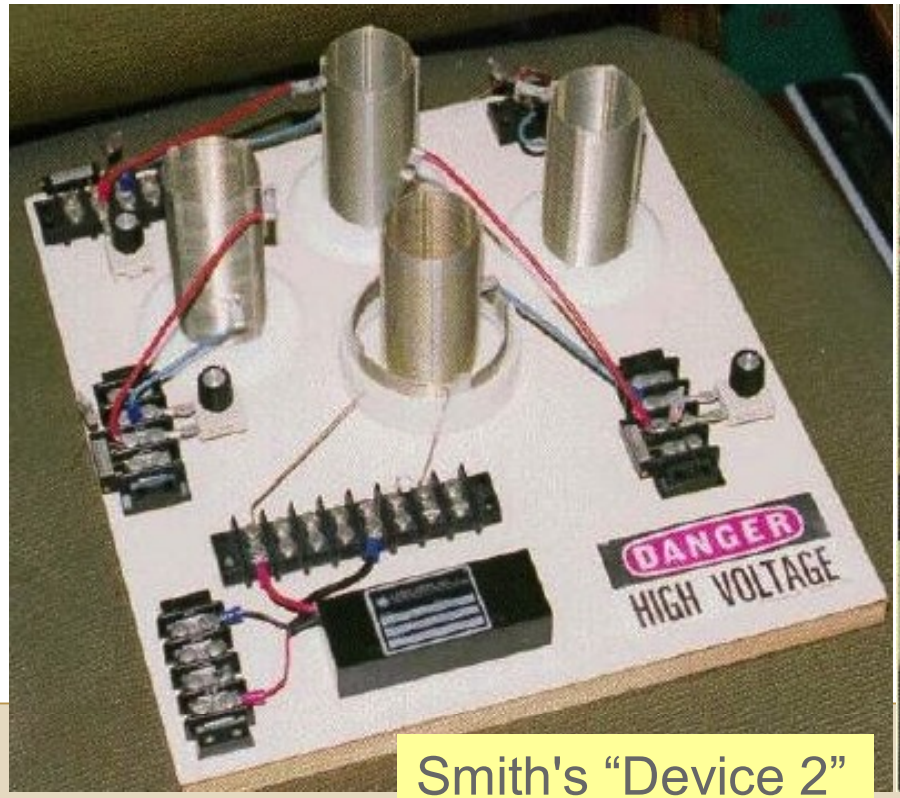
Smith railed against existing power plants as archaic, wasteful behemoths.

GE Series-H Gas Turbine [Wikipedia]

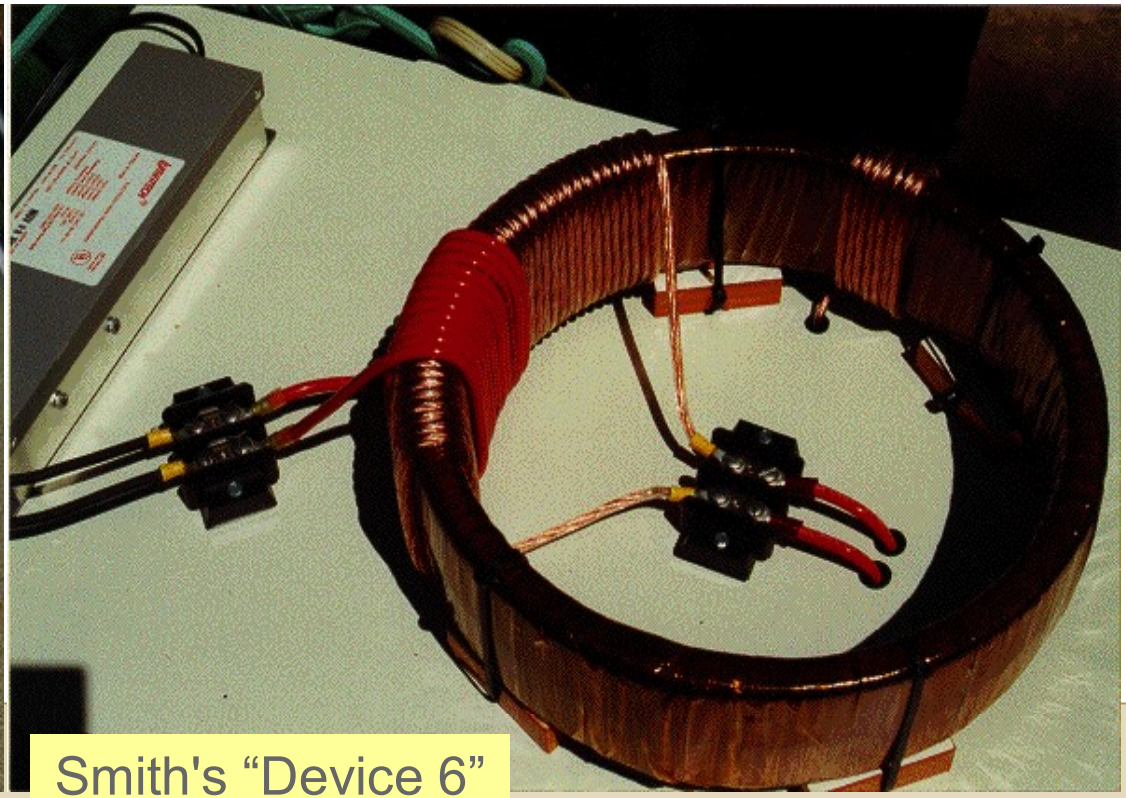
Photo Credit: Carl Lira, Michigan State University
http://www.energyquest.ca.gov/story/chapter06.html

"Present day methodology **requires** mechanical energy **in exchange for** electrical energy. Once obtained, this energy is subject to Ohm's Law. [*Yet, the fact is*] Present Methodology **obtains** its electrical energy **from its non-metal and air groundings**".

[*Smith was saying: No-One really "Generates" Electricity. We all DRAW IT from exactly the same source: the Earth's* ***magnetic*** *and* ***electrical*** *fields. STOP and THINK: there is a MUCH more efficient way to do the job*].



Smith's “Device 2”



Smith's “Device 6”

“This same energy can be obtained **without** the **wasteful** mechanical approach and **at a much, much lower cost**.

Any required amount of electricity is available by **resonant** induction **transfer** from the Earth's magnetic and electrical fields”. - Smith.pdf, pg 38, 39

[*The key word being “TRANSFER”. Smith DOES NOT talk about “getting something for nothing” or energy coming “OUT of THE BLUE”*]

Our man developed an outlook that simultaneously stressed

- the incalculable immensity of the energy **stores** and **flows** within the solar system, and the Cosmos, more broadly – of which planet Earth is an integral part, a fully interconnected sub-system –

along with

- the relative **ease** with which this vast pool of energy can be accessed or tapped by humanity in its present stage of scientific and technological development.

Drawing on these enormous stores of energy was not
hard to do, Smith concluded. He reasoned that:

- Electrons are present in vast quantities in the Earth's Magnetic and Electrical fields – what he called “the Ambient Background”.

- To get them to yield energy one only needs to “disturb” them, by introducing an oscillation in the magnetic field.

- As they act to return to their natural state of equilibrium, they emit minute bursts of **magnetic** and **electric** energy.

The electric charges are lost as **heat**, instantly. The **magnetic** impulses are harvested by intercepting them, in ways that are well known (in essence, Faraday's perpendicular stipulation).

Among the factors making this approach fruitful is the seeming paradox that Faraday had initially identified, and Tesla had skillfully exploited: the shorter the interval of disturbance, the greater the yield it delivered. Or, more concisely:

- the more abrupt the "disturbance",
- the greater its outcome, in the form of voltage.

This suggests a simple, effective strategy: "disturb" electrons repeatedly, while making sure to do it as abruptly as possible. High frequency is clearly an avenue to explore.

The “disturbing”, “cycling” or “flipping” is achieved by **switching on and off**,
tens of thousands – to – millions of times a second,
the input current
to the device being used to agitate the magnetic field.

“The number of times that an electron is **cycled**” [*also referred-to elsewhere as “**flipped**”, "**disturbed**", pushed apart from its “doublet” mate by “agitation"*], “sets the collective energy potential present”. [*“collective” meaning “aggregate”* - Smith.pdf, Page 28]

[*This is to say: the higher the **frequency** (of the “cycling” or “flipping”), the greater the amount of energy “harvested”.*

*The statement indirectly echoes Faraday's second basic assertion: **induction** is a function of the **rate** of change, which – while not the same as frequency – is strongly related to it. This is easily verified in the operation of such devices as magnetic pickup transducers*].

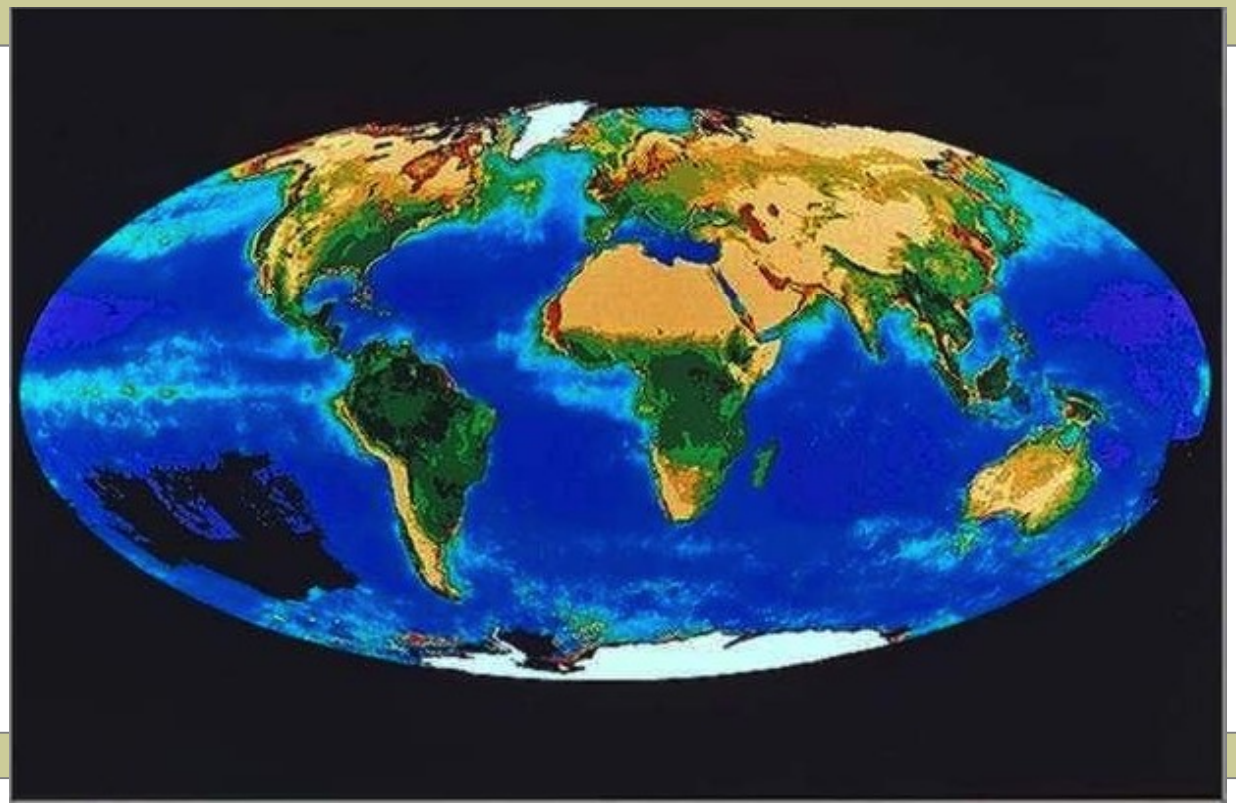
"When deflected,

magnetic flux from electrons

changes

to **electrical** flux,

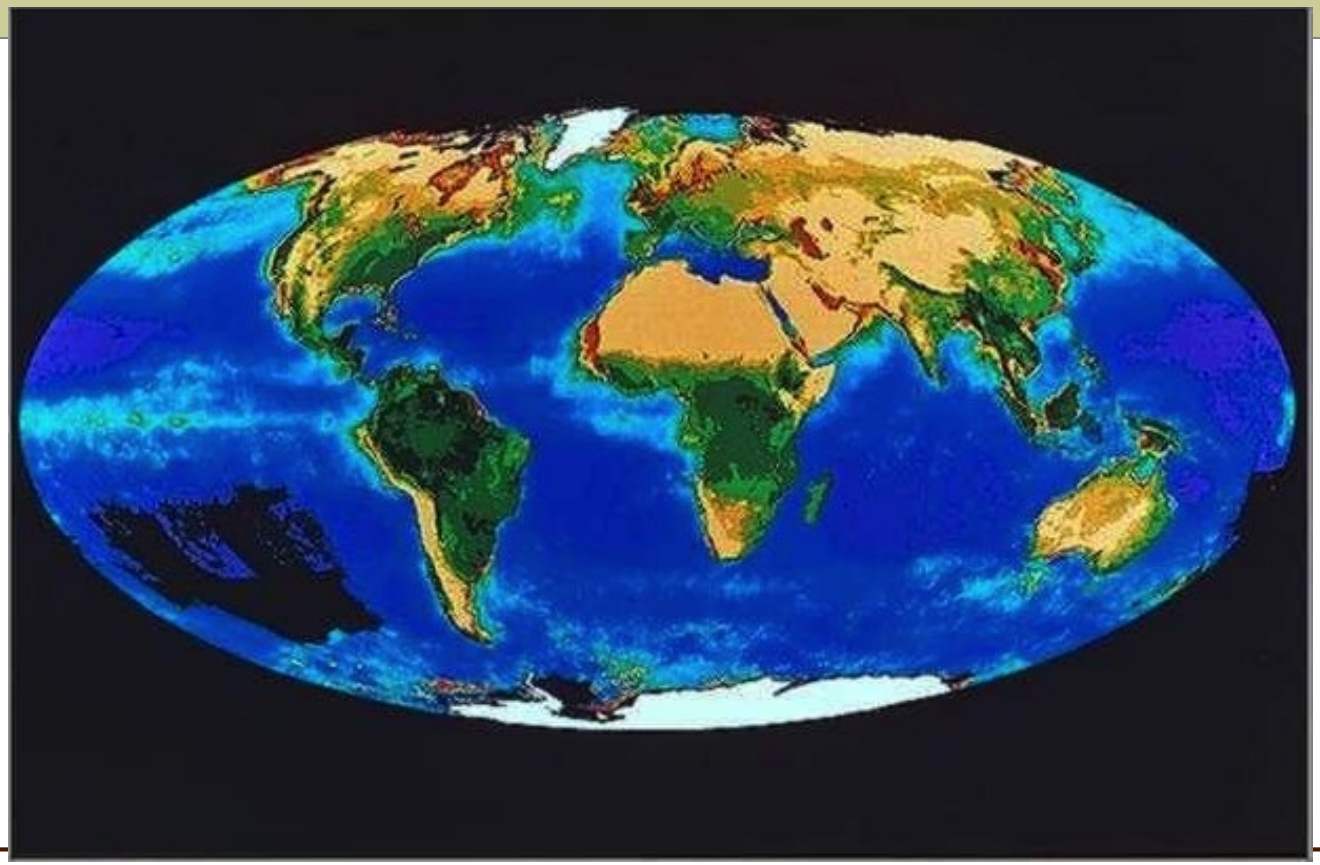
providing



the Motor System **that spins/rotates the Earth**".

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

“What level of **electrical energy** is required to spin the Earth?”



“The Earth's mass in Kg is 5.9 X 10 to the 24th.”

"Physics for Scientist and Engineers", 2nd. Ed., Edited by Raymond A. Serway” - Saunders College Publishing, USA, Page 288

“From this Information, the Watts of Electricity Required may be calculated!”

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

*Note that, in this instance, Mr Smith incorrectly conflates energy and **power**. Watt is a unit of power, not of energy. This is not a minor quibble over terminology: the slip illustrates a fairly common – yet, meaningful – conceptual error.*

“I realized that

energy is everywhere at all times, in great amounts;

that it's **dormant** until you **disturb** it, or **cycle** it…"

['98 Office Interview, 3:06]

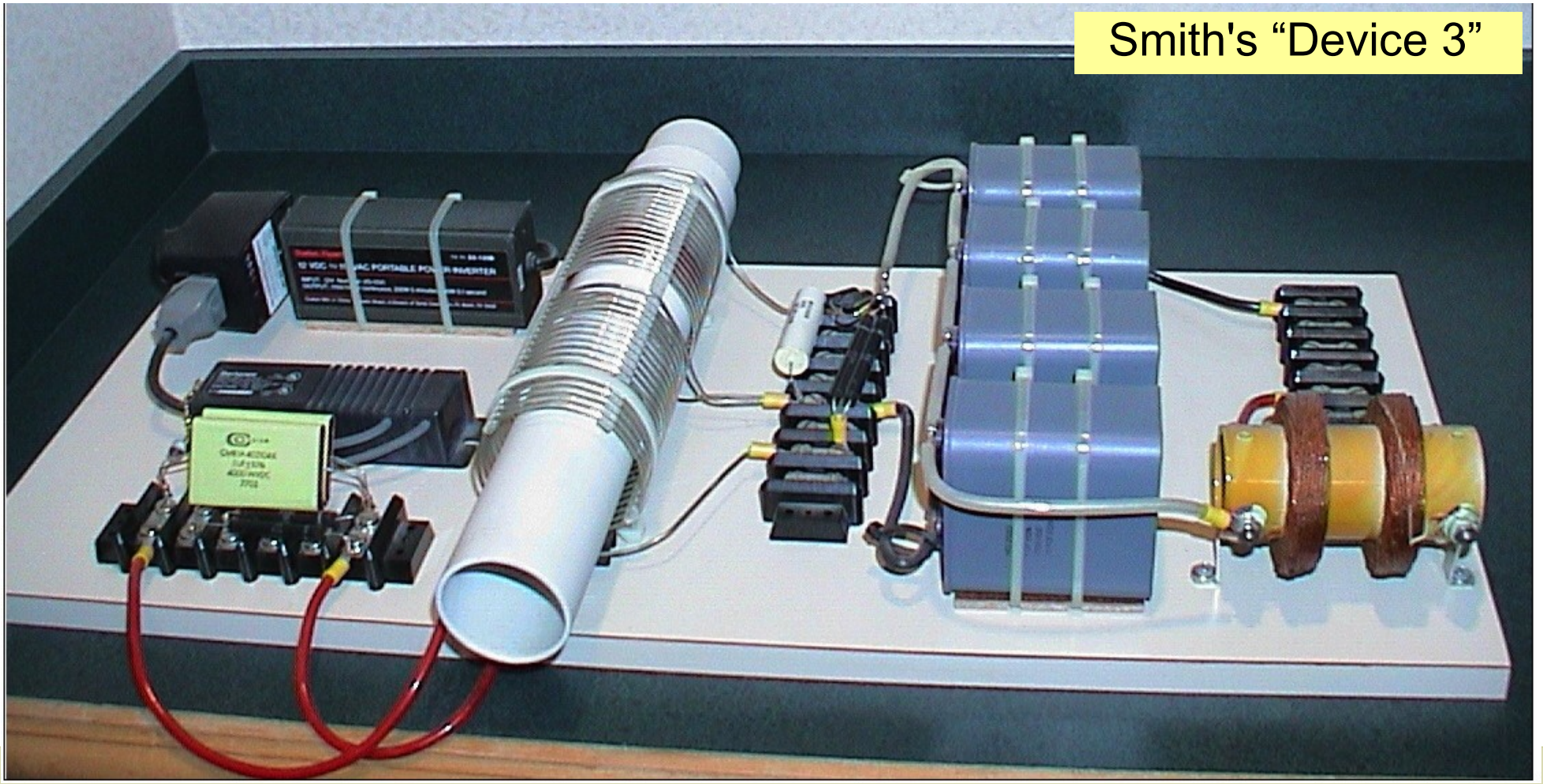
"and the cycling would be the **resonant** activity seen in radio devices"

['98 Office Interview, 3:10] [*This probably means devices operating at or above the threshold of Radio Frequency, generally considered to be 20 KHz*]

"**Resonant** just simply means
that you're flipping the electrons"

['98 Office Interview, 18:10]

'98 Office Interview – don smith seminar on how to make it
[https://www.youtube.com/watch?feature=player_detailpage&v=Mnoy2D4wuf8]



"Technology present here is largely 1800's"
[https://www.youtube.com/watch?feature=player_detailpage&v=Mnoy2D4wuf8#t=1490]

“Energy produced at radio frequency has several major advantages over the conventional system. Ohm's Law does not apply to a **resonant** air-core **radio frequency** system”. *Smith.pdf, page 47*.

"At radio frequency, the electrons **do not** pass through the conductor, as [*they do*] at lower frequencies. These electrons encircle the conductor, and are **free** of the conductor's resistance"
[*Donald Lee Smith, An Answer to America's Energy Deficit, 5th Edition, Jan 1997, page 29*]

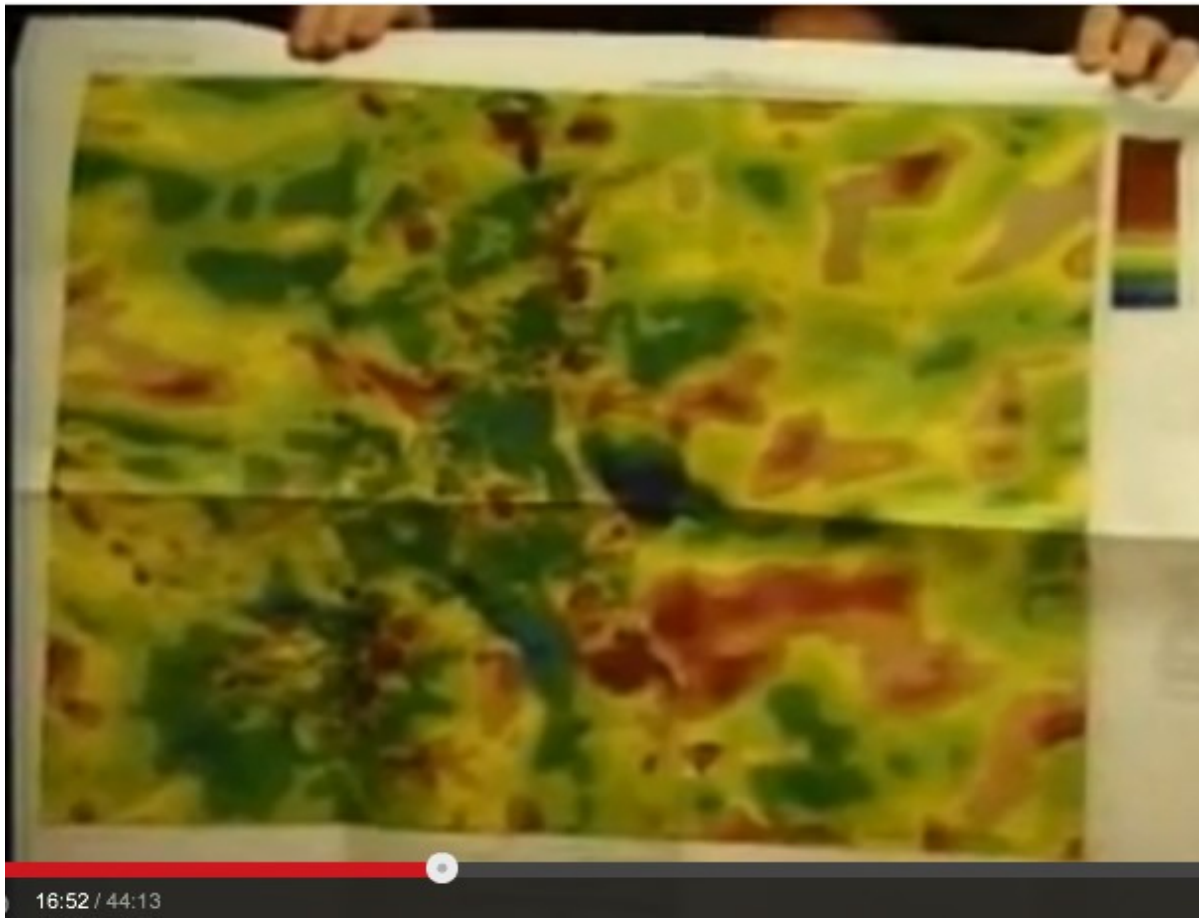
"Each cycling of this **resonant** induction system **pulls in** additional electrons from the Earth's electrical field, generating **electrical energy** in any required amount.

In this system, **a small amount** of electrical energy is used to activate and pull **a much larger amount** of energy into the system". - Smith.pdf, pgs 38-39

"Efficiency of induction relates to the **square** of the cycles per second". [*Faraday had asserted the existence of a "mathematical" relation. Smith specifies that – given frequency X – induced voltage will be a factor of* ***the Square*** *of frequency X*]. [*In light of this…*]

"Compare the ratio of the conventional 60 c.p.s. System [with] the **220 million plus** cycles of my Earth Electrical System II".

The maverick researcher had spent his entire professional life working in the oil industry as a highly competent **prospector**



"Being in the field of **geology**,
there were electromagnetic maps that were available,
which **told** me that the Earth's surface had
a tremendous amount of energy in it, that was useful."

['98 Office Interview, 2:47].

"You have the ionized layers that are up above.

They're one side of a capacitor.

The Earth's surface is one side of a capacitor…"

[*i.e., the other side*]

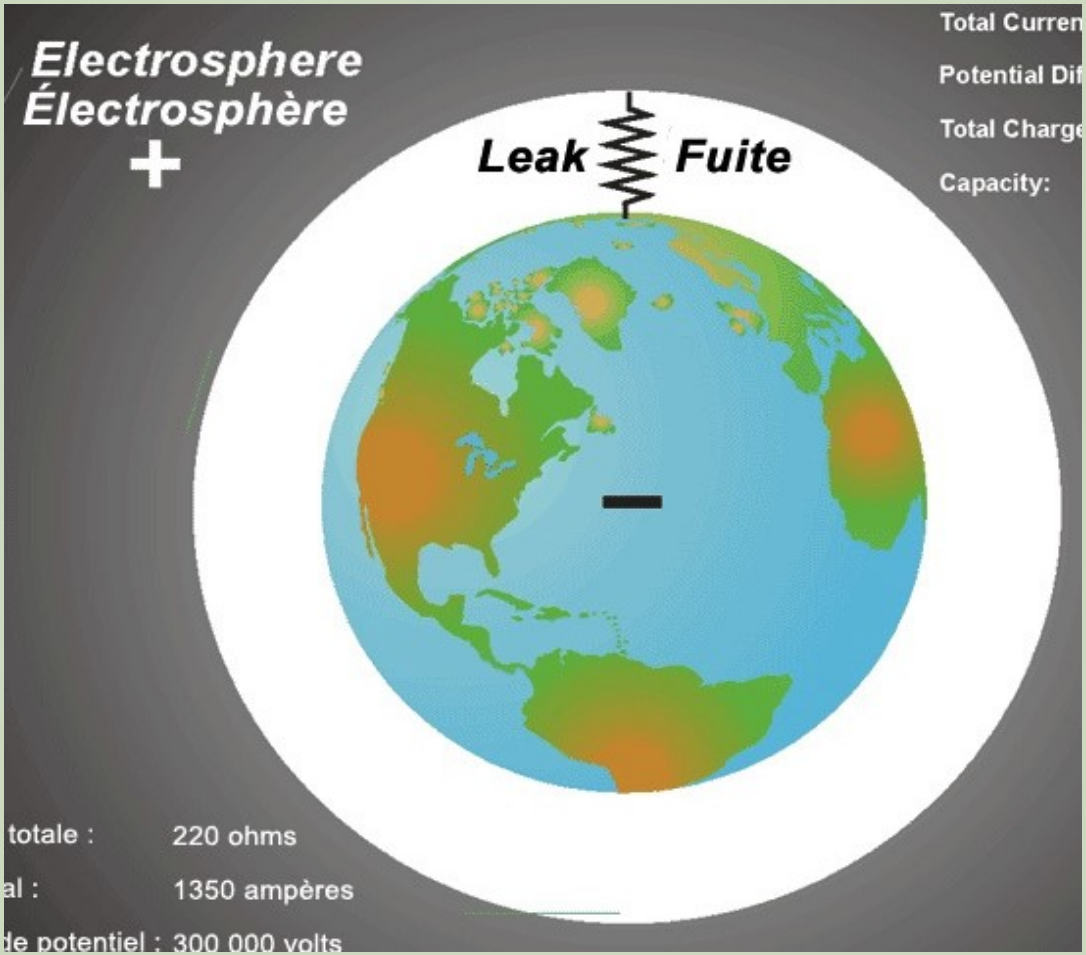


Image: Natural Resources of Canada, wikiversity

"So you have

an enormous electrical potential

between the ionized layers and the earth's surface,
and you have
an exact duplicate of it
in the Earth's surface.

Because, in a capacitor,

ONE PLATE HAS to EQUAL THE OTHER,
or else you've got discharges between them".

[https://www.youtube.com/watch?feature=player_detailpage&v=Mnoy2D4wuf8#t=788]

As a man of considerable ability,
and a keen student of Tesla's work,

Smith was well aware of
the significance
of a particular characteristic of **capacitors**,
which – as we shall see – the Croatian genius had
emphatically highlighted and praised.

Even so, he was able to see
"the bigger picture":

In his day and age,
capacitors were no longer the only
"wonderful electrical instruments"
(*Tesla's characterization of "condensers", as capacitors were known in earlier years*).

Said Smith,
about the time he had spent,
in the late '80s,
meticulously studying
Nikola Tesla's long list of experiments:

"And at the end of it, I realized that
technology had advanced quite a bit, and
there were a lot of new things that were available,
which were **not** available
at the time Tesla did his work"

[https://www.youtube.com/watch?feature=player_detailpage&v=tASY07r9AD0#t=708].

A very big change had occurred since

the transistor

– originally envisioned by Lilienfeld as early as 1926 –
had finally reached practical implementation in 1947,
four years after Tesla's passing.

This had ushered in the era of
electronics, and materials science, in which

semi-conductors
– and doped materials, more generally –

made a variety of new devices and techniques possible

Smith incorporated into his experiments
all manner of newer developments and devices:

from
magnetostrictive materials, like

Terfenol-D and Metglas,

to the latest in

gas discharge tubes, varactors, thyristors,
high frequency diodes, and – last but not least –
inexpensive, off-the-shelf
switch-mode power supplies.

Yet, it was a humble,
home-made, flat plate

capacitor

that he featured at center stage when he demonstrated
how astonishingly simple it could be
to "tap the ground"
for power

"The **simplicity** of the Device
– said Smith, in an e-mail, just prior to one such demonstration –
will cause many to take a second look
at their research methods".

[https://web.archive.org/web/20050411011215/http://freeenergynews.com-80/Directory/Events/2005/InventorsWeekend/]

[*Oh, and by the way…*]

"Most of the things that are in my devices which I demonstrate were put there <u>because people expect to see them</u>, **not** because <u>they need</u> to be there".

['98 Office Interview
Beginning of New Bonus Footage – How to build your own device]

[*And again, as he was about to start the 2005 demonstration:*]

"So we're going to actually demonstrate the case here, so you can see it working **with your own eyes.**

"It's **not** very complicated;

it's **much** simpler than anyone would **ever** have imagined,

and

the energy which you're using is

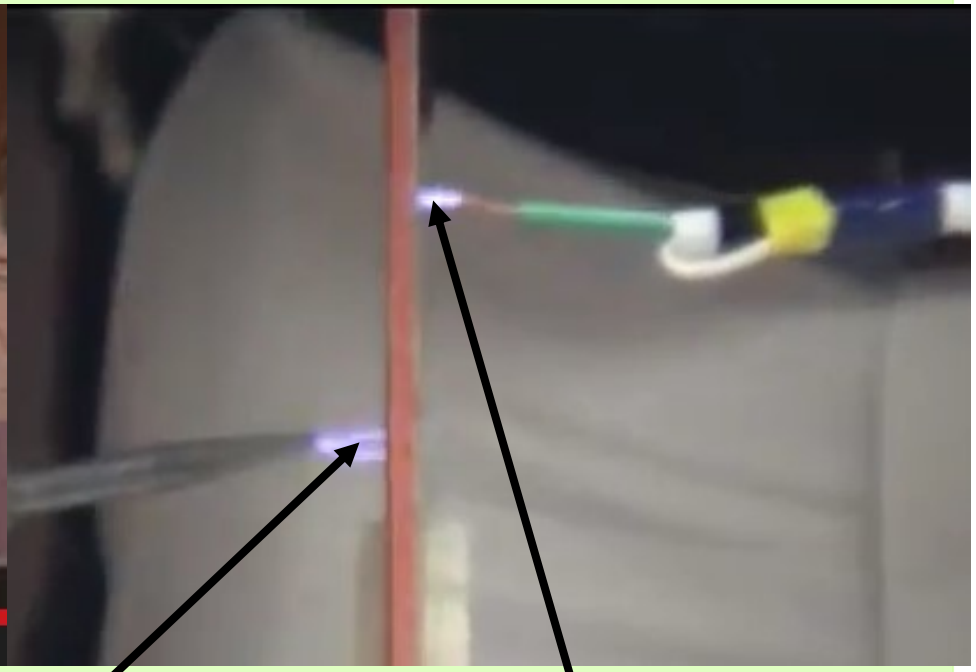
the ambient **energy** background

which spins the Earth around".

[https://www.youtube.com/watch?feature=player_detailpage&v=pjMkfRiLA6E#t=704]

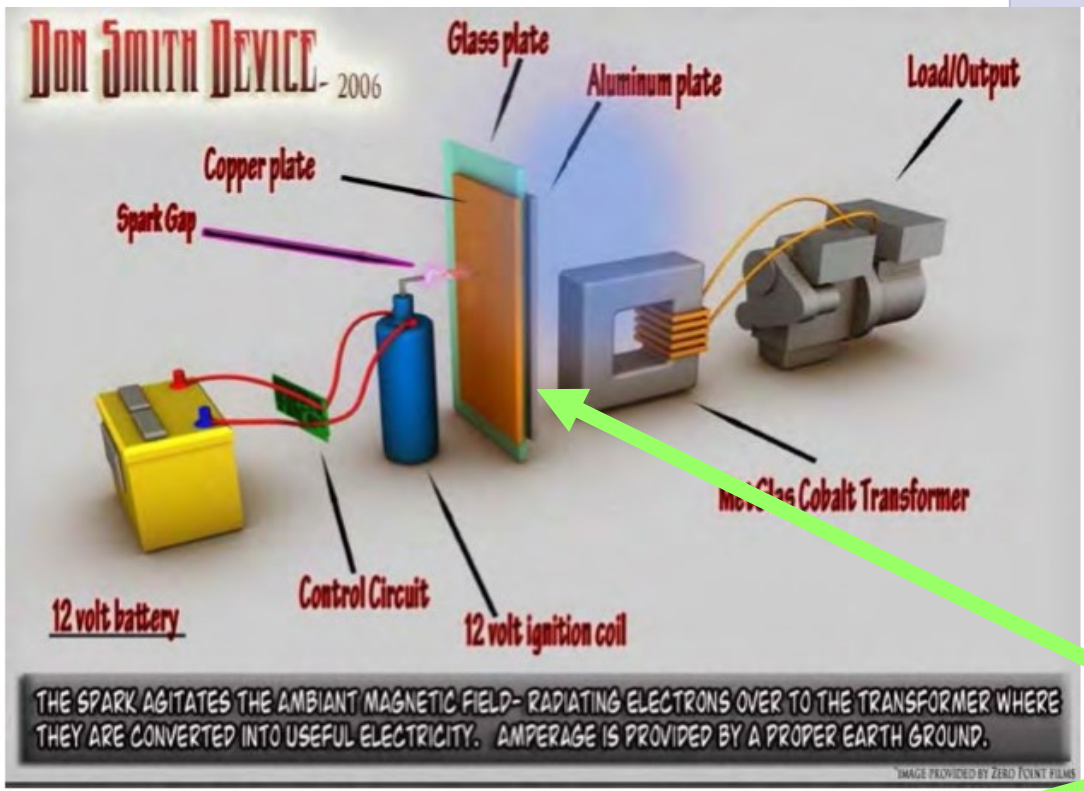
On at least two occasions, [2005 Inventors' Weekend, 2006 Tesla Tech] Smith demonstrated how to use a home-made **capacitor** [hit on one plate by intermittent, HF pulses] as a triggering device to elicit current flow **from ground.**

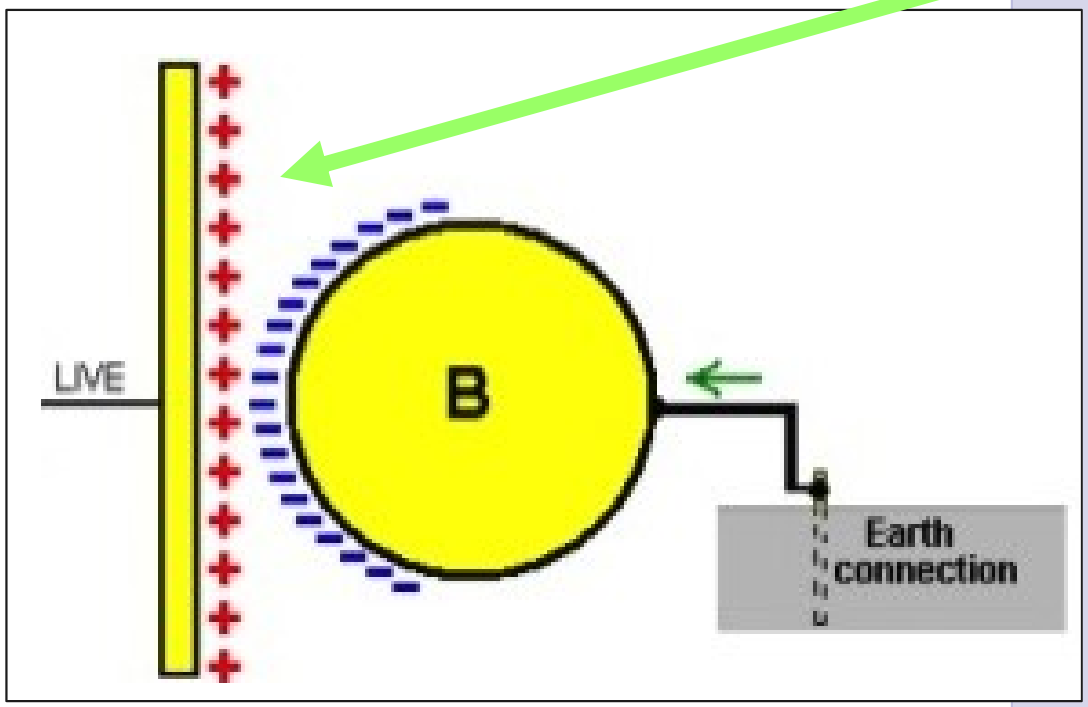
(*Voltage on the two plates of a capacitor MUST equalize, or…*)



High Frequency pulses produce "disturbance" in the Ambient Background

Current flows INTO system, FROM ground





A schematic 3-D diagram appearing in Utkin.pdf, depicts a similar scenario. A **magnetostrictive** transformer core picks up magnetic oscillations / pulses caused by high frequency, (switch-mode) electrical current applied to one plate of a **capacitor** (via spark gap) and delivers them, enhanced, to secondary, for output.

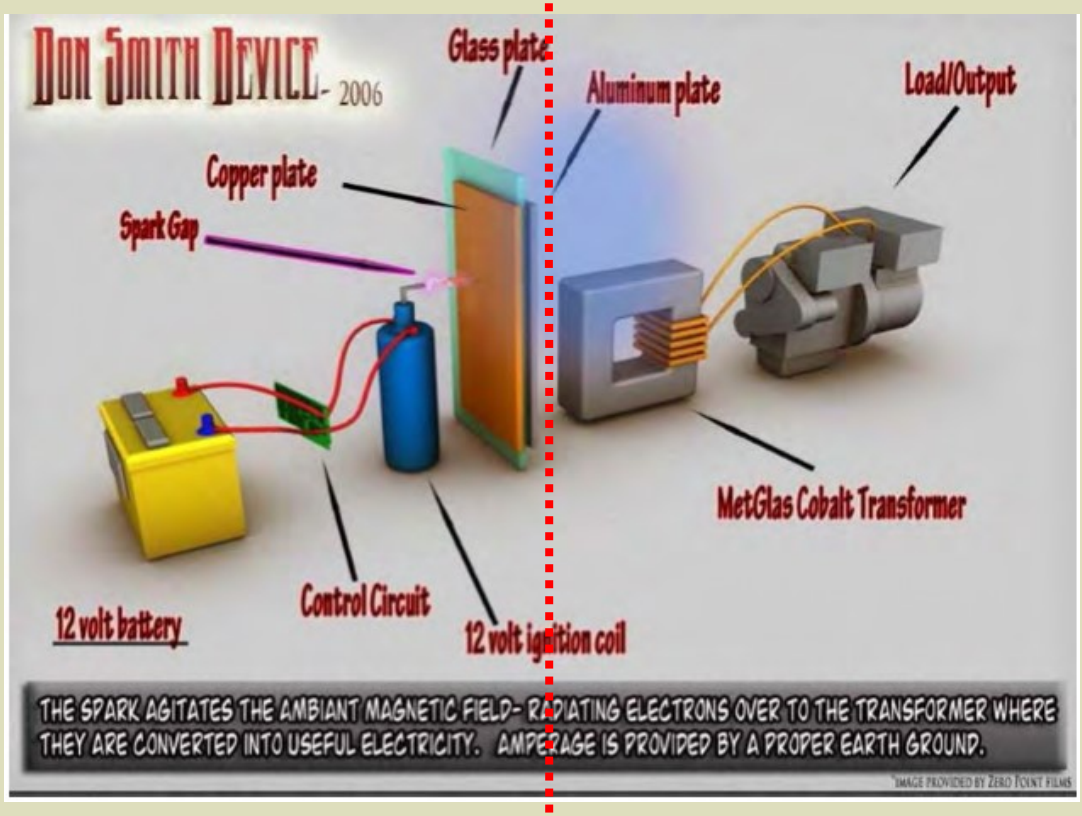
(top image) As the "primary" plate of the capacitor is impacted by the intermittent pulses from the coil (blue bottle shape), the resulting oscillations on the "secondary" plate will be "picked up" by the magnetostrictive core, as illustrated in the detail schematic of a comparable setup by Patrick Kelly (bottom image).

[3-D diagram produced by Zero Point, sourced from Utkin.pdf, page 13]

http://www.slideshare.net/engpjk/ultrasimple-freeenergy-from-lorrie-matchett

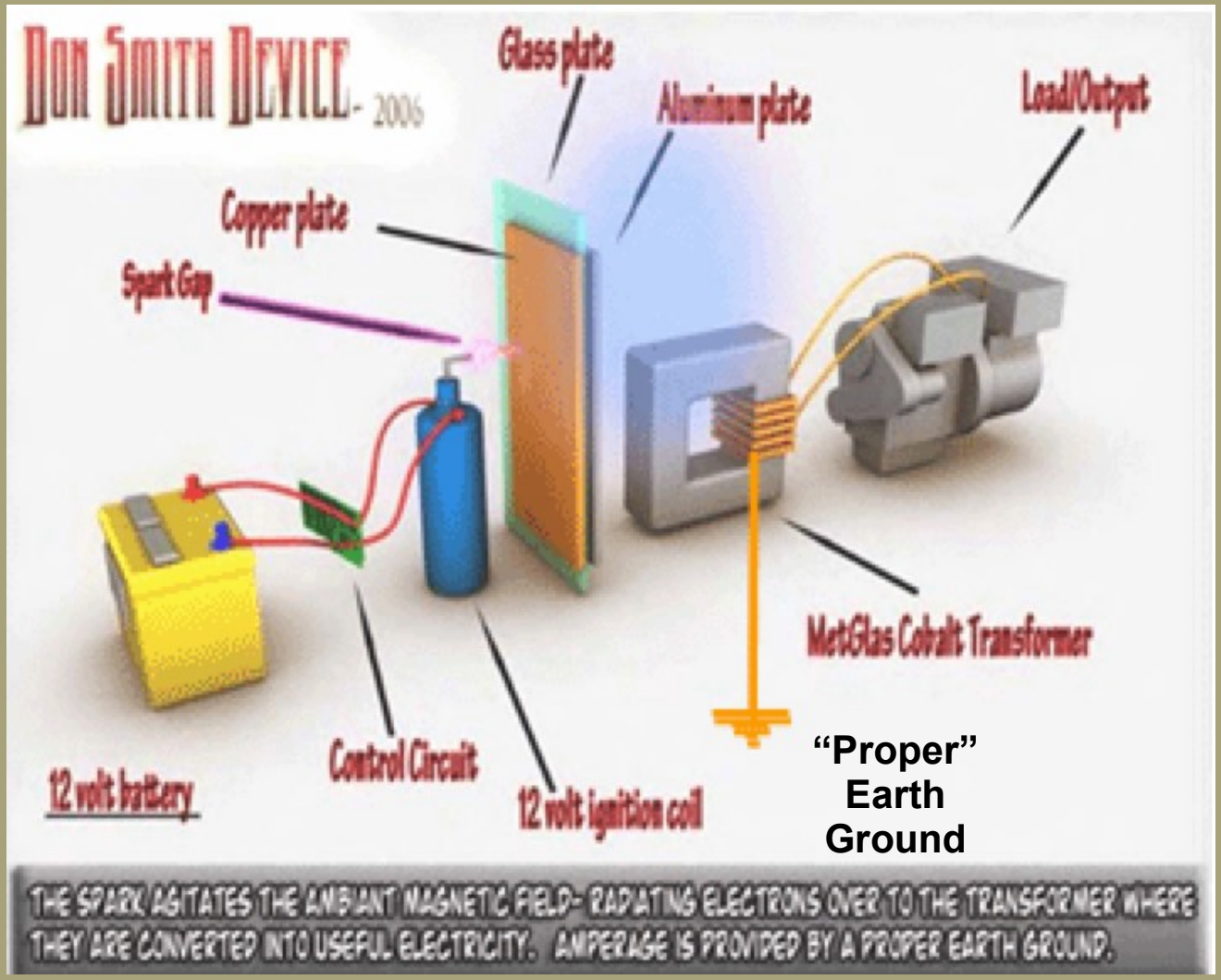
Similarities and differences between the 2005 demonstration gear and the 3-D diagram are worth noting.

To the left of the dotted line we see that <u>both systems are functionally identical</u> (top arrangement uses plug-in unit as opposed to battery power. Black box variable voltage power supply performs functions of PCB and coil in bottom diagram. Functionality is nevertheless identical).



To the right of the dotted line, however, there are elements present in <u>each</u> of the set-ups which are <u>NOT</u> present in the other.

Food for thought?



[http://www.free-energy-info.tuks.nl/VladimirUtkin2.htm]

Utkin's approach to the integration of the two set-ups is the one suggested on the illustration itself: "amperage" is provided by "a proper earth ground".

While this is one possibility (a ground wire apparently leading off near one end of the secondary), it's not the only option.

Nor, necessarily, the most appealing when it comes to promoting gain.

But (perhaps more importantly):

what, exactly, is a "proper" earth ground, in Smith's mind?

“**Grounding is a**
relative sort of thing.

It's that
there's more of 'something' here and less of 'something' here, so
it's going to move
between the more to the less, or something,

and

it's **that leg** that's in between there
that's your **useful energy**”.

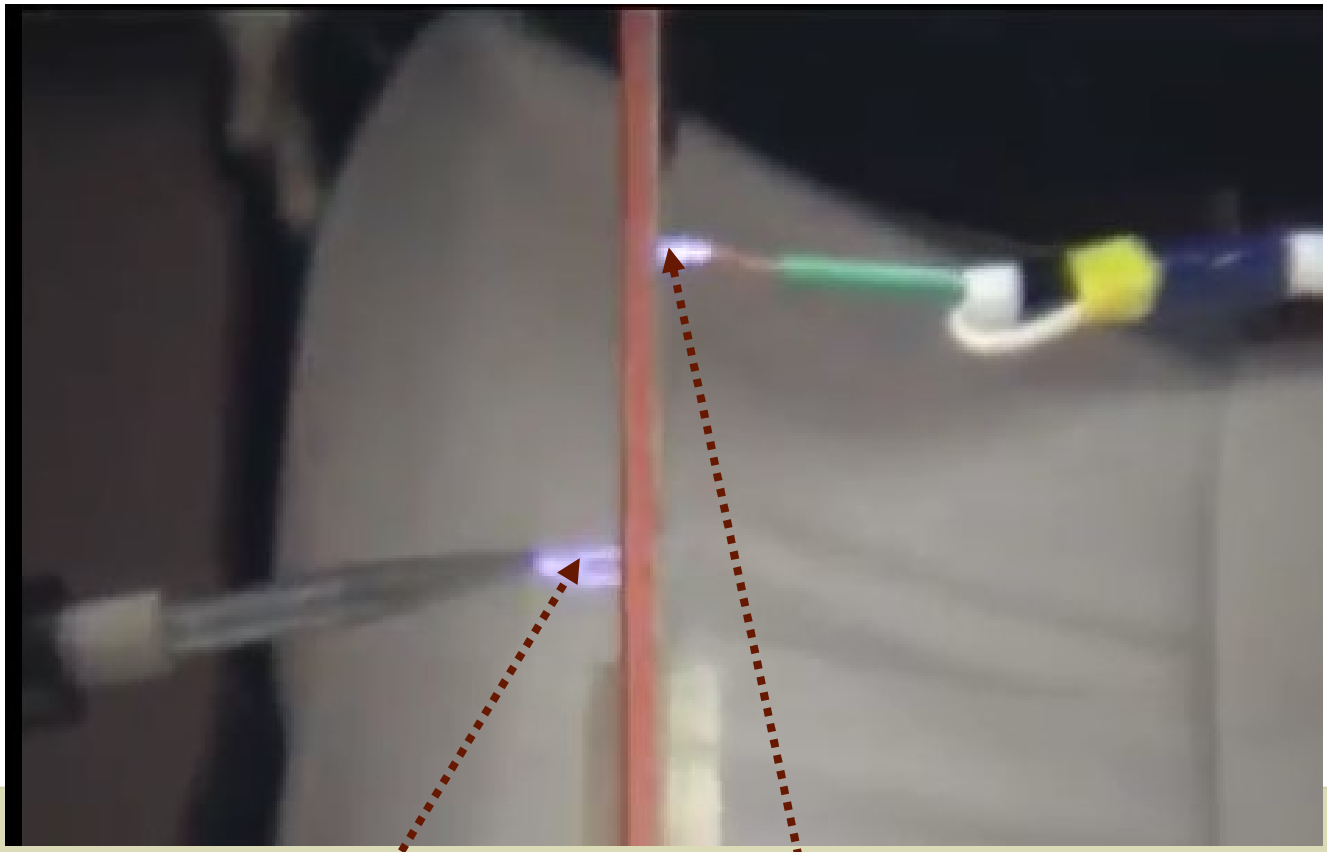
2001 Inventors Weekend -
[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=3106]

*Smith's capacitor “trick” would appear to amount to “agitating” the ambient background, while “presenting” to it a region of space (the “far side” plate of the capacitor) whose density of **negative charges** (electrons) is, or appears to be, **lower** than that of ambient.*

INSTANTLY, Nature moves to “rebalance” the situation.

a direct source

"Carbon-related substances and other **non**-metals, when subjected to friction, give up **negative electrical charges**…"



"It is important to note that approximately **70%** of the Earth's exposed crustal portions (surface) consist(s) of **silicone**-related non-metals (electron **donors**), and become(s)

a direct source of electrical energy

when **properly** agitated". - Smith.pdf, page 38

[https://www.youtube.com/watch?feature=player_detailpage&v=pjMkfRiLA6E#t=663]

That Pesky "Little" Matter of "PROPER" GROUND

Smith's concept of "proper ground" appears to have been the diametrical

OPPOSITE

of "conventional" "proper ground".

His devices RELIED on "silicone-related non-metals" as generous DONORS of NEGATIVE CHARGES.

Silicone is another word for SAND, which conventional ground connections quite specifically act to AVOID.

But Smith was NOT seeking to "dissipate away" "excess" / "stray" / "transient" currents or other "undesired charges".

He was treating ground
(both earth- and air-) as a

SOURCE.

He was literally and unabashedly <u>using</u>
(one might even say, manipulating) ground
to TAP the planetary system for

Energy,

in the form of "negative charges" / electrons.

*While **everyone else** seemed content to treat ground as a convenient DUMPING SITE and SINK, always at hand <u>to take</u> undesired charges **off** their systems,*

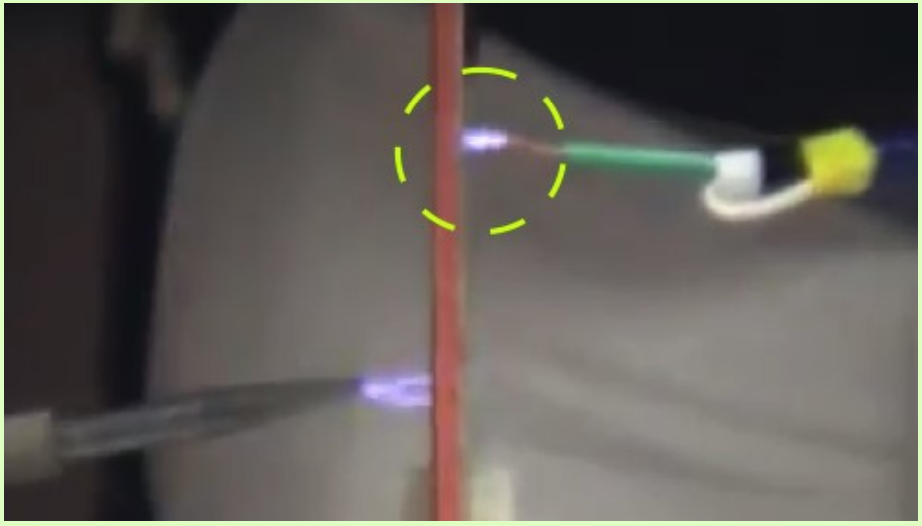
our man
could barely contain his astonishment!

In his gentle old-timer's hushed tones,
he was all but YELLING at the top of his lungs:

*What's WRONG with you, folks? Can't you **see** that such a massive sink is, by definition, an equally massive*

REPOSITORY?

What do you mean
"there's an energy 'shortage' "?



LOOKEE HERE, friends:
all's you gotta do is TAP!

Predictably, Smith **insisted** that, to fully grasp what the real world had to offer, people needed to STEP OUTSIDE a constrained mode of thinking

"The **mindset** of the professional Electrical Engineer is **restricted** to non-resonant and iron-core coil resonant systems. [*It fails to consider that*] Ohm's Law, when applied to **resonant** air-core induction systems, becomes system resistivity (impedance, Z).

"Z" becomes zero at **resonance**.

"With impedance being **zero**, the System grounding is **coupled** directly into the Earth's **immense** electrical potential". - Smith.pdf, pg 48

[*Note that, in Smith terminology, "**Resonant** just simply means that you're flipping the electrons"*] – ['98 Office Interview, 18:10]

Smith was saying

(and his devices were showing)

that

- There is a **colossal** (essentially, limitless) amount of energy available to us, at our fingertips.
- It is stored – in "dormant", primarily magnetic, form – in the "ambient background"; i.e., all around us.
- Magnetic and electrical forms of energy are intimately intertwined: one of them is **never** present without the other.
- It is **not** seriously difficult for us to "tap" this vast source, given the great diversity of electronic devices and specialty materials we have developed.
- Nature's energy storage medium is primarily magnetic, while our equipment is designed and built for the electrical form of the stuff. We therefore need to **convert** one into the other to get our hands on "useful" energy.

Some of the things Smith demonstrated in the mid-'90s have become a fairly accepted and “fashionable” notion in the 2010's. They're being marketed as wireless power transfer, wireless charging, resonant inductive charging, etc.

But there's a difference:

Smith was not **arbitrarily** limiting himself to the

TRANSFER or DISPLACEMENT

of a **fixed** quantity of electric energy from point A to point B

(as wireless charging is content to do)

He was powering devices
that allowed him to

HARVEST

(from the “ambient background”)
significantly MORE energy than it took to run them

Again: the function of the typical Smith device is NOT
to MOVE a given quantity of energy – in its electrical form – from point A to point B.

What it's designed to do, is to

set the Ambient MAGNETIC Background into oscillation.

Such an "agitated" background constitutes a (perpendicular)
"magnetic field flux of changing intensity" [as per Faraday] which
– by initiating **induction** in the system's "intake" or secondary coils –
simultaneously does two things:

a) triggers an INFLOW of energy into the system
(from the Ambient Magnetic Background), and

b) CONVERTS that energy into its ELECTRICAL form.

[*This, it should be noted, IS the way in which* ***induction***
"produces electricity", or "voltage", whenever and wherever it does it.
Not just in the case of Smith's devices, or in any particular instance]

Smith sharply attacks
"Present Methodology"
because, he explains,

Those Cumbersome Behemoths
DO THE SAME THING
that his devices do, only…

in an Obscenely Expensive and Antiquated way:
by mechanically **FORCING** a magnetic field past coils of wire,
which **naturally**, and vigorously, REPEL IT !!

This REQUIRES
untold amounts of mechanical energy
(which needs to be PAID FOR).

Just like Smith's

much more ingenious,

repulsion-free system,

ALL THOSE CLUNKY Rube Goldberg Contraptions ARE DOING is

setting the Ambient Background into magnetic oscillation,

thereby triggering INDUCTION in their coil systems.

IN BOTH CASES,

it is the INDUCTION that "produces" the electricity.

Which method would you say

MAKES THE MOST SENSE?

IN BOTH CASES,
it is the INDUCTION that "produces" the electricity.

Having said that,
there IS a clear difference
in favor of Smith's approach
(aside from the "minor detail" of not having to "pay in"
LARGE amounts of mechanical energy
"to get into the game" of obtaining electricity).

Unlike its conventional counterpart,
Smith's method targets, and activates,

HIGH FREQUENCY, RESONANT
Induction

Hundreds of Thousands to
Millions of Cycles per Second,

together with

impedance (Z) at ZERO,

allow these types of systems

to **DRAW IN** energy
from the endlessly abundant Ambient Background
(a.k.a., the Earth's Magnetic and Electrical fields)
with the greatest of ease.

Resonant, High Frequency Induction is

TURBOCHARGED ELECTROMAGNETIC INDUCTION

ON STEROIDS

So we have

TWO “COMPETING” SYSTEMS

ONE is INORDINATELY COMPLEX.
Plants associated with it are – surprise, surprise !! –
VERY COSTLY to DESIGN and BUILD.

In addition, they are **SEVERAL TIMES MORE** expensive
to OPERATE, over their lifetimes, as they REQUIRE some form of
“CONSUMABLE” to be eaten up for every second of use.

In exchange for all that, this system makes sure to deliver

AS LITTLE ENERGY AS POSSIBLE

by running at a snail's pace (50/60 cycles),
and making no attempt to take advantage of resonance.

THE OTHER SYSTEM

Takes the “radical” approach of relying upon
BRAINS, not BRAWN.

SIMPLICITY is at its core, as Smith repeatedly demonstrated.

Devices based on it are VERY INEXPENSIVE to design and build
(abundant supply of off-the-shelf components and materials).

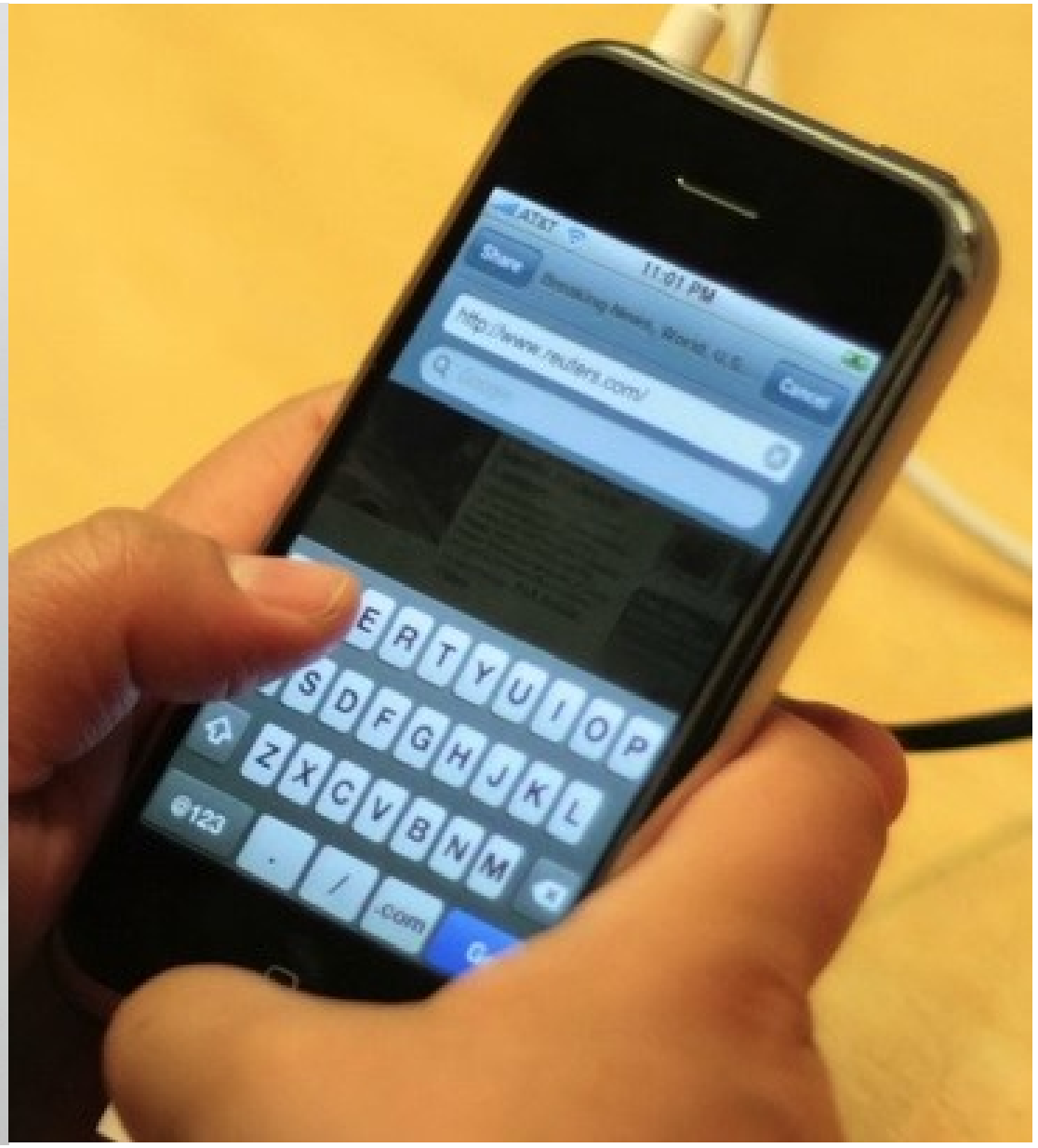
It REQUIRES, as its sole “CONSUMABLE”, a small amount of power,
to set off, and sustain, a “magnetic field flux of changing intensity”.

In exchange for all that, it enables us to
DRAW IN (help ourselves to)

“ANY REQUIRED AMOUNT” of Energy
from the Earth's Magnetic and Electrical Fields

by running at HIGH FREQUENCY, and fully
exploiting the advantages of operating
at RESONANCE.

TWO SYSTEMS



Care to take your pick?

SECTION 2 – Theoretically Speaking

A word or two from

SMITH
on
THEORY…

(*with terminology occasionally "interpreted"*)

“[T]he key to
unlimited energy,

is

Magnetic Resonance”.

Smith.pdf, page 16

"**Non-linear** and **Open** Systems

are universally available, in

Magnetic Resonance Systems,

Explosions of any sort [including Atomic Explosions],
and Combustibles of any type.

Mechanical equivalents would be
levers, **pulleys** and **hydraulics**.

A highly obvious example is the Piano, where
the key impacts the one note, giving one sound level,
which resonates with its two side keys,
providing a **much** higher sound level".

Smith.pdf, pages 16, 17 – emphasis added

[*Smith is saying: no-one is shocked to see various forms of* ***gain***, ***advantage***, *and* ***amplification*** *in physics…*

EXCEPT when it comes to Energy!]

“My Concept of the Forces of Nature differs from the conventional”.

“It consists of a weak and a strong force, each being additionally composed of electrical, magnetic and gravitational (fields and waves).

Any two of the three constitute the third member.

Gravity "B" of the weak force competes with humans on a daily basis.

Gravity "A" of the strong force is the force that holds the Solar System and the Universe in place.

Energy from the Electrons represents the weak force.

Energy inside the Atom represents the strong force 'A' ".

[https://www.youtube.com/watch?feature=player_detailpage&v=pjMkfRiLA6E#t=88]

"As **a source of electrical energy**, non-ionic electron **doublets** exist in immense quantities throughout the universe. Their origin is from the emanation of Solar Plasma. When ambient electrons are **disturbed** by being spun or pushed apart, they yield both **magnetic** and **electrical** energy".

Smith.pdf, page 72

"In coil systems, magnetic and amperage are one package. This suggests that **electrons** in their **natural** non-ionic state, exist as **doublets**.

When pushed apart by agitation, one spins **right** (yielding **Volts-potential electricity**) and the other spins **left** (yielding **Amperage-magnetic energy**), one being **more negative** than the other".

Smith.pdf, page 72

Dennis Lee's representation of an electron doublet, at "rest". A smaller, more dense, toroid "nested" within its larger mate. Low-energy **weak force** is all that's required to disturb them.

"One volts' worth of electrons, when **cycled**, yields one volts' worth of electricity. This can be repeated continuously forever and **it never depletes or diminishes the electrons in question**. They simply return to their air and/or earth source, waiting to do the whole thing again and again".

Smith.pdf, page 27

"Energy **cannot be** created or destroyed, energy can only be **transformed** or **converted**"

"My Concept of the Forces of Nature
differs from the conventional".

"**Weak** force is required to dislodge **electrons**,
and **strong** force (atomic) to dislodge protons".

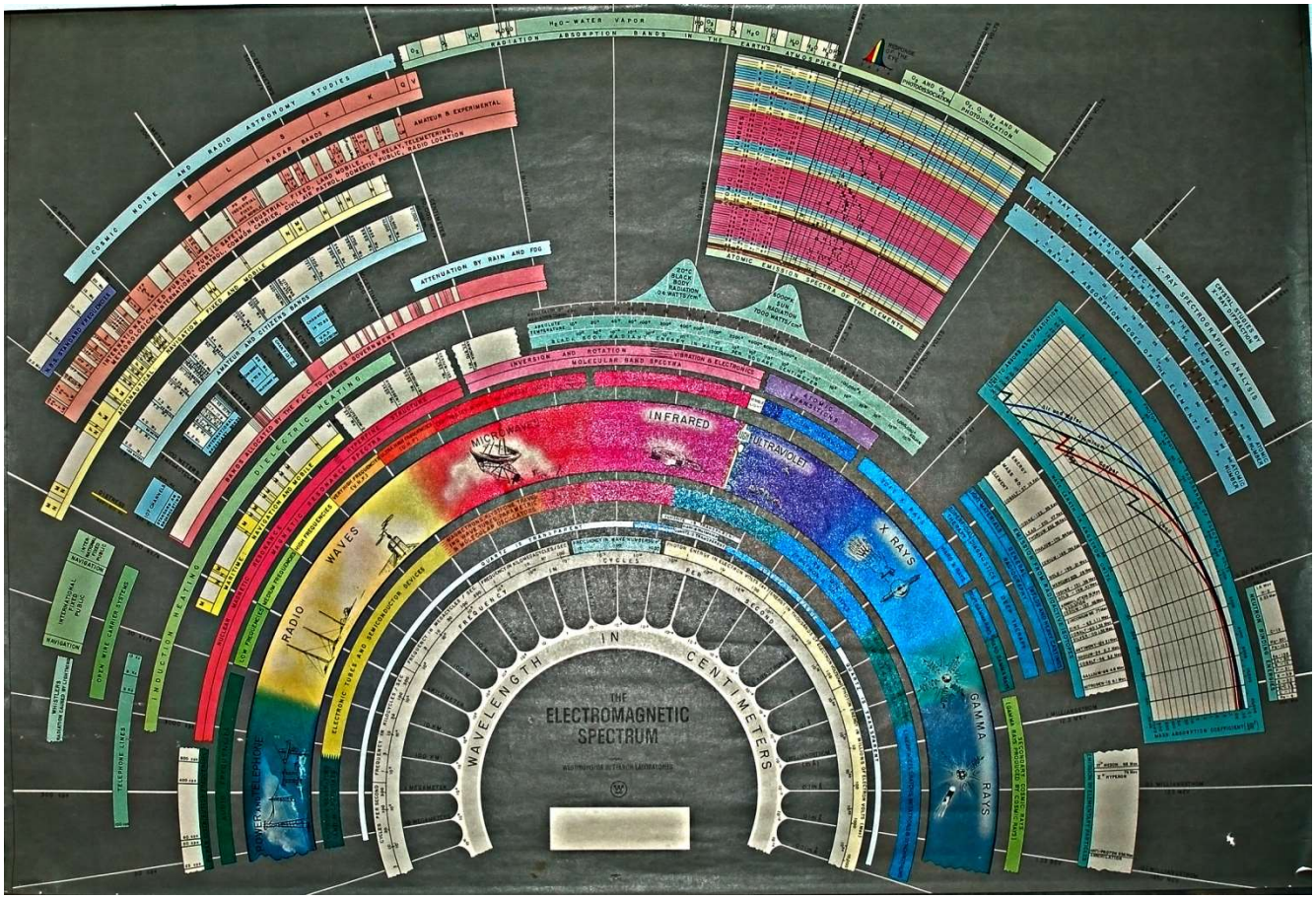
"Unless dislodged, these particles are of little value
in producing Conventional Electrical Energy".

Electrical Energy **flow** consists of
a higher concentration of electrons
moving to an area
of lesser concentration.

"Therefore, in conventional electrical energy production,
the particle of importance is the negative electron".

Smith.pdf, pages 46, 47

ELECTROMAGNETIC SPECTRUM ENERGY:



Old Westinghouse Chart of the Electromagnetic Spectrum 6807093387_513c1d9596_o - Some rights reserved - by Skip Steuart

"This Energy has four physical expressions, being

radiated,

reflected,

deflected, and

absorbed".

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

"This Energy becomes **useful** when displaced from ambient background".

"Being other than ambient, a **pressure** or **potential** [*read: a voltage*] develops, which needs [*spontaneously, naturally, seeks*] to return to its back- ground". [*Smith spells this as a hyphenated word, which underscores "ground"*].

"This Leg **between displacement and equilibrium** is then **useful** Energy".

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

When SMITH employs the expression
"useful energy",
he is referring to **energy**
in its electrical (as opposed to magnetic) form.

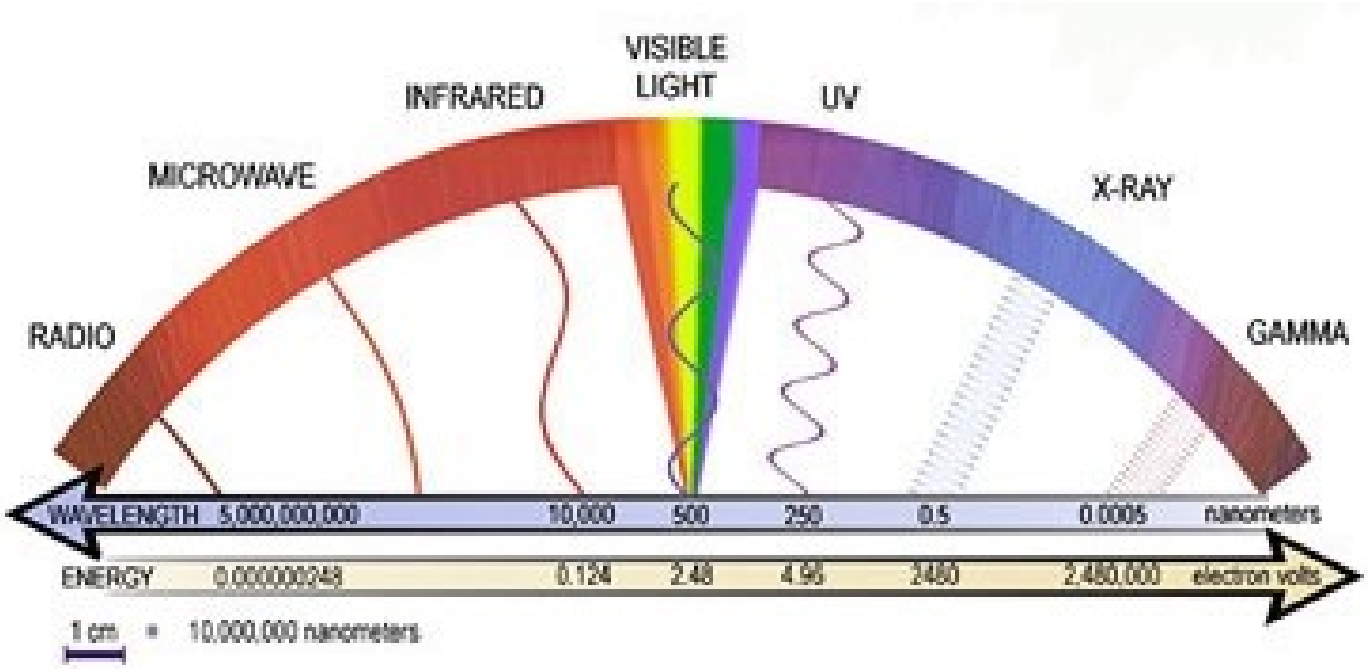
We have a wide range of equipment designed and built
to exploit energy in its electrical form,
virtually none that can employ magnetic energy directly

The **"leg"** is the interval or gradient
that the "disturbing" or "dislodging" action has created,
between electrons that are now
above or below **the ambient level of potential**,
and that level itself,
which represents **equilibrium**, and toward which
they will immediately seek to return.

As they do, our equipment
can harvest or capture the **magnetic** impulses they emit,
by intercepting them "at right angles."
(Electric impulses, which are also emitted, tend to be lost as **heat**, instantly)

"Physics of **useful** energy…
… **requires <u>disturbing</u>** the ambient background.

In Electrical Systems this occurs when <u>non-ionic electrons</u>, **present everywhere**, are **<u>disturbed</u>**, spinning left <u>and</u> right by alternating [*most likely meaning "pulsating", by rapidly switching power on & off*] the electro- magnetic wave environment present".



"<u>Pulsating</u> **magnetic** waves, when <u>deflected</u>, become **electrical** waves, <u>and vice versa</u>.

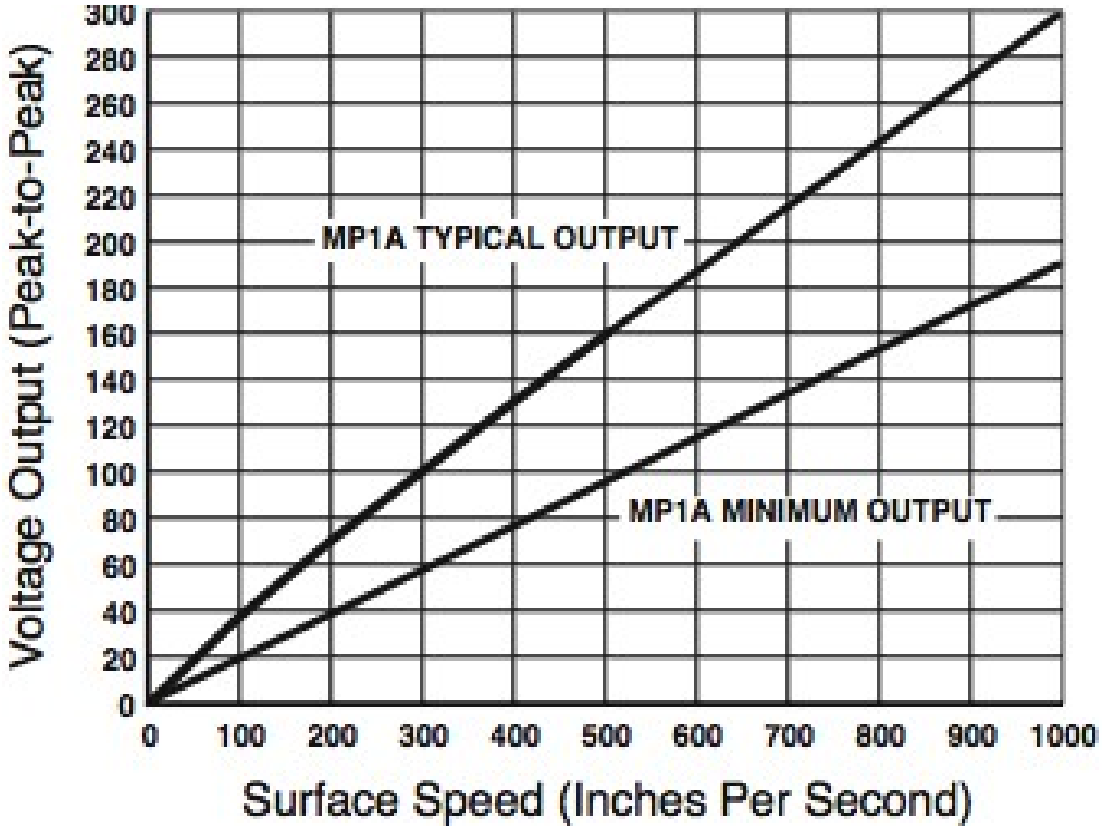
This is observed **throughout nature** <u>and</u> <u>in man-made devices</u>".

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

"The greater the spin rate (frequency),
the greater the **displacement** from ambient"

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

(*i.e., the faster we switch input power on & off, the GREATER the VOLTAGE Gradient we will obtain "between displacement and equilibrium". This is the energy we can intercept and capture; our net GAIN in power*).



By way of illustration: the performance chart for Daytronic's MP1A magnetic pickup transducer, at left, shows that voltage output **increases** with speed (frequency).

The SHORTER the interval of interaction, the HIGHER the **induced voltage**.

[http-//www.daytronic.com/sites/default/files/product-manual/TRCAT7-A1.pdf – page 64]

"Faraday was able to mathematically relate
the **rate** of change of the magnetic field flux with induced voltage"

"Electrons, when **disturbed**, first produce **magnetic** flux and then produce **electrical** flux when they spin back to their normal position. Therefore any electron movement produces above ambient energy, being over unity". - Smith.pdf, page 29 [See also: all of page 32].

"[Electrons] move in a closed loop as seen in the icon for infinity, **not** in a circle as shown in many books.

- One half of the loop consist(s) of a **magnetic** impulse, and
- the return half consist(s) of the **electrical** impulse.

This is seen as the classic sine wave of alternating electrical energy". - Smith.pdf, page 4.

“The basic unit of electricity (the electron) upon encountering a moving magnetic field (or wave) spins, giving off an electric impulse.

When this impulse collapses, it spins back to its natural position, giving off a magnetic impulse. Therefore, magnetic and electric are two sides of the same coin.

When the magnetic is pulsed, it yields electricity, and, conversely, pulsing of the electrical side yields a magnetic field.

Moving one in relation to the other produces useful energy.

When done consecutively, each cycle pushes (current) forward, while pulling electrons into the system…
in much the same way that a water pump moves water.
These electrons are obtained from the **Earth** and **air** grounding".

[*Smith, An Answer to America's Energy Deficit, 5th Edition, 1997, page 64*]
[https://yadi.sk/d/xQaiHP4fPnJv3]

"Ohmic resistance does not apply to

Magnetic Resonance,

which travels unrestricted for great distances. Therefore,

multitudes of electrons are **disturbed**, and

their **back-spin** translates **magnetic-** into

usable **electric** energy". - Smith.pdf, page 17

"**Resonate Magnetic Waves** (Faraday's action at a distance) allows energy activation transfer to remote points of usage".

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

[*Although Smith alludes to "**waves**", the effects he describes – "remote activation", "action at a distance" – are closer to those of a **field**, which propagates at the speed of light*]

"In our everyday world, charged particles, such as **electrons**, move slowly through matter, with a drift velocity of a fraction of a centimeter (or inch) per second, but

fields propagate **at the speed of light** - approximately **300 thousand kilometers** (or 186 thousand miles) **a second**.

The mundane speed difference between charged particles and field quanta is on the order of **one to a million**, more or less. Maxwell's equations relate (a) the presence and movement of charged particles with (b) the generation of fields.

Those **fields** can then affect the force on – and can then move – other slowly moving charged particles.

[https://en.wikipedia.org/wiki/Electromagnetic_field]

"Excited **Electrons** at point "A", the Sun, (including the Galaxy and Cosmos) **do not travel** to point "B", the Earth.

However, **a corresponding action** occurs at point "B".

The Electrons being **disturbed** at the Central Power Plant, in the same manner, excite the Electrons at Your House, upon switching into an Earth **grounding** (known as 'flipping the switch')".

Smith.pdf, pg 22

Kirschblut, Jjbeard, Wikimedia, Public Domain, https://commons.wikimedia.org/w/index.php?curid=18257819

"When you **ground** your system by flipping the wall switch, you use your own electrons. In closed energy systems, electrons communicate with, and **replicate**, the activity of **the overbalanced potential**, when provided with Earth- **and or Air** Groundings". - Smith.pdf, pg 47

"It's the point A and point B thing, where you get electrons "jumping up and down" at point A, and "they do not go from point A to point B" [*meaning they're not "taken" from one place to "feed" the other*]. At point B they "jump up and down" **in resonance** to the ones at point A.

That's your **resonant energy** type thing".

"And it's highly obvious, and… **people will tell you** 'you can't do this sort of thing', but you've already seen one example here when **I got shocked** just a minute ago. And those that are skeptical about it, I invite you to come here and touch the thing… and

tell us that it's not working !!"

[Laughter]

[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=916]

Smith is ADAMANT that
ALL a power station EVER DOES is
SET UP an OSCILLATING FIELD,
at an ultra-low frequency of 50/60 Hz.

The “disturbance” produced by forcing a magnetic field past coils of wire causes electrons in- and around the station to be “flipped.”

These electrons' “song and dance” is INSTANTANEOUSLY TRANSMITTED or conveyed to electrons elsewhere (in one's home, at a factory, etc) WHEN devices in those remote locations are CONNECTED to GROUND. The signal is most efficiently conveyed by ground (NOT necessarily earth ground proper; air ground will also work), and is not effective-ly received without the benefit of this. No ground, no “action”.

Link the device to ground (by flipping the switch to “ON”) and, AT ONCE, electrons in- and around the device **at the remote location** begin to perform the EXACT SAME “song and dance” the electrons at the station are performing. **Because** the systems they are a part of are TUNED to (designed to operate at) the EXACT SAME frequency the power system “emits”: 50/60 Hz.

"There is an AC **magnetic** field **everywhere** in developed areas…"

[https://en.wikipedia.org/wiki/Ground_loop_(electricity)]

[*rather evidently caused by some nearby Power Station (and / or its buried current-carrying cables) "disturbing" electrons at "AC" frequency (50/60 Hz)*].

It is **this field**, says Smith (implicitly), that excites "Electrons at Your House" when a connection to **ground** is made.

He unfortunately, and somewhat misleadingly, refers to it as

resonate magnetic waves,
or, also, as
magnetic resonance.

[This is consistent with Smith's view that fields only apply below 20 KHz.
"Below 20,000 Hertz per second (sic) = Fields
Greater than 20,000 Hertz per second (sic) = Waves (radio frequency)".
(Donald Lee Smith, An Answer to America's Energy Deficit, 5th Edition, 1997, page 71)]

Smith's devices are
compact, custom-sized “disturbers” / exciters
meant for the end user to OWN, and operate.

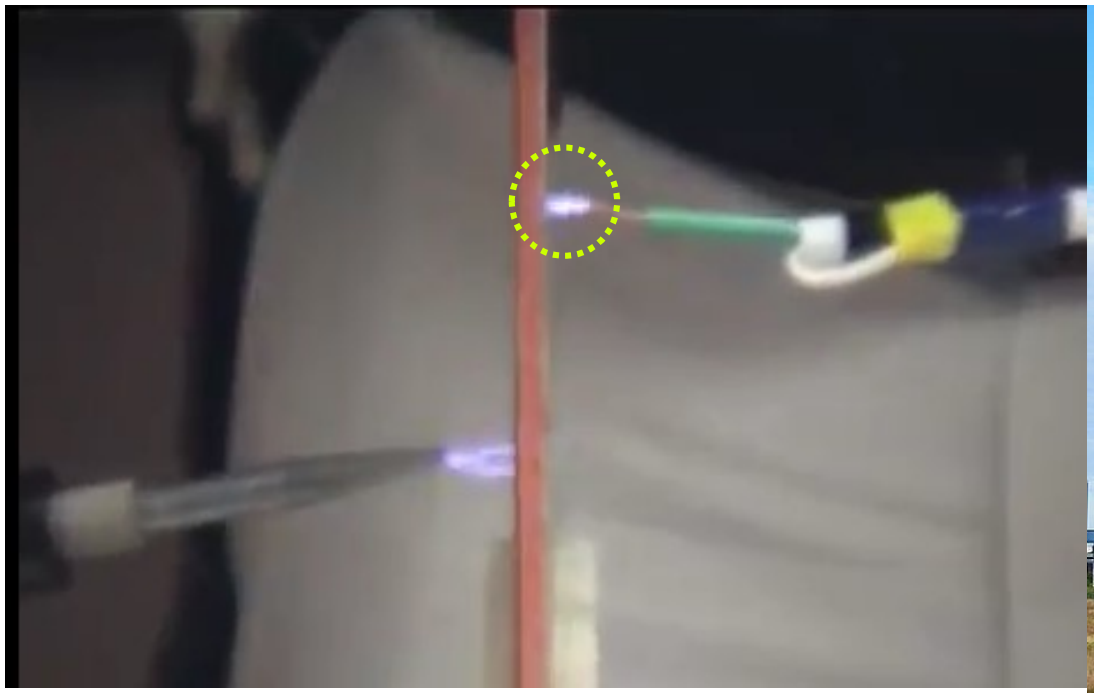
They are mini, stand-alone, “power stations,”
driven by
a small portion of the very electron “activity” they trigger.

Ergo, no need (or reason) to pay anyone any “charges” based on the amount of time they are in use, or the number of electrons they push through one's electrical devices and appliances, to make them work!

"Electro- magnetic Energy, present everywhere throughout the Universe, is accessed by **catalytic** activity; directly, as in Solar Cells, or indirectly, as by mechanical means.

Capturing and use of this energy (Free)
is optional **as to method,** and, therefore, its **cost** is
a function of **human stupidity**".

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

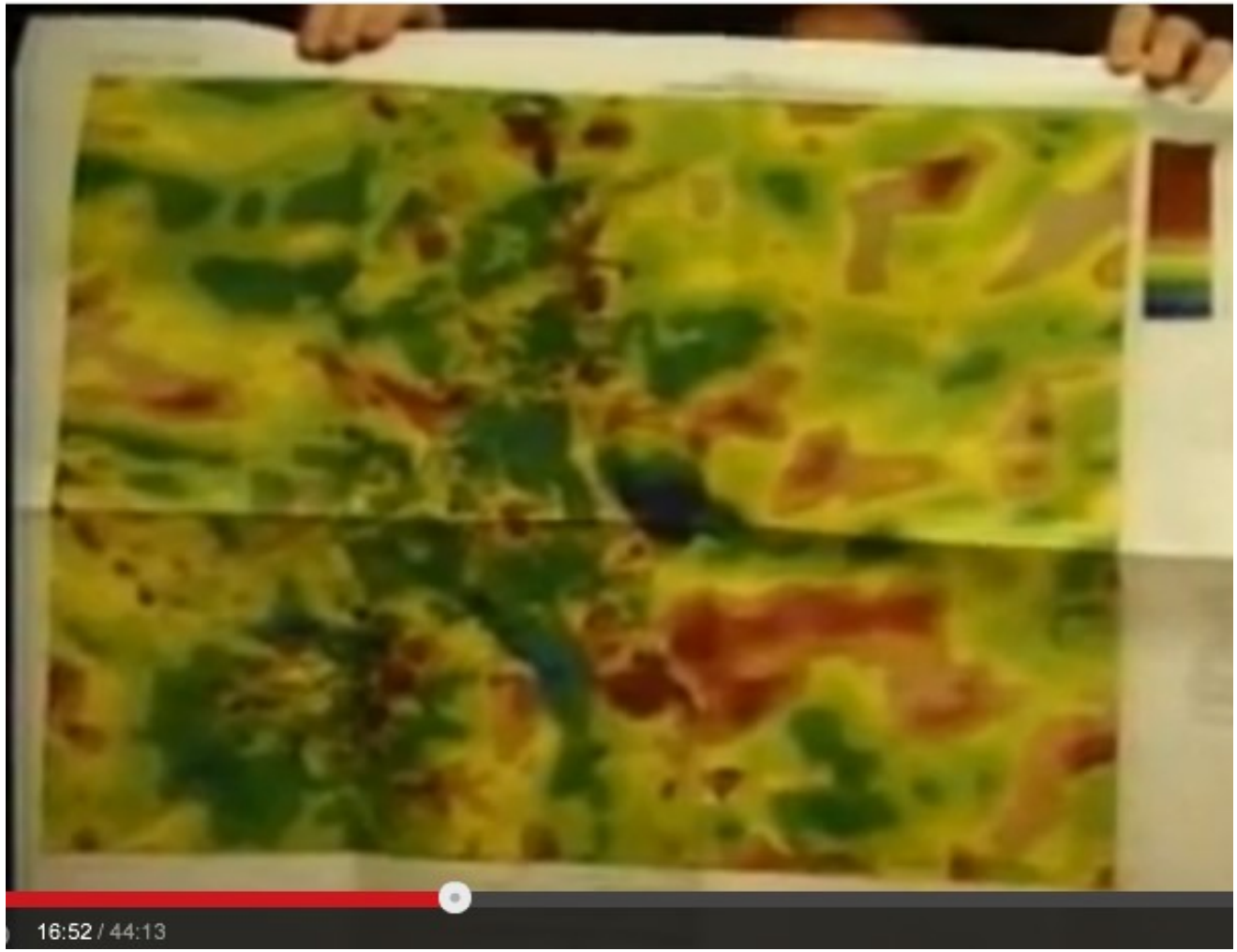


IRU Power Plant
Mardu, Tallin, Estonia
[Public Domain]

Just HELP YOURSELF! It's FREE

"EARN IT", THE **HARD** WAY

[*And, speaking of stupidity…*]



“Enormously high ambient energy levels
are not detected [*as they couldn't POSSIBLY be*]
by instruments that [*perhaps not too brightly?*]
use the ambient background **as a reference plane**”.

[http://web.archive.org/web/20010411040400/http://www.altenergy-pro.com/default.htm]

SECTION 3 – Hands On…

A Repertory of Devices

that

Implement and Put to the Test

a Short List of

Truly Powerful, Inspired Techniques

Important NOTE

Smith's very refined contribution – the Capacitor Transformer, embodied in his “Ambient Energy Generator”, which is shown at the very end of this section – effectively makes some of the early interpretations of his devices presented in the following slides obsolete (notable case in point, Device 5).

Valid methods, interesting in themselves – useful, perhaps, in some specific situation – but ultimately no match for Smith's best solution. They have been kept here for the sake of authenticity. Together with the answer ultimately found, they exemplify the process of search and research that allows for discovery and rediscovery.

At the closing of the

1998 Office Interview

recorded by Zero Point Entertainment,

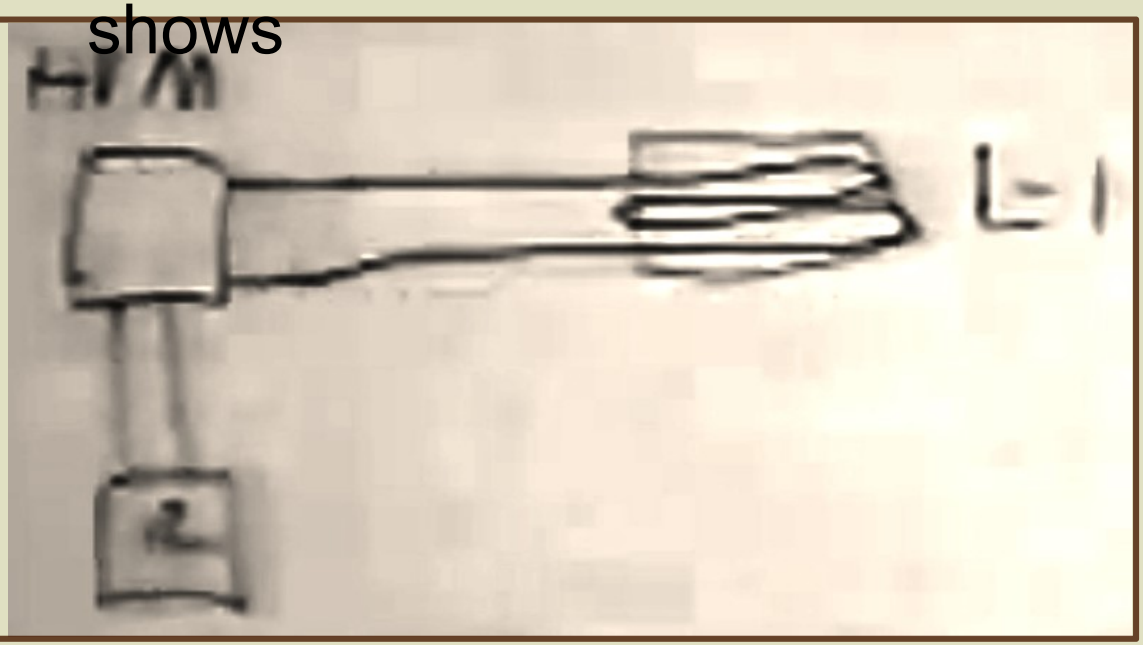
[https://www.youtube.com/watch?feature=player_detailpage&v=Mnoy2D4wuf8#t=2149]

Smith presents a simple, straightforward, example of his approach.

In the clip, he sketches the functional diagram of an **ultra-easy** version of his system [*"you don't have to know what you're doing, at all…", he says*] beginning with the "wireless powering" procedure.

Smith's hand-drawn diagram shows

- a battery at bottom left
- a High Voltage Module (HVM; a switch-mode neon sign power supply) at top left, and
- an L-1 coil (part of the device being powered) at top right.



A wire runs from the HVM, in-and-out of L-1's air core a couple of times, and back to the HVM. The interaction between the powering device and the device being powered is, thus,

purely through the **magnetic** medium.

Magnetic flux **pulsating** off of the wire is what triggers induction in **L-1**. “None of the electrons” leave the HVM's circuit, Smith remarks.

A non-trivial detail in a scheme of this type is the use of **multi-strand** wire with individually isolated (enameled) strands. This will give rise to mutual induction between the strands, greatly intensifying the magnetic field emitted by the wire.

A somewhat similar case is that of the

feedback loop

"triangulated" via the **magnetic** domain, to eliminate any possibility of the loop resulting in a short-circuit.

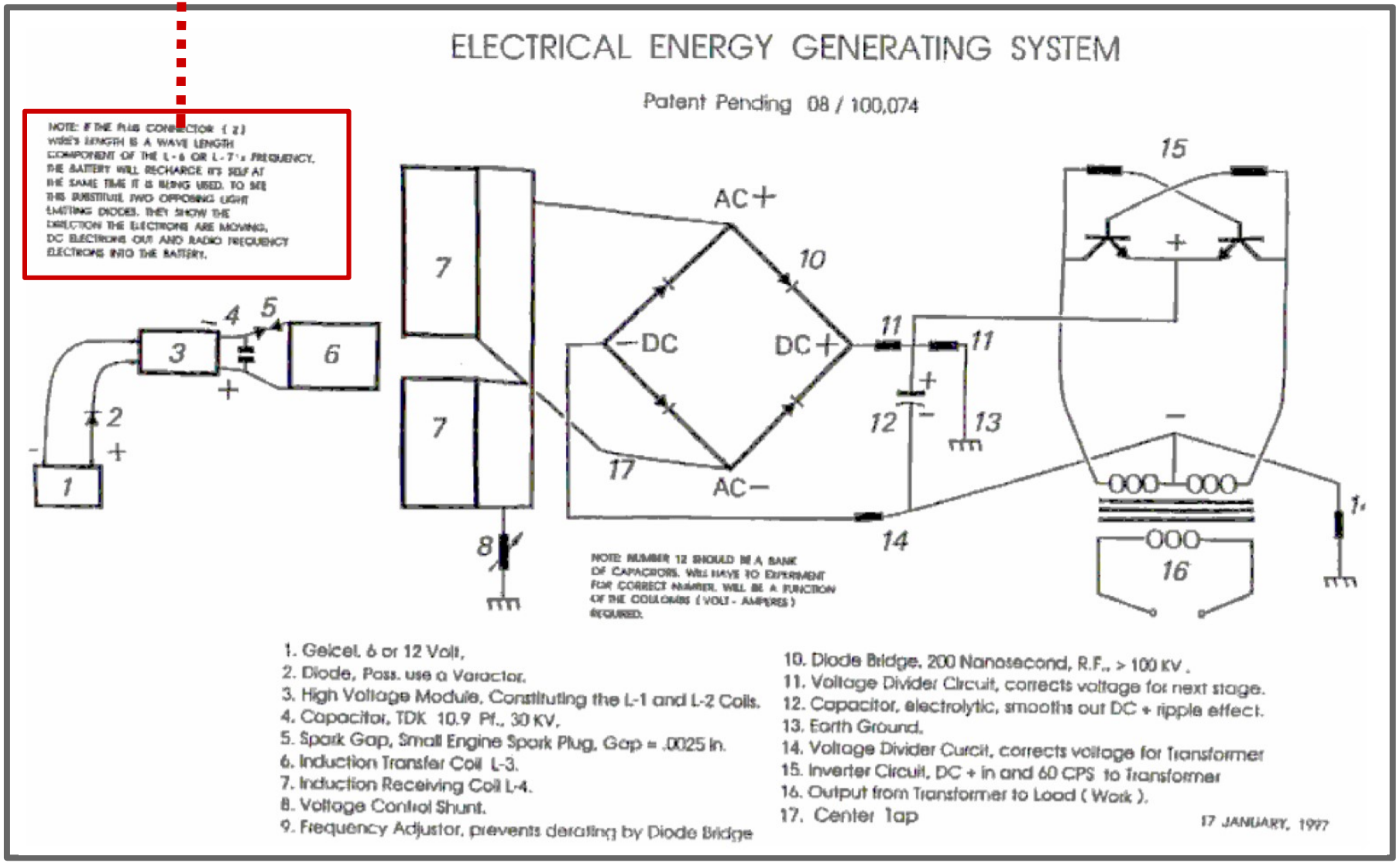
Smith comments that this is "one of five or six different ways" he has of

making his devices self-powered,

by diverting part of the **gain** "harvested" from "the ambient background" [*or "the Earth's magnetic and electrical fields", two expressions he uses somewhat interchangeably*] to the input of the circuit.

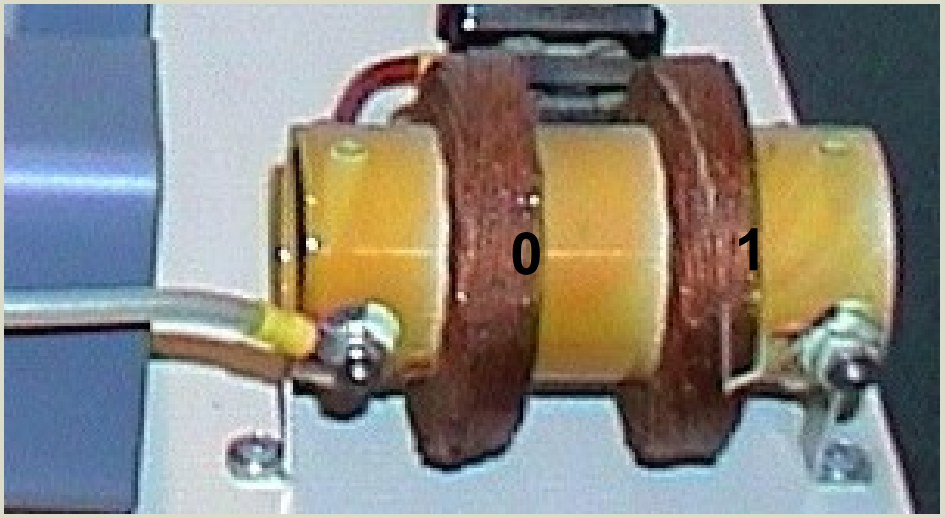
"Note: If the PLUS Connector (2) wire's length [*i.e., the length of the connector marked 2*] is a wave length component [*even fraction, such as 1/4*] of the L-6 or L-7's frequency, the battery **will recharge itself** at the same time it is being used. To see this, substitute [*insert, interpose*] two opposing light emitting diodes. They show the direction the electrons are moving. DC electrons **out** and radio frequency electrons **into** the battery".

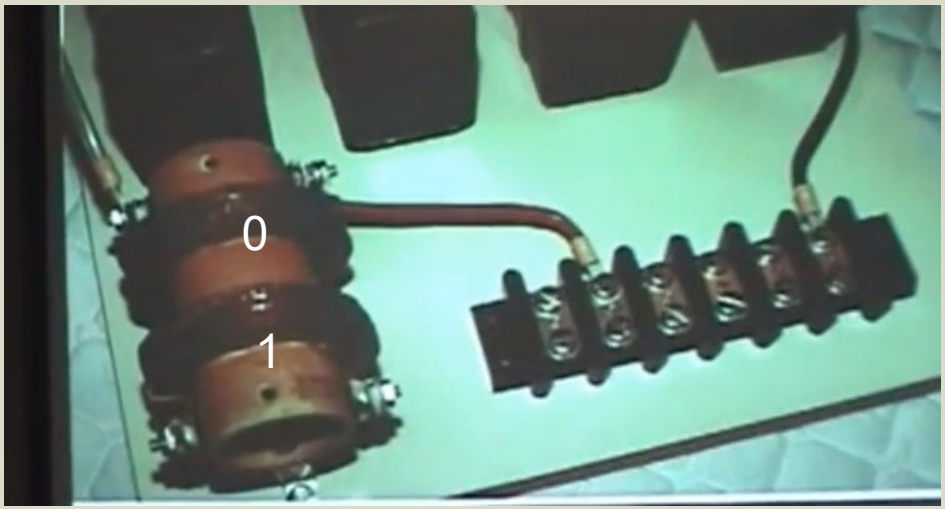
[Donald Lee Smith, An Answer to America's Energy Deficit, 5th Edition, Jan 1997, page 11 - Note at top left of schematic]



Want Your Device To Power Itself?

Smith shows another way to create a Feedback Loop with No Short-Circuit
by “triangulating” through the Magnetic Domain





'96 Tesla Symposium, Part 4

[1:16] "OK, you see something here which **people** say **can't happen.** If you notice the double coil system… ["twin coils" “0” & “1”, mounted on the yellowish-brown tube] [Device 3].

“This is the active one going through here [*coil “0”, on the left, into which the cable from the capacitor bank runs*] and going out to the transformers” [*meaning the step-down, output transformers (not present in the picture, NOR in this part of the device - they're mounted on a separate board). All we see is a connector block (bottom picture)*].

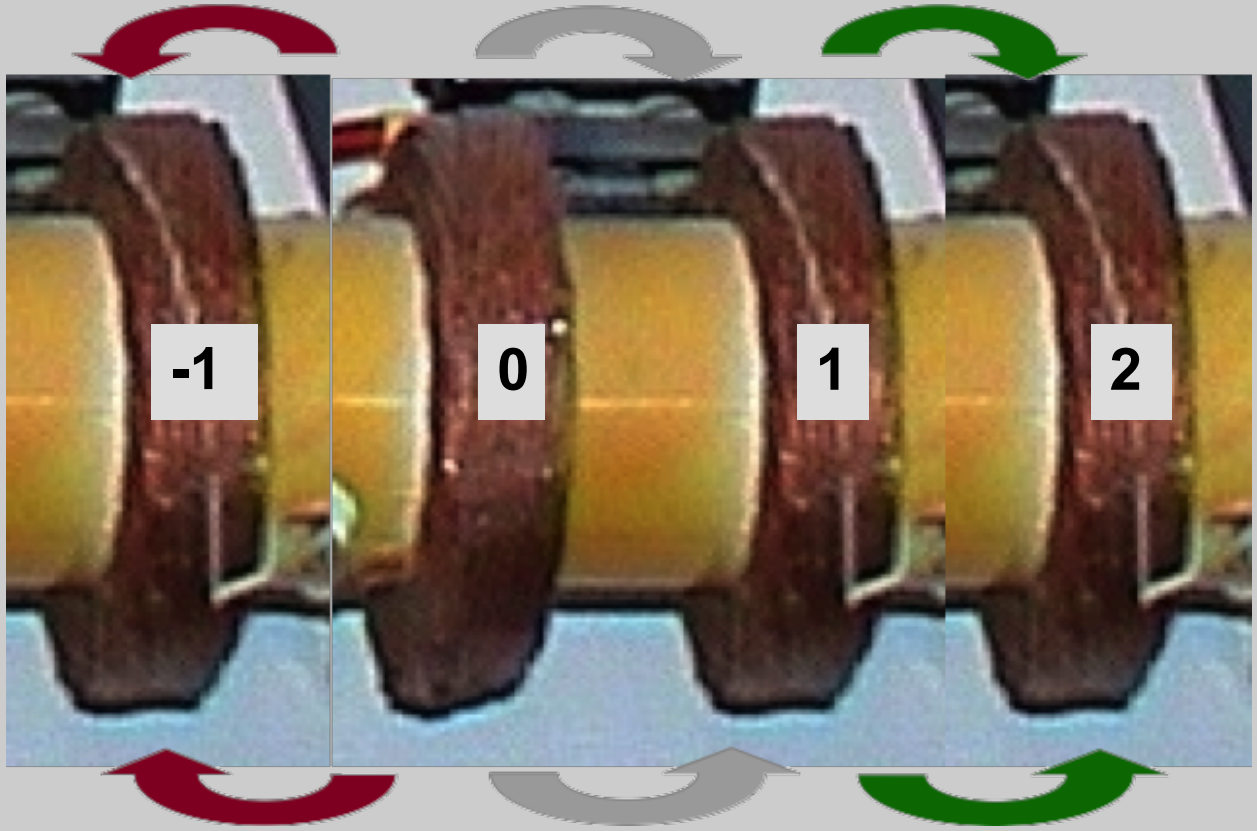
“And this one [*coil “1”*] is not "hooked into the system" "except **magnetically**" and it becomes… it has the same "activity" [*electrical output*] as this one [*coil “0”*] even though it is not hooked into… "due to **the magnetic flux**" - uh - "working on it". So what that tells you is this separate coil here [*again, coil “1”, NOT _electrically_ connected to the circuit*] "is not using any energy" [*from the circuit*] but it's **generating** energy which you can charge your… you can keep your batteries charged with". (Comments [*i*], quotation marks, underscores, added).

[*https://www.youtube.com/watch?feature=player_detailpage&v=e9ymPpdQD9A#t=79*]

At this point it is, perhaps, useful to underscore the
RADICAL SIMPLICITY
of this essential process at the heart of the Smith approach.

Mere linear repetition is enough to produce substantial results. To the extent that “propagation” can take place from coil 0 to its twin, coil 1 ( ) [as we've just seen], then it can just as easily “jump” again from coil 1 to coil 2 ( ), and from coil 0 to coil -1 ( )… and on and on, more or less indefinitely, in both directions.

In such a sequence, only coil 0 **is receiving power** from the source.



This method
that Smith employs to achieve
self-sustained operation
of a device is not, in itself, anything new.

It is tried and true

ISOLATION TRANSFORMER TECHNOLOGY

What Smith does is he
TURBOCHARGES IT
by creating an environment of

HIGH INTENSITY FLUCTUATION
in which to deploy it

The process is optimized and enhanced by the fact that the coils are near-exact twins of one another, and by the intensity of the repeated, sharp, **high-frequency** cut-off action.

What's driving those secondary, isolated coils, is emphatically NOT your grandfather's “kinder, gentler”, slowpoke, 50/60 Hz oscillating magnetic field.

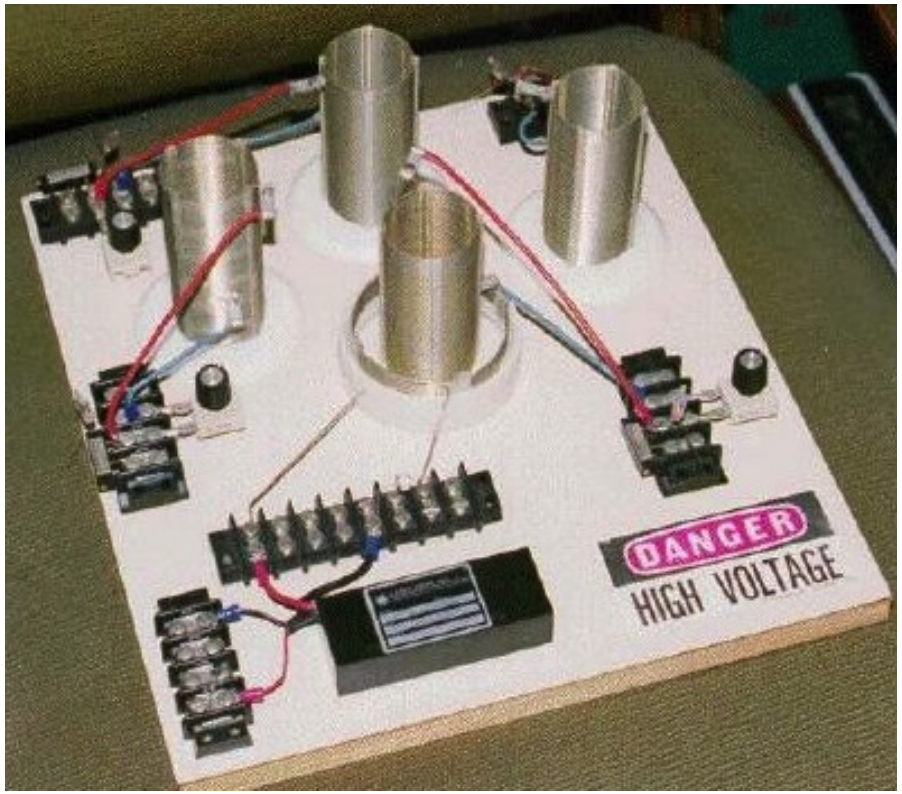
Smith's clear understanding of the ability to “harvest” energy from “the ambient background” (a favorite expression of his) by driving it into intense magnetic oscillations is exemplified in one of the inventor's earliest prototypes, known as Device 2.

The unit is designed around a **Tesla Coil** (at center).

The wider diameter inductor at the bottom (driven by the neon sign power supply, next to the Danger sign) acts as the primary.

The taller secondary “picks up” the oscillations emitted by the primary, and – in turn – sets off additional oscillations of its own, which are “picked up” by the identical coils in the periphery. **All four secondaries are now “harvesting” electricity from the “ambient”.** The knobbed devices linked to each of the secondaries provide fine-tuning of frequency.

Care is taken to insure that the respective overall lengths of primary and secondary(ies) are in whole number proportions to one another (*“even multiples or dividers”, in “Smithspeak”*)



Let's Face It, Though:
A HIGHLY UNUSUAL

Wireless

Power Propagation

Technology

can BEST be demonstrated in a

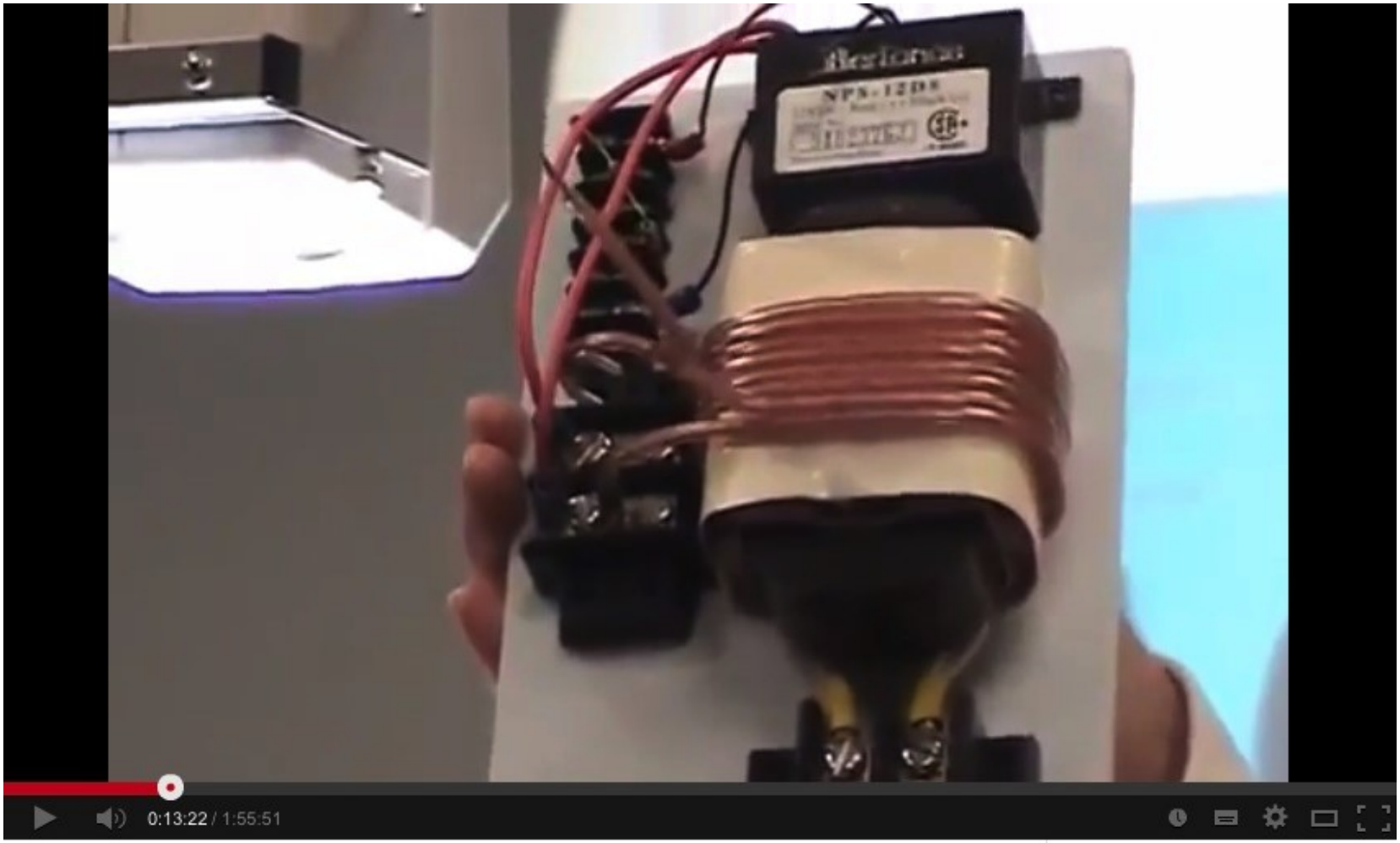
HIGHLY UNUSUAL WAY…

So you're in the middle of
lifting the veil
on the
Up-till-then Never Revealed
Suitcase Device

that had stunned and
intrigued attendants at the
1996 Tesla Symposium…

…when, suddenly, you get to

PROVE your technology WORKS,
by
ZAPPING YOURSELF
with your own gadget…



…mounted on a piece of wood board, and
not visibly connected to anything !!

"I decided to **leave the second wire in there**,

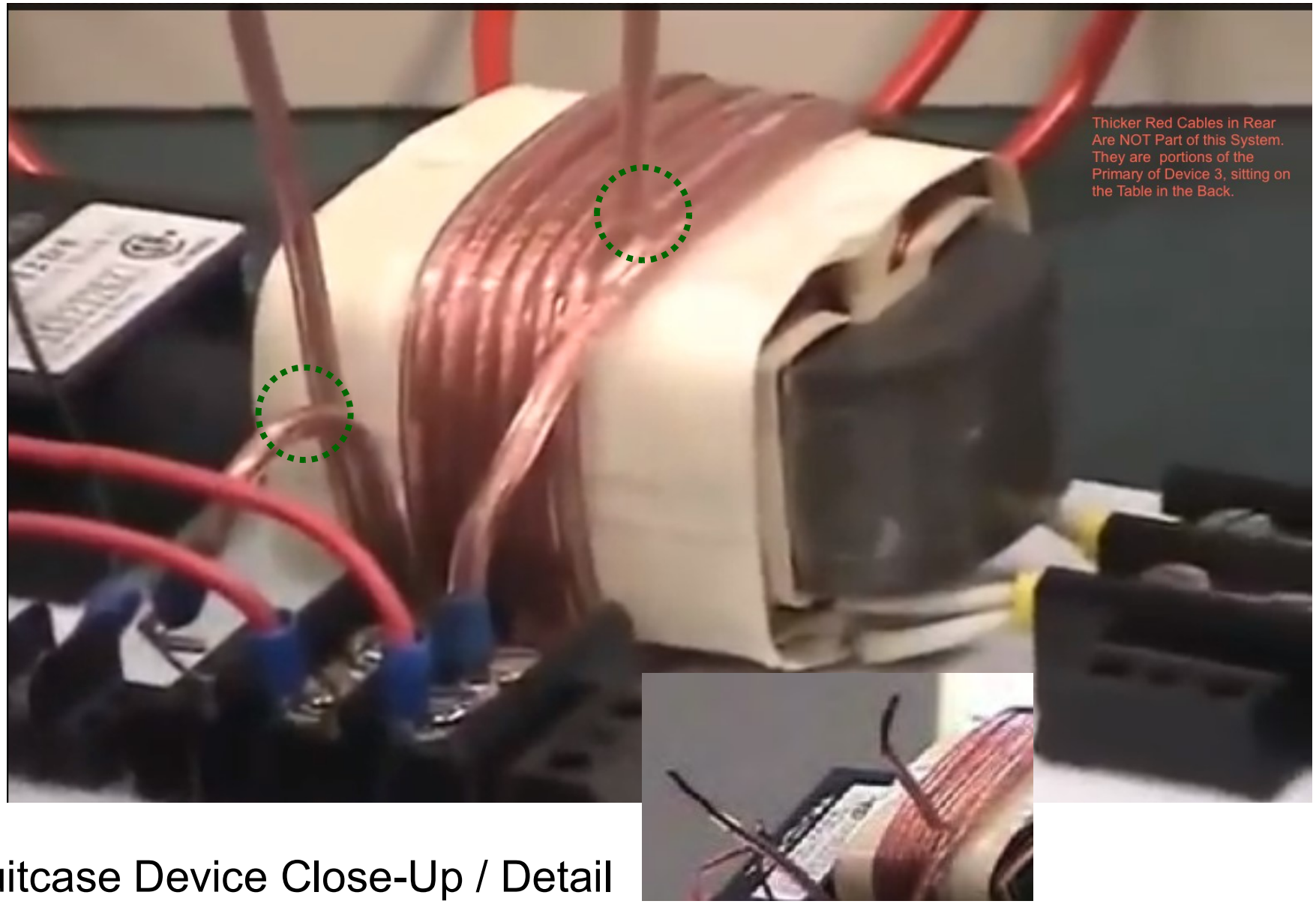
and turn it into an **antenna** system for…

whoops!!"

(gets **jolted** as he touches the bare tips of the antenna wire)

[audience roars with laughter]

[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=670]



Suitcase Device Close-Up / Detail

At each end of his trademark “Jumbo Speaker Cable”, Smith has split the two conductors over a short stretch, to form the “rabbit ears”, and laid the tips bare (inset). BOTH conduits wrap around the armature. In normal use, one draws current from the power supply at top left, while the **antenna** “makes” fresh electricity from magnetic oscillations it picks up (as well as from mutual induction provided by the first), and FEEDS pulses BACK INTO the system, as a turbocharger.

[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=560]

“Well, what it does is it boosts the ambient background that it's exposed to,

so it supercharges it… And it's probably due to **that little antenna wire** that I just accidentally touched. It's high frequency; **that's why it didn't kill me**”.

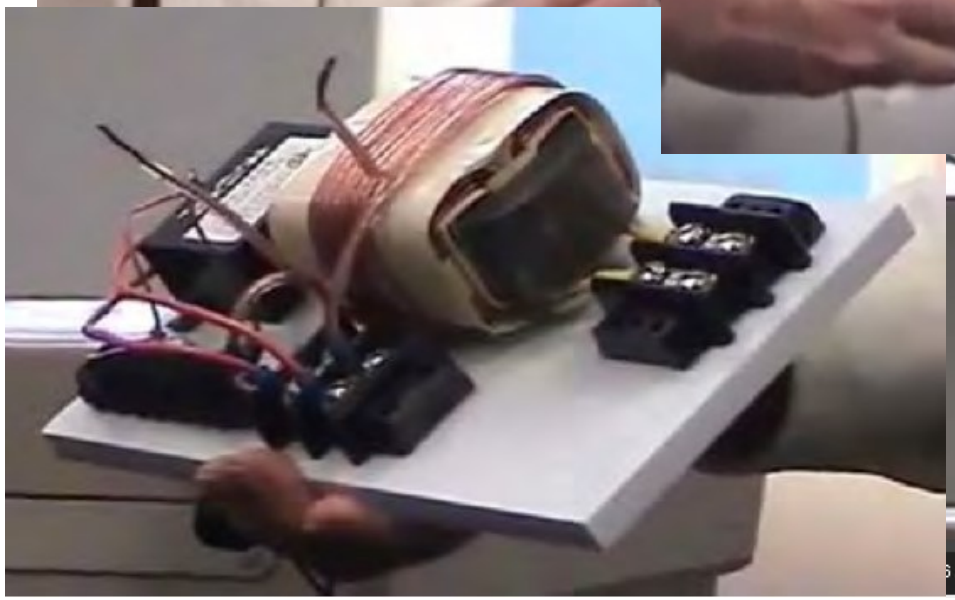
[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=717]

The Culprit

Plasma Tube is operating in the background. The intermittent pulses it puts out are picked up by the coil whose ends are terminated as a “rabbit ears” antenna, triggering induction, and, thus, active current production.

Inset: at the start of the presentation, Smith uses a sensor to **reveal** the pulsating **field** being emitted by the plasma tube.

[*We can't see, hear, feel or smell magnetic flux. We thus tend to foolishly think and act as though IT WASN'T THERE…*]



The “Highly Obvious” Question

Now that the plasma tube has shown itself capable of activating

ONE

Suitcase Device Transformer halfway across the room,

WHAT's to STOP IT

from doing <u>THE SAME</u> with another

5, **10**, or **100**

IDENTICAL devices scattered about the place?

The "Highly Obvious" Answer? Nothing!

As we have seen, it is the way in which Device 2 operates.

Smith, at the 2001 Inventors' Weekend:

"So, that magnetic energy that we were talking about over here, [*earlier in the presentation*] it's all over the area". As a matter of fact,

you can go **anywhere in the neighborhood** and if you have another coil that's tuned to that same frequency **it will generate the same amount of electricity** as the one that's in the center here".

[*Note that this is not, in any way, a "wild claim". We know that an electromagnetic field will propagate at the speed of light, which is to say 300,000 km/sec. So it will spread throughout the neighborhood (and around the globe, for that matter) "instantly". Moreover, AN ENTIRE BRANCH of electrical engineering – known as EMC, for "electromagnetic compatibility" – is solely devoted to keeping such "runaway" fields contained and "under control"*].

For whatever reason, Smith's devices have rarely appeared in public, or in pictures, with their indispensable **Electromagnetic Shields** (so-called Faraday Cages). These images of an early prototype show that they were, indeed, equipped with them, as one would expect.

O.K.,

that was kind'a fun!

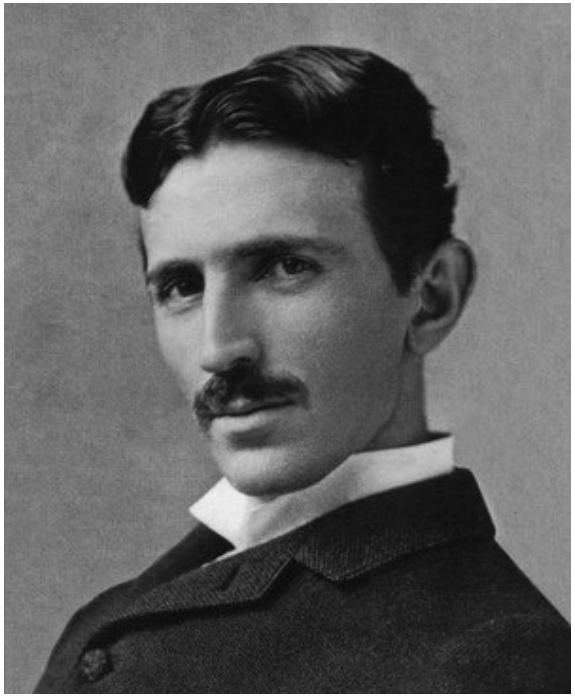
But, what was it you were saying about

capacitors

(once known as “condensers”)

being so great and special?

TESLA:



The condenser is
the most wonderful
electrical instrument

You store **less** energy in the condenser than in the gun
[*"a large gun which hurls a projectile a distance of 18 or 20 miles"*]

BUT

whereas the gun will discharge … in 1/50th of a second,
a **condenser** can discharge the energy in
1 millionth of this time

[*Note the correlation: 50-to-1 million is 1-to-20,000. It says that, given **20,000 times** LESS energy, the capacitor will deliver AS MUCH "PUNCH" as the cannon*.]

[Tesla on His Work With Alternating Currents, by L.I. Anderson, 1992, pp. 112-113], cited in "Tesla's Egg of Columbus…" - http://www.bielek.com/pdf/tesla.pdf - footnote, page 8]

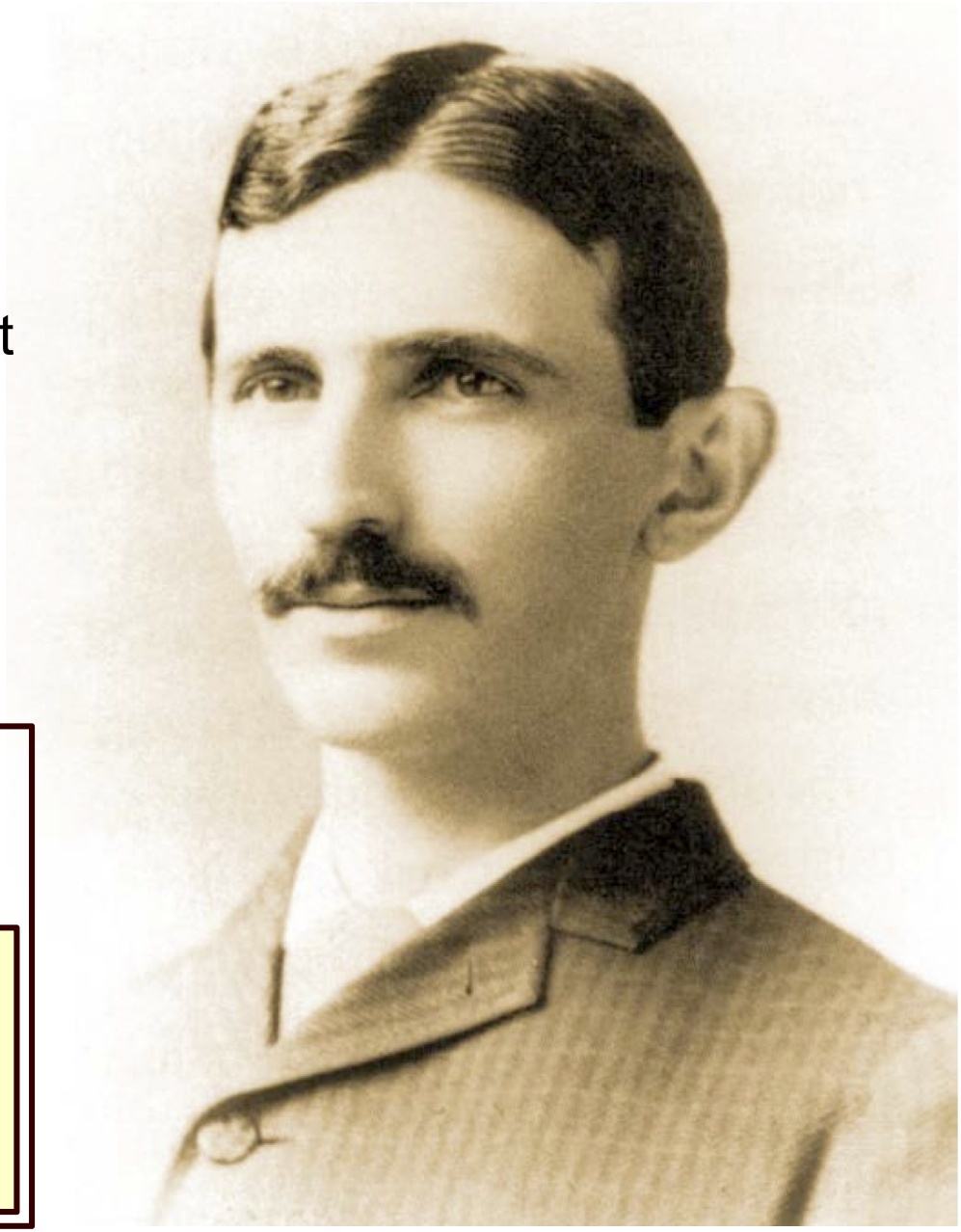
[See also US Patent # 568179; TESLA, 1896 - Method of And Apparatus for Producing Currents Of High Frequency]

What **TESLA** is
highlighting in that passage is that

– due to their UNIQUE
Disruptive Discharge
capability –

capacitors
are able to extract, or deliver,

a maximum of POWER
out of
a given amount of ENERGY



There will be those inclined to argue that the burst of high power resulting from the discharge is of no great value, as it will be EXTREMELY BRIEF.

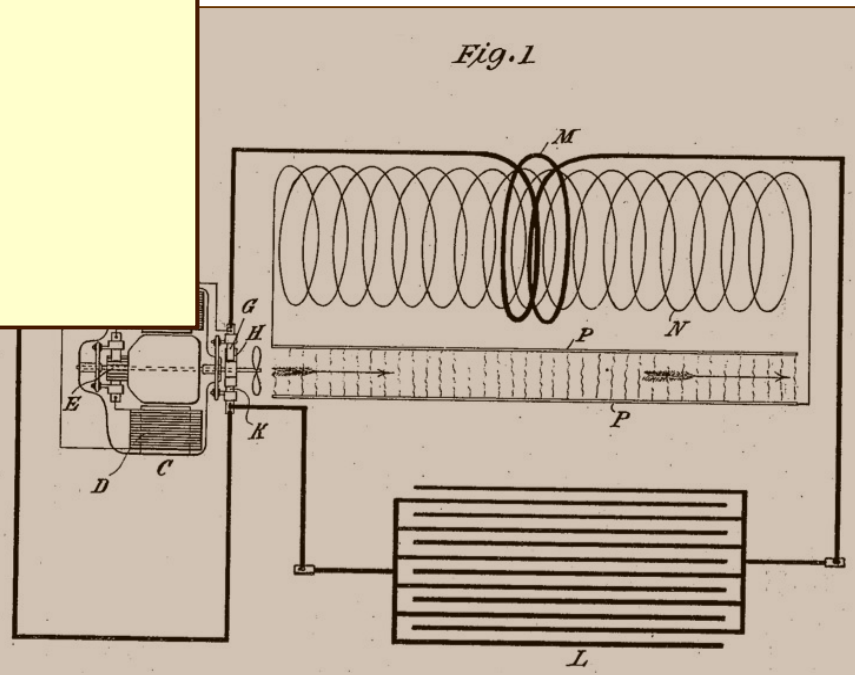
So, what? Let's ask ourselves: if a robot were to lightly punch the naysayer in the face – say, 10,000, or 100,000 TIMES a SECOND – would the effective impact be any less because, strictly speaking, each of those punches would be of infinitesimally short duration?

In an INSIGHTFUL blog entry around 2007, an individual by the name of Persson presented an interpretation of TESLA's Ozone Making Machine patent, in which a

CAPACITOR

was being employed
JUST LIKE TESLA HAD INDICATED;
namely, as a virtual

HYPERCANNON



UNITED STATES PATENT

NIKOLA TESLA, OF NEW YORK, N. Y

APPARATUS FOR PRODUCING OZONE.

SPECIFICATION forming part of Letters Patent No. 568,177, dated September 22, 1896.

Application filed June 17, 1896. Serial No. 595,927. (No model.)

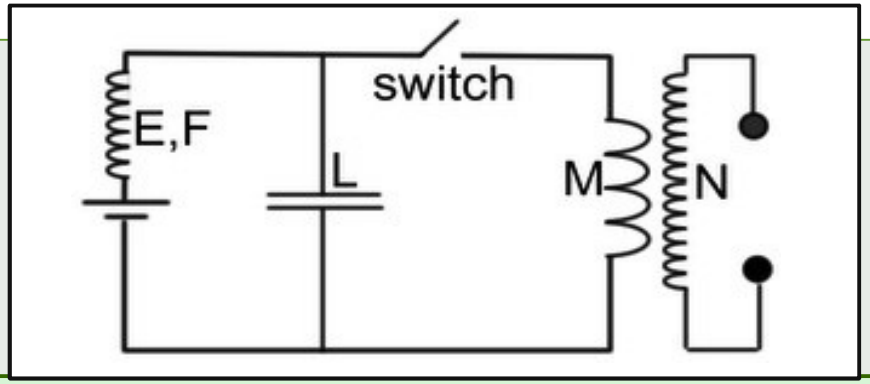
To all whom it may concern:

Be it known that I, NIKOLA TESLA, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Apparatus for Producing Ozone, of which the following is a specification, reference being had to the

fects when used for the purpose of generating ozone.

In the accompanying drawings, illustrative of the principle of construction and mode of operation of my improvement, Figure 1 is a diagrammatic illustration of the invention; and Fig. 2, a view, partly in side elevation

TESLA's Patent # 568,177 – June 17, 1896 - http://www.freepatentsonline.com/568177.pdf



Persson's modern-style schematic, above, showed that – through an ingenious use of switching – TESLA was able to repeatedly CHARGE capacitor L **to a high voltage**, then **DISRUPTIVELY DISCHARGE IT** into Primary Coil M.

The KEY detail, however, was

the VERY LOW RESISTANCE path between L and M.

This allowed the ENERGY to be conveyed to the coil nearly as fast as the capacitor released it. That way, the transfer delivered

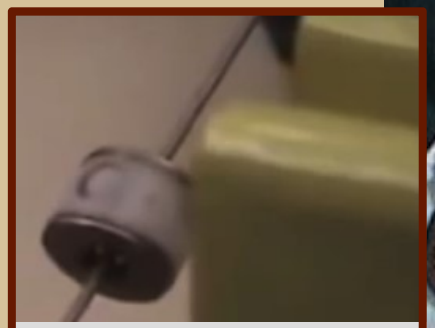
INTENSE POWER.

Power (in Watts) = Voltage x Amperage.
Amperage = Voltage / Resistance
Power is, then, **Voltage SQUARED** over **Resistance**

So, for example: 240 V x 240 V / 4 Ohm = **14,400 W**

B E H O L D T H E M I G H T O F T H E L O W L Y C A P A C I T O R ! ! !

[*Just don't get in the way of the discharge. Make sure to provide a conductor of MINIMAL resistance.*]



Inset: detail of Gas Discharge Tube / Spark Gap

Let's look at **Device 3.**

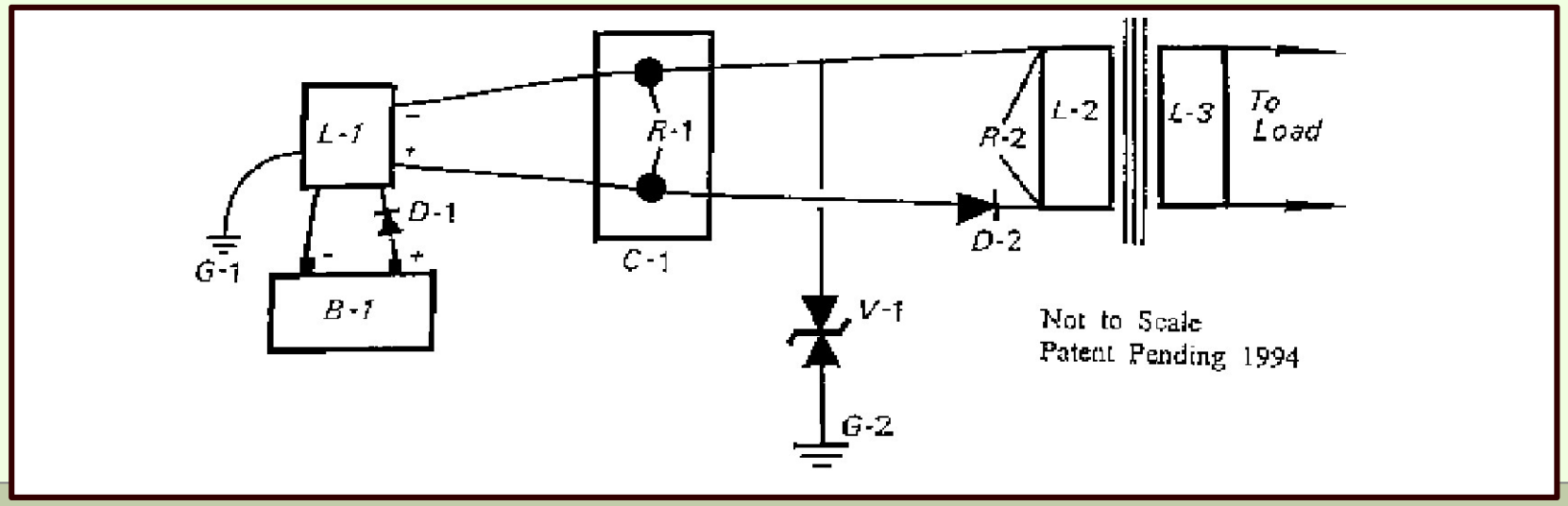
Its Input Section, at left, shows TWO 4,000WVDC **capacitors**. If employed as a bank, in series, the voltage doubles to 8,000.

The spark gap can **repeatedly discharge** the **bank** – very safely – at 50% of that value: the original **4,000VDC**.

Even at a hypothetical resistance of **1,000 Ohm**, the POWER hitting the Primary Coil would still be:

4,000V x 4,000V / 1,000 Ohm =

16,000 W



Another case: the above circuit diagram, from Smith's "Resonate Electromagnetic Power System" [(R.E.P.S.) - Smith.pdf, page 75] shows

- **480V capacitor C-1,** typically triggered by a Spark Gap[1],
- **repeatedly** discharging into the Primary Coil of the Output Transformer, L-2, over a link of **8 Ohm** resistance.
- V / R yields **60** as the value for amperage.

The result is a series of impulses being delivered to the Primary Coil, L2, whose power / intensity is

28.8 Kw [480 Volts x 60 Amps = **28,800 W**]

[[1]*No spark gap appears in the schematic, which is followed by a statement declaring that "the information herein given is incomplete". The capacitor is kept as small as possible. That way, it will recharge and re-fire very fast, to make the "perceived" effect at the receiving end tantamount to a continuous flow of power, as in a switch-mode power supply*]

Here's a thought:

TWO of the R.E.P.S. circuits just shown (or even ONE, if the resistance is reduced to 4 Ohm) will provide AS MUCH POWER as these Chinese tractors being readied for field work in Mali, West Africa, in 2011: 75 HP

Mind you, the notable drawback of the diesel-powered tractors (versus their **hypothetical** Ambient-powered **electrical** counterparts) is the BRUTAL cost of OPERATING the fuel guzzlers. For an **EXAMPLE:**

Take a WEICHAI-DEUTZ **48 Kw** (**~64 HP**) diesel-powered generator set:

It will cost you about U$S 7,500 to **BUY.**

OPERATING it, though, will turn out to be quite a bit

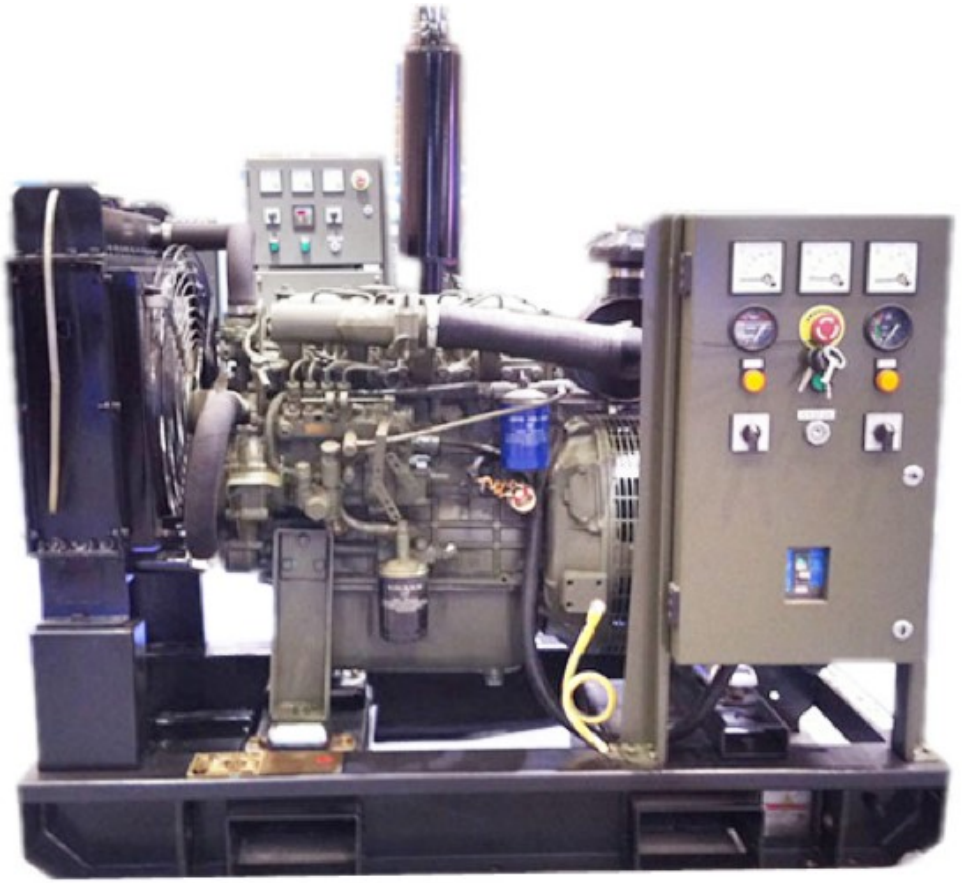
MORE EXPENSIVE.

Say you wish to run it for **JUST 8 hours a day**, at **75%** of its rated power (i.e., at 36 KW output), and only **250 days** a year.

At a cost of 80 US cents a liter, and a consumption rate of 10 liters an hour, that'll be:

0.8$ x 10 x 8 x 250 =

U$S 16,000



http://yzdhxdl.en.made-in-china.com/productimage/qKbEVWwcGBkC-2f1j00dFQtlJunALbf/China-Weichai-Deutz-50kw-Diesel-Generator-Set-Price.html

So,
What do you say?

Do we need Ambient Power?

Do we need to study, and understand,
what our man

SMITH

was talking about, and demonstrating,
some two decades ago?

Your trusty Uncle Don Memorial Team says:
let's wrap up by looking at a few more of his units

Important NOTE

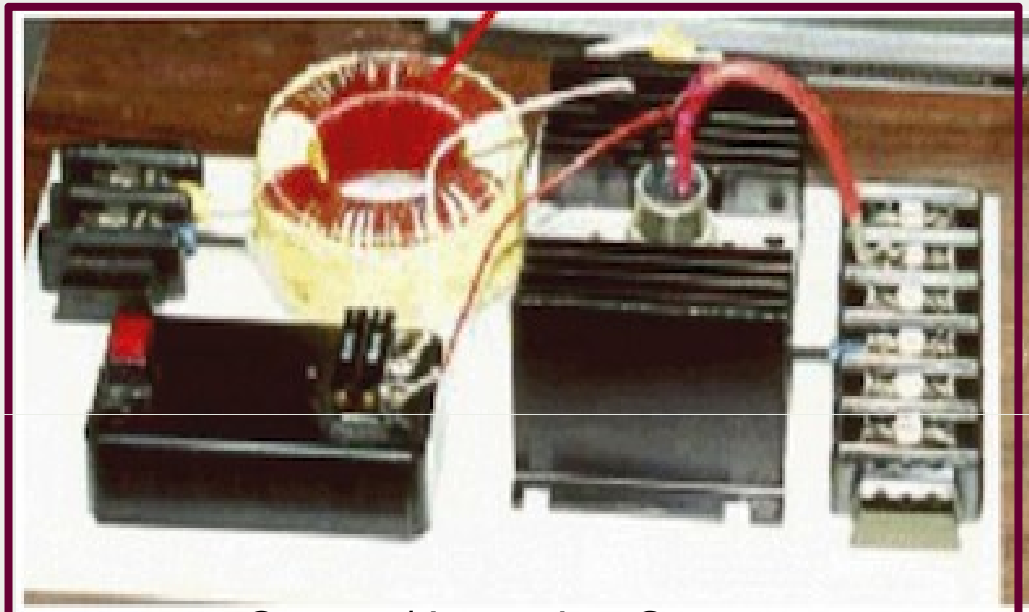
Smith's very refined contribution – the Capacitor Transformer, embodied in his "Ambient Energy Generator", which is shown at the very end of this section – effectively makes some of the early interpretations of his devices presented in the following slides obsolete (notable case in point, Device 5).

Valid methods, interesting in themselves – useful, perhaps, in some specific situation – but ultimately no match for Smith's best solution. They have been kept here for the sake of authenticity. Together with the answer ultimately found, they exemplify the process of search and research that allows for discovery and rediscovery.

Device 5, a.k.a. Coke machine device

A “pump-and-dump” approach

A **Capacitor** is Charged, Step-by-Step, then Periodically Discharged into the Output Stage <u>in its Unique, Disruptive Manner</u>



Output / Inversion Stage

Input / Build-Up Stage

The **output** stage is dominated by a **thyristor**, equipped with a massive heat sink, and a **toroidal transformer** that Smith built as part of his inverter. It presents a pseudo- sine wave to the load.

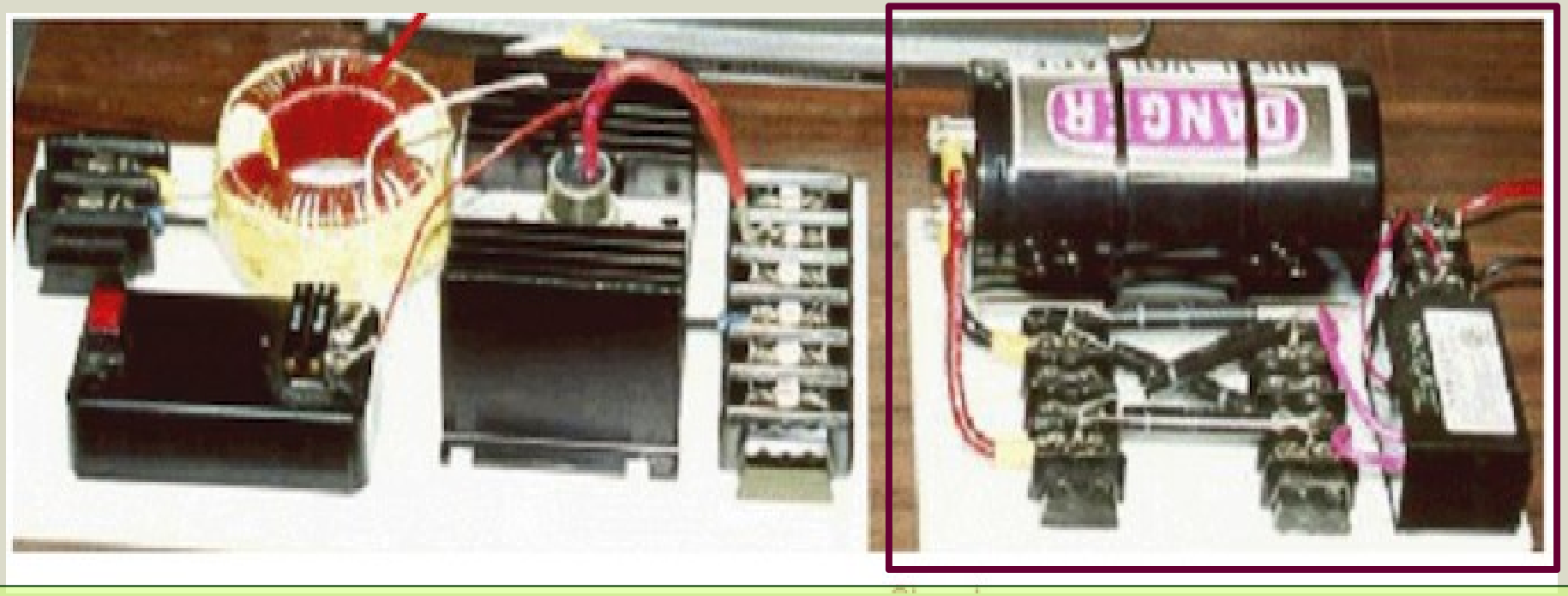
[*“A reverse conducting thyristor (RCT) has an integrated **reverse diode…** Reverse conducting thyristors are often used in **frequency changers** and **inverters**”.*]

[https://en.wikipedia.org/w/index.php?title=Thyristor&action=edit&section=13]

Device 5, a.k.a. Coke machine device

A “pump-and-dump” approach

Smith walks us through the Input Stage



Smith: (*having suffered several strokes, speaks haltingly*) "OK, the input part, uh… is over here, uh… this is a… milliwatt uh… high voltage uh… uh… Tesla coil type device and uh… it's uh… like I say, milliwatts, and it's coming through this diode bridge, and it's coming out uh… into a **capacitor** here, that has a… certain level of energy in it…”

[*How about: “that _**builds up**_ to a certain level of energy”?*]

[*NOTE: when Smith says “milliwatts” it's more likely milli**amps** that he means*]

[https://www.youtube.com/watch?feature=player_detailpage&v=hHhKhf_w9ik#t=392]

DEVICE 5 - THE POWER of SQUARES

UTKIN: “If Q represents a charge delivered to the capacitor of the resonant circuit by a spark, the voltage U across it will be U = Q / C.

After N sparks, the voltage Un of capacitor C will be

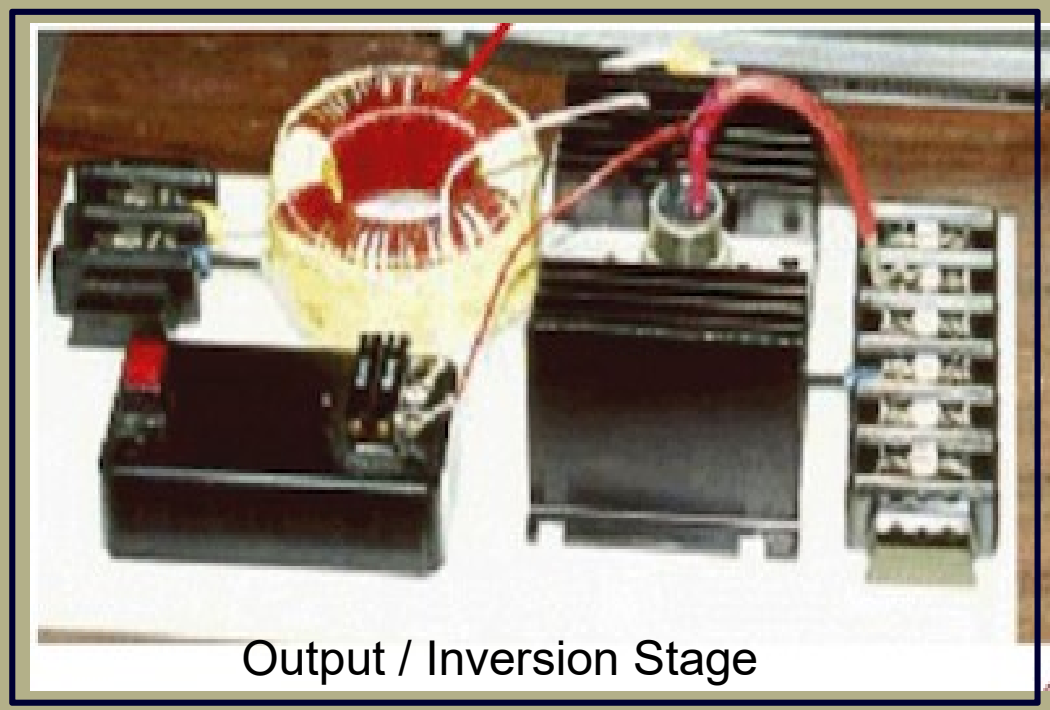
N times greater and so Un = **N**Q / C.

[*But, WAIT !!*] The **energy** Ec of the capacitor is proportional to the **square** of the voltage. $Ec = CU^2 / 2$.

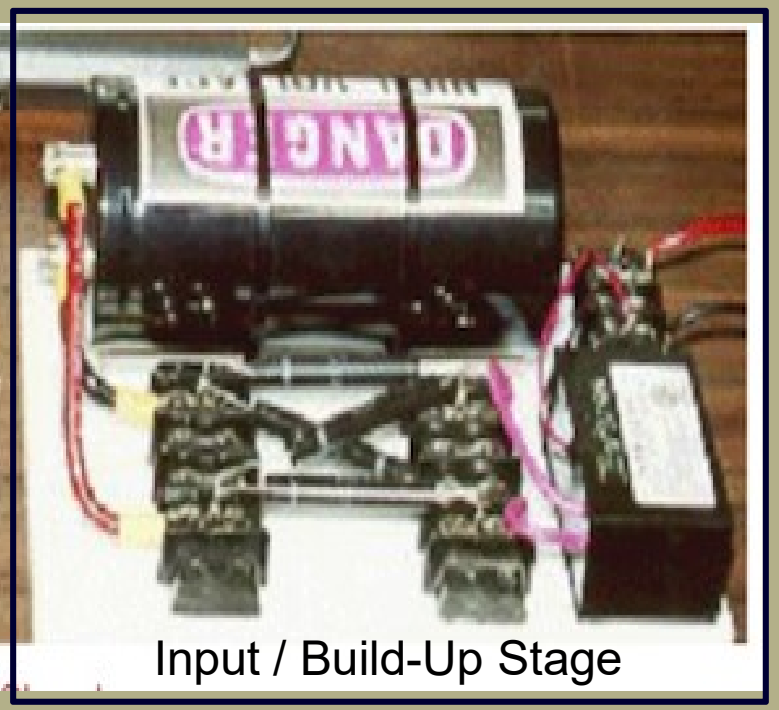
Therefore, after N sparks, the **energy** En will be increased to **N x N times** compared to the energy provided by a single spark…”

[*Comment: so, say, 500 sparks, **250,000 times** as much…*]

[http://www.free-energy-info.tuks.nl/VladimirUtkin2.htm – comments, emphasis, added]



Output / Inversion Stage



Input / Build-Up Stage

UTKIN: While creating the **resonant** mode, it is important to create conditions for discharging the capacitor **at the desired frequency**. The schematics for providing such conditions are fairly simple:

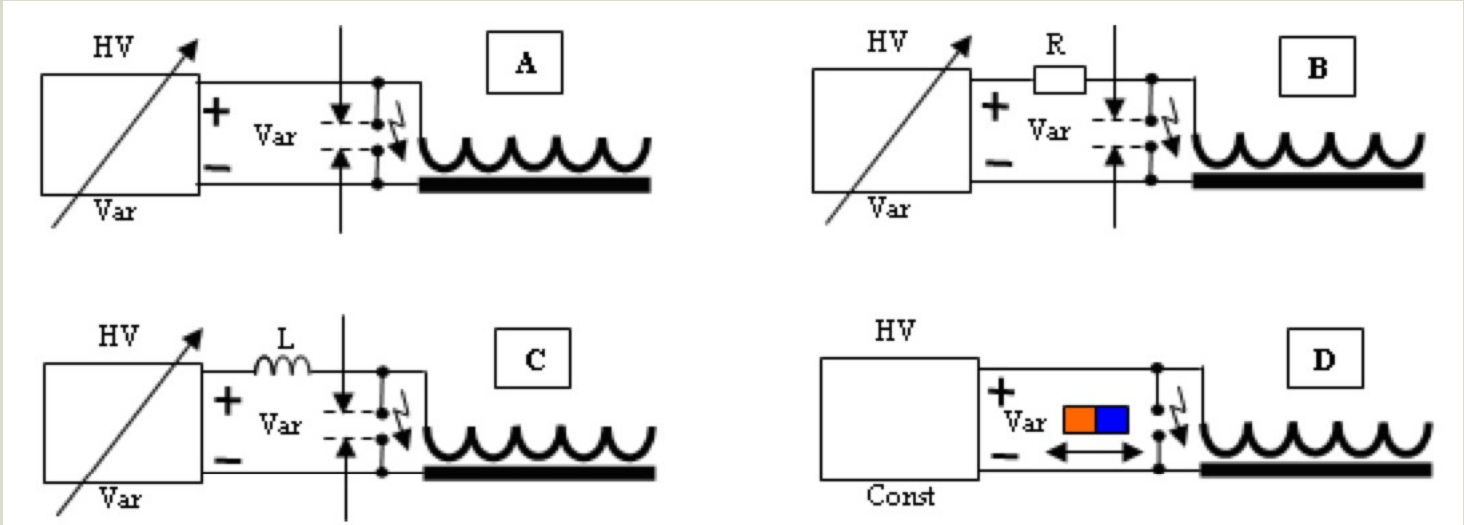


Fig. 24 The simplest schematics with adjustable spark frequency (capacitor's frequency discharge).

The **higher** the voltage of the source and the **narrower** the spark gap, the higher the **frequency** of the spark will be (capacitor discharge). A voltage inverter for cold cathode neon lamps, provided with a voltage controller (dimmer), can be used as a simple high voltage power supply. The output of the inverter is connected to the rectifier to charge the capacitor and generate the electro-radiant effect. The dimmer regulates the **voltage** and as a result, the **frequency** of the sparks…

Electro Radiant Effect - Vladimir Utkin – [http://www.free-energy-info.tuks.nl/VladimurUtkin2.htm]

UTKIN on how TESLA suggested loading a Capacitor to an “Impossible” Level

(**NOT** the _exact_ same configuration as Device 5)

"[W]e need to charge the capacitor circuit **to an energy level which is greater than that of the source energy itself**. At first glance, this appears to be **an impossible task**, but the problem is actually solved quite simply.

The charging system is screened, or "blinded", to use the terminology of Mr. Tesla, so that it cannot “see” the presence of the charge in the capacitor. To accomplish this, one end of a **capacitor** is connected to the **ground** and the other end is connected to the high-energy coil, the second end of which is **free.** After connecting to this higher energy level from the energising coil, electrons **from the ground** can charge a capacitor to a very high level.

In this case, the charging system does not "see" what charge is already in a capacitor. Each pulse is treated as if it were the first pulse ever generated. Thus, the capacitor can reach a higher energy level than (that) of the source itself.

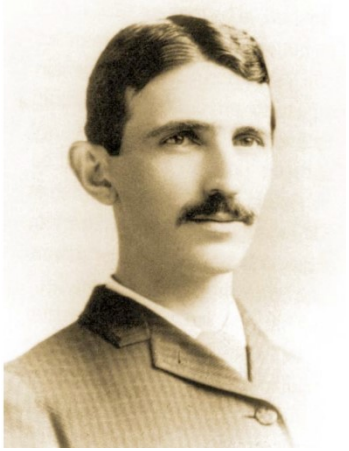
After the accumulation of the energy, it is discharged to the load through the discharge spark gap. After that,

the process is repeated again and again indefinitely …"

http://www.free-energy-info.co.uk/VladimirUtkin.pdf, page 35 [emphasis added]

TESLA on Disruptive Discharge

"When the **condensers** are **charged** to a certain potential, the air, or insulating space, **gives way** and a **disruptive discharge** occurs. There is then a sudden rush of **current** and generally a large portion of accumulated **electrical energy** spends itself. The condensers are thereupon **quickly charged** and the same process is **repeated** in more or less rapid succession". [TESLA, in Commerford Martin, The Inventions, Researches, page 304 – emphasis added]



By applying
Disruptive Discharge
in rapid-fire repetition,

capacitors
are able to deliver

a sustained
BARRAGE
of
AMPLIFIED
POWER

"This method of conversion … involves the employment of **no mechanical devices** of any kind, [I]t allows of obtaining currents of any desired frequency from an ordinary circuit, direct **or** alternating. The frequency of the fundamental discharges depending on the relative rates of supply and dissipation can be readily varied within wide limits, by simple adjustments of these quantities, and the **frequency** of the superimposed vibration by the determination of the capacity, self-induction and resistance **of the circuit**. The **potential** of the currents, again, may be raised as high as any insulation is capable of withstanding safely **by combining capacity and self-induction** or by induction in a secondary, which need have but **comparatively few** turns". [TESLA, in Commerford Martin, The Inventions, Researches, page 318 – emphasis added]

TESLA
adjusting apparatus
in his Lab (1916)

[http://teslauniverse.com]

[W]hen working with currents discharging **disruptively**, the element chiefly to be considered is not the frequency, as a student might be apt to believe, but **the rate of change per unit of time**. With low frequencies in a certain measure the same effects may be obtained as with high frequencies, provided the **rate of change** is sufficiently great.

[TESLA, in Commerford Martin, The Inventions, Researches, page 317 – emphasis added
Notice that the Great Master stands here on the shoulders of the earlier Great Master:
rate of change had been the second major observation strongly highlighted by Faraday]

This statement by Tesla invites a pause to more carefully examine our use of the term

“frequency”.

We employ it indistinctly to refer to the swing from positive to negative in an AC current, on the one hand, and to the cutoff-and-restart of the flow of current that certain types of devices – such as switch mode power supplies -- produce, on the other.

This is, at best, misleading. The two phenomena are not of the same nature, physically. In the first case, there is what one might describe as a “soft”, or “smooth” passage from positive to negative, in which the instant of transition has virtually zero duration and / or amplitude. In the second case, there is an actual interruption (an interval of “silence”, one might call it), and the transition is deliberately abrupt.

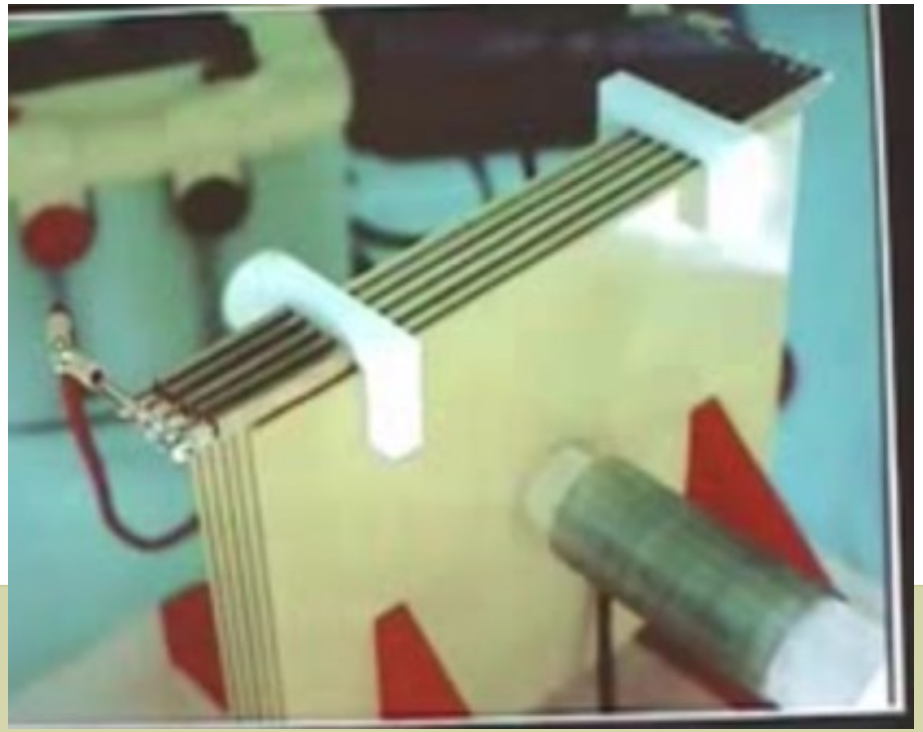
It is the abruptness itself (says Tesla, referring to it as a “sufficiently great” rate of change) that “matters” or makes a difference. Abrupt (disruptive) transitions produce a specific effect that “smooth” or gradual transitions DO NOT.

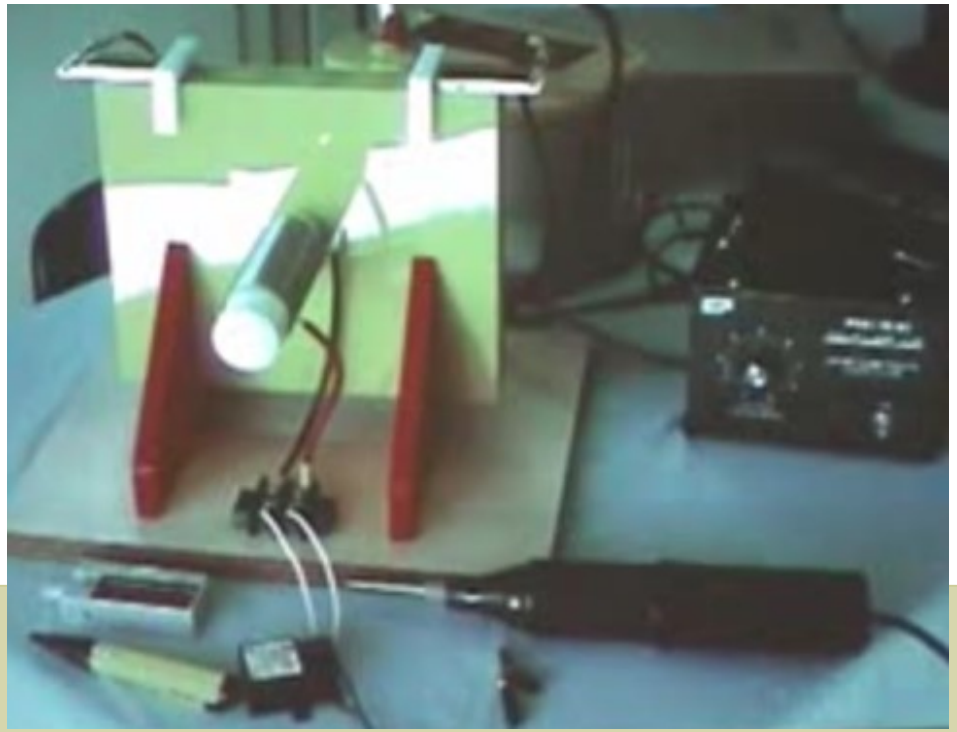
In this sense, a “current” that is made up of a (very rapid) sequence of pulses (such as that produced by a switch-mode device) is not “the same animal” as a sinusoidal AC current, NO MATTER HOW HIGH the frequency of this last one may become.

Yes, indeed, the sharpness of the transition from positive to negative (and vice versa) in an AC current will necessarily increase with frequency (there is less time in which to produce it) but there is no actual STOP, pause, RESTART, as in a switch-mode process. Momentary inrush current is one effect that one can surmise is triggered, over and over, by the repeated restarts, which are not present in the case of the AC.

MAGNETOSTRICTION

As mentioned earlier, another of Smith's techniques was to enhance the intensity of magnetic flux pulses that his devices could deliver, by employing **magnetostrictive** materials, such as **Terfenol-D** and **Metglas**.





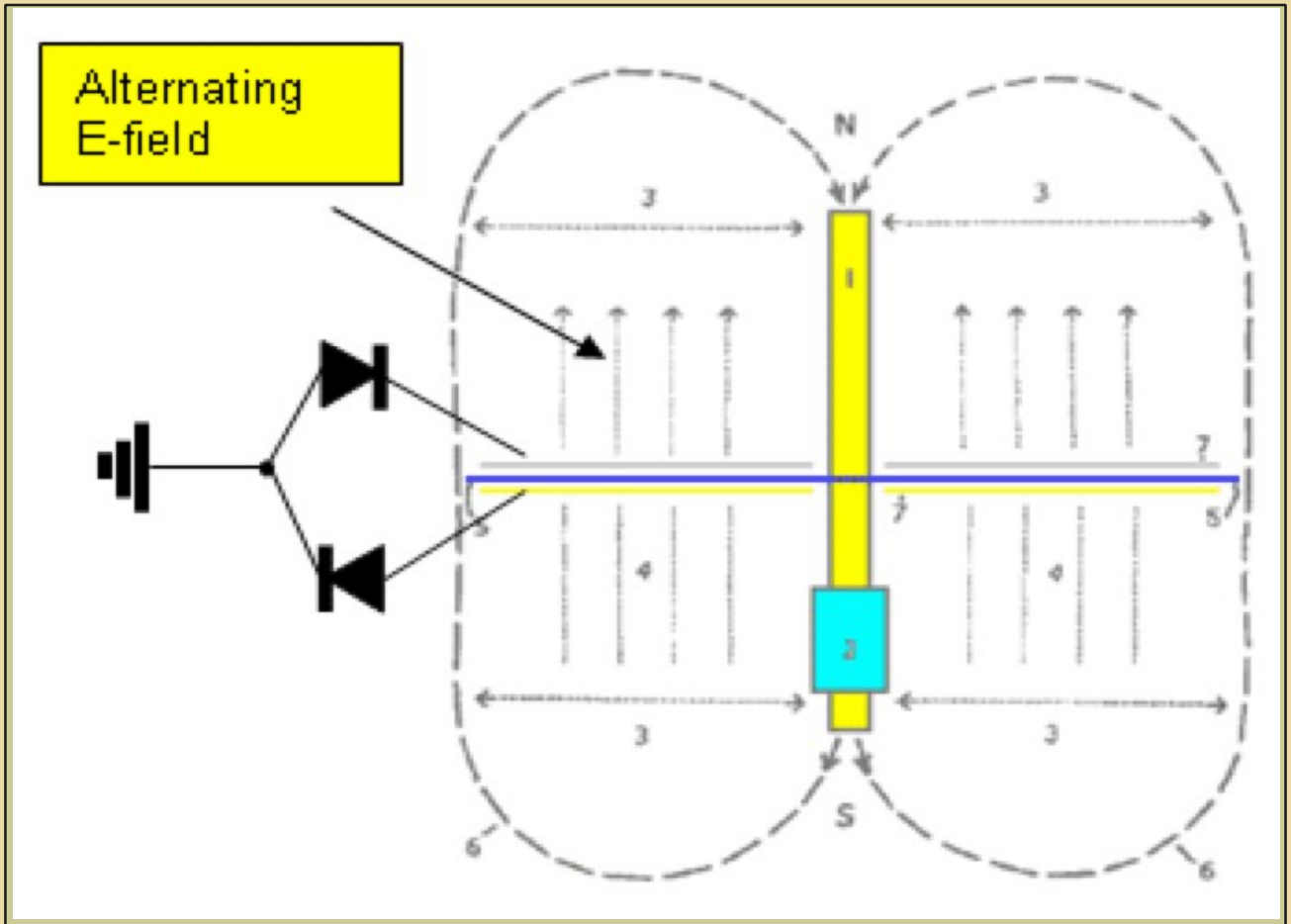
In this unit, a number of flat plate capacitors are traversed by a **Terfenol-D** rod, which amplifies pulses emitted by the electromagnetic coil wrapped around it (itself being driven by a signal generator or neon sign power supply).

Intense **induction** is triggered on the plates, whose resulting electrical output – aggregated and collected via the connectors at the top – is delivered into a heavy duty capacitor.

Side note: an interesting Lecture on Magnetostriction Effect [http://www.youtube.com/watch?v=Kb_uB3GXGwg] - Atul Pednekar, YouTube

Smith's Magnetostrictive Terfenol-D Device is an evolved version of his earlier Plasma Tube prototype

The coil marked “2”, through which fast intermittent pulses of current are driven, emits electromagnetic flux which is intensified by the magnetostrictive dipole (long yellow element, marked 1). Emanations from the dipole flow from South to North, impacting the plates, and causing induction.

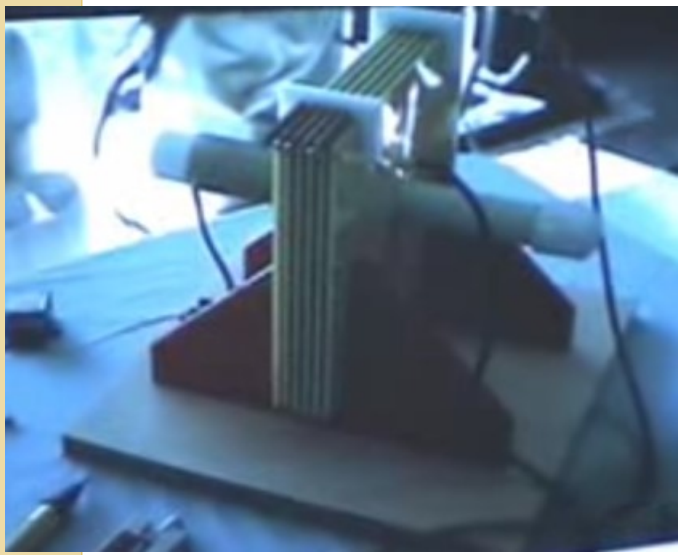


UTKIN's depiction of this type of device's energy flow and scheme of operation.
[http://www.free-energy-info.co.uk/VladimirUtkin.pdf-page 18]

The Dipole at right angle allows the magnetic flux surrounding it to intercept the capacitor plate, or plates, at right angles.

The electrons present are spun in such a way that the electrical component of the electrons is collected by the capacitor plates.

Essential parts are the South and North component of an active Dipole. Smith.pdf, page 11



"Taken at right angles, the Magnetic Dipole provides
an unlimited source
of electrical energy"

[*i.e., for as long as you can have a pulsating dipole – such as a rod of Terfenol-D – **driving** wave after wave of **magnetic flux** through the plates of a device like the one just seen, at 90 degrees to the plane of the plates, the latter will continue to experience **induction** and **deliver electricity**.*

*Moreover: since they'll be delivering it **in much greater quantities** than it takes to power the driver pumping magnetic flux into the rod, it is fair to conclude that…*]

"Magnetic Resonance Energy clearly **amplifies itself**, demonstrating
more energy **out**, than **in**".

"The right angle component which **the magnetic flux** provides, translates into useful **electrical** energy".

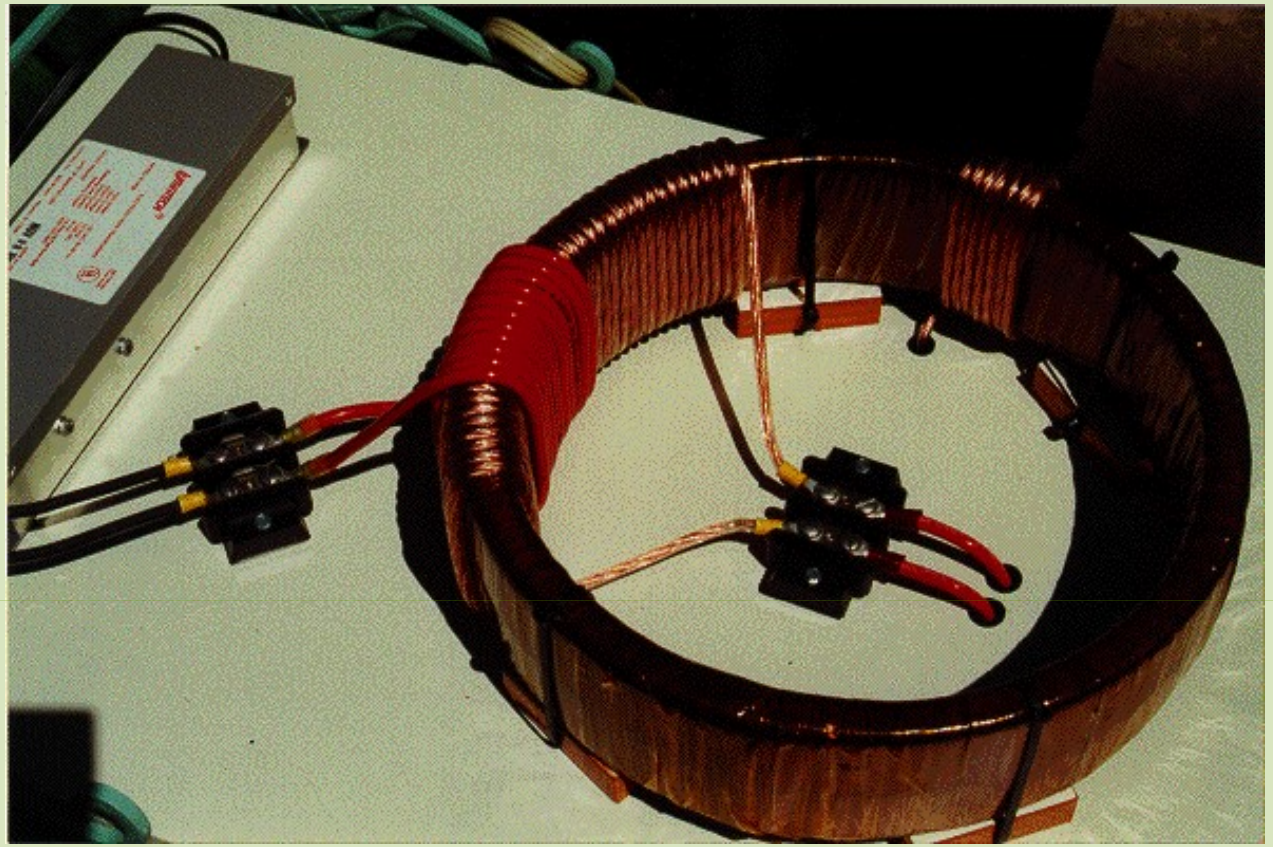
Smith.pdf, pages 16, 17 [emphasis added]

[*Smith uses the expressions "right angle component" and "taken at right angles" to say what Faraday said: **induction** takes place (and **an electrical voltage** is produced) whenever **a magnetic field flux** (of changing intensity) is acting perpendicularly upon a conductor*]

Another example of a Smith-designed Magnetostrictive unit is Device 6 (the Brazil Prototype), a Cobalt-Nickel-Iron **toroidal** system

A **Tesla Coil** is wrapped around the core (red primary wound on-top-of asymmetrical / offset secondary).

Pulses from the Tesla Coil “race” around the core, “cyclotron-style”, inducing voltage in additional secondaries (output coils) like the one at top right.



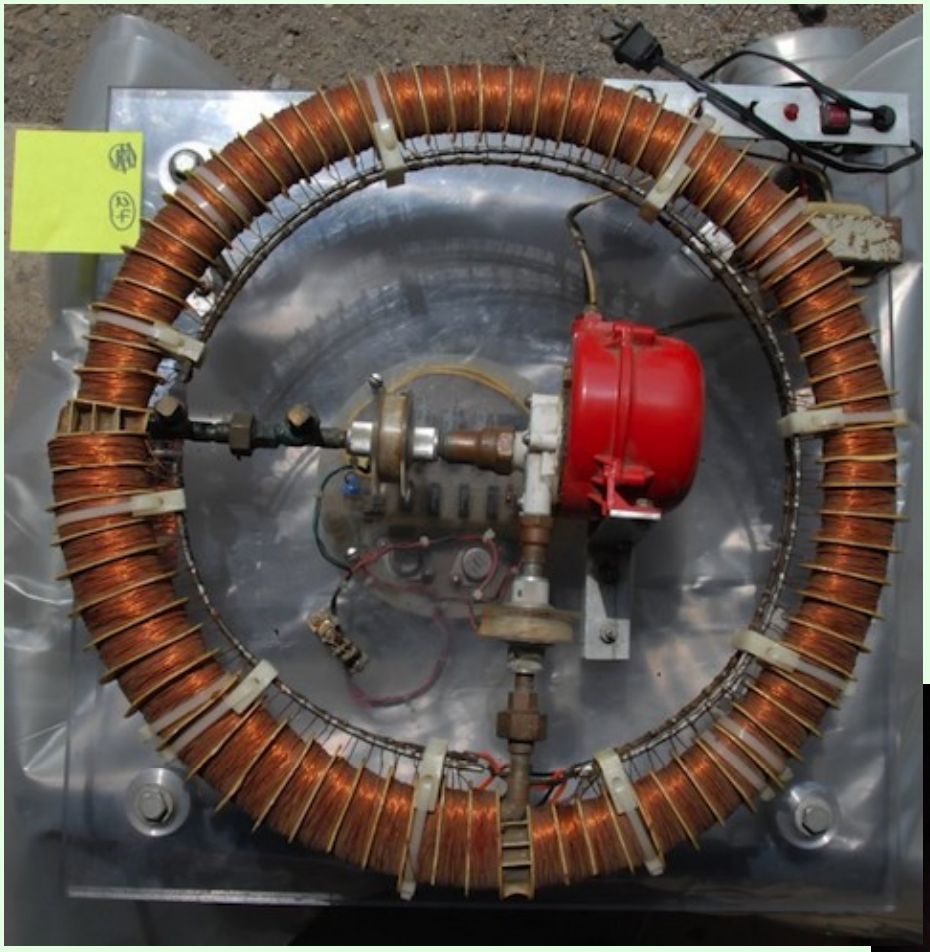
Smith: “It's a cyclotron type deal, and once you get the electrical field [*one would think he means the magnetic pulses*] circulating in that closed system there, you can put other coils around it [*i.e., secondaries, for output*] **however many of them you want,** and you're not taking electricity… none of the electricity "that started out in the system" "ever gets through it" [*in plain English: there's no _electrical_ connection between the source driving the primary, and the secondary(ies). It's the "agitation" of the magnetic field that causes induction in the secondaries, which put out “newly created” electricity, “freshly harvested” from the intense oscillation of the “ambient background*”].

[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=865]

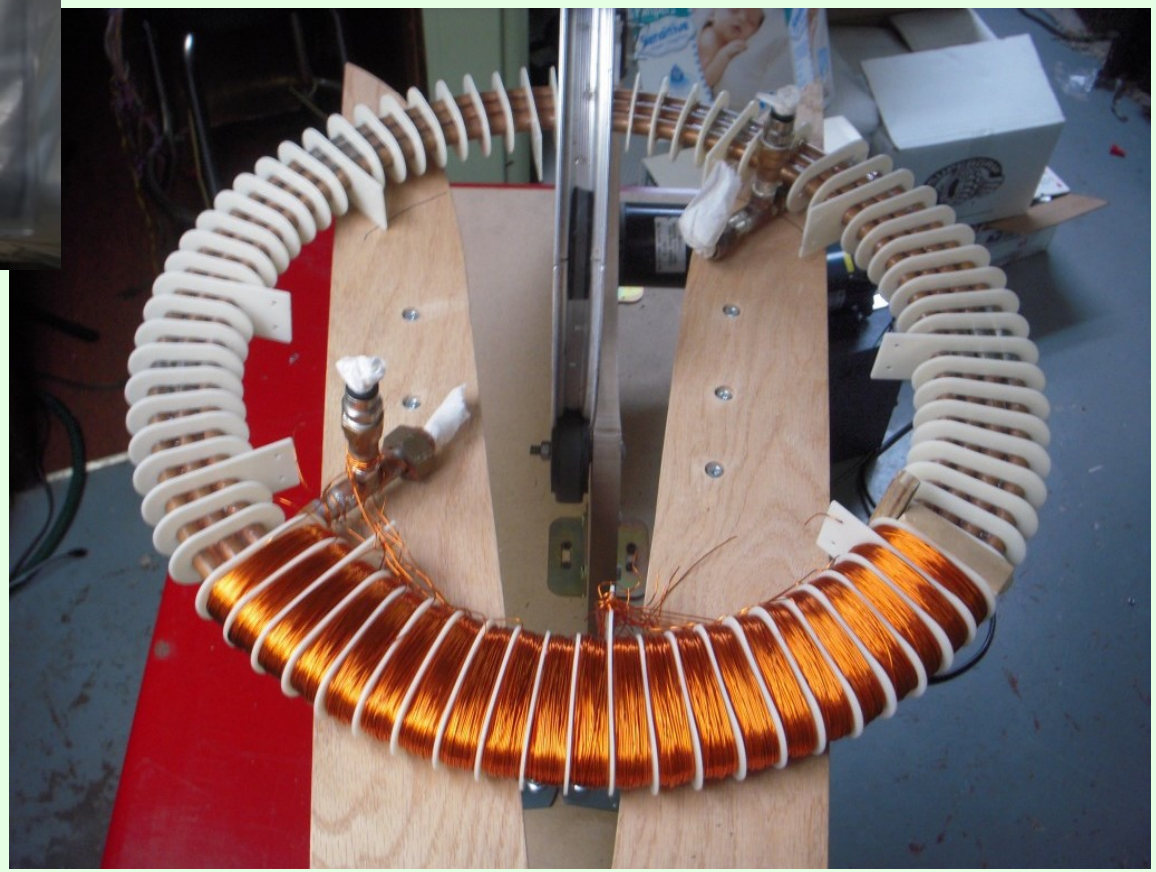
STAN MEYER's EPG, a Device 6 lookalike.

It is interesting to note that Stan Meyer, best known for his water-gas fueled VW Dune Buggy, was also working on an electrical generator, whose scheme of operation was **quite similar to that of Smith's Device 6** (minus the Tesla Coil and the magnetostrictive material).

In Meyer's case, the numerous secondaries (seen here separated by white plastic tabs) were wrapped around a closed-loop coil of hollow tubing, filled with a lattice of magnetized gas.



Stan Meyer's EPG
[image, Gries-Petty Research]



Russ Gries's EPG replication, partway through construction.

[http://rwgresearch.com/open-projects/stanley-meyers-wfc-tec/stanley-meyers-epg-system/]

YouTube user ismael342 presented a video in which he was apparently demonstrating the “spontaneous” transfer [and ENORMOUS AMPLIFICATION?] of amperage from a running Microwave Oven Power Supply (M.O.P.S.) to a series of closed loops of wire loosely placed around it.

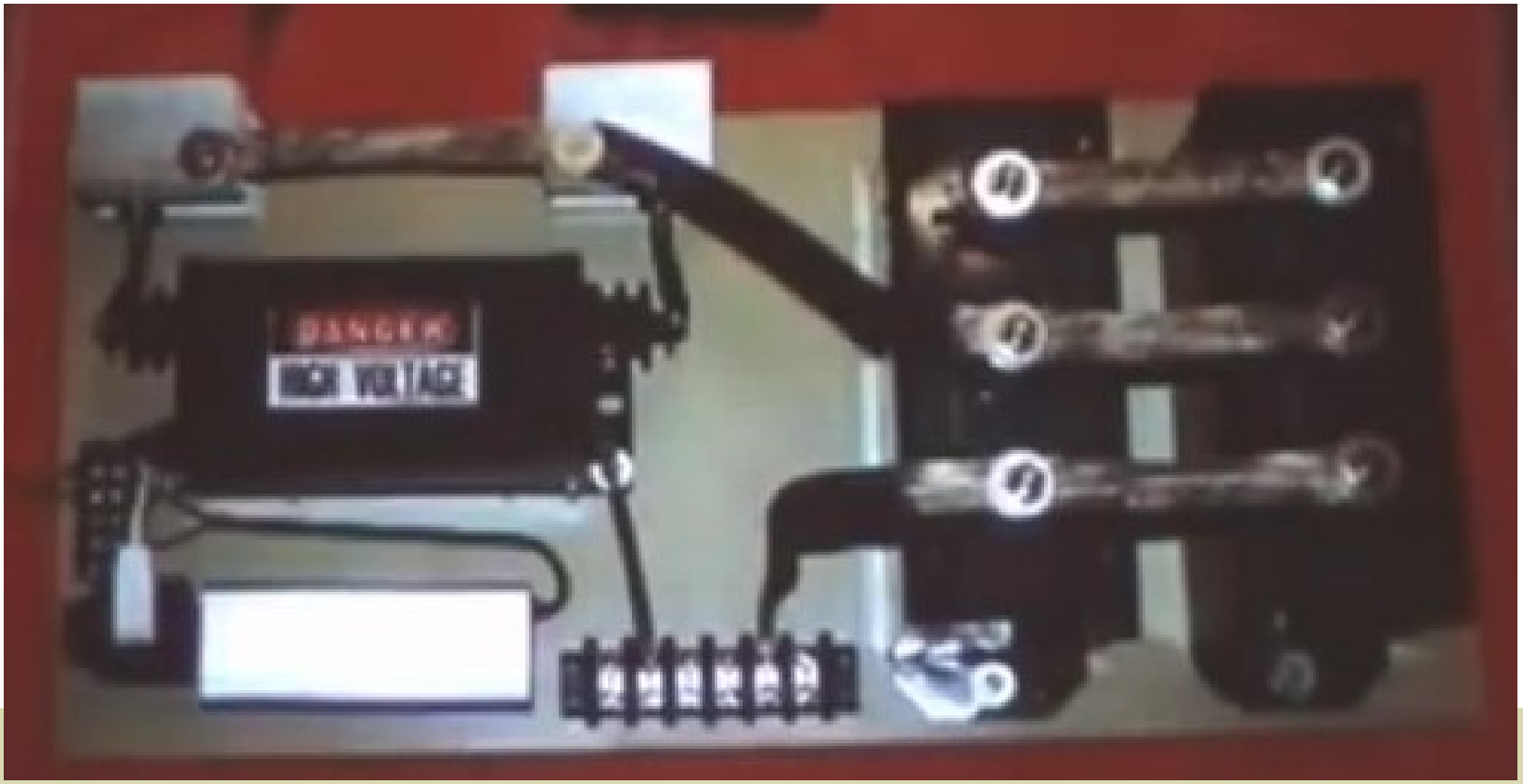
2.8 Amps IN, to feed the M.O.P.S., 147.2 Amps in the LOOP.

Intriguingly, though, he does not appear to have tested the wrapping of coils as secondaries **around the wires** carrying all that amperage (i.e., the way the amp meter clamps around the thick, multi-stranded wires).

Smith's “contention” is you can do PRECISELY that, because there's a **magnetic PULSE** running around the loop, which WILL induce voltage in those secondaries.

[https://www.youtube.com/watch?v=EDH7s3IMTtE]

The so-called “35 KiloWatt” “Commercial Unit”



"… commercial model… the absolute output level on it, I don't know. But some of the components in there would probably limit it to some 35,000 volts at, probably, about… 200 Amperes.

And that is an enormous amount of electricity."

['98 Office Interview]

[https://www.youtube.com/watch?feature=player_detailpage&v=Mnoy2D4wuf8#t=2076]

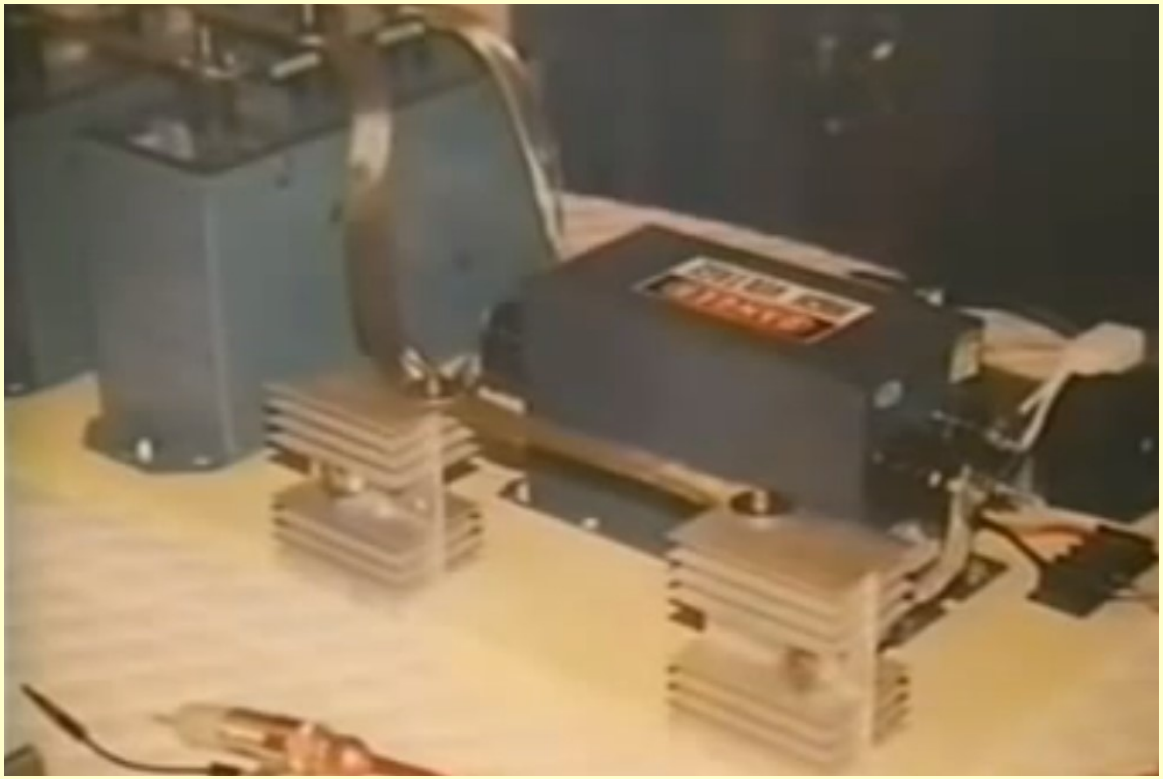
[35,000 Volts x 200 Amps = 7,000,000 watts] [7 MegaWatts]

“Diodes are not critical.

They're silicone,
good for

several thousand volts,

200 Amps”.



“From these diodes, it becomes **pulsating DC**.

- One diode will give you a sawtooth pattern… the second one there will kick in and **cause the other one to kick out** at a certain point, so
- you have **a continuous, pulsating, DC on a straight line** instead of a sawtooth type arrangement.

That goes to these
30,000 volt capacitors. They're set up to take **hundreds of amps**.
Lifetime, self-healing…”

'96 Tesla Symposium Presentation, Part 1
[https://www.youtube.com/watch?feature=player_detailpage&v=W99FOWtIz8s#t=287]

NOTE: while there was some diversity of opinion at first, a consensus eventually emerged that the Neon Sign Transformer in the "Commercial Unit" is only slightly modified, with a reduction of the number of turns in the primary coil, to increase output voltage.

"This over-unity device 'produces' energy at radio frequencies which range into the megahertz band. This allows the device to be small in size, and yet 'produce' large amounts of energy".

"A **megawatt**-sized unit <u>will sit comfortably on a breakfast table</u>".

Smith.pdf, pg 32

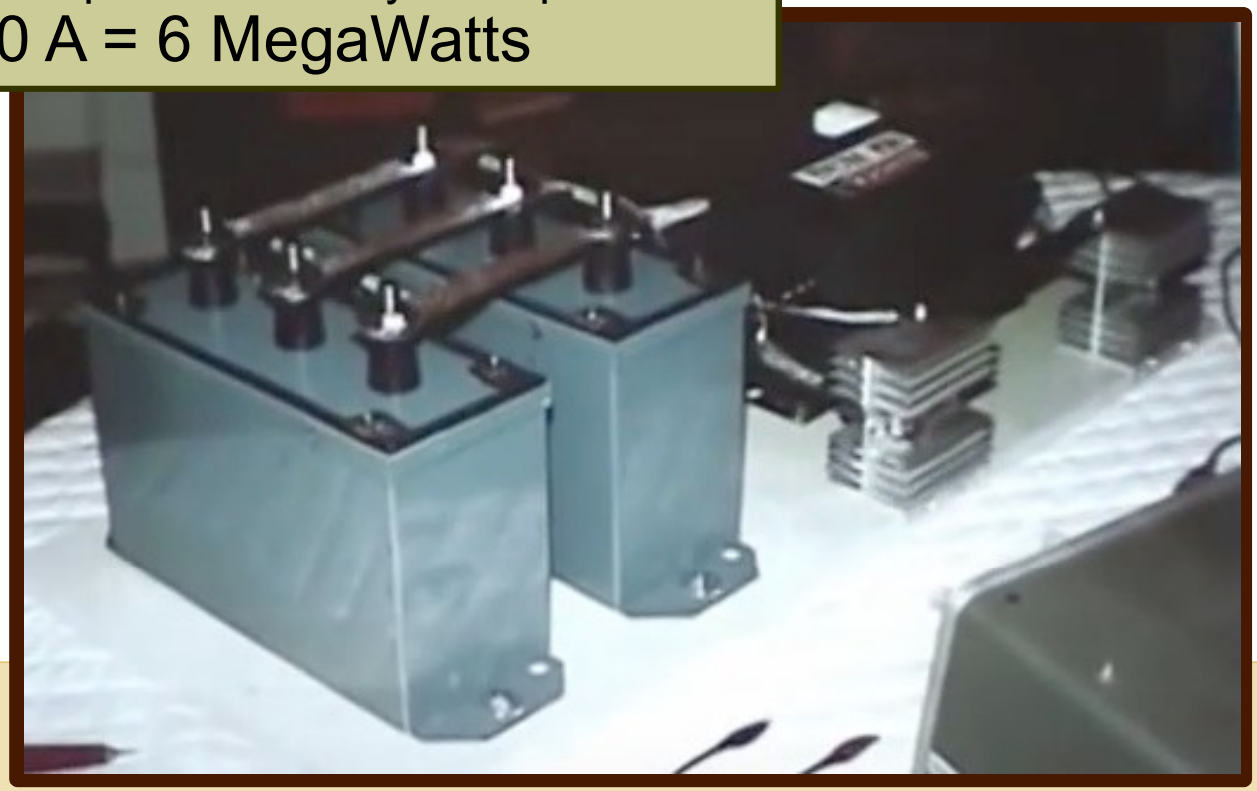
[*How about two bankers' boxes?*]

Here, again, Smith INCORRECTLY **conflates** ENERGY and POWER. Watt is a unit of POWER, **NOT** of ENERGY.

Input Stage: IF Voltage is **30,000**,
THEN, for Amperage to be **200**, Resistance has to be **150** Ohm.
Looked at in this way,
the POWER delivered to the capacitor bank by each pulse is:
30,000 V x 200 A = 6 MegaWatts

IF

Smith was operating this device in the manner that he demonstrated in 2005 and 2006,



THEN

he would have been jolting **one plate** of the capacitor bank with 30,000 Volts (at 200 Amps), and "catching the rebound" (i.e., intercepting / "detouring" the resulting, **induced "surge"**, headed for the other plate of his capacitor bank), presumably by way of an ultra robust ground connector, equipped with a very powerful varactor (or a number of such devices) whose function would be to REGULATE (LIMIT) both the **voltage** AND the **amperage** that would be allowed BACK INTO the circuit, to power the OUTPUT stage of the unit.

ERIC P. DOLLARD – History and Theory of Electricity

"Tesla was going to send an electrical pulse into the Earth; it would **bounce off** the inside of the Earth and **come back** at a certain time with a certain **increase** or decrease in energy level. And he was going to continue this process in microsecond groups (grooves?) as these 50 Kilocycle waves are echoing into the planet.

…

So when Tesla closed the switch, after all the experiments and tests, he produced for a period of about, maybe, one minute a standing lightning bolt at the terminal of this giant transformer on the building that contained it. **Not** just one pop, but an almost **standing** lightning bolt, modulated at about 5,000 cycles a second [*likely meant to say 50,000*] from his **capacitor discharge** switch, so the sound must have been something that was unfathomable to describe".

- History and Theory of Electricity [https://www.youtube.com/watch?v=TttHkDRuyZw - 50:06]

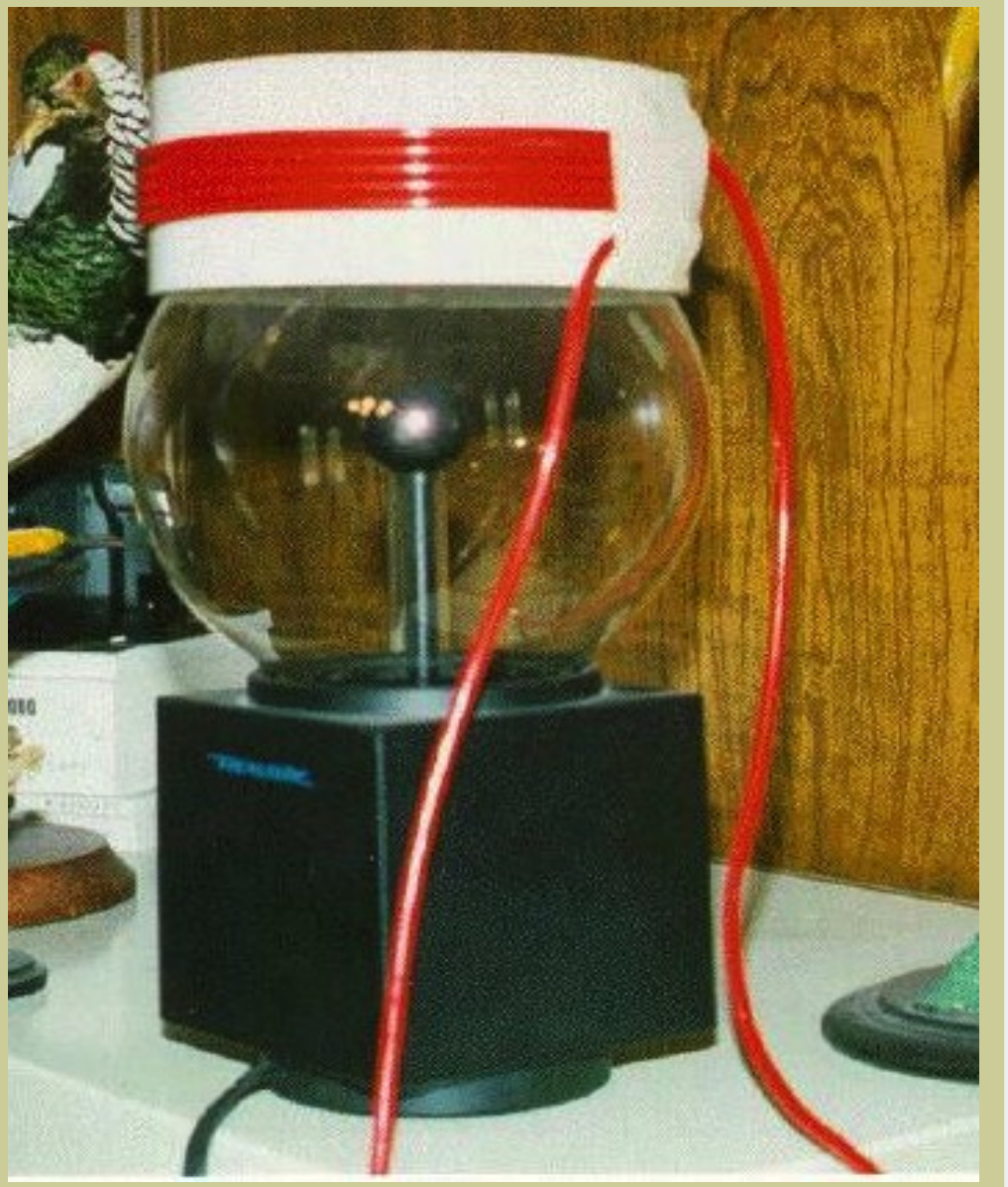
NOTE, however, that our dear friend SMITH, in his "Answer to America's Energy Deficit", 5th Edition, 1997, page 35, states:

10. - EES II (*his Earth Electrical System II*) is **less complicated** than Tesla.

11. - It uses a __different concept__ of grounding than Tesla.

Device 4, a.k.a. Device 7

The Illumna-Storm Plasma Ball Unit



1. Substitute a Plasma Globe such as Radio Shack's "Illumna-Storm" for the source-resonant induction system. It will have about **400 milligauss** of magnetic induction. One milligauss is equal to 100 volts worth of **magnetic** induction. - Smith.pdf, page 73

…

3. Get about 30 feet (10 m) of Jumbo-Speaker Cable and separate the two strands. … (**PJK** Note: "Jumbo-Speaker Cable" is a vague term as that cable comes in many varieties, with anything from a few, to **over 500 strands** in each core. As Don points out that the output power increases with each turn of wire, it is distinctly possible that each of these strands acts the same as **individual insulated** turns which have been connected **in parallel**, so a 500-strand cable may well be far more effective than a cable with just a few strands). (page 74)

4. Wind the coil with 10 to 15 turns of wire and

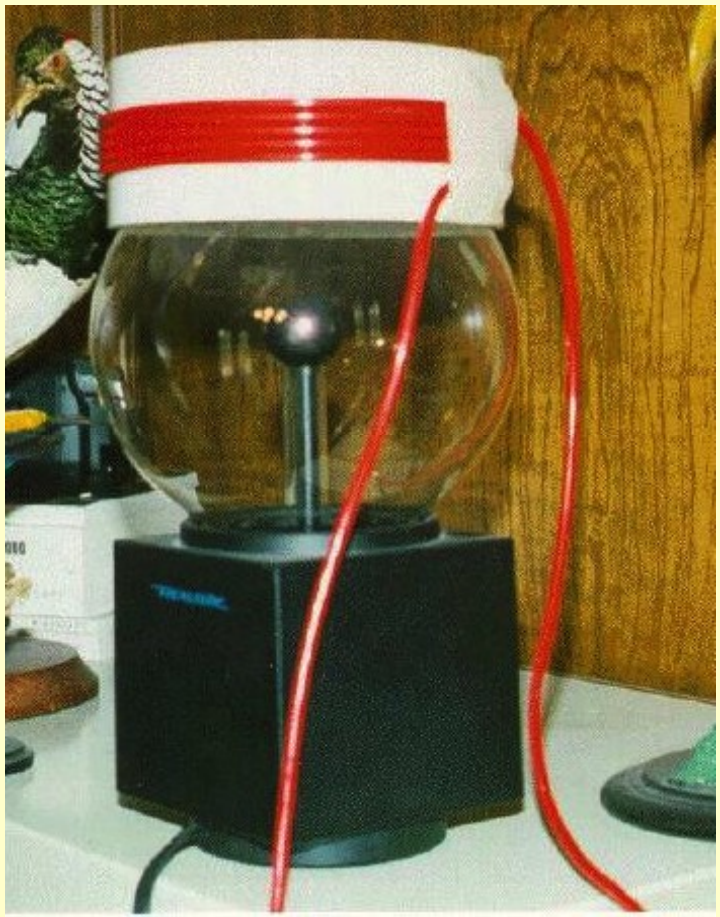
leave about 3 feet (1 m) of cable spare at each end of the coil.

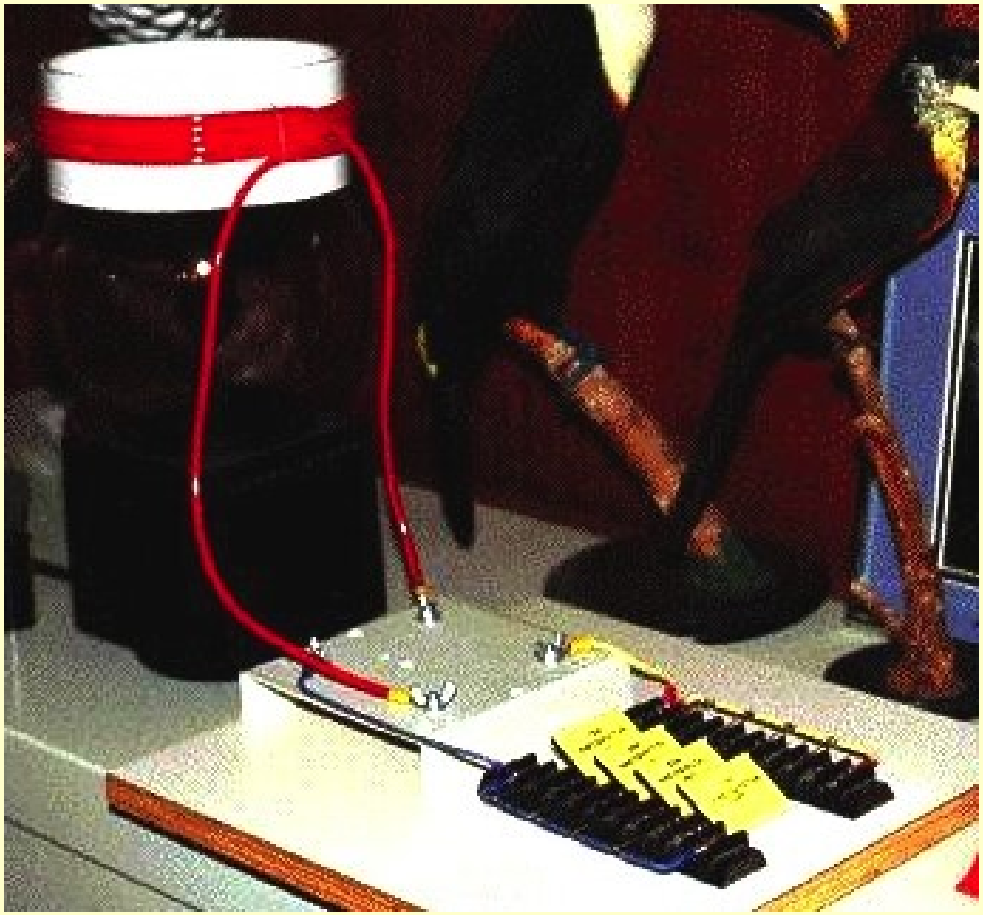
WHY would Smith specifically suggest leaving a certain length of wire “spare” at each end of the coil?

In a series he did on the Steven Mark Toroidal Power Unit,

[https://www.youtube.com/watch?feature=player_detailpage&v=zkD-9ITb4hM#t=396]

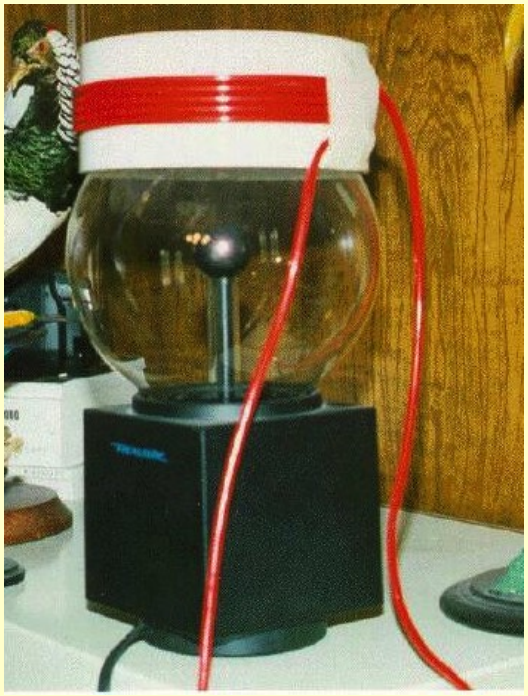
YouTube user TPUBruce gives us one possible idea





TPUBruce, 2013 - “I want to discuss **the magnetic field of a straight wire**. Because it's a transmission line, not a solenoid, we have a different formula for the motional EMF. This formula [E = BLv] is really the formula that applies to our **multi-strands**, or this transmission line. B is magnetic field strength in Tesla, L is length in meters, and v is velocity at which the magnetic field travels along the wire, in meters per second”.

[*Comment: In Bruce's example, the multi-strand wire contains 40 strands (PJ Kelly – previous slide – suggested 500: even better). They experience* ***mutual and reciprocal induction*** *as the magnetic wave travels along them at high velocity. The fields induced in each of the wires ADD UP. This is because the strands are INDIVIDUALLY INSULATED and IN PARALLEL. You get the equivalent magnetic induction of a single strand _40 times longer_ BUT without the DRAG (electric resistance) which would tend to increase "exponentially" as the length of an individual strand extended further and further*].

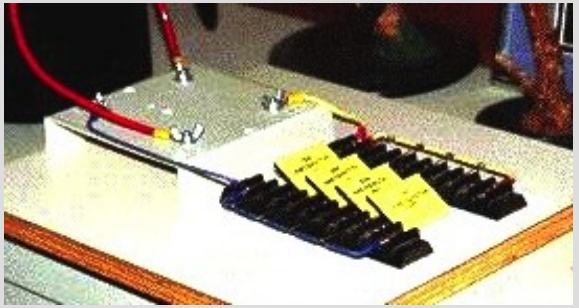


TPUBruce continues: "But here's **the best part**: the formula for RESISTORS in parallel applies to individually insulated wires in parallel. And what it does is it DIVIDES and DIVIDES and DIVIDES the more resistors (or wires) that make up the array.

$$1 / R\text{-sub-}T = 1/R1 + 1/R2 + 1/R3 \ldots 1/Rn.$$

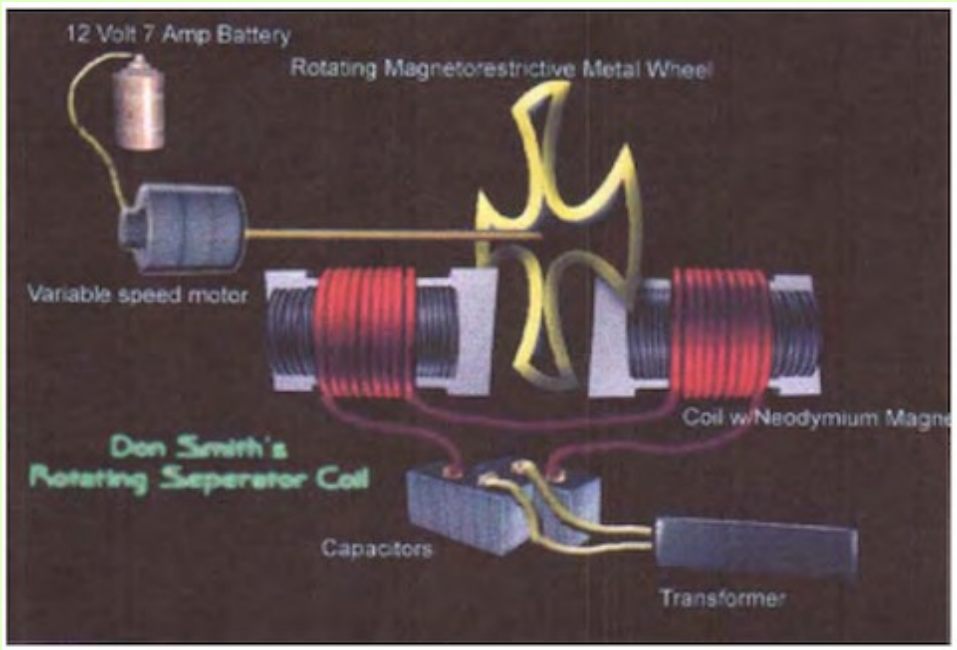
This turns our multi-stranded wire into a virtual SUPER-CONDUCTOR at room temperature. 40 strands of equal diameter and material; ergo equal resistance (??-poor audio). Simply **divide** one strand's resistance **by 40**, and that will be the total resistance for the 'bundle' ".

The goal would appear to be quite similar to what we saw in the case of the R.E.P.S.: short/sharp pulses, delivered over a VERY LOW RESISTANCE "path" translate into HIGH POWER impulses "at the receiving end"; in this case, the diode bridge.



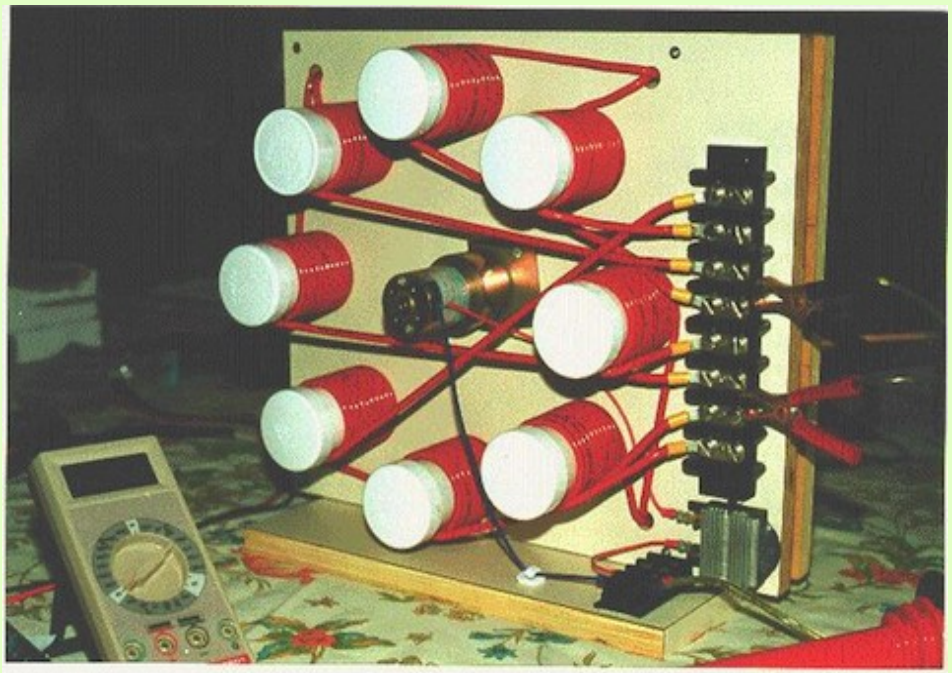
Device 9 (the rotating disk unit)

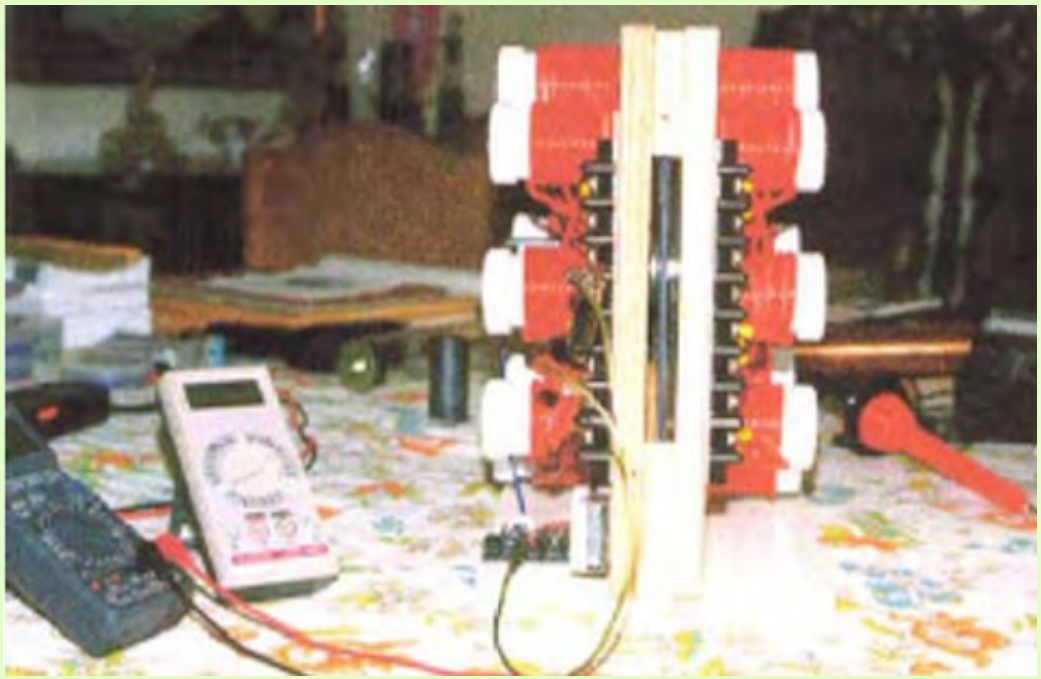
works very much like the magnetic pickup transducer that we saw earlier.



A disk coated with <u>neodymium</u> powder on both sides, and perforated around the perimeter, rotates in between twin stacks of coin-shaped **neodymium** magnets. Around these is wrapped a coil of multi-stranded copper wire. As seen at top left, the wire runs continuously, forming a "split secondary", like the one on Device 3. [*A mid-point ground (although not shown) appears likely.*.]

As the coated areas of the rotor "cut" the flux linking the stacks, the flux field is "disturbed", triggering intense induction in the wire. Eight individual stack-coil combinations form the unit.





What did you say the Induced Voltage was, again?

"Units of measurement used to define flux fields include:

Gauss

(one unit = **100,000 volts**)"

Smith.pdf, page 38

Now, let's see: How much is

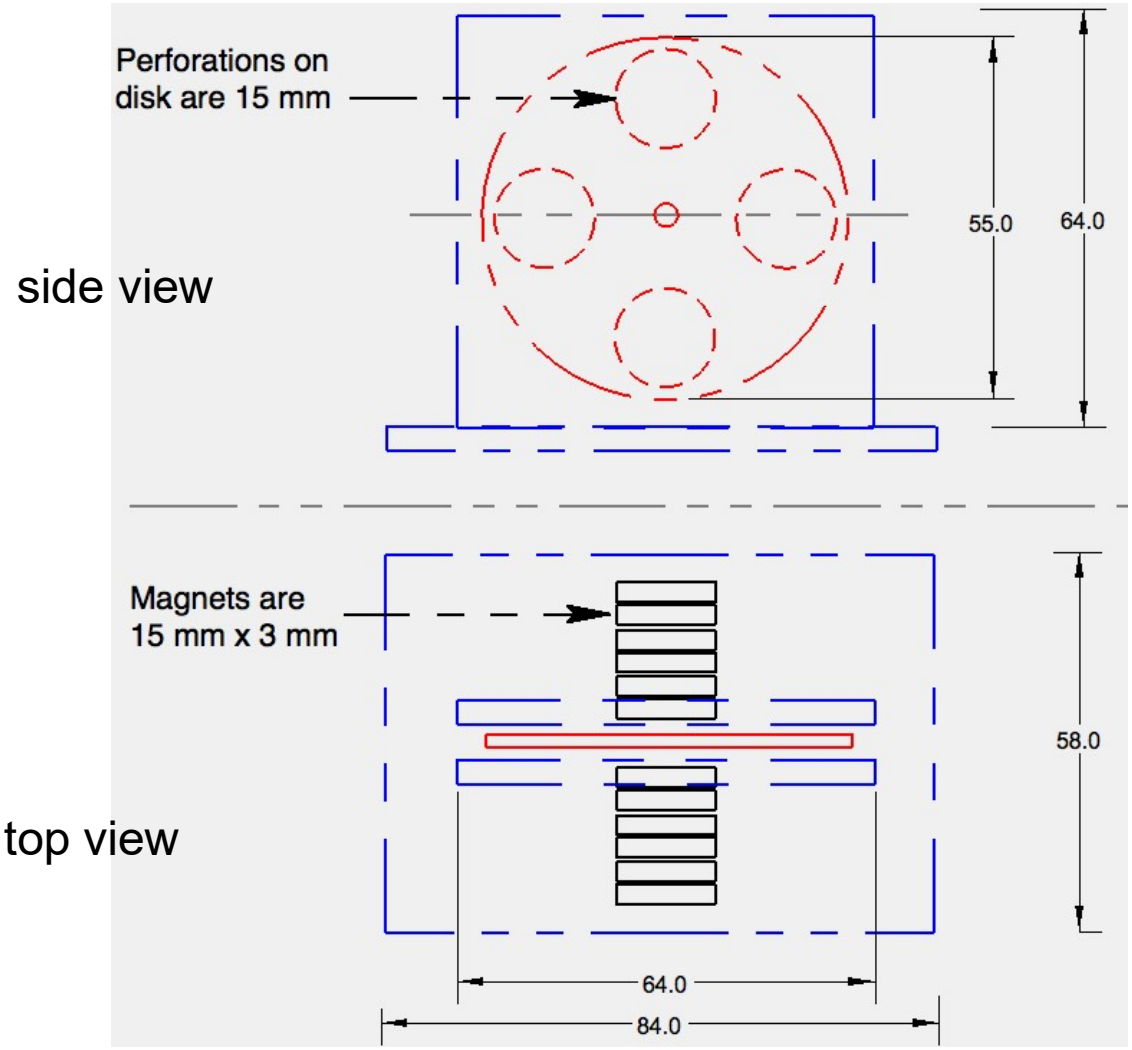
12,000 x 100,000?

Oops!

Could we really be talking

1,200,000,000 Volts?

"Device 9, Jr", a very small and inexpensive rig, can be built to test Smith's stunning claim about his rotary disk unit – that it puts out 400 Kw (*see Smith.pdf, page 69*).

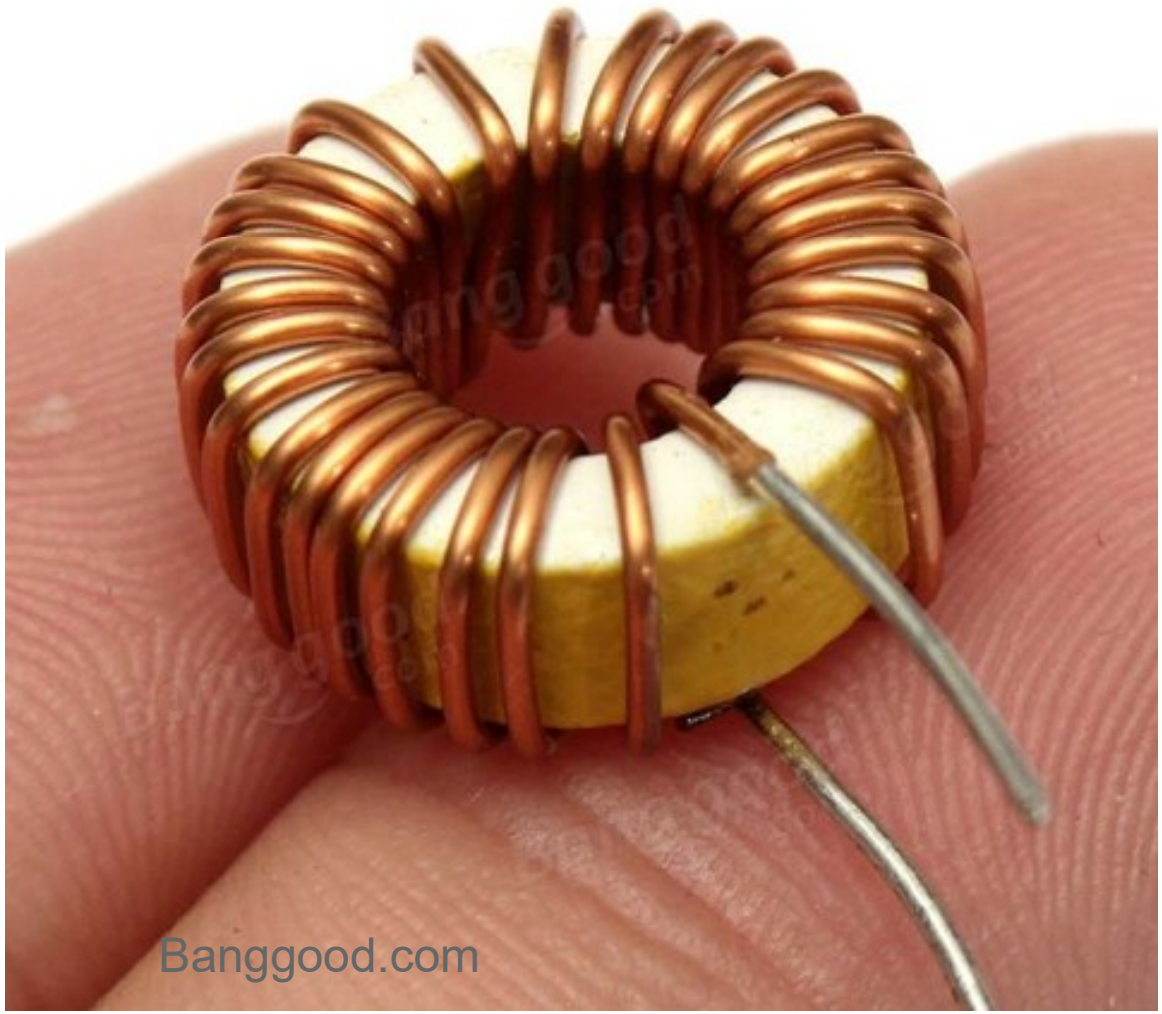


As shown above, it measures 84 x 58 x 64 mm, with a 55 mm rotating disk, and two stacks of 6–to–8 15 mm x 3 mm Neodymium magnets. Coils not shown.
(For proof of concept, **one** magnet-coil set is enough)

Then again,

How about placing a little toroidal inductor in the gap between the magnets (North facing North, South facing South), then “pulsating” it by means of a switch-mode power supply?

We want to DO AWAY with moving parts!



A set of 10 (ten) 12-volt, 3 Amp inductors, 14mm in diameter, can be had for less than U$D 2.50

And Now…

for those who have been diligent enough to bear with us to this point,

a “special treat”

from the Uncle Don Memorial Team

[kind courtesy of Chomikuj.pl] [in each case, click on “Pobierz” to download]:

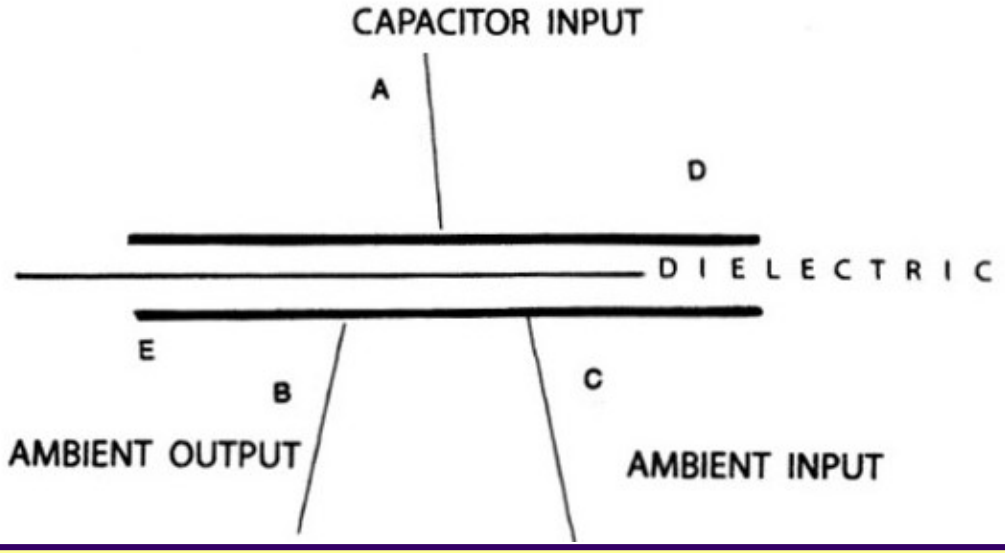
AmbientEnergyGenerator 1 1.jpg - AEG - DLS Don Smith Capacitor Plate
[http://chomikuj.pl/DonaldKapanadze/AEG+-+DLS+Don+Smith+Capacitor+Plate/AmbientEnergyGenerator-1-1,3636873100.jpg]

AmbientEnergyGenerator 21.jpg - AEG - DLS Don Smith Capacitor Plate
[http://chomikuj.pl/DonaldKapanadze/AEG+-+DLS+Don+Smith+Capacitor+Plate/AmbientEnergyGenerator-21,3636873098.jpg]

Don Smith's Emails on Schematic Corrections.pdf
[http://chomikuj.pl/DonaldKapanadze/Donald+Lee+Smith/Teksty/Don-Smith-s-Emails-on-Schematic-Corrections,2663066153.pdf]

“Most of the things that are in my devices which I demonstrate
were put there
because people expect to see them,
not because they need to be there”.

Smith's Diagram of what he called the Ambient Energy Generator

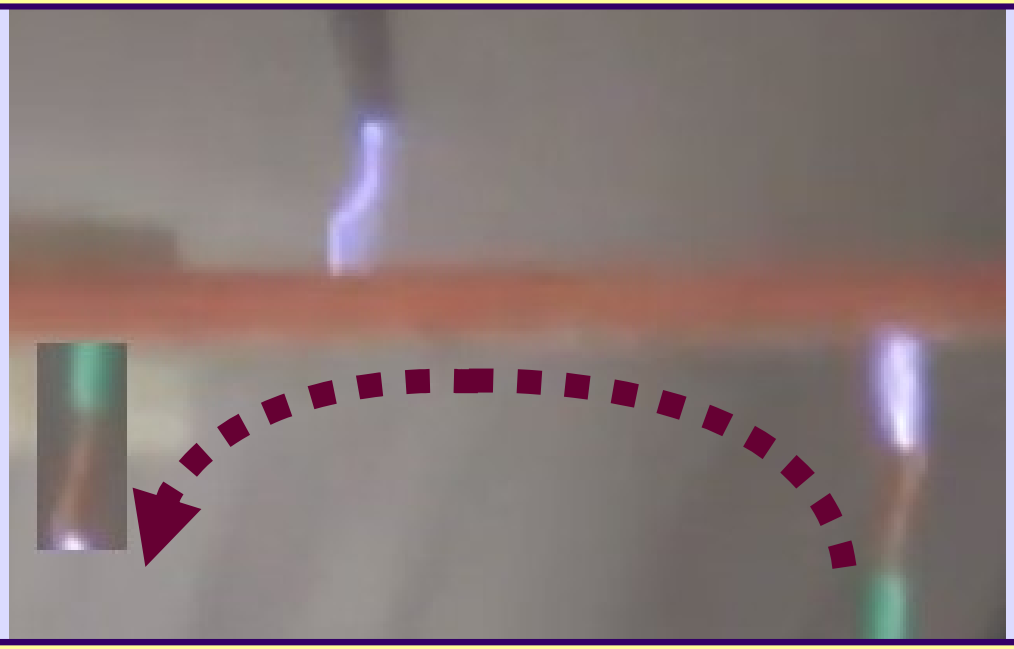


"It's **much** simpler than anyone would **ever** have imagined…" (Smith, in 2005)

1. A VOLTAGE is applied to ONE SIDE ONLY… (Plate "D")

3. OUTGOING "Pathway" (To Ground, via primary coil of Transformer, whose secondary coil powers the Load).

DIODE On This Line ONLY Allows Energy OUT of Plate "E".



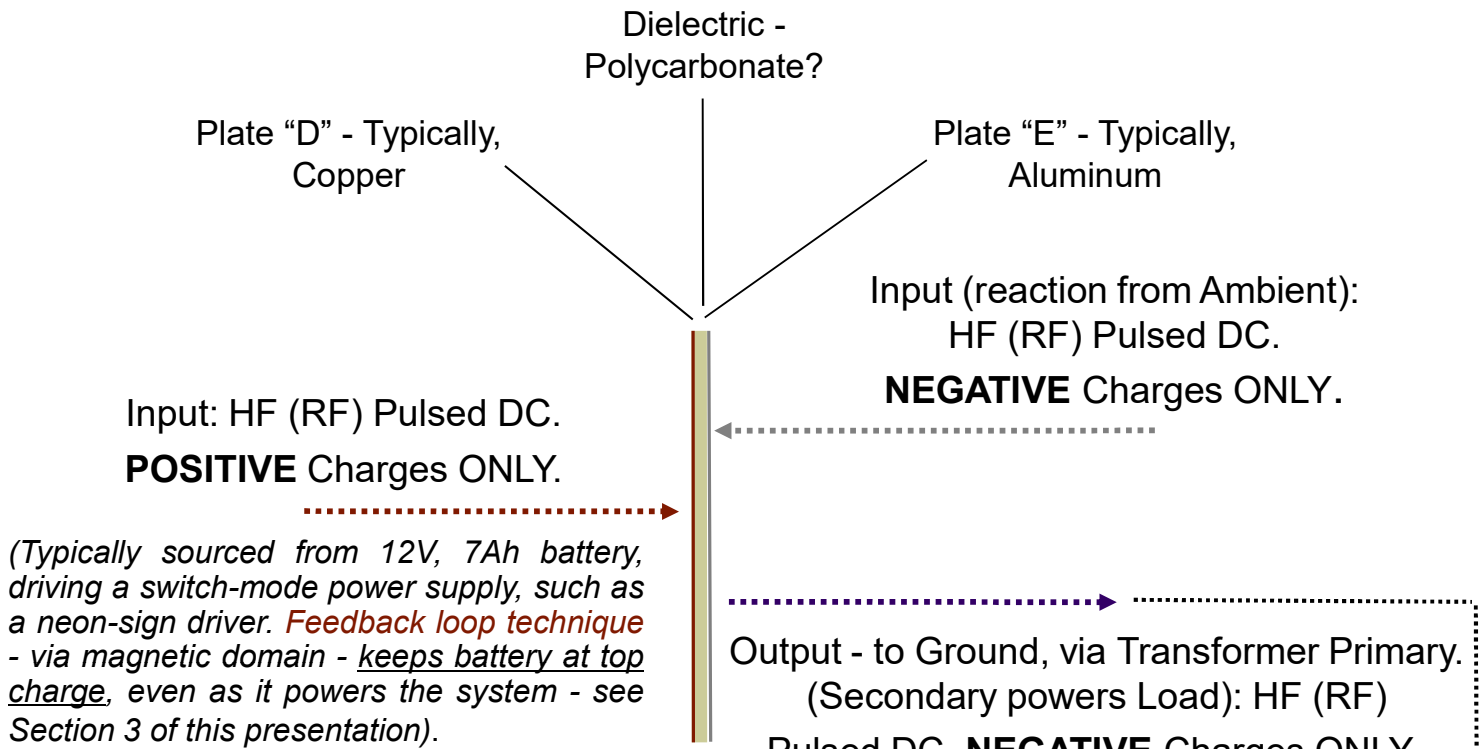
2. INCOMING "Pathway" (Reaction From Ambient / Ground).

DIODE On This Line ONLY Allows Energy INTO Plate "E".

4. Energy flows (is "pumped", Smith says) FROM the Ambient, through the plate, TO the Load (via Transformer & an adjustable Ground connection).

"The **capacitor transformer** opens the door to an **endless** source of useful energy".

As simple as it gets, fully scalable, no moving parts… pure genius!



Diodes or Diode Bridges are placed where appropriate to “enforce” stated rules:
ONLY positive charges allowed onto positive plate (plate “D”);
ONLY negative charges allowed onto negative plate (plate “E”)

Smith's Outstanding Achievement and Magnum Opus,

the Uniquely Great

Capacitor Transformer,

as applied to

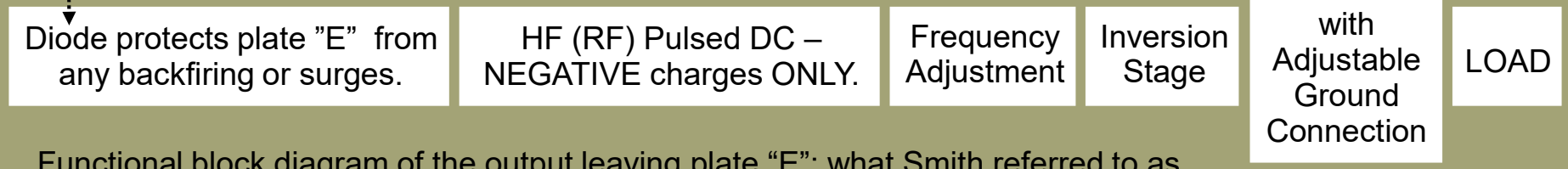
Energy Harvesting.

While he called it the

Ambient Energy Generator,

it is perhaps best characterized as a

Universal Energy Intake Valve



Functional block diagram of the output leaving plate “E”; what Smith referred to as “a separate circuit which powers the load”.

To the extent that it is properly characterized and specified for a range of power outputs (something that falls well beyond the reach and skill-set of your trusty Uncle Don Memorial Team), Smith's

“Ambient Energy Generator”

has the potential to become a very powerful tool for economic and social development.

It falls upon those with the requisite technical skills (and/or environmental-, and/or social sensibilities) to undertake that task.

And, hopefully, to then widely publicize the resulting diagrams and specifications, with the sole, and certainly not minor, reservation of taking **every precaution** to minimize – or, if at all possible, <u>completely eliminate</u> – any potential risks to recipients.

In this regard, please see additional titles in this series, at

https://archive.org/details/@energenius

“K4K (The POWER CHALLENGE)” (and the necessary NEXT STEP)

Is it KILLER APP Time in Smith-Tech Land?

“Energy is FREE - Like the AIR that you breathe”

(“The Short File” - one version of)

A Few Final Thoughts:

ALL it takes

to **"generate" electricity**[1] is

a **conductor**,

and

"a perpendicular magnetic field flux

of **changing intensity**".

[1]Electricity is not "generated". It is "captured" by conversion of widely available magnetic flux into electrical flux. Nature does the conversion. Humans trigger it by creating the appropriate (catalytic) conditions, as listed above.

"Energy **cannot be** created or destroyed, energy can only be **transformed** or **converted**"

[Pray Tell: Just **HOW** is it that something is "consumed" without being destroyed?]
[Could it be that there is **NO SUCH THING** as energy being "consumed"?]

*We can't see, hear, feel or smell **magnetic flux**.*
*We thus tend to **foolishly** think, and act,*
***as though IT WASN'T THERE**...*

The

SCARCITY

MINDSET

KILLS;

Embrace

ABUNDANCE !

Apologies for PPT's LAME meddling with FONT COLORS on links.
Please lift those from transcript, as needed.

This is all for this presentation.

(Appendices, Loose Notes, to follow).

Thanks for watching!

To find other titles in this series, go to:

https://archive.org/details/@energenius

"There IS no energy shortage; only [*a shortage of*] grey matter".

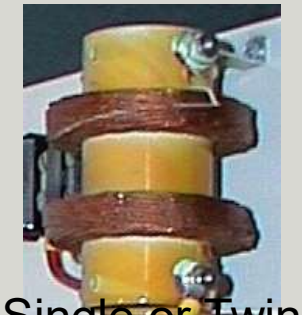
Appendix A - Layman's Understanding of a Basic Smith-style (Self-) Powering Arrangement

Battery [12V 4.5A]

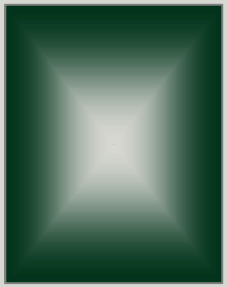
Fig 8 Cable – One Conductor Deployed as Rabbit Ears **Antenna**

DC-DC SWITCH-MODE Power Supply [12V 3A]

....



Single or Twin "**Emitter**" Coil(s) "Disturb" Ambient



Circuit or Device Being Powered

Argument: by definition, a SWITCH-MODE Power Supply **introduces** a FREQUENCY. In the case of small, low power, 12V units, it's generally in the range of 55 to 65 kHz.

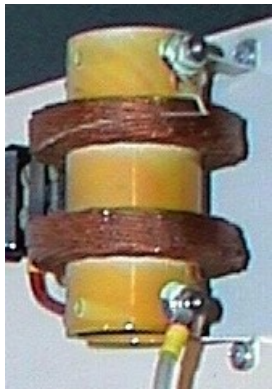
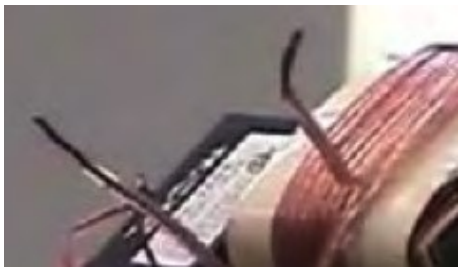
The cable linking the battery with the PS has to be cut and designed to PICK UP **that frequency**. End-to-end length will define its natural frequency of resonance. But, beyond that, **Smith's Suitcase Device method** [**fig 8 cable**, one conductor used to actually carry current (in this case, from battery to power supply), the other one used as an **antenna** to PICK UP the frequency broadcast into the "ambient" by the **emitter** coil] must be fully taken into account, and **tested** until clearly understood, so it can be **routinely** employed.

The cable from the PS into whatever circuit or device is being powered **MUST** be cut to EFFECTIVELY MATCH the Fig 8 battery-to-PS cable (can be equal length, double, 4 times or – conversely – half, one quarter). It has to be COILED, so it will do "double duty" as the "**Emitter**" electromagnet whose **pulses** are to be picked up by the battery-to-PS cable's **antenna**.

One conductor of Fig 8 battery-to-PS cable is electrically connected. **LEDs** monitor flows in that conductor: conventional DC out, High Frequency pulses BACK INTO the battery.

Appendix B:

Wired, Wireless and Mixed/Hybrid Conveyance of Pulsed / Intermittent, High Frequency Magnetic Signals to Trigger Induction / Power Production

Effective POWER delivered per pulse would substantially increase if said pulse were to result from a capacitor discharging, via a “wide” path, into a receiving coil. Voltage Squared over Resistance.

Receiving coil could

a) wirelessly activate one or more secondaries, as in an isolation transformer;
b) be wrapped around a form, armature, toroid, ring, belt or other conveyance structure (selected as a good carrier of magnetic flux) to which the secondary or secondaries would be efficiently linked, as in “Device 6”, or
c) a combination of a and b: wireless connection involving armature(s) around which coils deployed as antennas (“Suitcase Device”-style) would be installed, to send and/or receive the pulses.

Output coils / secondaries should systematically be built as split inductor-capacitors, with a midpoint ground. Self-resonance of these should be sought, and implemented wherever possible. (At a given frequency, inductive reactance will match and cancel out capacitive reactance, making impedance effectively zero).

Pretty Sophisticated, yet Inexpensive, Power Supplies and other Tools / Instruments are readily available for would-be Experimenters

DP30V3A NC Programmable Power Supply Module Constant Voltage Current - $27.99

0-30V 2mA - 3A Adjustable DC Regulated Power Supply DIY Kit Short Circuit Current Limiting Protection - $12.99

The Energy System presented here, consists of a **properly-**adjusted and functional **resonant** air-core coil **tank**. [*LC(R) systems are referred to as "tank circuits"*]

• The **magnetic** energy is **stored** in the **coil** system, and

• the **Electrical** Energy is **stored** in **capacitors**.

[Elsewhere, Smith refers to storage, as follows

The Cumulative inductance and capacitance of the Tesla Coil grounds itself **out**, if not **properly** utilized. See this report for the **temporary energy storage** accessible, when **properly** managed – Smith.pdf, page 36].

From Maxwell and others, we know that electrical-related energy has an equal amount of magnetic energy associated with it. - Smith.pdf, page 33

In Re: Ground, Grounding, Earth Grounding, “Proper” Grounding

"Airplanes have electrical systems. They're grounded into the metal parts of the airplane. And it radiates off of that. **Grounding is a relative sort of thing. I**t's that “there's more of something here and less of something here”, so **it's going to move** between the more to the less, or something, and it's **that leg** that's in between there that's your **useful energy**.
2001 Inventors Weekend - Counter at about 51:37
[https://www.youtube.com/watch?feature=player_detailpage&v=W7GHqw7d1No#t=3106]

The use of the term ground (or earth) is so common in electrical and electronics applications that circuits in portable electronic devices such as cell phones and media players as well as circuits in **vehicles** may be spoken of as having a "ground" connection without any actual connection to the Earth, despite "**common**" being a more appropriate term for such a connection.This is usually **a large conductor** attached to one side of the power supply (such as the "ground plane" on a printed circuit board) which serves as the common return path for current from many different components in the circuit.
[https://en.wikipedia.org/wiki/Ground_(electricity)]

CHASSIS GROUND, "Non-true-ground" Ground
In a traditional automobile [low energy] ignition system and most cylindrical coils, the BAT terminal connects to the +12V supply and the DEC terminal connects to a special rotary switch inside the distributor that is driven by the cam shaft. This switch connects the coil to the **chassis ground** when a spark is needed.
[http://users.silenceisdefeat.net/~lgtngstk/Sites/Circuits/Ignition_Coil_Driver/Ignition_Coil_Driver.htm]

Useful electrical energy is obtained by **grounding** into the Earth's non-metal crust **and** into its atmosphere as a **natural source of electrons**. - Smith.pdf, pg 45

Excited **Electrons** at point "A", the Sun, (including the Galaxy and Cosmos) **do not travel** to point "B", the Earth. However, a corresponding action occurs at point "B". The Electrons being **disturbed** at the Central Power Plant, in the same manner excite the Electrons at Your House, upon switching into an Earth **grounding** (known as "flipping the switch"). Page 22

When you **ground** your system by flipping the wall switch, you use your own electrons. In closed energy systems, electrons communicate with and **replicate** the activity of **the overbalanced potential**, when provided with Earth and or Air Groundings. - Smith.pdf, pg 47

There is an AC magnetic field **everywhere** in developed areas…
[https://en.wikipedia.org/wiki/Ground_loop_(electricity)]
[caused by some relatively nearby power station (and / or its buried current-carrying cables) “disturbing” electrons at “AC” (50/60 Hz) frequency].

It is **this field**, says Smith (implicitly), that excites Electrons at Your House when a connection to ground is made. His units are smaller, custom-sized “disturbers” / exciters that one OWNS, and operates. They are **powered** by the very electron “activity” they trigger. Ergo, no need to pay anyone any charges based on the amount of time they are in use, or the number of electrons they cause to flow through one's electrical devices and appliances].

Also review [http://www.innovatemotorsports.com/resources/electrical-grounding.php]

"E.M.F's are generated by devices that **separate** charge. A familiar example is the battery, which utilizes chemical forces to separate charge. Other examples include the heating of a thermocouple, exposure of a photovoltaic cell to incident light, or the rubbing together of different materials (**electrostatic** charge separation).

Electric fields are also produced by **time varying** magnetic fields. This principle is extensively exploited to produce conventional electric power in the utility industry".

Floyd A. "Sparky" Sweet "Nothing is Something - The Theory and Operation of a Phase-Conjugated Vacuum Triode" - June '88 [www.hyiq.org/Downloads/Nothing%20is%20Something.pdf, pg 10]

“Jumbo Speaker” / Multi-Strand Wire

[L]osses due to the resistance of the circuits, it is impossible to obviate them entirely, but they can be reduced to a minimum by a proper selection of **the dimensions** of the circuits and by the employment of **thin conductors** in the form of **strands**. [i.e., make the conductor "oversize", but do it using Multi-Strand wiring]

[TESLA, in Commerford Martin, The Inventions, Researches, page 310]

Very high frequency currents tend to flow not evenly in the whole cross-section of the wire, but only on the surface ["skin effect"]. Therefore **multi-stranded** wire creates more surface area for the high frequency currents to flow, hence **lower impedance**. [Smith's "speaker wire" on Plasma Ball device, and Device 3 Primary] [http://www.innovatemotorsports.com/resources/electrical-grounding.php]