The Secret of Tesla's Radiant Energy and Over Unity Power Explained

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Ever since time immortal; man has investigated various ideas to harness the "wheel work of nature", in Tesla's words, to perform useful work. Many ideas have ensued by countless inventors over the years. Many of these ideas ended in failure and disappointment. And of course, anyone who has looked into a few of these machines has found deception for the purposes of financial gain, misguided or delusional inventors, or theories including metaphysics that are quite frankly difficult to believe at best. Also many inventors fail to offer a shred of proof or the possibility of repeatable designs.

Out of all these inventors, there is an exceedingly small number that may have succeeded in producing and demonstrating over unity machines. Unfortunately, almost all these inventors had trouble obtaining patents to protect their ideas or do not divulge all the details necessary to duplicate their inventions. There is also a small but noteworthy number suffering: untimely and mysterious deaths, economic hardships, defamation, and destruction or theft of property, all quite likely at the hands of special interests (e.g., big oil, energy companies, etc). These activities are likely perpetrated out of fear, greed, and protection of wealth. In spite of all the set backs, disappointments, impossible challenges, and scientific dogmas – I believe such machines do exist!

I endeavor to present a theory for an over unity machine based upon research and simple mathematics as well as provide a small electrical schematic for a thought experiment. For clarities sake, I do not claim to have invented anything merely rediscover knowledge of old.

A Theory from Circumstantial Evidence

Figure 1 shows a sample pulsed DC circuit. The circuit provides a source of DC power marked V, a switch at S1, and a coil inductor at L1. This is not a practical circuit of operation but suitable for our discussion given it's simplicity. _No component values are shown but strict adherence to component values is not required to produce over unity effects or for the purposes of our discussions._

Figure 1: Sample Circuit

The *conventional* description for the theory of over unity circuit (coefficient of performance >1) operation is as follows:

1) A DC power source provides a source of electricity required for circuit operation.

2) When S1 is closed, current flows into the L1 coil and energy accumulates in the field of its windings. After a finite interval, determined by L1's capacity, the coil becomes saturated and holds no additional field energy. Of course, work is required to maintain L1's field energy, energy is lost in Joule resistance heating, and stray capacitance within the circuit, etc.

3) When S1 is opened back-emf is generated. Back-emf is the power produced by L1 in response to the decrease in circuit potential. In our case, opening the switch at S1 abruptly removes power from the circuit.

4) Normally, back-emf is undesirable since its energy is in opposition to forward-emf (the battery V) but careful analysis shows this is one of *Tesla's greatest secrets, the secret of Radiant Energy*.

Ohm's Law
$V = IR$ OR SIMPLY Voltage = Current (I) X Resistance(R)

Consider the following.

5) At the _instant_ switch S1 is opened, the circuit resistance abruptly changes (R) to infinity. In practical application, resistance is very large but not infinite. At that _same moment_, current (I) cannot stop flowing instantaneously within the circuit therefore $I \neq 0$. Thus, according to Ohm's Law, an infinite (in practical application very large) voltage (V) is developed across the switch briefly. This effect manifests as sparking commonly noticed when abruptly disconnecting a battery from a coil of wire (or circuit of high capacity).

Naysayers might conclude when the circuit is interrupted current stops flowing instantaneously. However, a voltage with _exactly_ zero current would create no spark. Clearly, creating spark plasma requires the expenditure of work to heat and ionize the air. Common sense aside, even mainstream relativistic theory forbids absolute simultaneity; therefore, the condition of switch closure (e.g., S1) cannot be communicated to other parts of the circuit faster than permitted by a light signal – current must be non-zero.

Electric Power
$P = V^2/R$

The moment where circuit power is infinite (or very large) occurs only exceedingly briefly after the switch is opened. Successful circuit designs will employ pulsed systems where the abrupt interruptions are performed repetitiously magnifying the effect. Energy may then be shuttled around the circuit and made to do work.

6) Building from Ohm's Law and applying the standard formula for Electric Power: as voltage (V) and resistance (R) both approach large values as I showed previously circuit power (P) increases as the square of the voltage. In systems where capacity is large back-emf is very significant. In fact, back-emf voltage may _far exceed_ input voltage. Back-emf is the source of over unity or free energy.

Warning
If your design employs even moderate power levels and capacity significant back-emf will be generated: components may explode, arcing can eject liquid metal from terminals, wires and components may be vaporized generating harmful vapors, as well as ozone generation. At the very least, circuit components can be damaged. Experiment at your own risk!

Related Inventions

In my review of YouTube videos I noticed some implementations of John Bedini motors utilizing back-emf. John web site[i] references Tesla's radiant energy. John rediscovered what Tesla discovered and uses back-emf to power loads in his motors. Keep in mind though, according to my theory previously the realization of the invention need not be in the form of an electric motor. In fact, a design using no moving parts should be possible.

Additionally, the work of Eric Dollard has been incredibly helpful[ii]. Eric has performed a number of great Tesla replications. The challenge with many inventors is that it's difficult to get enough information for a complete theory along with the schematics for practical application.

Over Unity Secrets

The secret of Radiant Energy as I described is that output power and input power *are not* symmetrical. Specifically, output power far exceeds input power when circuit resistance is changed rapidly – a change that requires little work. The rapid increase in resistance triggers a massive inrush of energy into the circuit from the collapse of the inductor since the product of voltage and current must compensate for the high resistance (recall V=IR).

Work though the previous formulas and convince yourself. I admit it does go against the grain of conventional thinking. It appears the Law of Thermodynamics and Carrot's Cycle are only approximations.

The reason engineers and hobbyists don't realize the over unity effect I described is two part:

1. Back-emf is regarded as an undesirable feature of our designs since it opposes the forward-emf of the power supply performing useful work. In fact, it's often purposefully minimized or engineered out of electrical designs where possible.
2. Engineers and hobbyists design devices based exclusively upon "closed circuits". Close circuits are conservative by nature and thus no energy gains are realized. The work of the battery or generator in a conventional closed circuit simply pumps energy to other parts of the circuit. Nothing is created that does not require

work.

It's ironic that the effect we desire to eliminate from our circuits is the very effect that should drive all our circuits exclusively.

Where does the energy come from?

Well, I can tell you where it does not come from -- the battery! In the sample circuit I provided at the time the switch (S1) is opened the battery is not connected to the circuit. Tesla and other electricians of the Victorian age would likely believe it was a mechanical effect of the ether (or aether if you prefer). The effect appears to be an apparent conservation of electric momentum (similar to kinetic momentum), catalyzed by the collapsing fields of inductors, and brought about by rapid change in resistance.

How Much Power can be Generated?

In theory there is no limit. A Toyota Prius electric hybrid may be powered by a few batteries of insignificant weight. Once the the circuit fields in the motor reach capacity, which consumes power, the magnitude of the energy extracted is determined by how fast the switch breaks the circuit (or specifically circuit resistance raises to a very high value). This is precisely why Tesla was fixated on high frequency switching and spark quenching. Such methods are not useful for radiant energy as described by Tesla in his patents.

In practical application, the power obtainable by this method is determined by the inductive capacity of the device and fast switching. While power reaches great values briefly, the effective power, is the power delivered over the entire interval of the negative power spike which includes decay and rise times based on inductive capacities.

Initially any prototype device will likely be bulky and include external power sources (e.g., batteries or line power).   Although it seems likely after refinements are made, its possible external power can be eliminated altogether by creating a small imbalance beginning a self-oscillation cycle that, with the proper components, would power electric loads.

Implications of Over Unity

Design and efficiency of electric motors will be improved by leveraging back-emf instead of forward-emf. Power generation will be improved reducing fossil fuels. Electricity can be provided for pumping water in countries too remote for electric power. Heating of homes in cold climates or cooling for hot climates. Realizations of the theory requires no moving parts so solid state devices can be constructed providing long operating lifetimes.   The potential applications are enormous.

I'm not sure if there is a dark side of over unity; for instance, the possibility to catalyze strange, undesirable, or runaway effects. For example, does extraction of power reduce ambient temperatures etc? Eric Dollard and others have reported strange effects of cool burning incandescent bulbs but no effects in wires leading to bulbs, strange pressures on the body felt at a distance, pressures that penetrate Faraday Cages.

Clearly more radiant energy research and experimentation are necessary. Documentation is scant and experimenters don't have all the answers. Often ego, pride, reputation, and financial reward are barriers to technology adoption and discovery. We need to go back to first principles and review all formulas based upon repeatable experimental facts as see where dogmas contaminated science progress.

[i] Web site of John Bedini, http://johnbedini.net/

[ii] Borderland Sciences Research Foundation offers many works by Eric Dollard. http://www.borderlands.com/dollardandtesla.htm.   Free videos: http://video.google.com/videoplay?docid=-721789270445596549&ei=d9nXSsOwEqWaqAKhm5jTCg&q=eric+dollard and http://video.google.com/videoplay?docid=-646171317075457294&ei=d9nXSsOwEqWaqAKhm5jTCg&q=eric+dollard

Eric Dollard, The Journal of Borderland Research, March-April 1990