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Hello. This is my WikiBooks user page.

I like to study the anomaly known among laypeople as, "Free Energy", and write about it and post videos of its theoretical underpinnings at various locations ...

- Profile Page at Quora
- Profile Page at ResearchGate
- List of episodes at Podbean
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Guess what? [edit | edit source]

Free Energy does not violate the Conservation of Energy (law of physics), 'cuz it ain't energy!

Hint [edit | edit source]

Free Energy is Electrical Reactance.

Namely, it's the perspective that electricity is not an atom (in the words of that ancient Greek guy who went by the name of Democritus). In other words, electricity is not non-divisible into smaller bits and pieces which go to make up the ingredients of electricity. In fact, *it is divisible* into inductive reactance and capacitance reactance within a context of time.

This is why some people used to call *reactance* the *active* variety of magnetism (diamagnetism exhibited by: copper) reserving the words of *reflective* for paramagnetism (exhibited by: aluminum) and *magnetic* for ferromagnetism (exhibited by: iron). It's misleading for me to define Free Energy in terms of: *reactance* since this encourages everyone to assume that it is exclusively accessed by the reactivity of inductance and capacitance as if electricity were not the result of natural forces which *cause* electricity to come into being as the result of their integration.

Electricity is composed of Five Ingredients [edit | edit source]

1. Self-inductance,
2. Self-capacitance,
3. Mutual inductance,
4. Mutual capacitance,
5. And time.

... without which electricity could not exist.

In every electrical situation, all of these five principles can be found to exist to one degree or another.

Manipulating these ingredients of electricity brings Free Energy into existence without violating the conservation of angular momentum. If we succeed at doing this, then we will be "getting more output per unit of input". This is to be distinguished from the falsehood, bandied about by our collective ignorance, of "getting something for nothing".

Getting Something for Nothing? Not a chance ... [edit | edit source]

I prefer to think of the gainful amplification of energy (transforming it into a bountiful excess) as a reuse of useless reactance in one section of a circuit while another section converts reactance into power.

For instance ...

It's common practice to place a capacitor in parallel across an inductive load to save energy and stabilize its behavior. This is due to the fact that inductors do not store voltage. They are merely capable of storing current in the form of magnetism.

So, if an inductor is made to stress itself in a circuit (especially, a Free Energy circuit) due to voltages rising to very high levels, then it's a very good idea to place a capacitor in parallel across those inductors to absorb some of their voltage and reduce their stress (please see Fig. 1 to the far-right).

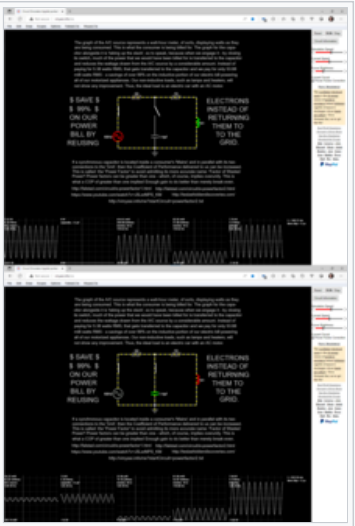

Fig. 1 – Reduce your energy expenditure, and lengthen the ride in your electric car (between taking pit-stops to recharge its batteries), by doing what all manufacturers of electric motors already know: add capacitance in parallel with inductance. It's so simple!

How does Free Energy not Violate Conservation? [edit | edit source]

A figure skater in a spin uses conservation of angular momentum – decreasing her moment of inertia by drawing in her arms and legs increases her rotational speed.

Definition of Moment of Inertia
For a simple pendulum (an oscillating body/system/circuit), this definition yields a formula for the moment of inertia *I* in terms of the mass *m* of the pendulum and its distance *r* from the pivot point as,
$I = mr^2$.

Thus, the moment of inertia of the oscillating body (pendulum) depends on both the mass *m* of a body and its geometry, or shape, as defined by the distance *r* to the axis of rotation.

How do we accomplish an exponential rise of potential energy without violating the conservation of angular momentum? By separating the mass *m* of the moment of inertia from its radius (squared) r^2, we dematerialize the moment of inertia into its electrical equivalencies of: inductance *H* representing mass *m*, and capacitance *F* equaling radius (squared) r^2. But we may only accomplish this whenever current becomes inverted relative to voltage. And this *dematerialization* occurs due to a translation from real numbers dominating the scene into complex numbers taking over with emphasis on its imaginary coefficient $\sqrt{-1}$ dominating the complex number field of the reactance of an electrical component.

When we succeed at reversing current, then there will be no delay: there will be no storage delay within a coil of wire and there will be no storage delay within a capacitor. And there will be no delayed response whenever *virtual* momentum is stored versus whenever it is released. Coils and capacitors, at this point, become mirrors which merely reflect without storage. Since current is inverted, then there is no delay, and coils and capacitors are receiving the current aspect of their power at the same time that they are exporting the voltage aspect of their power. Hence, a capacitor no longer behaves strictly as a capacitor and a coil of wire no longer strictly behaves as a coil of wire. Each begin to take on the characteristics of the other, but merely in a dynamic manner.

This dynamic condition creates a transformation of the usual dictum of physics, in which: "Energy IN has to equal Energy OUT" becomes true, not for the entire circuit, but for each and every component due to the reversal of current. This reversal of current eliminates any time-delay that Newton's Law of Reaction for every Action would assume.

Furthermore, this reversal of current assumes that what was true in the prior half-cycle of oscillation is no longer true in any subsequent half-cycle due to this separation between voltage and current of one-half cycle of angular displacement (in time; per cycle).

In other words, ...
The result of the previous half-cycle becomes the input for its subsequent half-cycle. And since current is reversed, mass has become separated from radius (squared). This fact, alone, severs any relationship between this process of Free Energy magnification and the conservation of angular momentum across multiple half-cycles.

In other words, the conservation of angular momentum is, now, only true for each half-cycle of oscillation while no longer being true across two or more subsequent half-cycles. This is due to the constantly changing features of moment of inertia occurring between any two subsequent half-cycles of oscillation.

Noether's Theorem allows for this discrepancy when it states that the loophole for the Conservation of Energy is whenever time-frames undergo alteration, because conservation is assumed to be true exclusively within the same reference frame (for time); not across two separate and distinctly different time-frames of reference.

> *The energy conservation law is a consequence of the shift symmetry of time; energy conservation is implied by the empirical fact that the laws of physics do not change with time itself. Philosophically this can be stated as "nothing depends on time per se". In other words, if the physical system is invariant under the continuous symmetry of time translation then its energy (which is the canonical conjugate quantity to time) is conserved. Conversely, systems that are not invariant under shifts in time (e.g. systems with time-dependent potential energy) do not exhibit conservation of energy – unless we consider them to exchange energy with another, an external system so that the theory of the enlarged system becomes time-invariant again.*

> Editor's note: *"nothing depends upon time per se"* – Someone went *to sleep at the wheel* while driving their proverbial electrified vessel! *Apparently,* physicists could care less about electrodynamics in which electrical reactance depends *heavily* upon time as its foundation since reactance (ie, *"time-dependent potential energy"*) has no dynamic outside of time. Hence, time-frames (ie, cycles and half-cycles of oscillation) *matter a lot!*
>
> By the way, ...
> This is not quantum mechanics in which "black holes" and "time travel" needs to be invoked for the reversal of light (acting as current reversal) to occur. Instead, simple electrodynamic theory applies, here.

It so happens that the reversal of current satisfies this loophole in as much as no two *half-cycles of oscillation* share the same (equivalent) time-frame. Only each *half-cycle* of oscillation can be said to be true to its own time-frame servicing its own reference-frame.

And, ...
Electrical reactance formula (used for calculating the inductive and capacitive reactances of inductors and capacitors) bridges the time-frame gap existing between (and across) multiple half-cycles of oscillation since each iteration of calculations of reactance are always true per half-cycle of oscillation, but not true for the next half-cycle since a distinction must be made (in time) between the inductive reactance resulting from one iteration of calculation (from the formula for inductive reactance using the inductance of the magnetic field of an inductor) from the inductance of the prior half-cycle which spawns the inductive reactance (namely: the inductance) for the subsequent half-cycle. Likewise, this is true for calculating capacitive reactance versus the capacitance which spawned it.

Ergo, due to the reversal of current, there can no longer be any distinction made between inductance and inductive reactance. Nor can there be any distinction made between capacitance and capacitive reactance, for over time: these distinctions which we used to hold so dear in a static world of make-believe conditions of stability of time-frames is no longer valid outside of any singular half-cycle.

Not until current reforms back into its normal relationship with voltage (in which the phases of oscillatory current are in alignment with the phases of oscillatory voltage) will a whole new value of angular momentum materialize *literally out of thin air* (out of the reactances of counter-space). Only, then, will conservatives cry, "foul play".

But if we bypass the jurisdiction of the Conservation of Angular Momentum, then no law has been violated!

So, why all the fuss?

By dismantling time, we dismantle conservation. This is what reversal of current manages to accomplish. But only if it is accomplished via analog components; not digital.

True, ...
I've had to use a digital medium of computer simulations to come up with these conclusions and insights. But that's because I trust these multi-thousand dollar simulation softwares are honest in their appraisal of electrodynamics.

And they are honest.

Besides giving me an unadulterated view of electrodynamic theory, they also (sometimes) honestly let me "in" on their petty little secrets regarding their policy to tweak whatever their software designer thought was wrong with electrical reality by sometimes "fudging" the software's results. Such as: limiting the current of a diode should it rise above 1kA. This began to bug me until I could no longer tolerate this behavior. This motivated me to peer into the software code (of the simulator in question) to discover a comment made by its designer that: "sometimes, diodes act weird".

To me, that is not acceptable to get a degree in electrical engineering from a prestigious university only to fudge a diode's behavior, because I personally found fault with it!

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