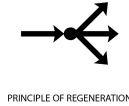


13.13 - Principle of Regeneration

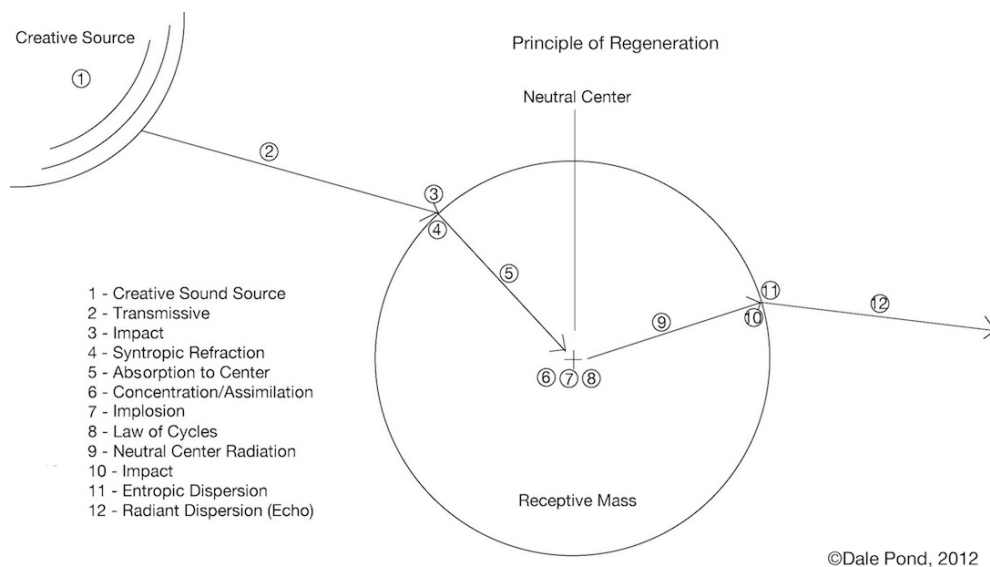
Principle of Regeneration



Principle of Regeneration

Sympsonics Symbol

This principle when coupled with the [Law of Cycles](#), [Law of Force](#), [Sympathetic Association](#), [Law of Assimilation](#) and [Differentiation](#) describes the dynamic of Energy Transformation and Propagation. More on this later. [Dale Pond](#), 11/15/12. [see [Part I - Russell Optic Dynamo-Generator](#)]



Principle of Regeneration

([click to enlarge](#) ↗)

"Less dense radiates to more dense which absorbs [radiation](#), reverses its [polarity](#) and reradiates.

Principle of Regeneration, [Russell](#)

"All male actions are [centripetal](#) ([syntropic](#) or [charging](#)) and all female reactions are [centrifugal](#) ([entropic](#) or [discharging](#)).

"Variance of [centripetal](#) or [centrifugal](#) force is variation of [potential](#).

"Union and reproduction are always governed by [sex](#) periodicity in electro-magnetic [charge](#), the order of which will be written down and charted.

"Consider, for example, the reproduction of the [sound](#) of the human voice echoing in the hills. [Sound](#), like all other forms of energy, is an accumulated [potential](#).

"Release this high [potential](#) and it immediately expands.

"Expansion is [radiation](#).

"[Radiation](#) is [discharge](#) of accumulated [potential](#).

"As the sound of the voice, as accumulated [potential](#), radiates into the silence of higher octaves of lower [potential](#), and impacts against the closely integrated high [potential](#) of the cliff side, the degenerative [discharge entropy](#) is reversed and becomes generative [charge syntropy](#).

"Expanding lowering [potential](#) is reversed to contracting higher [potential](#).

"In other words, the [sex \(polar\)](#) opposites in the radiating [sound](#) waves are forced into closer contact by the impact, so that the [wave](#) dimensions which originally produced the sound are restored.

"The counterpart of the sound as [cause](#) has been produced as a reproduced [effect](#) of that [cause](#).

"It is not the same sound, it is another sound.

"It is a reproduced counterpart, a regenerated [reincarnation](#) of the state of [motion](#) which originally produced the sound.

"That which is true of [regeneration](#) by [echo](#) is also true of reproduction by [radio](#) or any other similar process. All are but the reversal of [radiation](#) into [regeneration](#) by impact against the [inertial planes](#) of higher potentials.

"Generation or re-generation is an effect of [gravitation](#). An impact of radiative energy against any lower [octave](#) of [integration](#) will set up the necessary [resistance](#) to the radiative energy to regenerate it into its original form."
[Walter Russell, [The Universal One, Book 1, Chapter 10]

"Here follows the [law of the cycle](#) of appearance and disappearance of form.

"Cold generates. [Generation](#) contracts. [Contraction](#) integrates. [Integration](#) heats. [Heat](#) radiates. [Radiation](#) expands. [Expansion](#) disintegrates. [Disintegration](#) cools.

"Thus it may be seen that one opposite is always born of the other, which in its turn becomes the [cause](#) of the first.

"Thus it may be seen that the [disintegration](#) of the preponderantly generating sun becomes the [regeneration](#) of this planet.

"The [coefficient](#) of [cold](#) for an expanded [volume](#) of [mass](#) of low [pressure](#) and [potential](#) becomes the [coefficient](#) of [heat](#) for the same [mass](#) in a contracted [volume](#) of higher [pressure](#) and higher [potential](#).

"The totals of [heat](#) and [potential](#) have not changed. They have merely changed their [dimensions](#).

"Nor has [heat](#) travelled. It has been reproduced.

"Magnetic flow in its magnetic orbit has been interrupted, that is all. [see [16.21 - Magnetic Flow](#), [16.22 - Magnetic Flow is Negative Sympathetic Polar Stream](#)]

"The voice impacting against the cliff is an exact analogy. The voice regenerates into sound and the positive charge of the cliff increases because of the impact. [see [Law of Cycles](#), [Principle of Regeneration](#)]

"The [heat](#) from the sun has been disintegrated by [radiation](#) into the opposite of [heat](#), which is [cold](#).

"In [radiation](#), however, the heat energy is not lost. Nothing can be lost. The energy which generated that [heat](#) is registered, together with the energy which radiated it, in an expanded counterpart of them both. [see [16.22 - Magnetic Flow is Negative Sympathetic Polar Stream](#)]

"No [idea](#) of [Mind](#), once begun, ever ends. [see [Thought](#)]

"No [idea](#) of [Mind](#) ever began or ever ended." [Russell, The Universal One; Book 01 - Chapter 11 - Energy Transmission]

Principle of Regeneration Bearden

Thomas Bearden

I only have time every so many weeks to try to answer such questions. I'll take some time to try to give you a complete answer, but do not wish to enter into protracted discussions etc. I'm on a very reduced schedule anyway, because of the illness, and so only have a little time to spare at infrequent intervals.

You will never have the answer to the true [negative resistor](#) problem or understand it, until you read the physics literature and study something beside standard classical electrodynamics and electrical engineering. Those disciplines and models completely forbid any $COP > 1.0$ system, and any true [negative resistor](#) is a $COP = \text{infinity}$ system. SO WHAT MUST BE CHANGED OR MODIFIED IN THOSE EM AND EE MODELS, IF ONE IS TO EVEN HAVE A $COP > 1.0$ SYSTEM AT ALL? Anyone who is not struggling with that problem, has no business calling himself in the "free energy field". He's not. He's automatically in the "Well, it's not in conventional EE, so I can't understand it" field. EE is based on a very archaic and seriously flawed EM model that does not permit $COP > 1.0$ circuits and systems. Much better electrodynamics models have long been available in [particle physics](#) - for the simple reason that the standard EE does not adequately describe nature.

The answer to many of your questions and speculations are already there in [particle physics](#), and have been for a long time. But one has to read the physics literature. Sadly, most of the "free energy" community will not read the literature, will not go look up and read a cited reference or quotation, etc. and try to understand it. So there exists a "mindset" in the [free energy](#) community, which largely regurgitates classical electrodynamics and standard electrical engineering, BOTH MODELS of which specifically prohibit $COP > 1.0$ EM systems in the first place! As an example, to do $COP > 1.0$ in an EM circuit, that circuit has to violate the [second law of thermodynamics](#). Where is the discussion in the "free energy" community about that, and how to do it? Further, it has to violate the standard closed-current-loop circuit, and it has to violate the arbitrary Lorentz symmetrical regauging of the Maxwell-Heaviside equations. Where are the fruitful discussions of the methods for doing those two things?

Well, most do not LIKE such areas. Sorry, but those are the areas that one must grapple with, if one wishes to grapple with [over-unity](#) processes and mechanisms. If the gold is on the right side of the fence and one persists in looking only on the left side, one should not be surprised that he never finds the gold. We have to take physics as it comes on its own terms. We simply cannot dictate what the physics "ought to be", but only try to find out "what it is". One can point out answers and the exact citations from physics, and we've done that in spades. Then if the community still will not deviate from CEM and EE, and will not discuss the technical requirements for a $COP > 1.0$ system, then all further discussions with the community are useless. Yet strangely, those who have never even seen an [over-unity](#) system or circuit, much less tested one, seem to assume that they already completely understand the entire field that is not yet even a field. Merely because they understand CEM or electrical engineering!

When I wrote the paper on how Bedini is able to generate a true negative resistor at the boundary (inner surface of the plates) inside a battery, for the conference that year in Russia, I specifically asked the Russian scientists to first subject the paper and its explanation to rigorous analysis, to find if there were any flaws. After that refereeing check was performed by some excellent Russian scientists, the answer came back that the paper was okay and would stand up, and was recommended for publication. Whereupon I submitted the paper to them for presentation in absentia, and for publication in the proceedings.

You are aware, I think, that there is no real contiguous closed electron current loop in a battery powered circuit, contrary to the standard circuit diagram. Instead, there are two very different current half-loops: (1) the ion current between the plates, completely internal to the battery, and (2) the electron current half loop, from the outside of one plate through the external circuit to the outside of the other plate. The [mass](#) per unit charge of the [lead](#) ions in a battery is enormously greater (several hundred thousand times greater) than the [mass](#) per unit charge of the electrons. So the electrons respond very much faster than the sluggish ions. Ergo, one can readily dephase the two currents, because of the sluggishness of the ions compared to the rapidity of the electrons.

Piece of cake, with the proper timing.

Now to pause: suppose you set a "scalar" potential upon the middle of a transmission line. It doesn't sit there like a "scalar" entity at all! Instead, it takes off in both directions simultaneously, like two scalded hogs, nearly at the speed of light. It potentializes the charges in one direction almost instantly and it also potentializes the charge in the other direction almost instantly. PLEASE NOTE THAT THE CHARGES TO THE LEFT HAVE A FORCE TO THE LEFT CREATED ON THEM, AND THE CHARGES TO THE RIGHT HAVE A FORCE TO THE RIGHT CREATED ON THEM. If you catch the ions in the charging mode, you can thus reverse the electron current in the external circuit with overpotentialized electrons, while simultaneously overpotentializing the ions in charging mode. This means that excess energy is delivered to powering the external circuit, while excess energy is simultaneously delivered to the ions in charging mode. It's as simple as that.

Microwave switching engineer Bill Nelson and engineer Ron Cole had absolutely no difficulty in reproducing the Bedini process in the 1980s. Neither did Jim Watson, who later developed and demonstrated an 8 KW device.

Now suppose you suddenly place a potential on the surface of the plates (between the two plates) of a battery. That potential takes off like a scalded hog in both directions. It flows across the ions in the battery between the plates in one direction, and simultaneously it flows out into the external circuits to "push the charges" in the other direction.

In short, if you time things correctly, you can DEPHASE and DECOUPLE the two currents in the battery powered system, simultaneously adding potential energy to both of them, "for free". You can add potential to BOTH the ions and the electrons. The ions can be moving backward in charging mode, while the electrons will be driven in the opposite direction in the external circuit - in powering direction.

Before one gets bent out of shape about the potential being regauging and all that, and free additional potential energy and all that, one should go look up what the "gauge freedom" axiom of quantum field theory means. All electrodynamicists - and even the electrical engineers - assume that the potential energy of any Maxwellian system can be freely changed at will. However, they usually assume you will be a gentleman and do it twice simultaneously, and will also do it just exactly so that the two new free EM forces produced in the system are equal and opposite. Well, that assumes that you take in free excess potential energy to the system, but precisely lock it up so that it cannot translate electrons and therefore push current and do work in an external load. However, it continuously performs what is called "internal work" in the system, in opposing directions but equal magnitude. That work continually forms and maintains excess "stress energy" in the system, and that is all.

So the first problem for a COP>1.0 system is how to break up that "stress energy only" assumption. John's way is one way. He actually "splits" the potential into two directional fields (which it is; see Whittaker 1903, cited in numerous of my papers), one going in one direction to push the ions in charging mode, and the other going in the other direction out into the external circuit to push electrons in powering mode.

That's about as simple as it can be explained. At that point, one either understands it or one doesn't.

Also, bear in mind that from any nonzero scalar potential ϕ , regardless of how small in magnitude, you can collect as much energy as you wish, if you just have enough charge available to intercept it. That's the simple equation $W = (\phi)q$, where W is the amount of energy collected in joules from potential ϕ , by charges q in coulombs. For a given ϕ and a desired W , just include the necessary q . A potential is a set of bidirectional rivers of flowing energy, as proven by Whittaker in 1903. We do not have to REPROVE that at all; it's already well known and accepted by every electrodynamicist worth his salt.

Any potential is automatically a true negative resistor, since it is a free harmonic set of bidirectional flows of EM energy (due to its dipolarity and the broken symmetry of same; it takes the energy right out of the vacuum via the broken symmetry of the source charge or dipolarity). Hence you can collect as much energy from it as you wish, from its "flowing rivers of energy", if you arrange for enough charges (buckets) to collect it (to collect the water). Nothing says you have to use just one kind of charge (the electron). You can use - as Bedini does - both the ions between the plates and the electrons in the external circuit. And you can use them both, and potentialize them both simultaneously with the same potential. HOW MUCH EXCESS ENERGY YOU CATCH IN

BOTH DIRECTIONS DEPENDS SOLELY ON THE MAGNITUDE OF THE [PHI](#) AND THE MAGNITUDE OF THE Q's.

There's no mystery as to how he makes a [negative resistor](#), because ANY AND EVERY DIPOLARITY AND POTENTIAL ARE ALREADY TRUE NEGATIVE RESISTORS. As is every [charge](#). The energy flows are coming freely from the [vacuum](#), via the proven (in [particle physics](#), NOT in EE) broken symmetry of the source charge and source dipole. Remember, the first requirement for an [over-unity](#) system or true [negative resistor](#) is TO GET OUT OF CLASSICAL ELECTRODYNAMICS AND ELECTRICAL ENGINEERING. If one cannot think outside those boxes, one will never get or understand [over-unity](#), because IT IS COMPLETELY OUTSIDE THOSE TWO BOXES.

Every [charge](#) in the universe is already a true [negative resistor](#) of the purest and most definitive (and easily demonstrated experimentally) kind. It freely absorbs virtual photons from the seething [vacuum](#), transduces that into OBSERVABLE (real, detectable, usable) photons, and pours them out in all directions in 3-space at the speed of [light](#). One doesn't have to reprove that; it's been proven in physics since 1957.

You want to make a true MACROSCOPIC [negative resistor](#) for peanuts? Just lay a charged [capacitor](#) on a permanent magnet so that the E field of the cap is at right angles to the H-field of the magnet. That optimizes EXH, which is the expression for the Poynting energy flow $S = f(EXH)$. That silly thing sits there and steadily pours out real observable usable EM energy EXH at the speed of light, with no OBSERVABLE electromagnetic energy input into it. The fact that it is a continuous flow of energy is usually just "mumbled away"; e.g., with some version of this quotation: "(Poynting's result) implies that a charged [capacitor](#) in a constant [magnetic field](#) which is not parallel to the [electric field](#) is the seat of energy flows even though all macroscopic phenomena are [static](#)." [Jed Z. Buchwald, From [James Clerk Maxwell](#) to Microphysics, University of Chicago Press, Chicago and London, 1985, p. 44.]

Before one falls for that "[static](#)" nonsense, one must understand what "[static](#)" really is. That's expressed beautifully by Van Flandern, as follows: "To retain [causality](#), we must distinguish two distinct meanings of the term '[static](#)'. One meaning is unchanging in the sense of no moving parts. The other meaning is sameness from moment to moment by continual replacement of all moving parts. We can visualize this difference by thinking of a waterfall. A frozen waterfall is [static](#) in the first sense, and a flowing waterfall is [static](#) in the second sense. Both are essentially the same at every moment, yet the latter has moving parts capable of transferring [momentum](#), and is made of entities that propagate. [Tom Van Flandern, "The speed of [gravity](#) - What the experiments say," Physics Letters A, Vol. 250, Dec. 21, 1998, p.8-9.]

From the Whittaker papers of 1903 and 1904, we have known for just about a century that all static EM fields and potentials are in fact "[static](#)" fields of Van Flandern's second kind - analogous to an unfrozen waterfall. There is a continuous bidirectional movement of an internal EM structure of [longitudinal](#) waves inside (and comprising) all EM fields and potentials. So the "static envelope" of the field exists, but the "inside" components are in violent change and [motion](#), in BOTH directions. Again, that's been known and in the literature since 1903.

But that does not appear in the hoary old seriously flawed electrical engineering, which continues to try to consider the static potential and static field as a "frozen waterfall" analogy.

Neither does the solution for the source of the input energy to the source charge, nor the form of that energy input, appear in the CEM and EE models. The CEM and EE models do not even model the [vacuum](#) flux exchange with the [charge](#), much less a broken symmetry in that exchange.

So they do not even model what powers every electrical circuit. Period. Never have.

If one wishes to tangle with true negative resistance, then one should just try to answer (in classical EM only, such as electrical engineering) the question of from where and how a given [charge](#) gets the EM energy that it continuously pours out, establishing its fields and potentials and their [energy](#) across the universe at the speed of [light](#). If one cannot answer that question in classical EM and electrical engineering, one will then have to go read some physics, because it's been answered for 45 years in [particle physics](#), and a Nobel Prize was awarded to Lee and Yang in 1957 for their having predicted the basis for that solution. Broken symmetry was such a tremendous revolution to all of physics that the Nobel Committee moved with unprecedented speed in awarding that Nobel Prize to Lee and Yang. They strongly predicted it in 1956-early 1957, and Wu and her colleagues proved it

experimentally in early 1957. The Nobel Prize was then awarded to Lee and Yang in that same year, in Dec. 1957 - a nearly unprecedented action.

It would be nice if the electrical engineering departments would walk across the campus to the [particle physics](#) departments, and find out just what broken symmetry means for the source charge and the source dipole. Voila! Suddenly they would find out what actually powers every EM circuit and system, and that the [energy](#) - all of it, every [joule](#) of it - comes from the seething [vacuum](#) via the asymmetry of the source charge or [dipole](#). They haven't seemed to be able to do that arduous little walk across the campus task in 45 years now. And they have not changed their model to include the active [vacuum](#) and the broken symmetry in the [vacuum](#) exchange with the [charge](#) and the [dipole](#).

If one cannot solve the source charge problem and present that solution (as CEM and EE cannot do), then one is guilty of implicitly assuming that every [charge](#) in the universe is a [perpetual motion](#) machine, freely creating energy from nothing. That is precisely the case for every electrical engineering department, professor, and textbook today, and it always has been.

It is quite humorous - and downright eerie - that the very fellows so critical of the [over-unity](#) researchers as a "bunch of [perpetual motion](#) nuts" also implicitly assume, albeit unwittingly, that every [charge](#) in the universe is a [perpetual motion](#) machine, freely and continuously creating energy out of nothing. Poetic justice.

Further, the [charge](#) exhibits giant, continuously increasing [negentropy](#), because the [energy](#) it continuously pours out at a steady and unwavering rate is not disordered but perfectly ordered. At a given radial distance from the source charge, the associated field has a specific value and direction, the associated static potential has a specific value, and the associated [vector potential](#) has a specific value and direction, deterministically and perfectly ordered.

Well, the very notion of [entropy](#) always had a serious flaw anyway. It pre-assumes that a [negentropic](#) operation at least equal to whatever the [entropy](#) is, must have first occurred. Otherwise there could have been no order in the first place, to SUBSEQUENTLY disorder.

And the solution to the source charge problem provides the answer of where all that [negentropy](#) first comes from, to continuously produce the [negentropy](#) (order) that is later disordered in [entropic](#) processes.

So the mere existence of electrodynamics and its giant [negentropy](#) and increasing order of the fields and potentials being poured out of the source charges destroys any notion of absoluteness in the [second law of thermodynamics](#) (the law of continual increase in disorder, or continuously increasing [entropy](#)).

It has long been recognized that the second law (which is based on statistical mechanics) does not apply to the single [ion](#), charged particle, [atom](#), [molecule](#), or group of molecules. At the microscopic level, all reactions are reversible because the equations are reversible. So things can run backwards as well as forward at the microscopic level, which is a [form of time-reversal](#). In a "running backwards" situation, if macroscopic, then an ordinary [resistor](#) would act as a true [negative resistor](#) (and so it does, if you feed it [negative energy](#) which is time-reversed energy). My new book, just coming off the presses, uses that fact to explain [cold fusion](#), and we give the specific reaction equations producing the excess [deuterium](#), [tritium](#), and alpha particles - as well as explaining the strange and anomalous instrumental problems encountered for some years in rigorous electrolyte experiments at U.S. Naval research facilities at China Lake.

But it has also long been accepted somewhat dogmatically that, well, the second law does still irrevocably apply to MACROSCOPIC phenomena and size. Some things recently have happened to upset or "bother" even that standard answer.

First, Denis Evans et al. of the National Australian University have rigorously proven that, contrary to previous assumptions, reactions can "run backwards" at up to micron (colloidal) scale, and for up to TWO SECONDS. Now that's within easy switching range for modern circuits and processes. So all of a sudden it becomes important. The nanobots being widely developed just now in nanotechnology a close to [molecular](#) size will thus experience abrupt periods of "running backwards" and so they will not work at all in the same manner as their much larger robots. The reference on the Evans work is G. M. Wang, E. M. Sevick, Emil Mittag, Debra J. Searles, and Denis J.

Evans, "Experimental Demonstration of Violations of the Second Law of Thermodynamics for Small Systems and Short Time Scales," Phys. Rev. Lett., 89(5), 29 July 2002, 050601. A good article to read on what it all means, is Steven K. Blau, "The Unusual Thermodynamics of Microscopic Systems," Physics Today, 55(9), Sep. 2002, p. 19-21. There are other comments on the Evans et al. work; you can take your choice based on the smugness and [dogma](#) used in the comments.

The individual charged particle, being microscopic (including even an [ion](#) in a solution) comes under the reversible criterion and therefore is appreciably "immune" to the second law. So one is not too disconcerted to find it "running backwards" and pouring out real energy, at least for a short time. In short, one is not surprised that it produces giant [negentropy](#), FOR A SHORT TIME. What is surprising (and bewildering to classical EM and to the classical thermodynamicists) is that the [charge](#) produces [negentropy](#) CONTINUOUSLY, for any length of time. So it produces continuously increasing [NEGENTROPY](#).

There are other areas that are also known and recognized to violate thermodynamics, including in the large macroscopic realm. Several of these are listed on p. 459 of Dilip Kondepudi and Ilya Prigogine, Modern Thermodynamics: From Heat Engines to Dissipative Structures, Wiley, 1998, corrected printing in 1999. Quoting p. 459: "Some of these areas are (1) "... rarefied media, where the idea of local [equilibrium](#) fails. The average [energy](#) at each point depends on the [temperature](#) at the boundaries. Important astrophysical situations belong to this category." (2) "...strong gradients, where we expect the failure of linear [laws](#) such as the Fourier law for [heat conduction](#). Not much is known either experimentally or theoretically. Attempts to introduce such nonlinear outcomes ... have led to 'extended thermodynamics' ." (3) "...memory effects which appear for long times (as compared to characteristic relaxation times). ...non-[equilibrium](#) processes may have 'long time-tails'..."

Forefront scientists are attempting to extend thermodynamics at present, to include (hopefully) some kind of explanation for these areas.

But what is important is that the energy continuously poured out by every magnetic or electrical [charge](#) (as a true [negative resistor](#), extracting unusable energy from the [vacuum](#) and pouring it out in usable EM form) forms perfect order, perfectly correlated to that [charge](#), to any macroscopic size one wishes. Just pick a size and wait long enough for the speed of [light](#) to reach that radial distance, and you will have a volume of that radius that has been filled with perfectly ordered EM energy from that source charge. The original charges in original [matter](#) in the universe have been doing that for 14 billion years, and they are still going. And their perfectly ordered fields and potentials reach across the entire observable universe.

So every part of electrodynamics - the source charge, the field, the [potential](#), and every [joule](#) of EM energy in every EM field and potential, whether in [space](#) or in [matter](#) - is in total violation of the [second law of thermodynamics](#), and TO ANY MACROSCOPIC SIZE LEVEL ONE WISHES, INCLUDING ACROSS THE ENTIRE UNIVERSE when one accounts the perfect and continually increasing order of the fields and potentials and their energy.

So there you have your true [negative resistor](#) (not to be confused with the silly tunnel diode, which "puts some [energy](#) back to the circuit [power source](#) in reverse against the voltage" while eating lots more [energy](#) from the power source as work performed to allow it to be done) in every [charge](#) in the universe. And all EM energy - in every field, [potential](#), and circuit and system - comes directly from the [vacuum](#), via the broken symmetry of the source charge.

Don't underrate the importance of the source charge problem. Either one has to have a solution to that problem, or else one must surrender the conservation of energy law in its entirety, since it is totally falsified by every [charge](#) in the universe unless the source charge solution from [particle physics](#) is included in one's model. For the EE model and CEM, that would require drastic surgery and extension of the models. Actually, much better systems of electrodynamics are already created and available in [particle physics](#).

As we said, classical electrodynamics and electrical engineering do not include the active [vacuum](#) in their model, nor therefore the broken symmetry in the exchange between the active [vacuum](#) and every [charge](#) and [dipole](#) in the circuit. Since those models do not include the actual [source](#) of any or all the EM energy in a circuit or system, then those models do not include what powers an electrical circuit or system (some of that very [energy](#) that is

extracted from the [vacuum](#) via the source charge's broken symmetry).

That was all excusable until 1957. Today it is inexcusable, once one points out the solution sitting there in [particle physics](#).

And if you really wish to get at this matter of energy flow really well, then read the original papers of [Heaviside](#) and Poynting, who independently and simultaneously in the 1880s discovered the propagation of EM energy in [space](#), after [James Clerk Maxwell](#) was already dead. Before that, the concept did not even appear in physics. The primary energy flow connected with a circuit actually flows outside the conductors, in the external [space](#). A tiny bit of it (the Poynting component) is diverged into the circuit conductors to power the electrons. The huge remainder (the Heaviside nondiverged energy flow component, which is in circulation form) is not diverged into the circuit at all, but is just wasted and ignored. [Hendrik Lorentz](#) in the 1890s stated that, well, it has no physical significance (because it does not do anything), so he originated a clever little integration trick to get rid of all accountability of it. The abandoned and unaccounted [Heaviside component](#) may have a magnitude up to a trillion times or more, of the magnitude of the [Poynting component](#).

I am working on a paper that points out some very startling and completely unexpected things that are indeed "done" by that long neglected [Heaviside component](#). It plays a major role in the appearance of the various ice ages upon the [Earth](#), and creates the excess [gravity](#) that is holding the arms of the spiral galaxies intact ([Heaviside](#) himself recognized the gravitational implications of his extra component, and dealt with it in his notes, but did not live to publish it. The notes were found in 1957 (curious coincidence!) and published by one of the learned societies. If applied properly, the [Heaviside component](#) also plays the major role in producing the mysterious anti-gravity that is accelerating the expansion of the universe; I explain that in my forthcoming book, just now coming off the presses. The Bohren-type experiment (with the so-called "negative resonance absorption of the medium") is also an experiment routinely done by nonlinear optical departments. It outputs 18 or so times as much [energy](#) as one inputs. There are some other important contributions of the [Heaviside component](#) that I will include in the paper, which will require another two or three months to finish. However, my main point is this: When the long-unaccounted - ARBITRARILY excluded! - [Heaviside energy flow component](#) is re-accounted, then every [generator](#) and [battery](#) and [dipolar](#) power source in the universe already pours out enormously more EM energy than the mechanical shaft energy input to the [generator](#), the chemical energy dissipated in the [battery](#), and so on. All of them always have. One can experimentally demonstrate the existence of that long-neglected component, by a Bohren-type experiment. See Craig F. Bohren, "How can a particle absorb more than the light incident on it?" American Journal of Physics, 51(4), Apr. 1983, p. 323-327. Under nonlinear conditions, a particle can absorb more energy than is in the light incident on it. Metallic particles at [ultraviolet](#) frequencies are one class of such particles and insulating particles at [infrared](#) frequencies are another. See also H. Paul and R. Fischer, (Comment on "How can a particle absorb more than the light incident on it?"), Am. J. Phys., 51(4), Apr. 1983, p. 327. The Bohren experiment is repeatable and produces COP = 18.

Anyway, you have true negative resistors everywhere you turn: in every [charge](#) in the universe, and every [power source](#) also if you re-account for the long-neglected Heaviside nondiverged energy flow component associated with every field/charge and potential/charge interaction. - Tom [Bearden](#)

See Also

13.19 - Principle of Regeneration

[AC Generators](#)

[Association](#)

[biological regeneration](#)

[Charge](#)

[Creation](#)

[degenerate semiconductor](#)

[degenerative force](#)

[degenerative](#)

Differentiation
Discharge
Drude Electron
Ether Generator Producing High Pressures
Ether Generator
Father-Mother Principle
generating note
generating root
Generation
generative continuity
generative energy
generative force
generative pressure
generative root of the major
generative top of the minor
generative
Generator
Gravitation
Gravity
intra-atomic energy
Keelys Etheric Generator or Liberator
Law of Assimilation
Law of Cycles
Law of Force
Life
Neutral Center
Poynting Vector
preponderantly degenerative
preponderantly generative
Principle of Regeneration Bearden
Principle of Regeneration Russell
Principle of Regeneration
Principles
QEG generator
Radio-active
regeneration
Regeneration
regenerative
regenerative force
Rhythmic Balanced Interchange
Russells Optic Dynamo-Generator
springs forth
Sympathetic Association
Syntropy
Universal Heart Beat