

TESLA VERSUS EINSTEIN

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Introduction

As we celebrate Einstein in the centenary year since he introduced his Theory of Relativity there are those of us who see little to celebrate because we believe that Einstein blocked the way forward in our quest to tap energy from the aether. The aether is the energy source accounting for the creation of our universe but Einstein's theory caused scientists to replace the aether by abstract mathematical notions. Hence there has been no acceptance of the aether as a possible new energy source, needed as our oil reserves are eroded. It is timely, therefore, to review the claim made by Nikola Tesla that he had devised and constructed an automobile that was powered on aether energy.

Some Quotations

Whereas the general public, including almost all of the scientific community, accept Einstein's theory without question, essentially because that has become the popular opinion in the light of $E = Mc^2$ having significance connected with the atomic bomb, that formula relating energy E and mass M by the speed of light in vacuum is easily derived without any use of Einstein's doctrines. See my monograph entitled '*Physics without Einstein: A Centenary Review*' which is of record on my website www.aspden.org

However, I am not the only one who regards Einstein's theory as an obstruction rather than an aid in our understanding of fundamental energy science. The following quotations therefore seem appropriate as an introduction to what follows.

'Tesla maintained his belief in the aether as the source of all substance. This, he thought, was the fundamental, unifying theory of physical things. He was quite unable to accept Einstein's theory of relativity and curved space.'

'The Secret of the Creative Vacuum' by John Davidson [1]

'There is incontrovertible evidence, for example, from a number of sources, that neither the gravitational 'constant' nor the speed of light in a vacuum are constant after all. Since Einstein's theory of relativity is founded upon these two assumptions, if either one of them is shown to be incorrect, then Einstein's theory is seen to be more relative than he thought! In short, like Newton's observations, it would be wrong, as a fundamental model.'

'The Secret of the Creative Vacuum' by John Davidson [2]

'It may come as a shock, but Einstein's theory of relativity is not part of the design of nuclear weapons! High school science students are conditioned to ridicule the concept of a nineteenth-century luminiferous aether with eye-rolling and giggling. But is this a contemptible idea when

compared with the “new and improved” terminology of gravitational masses “warping” the fabric of “space-time”?

‘A Dissident View of Relativity Theory’ by W.H.Cantrell [3]

‘Einstein plagiarized the work of several notable scientists in his 1905 papers on special relativity and $E = Mc^2$, yet the physics community has never bothered to set the record straight in the past century.’

‘Albert Einstein: Plagiarist of the Century’ by Richard Moody, Jr. [4]

‘Insofar as the theory is thought to explain the result of the Michelson Morley experiment, I am inclined to agree with Soddy that it is a swindle; and I do not think Rutherford would have regarded it as a joke had he realized how it would retard the rational development of science’.

‘Relativity - Joke or Swindle?’ by L. Essen [5]

Einstein: 1902-1909

During these years Einstein was employed by the Swiss Patent Office as a ‘technical expert (third class)’ until 1906 and then ‘technical expert (second class)’. So his famous scientific papers of 1905 were written midway during that period of his life before, in 1909, he became an associate professor at the University of Zurich.

Bearing in mind that the Swiss Patent Office registered patents without rigorous examination for novelty or merit, except for those concerned with clocks and watches, one must wonder if that was the work which kept Einstein busy in those years. If so, and since he is acclaimed for the scientific achievement of upsetting our understanding of time itself, it is an interesting observation that the 20th century gave birth to one of the greatest inventions ever made concerning clocks. It was that of Dr. Essen, the Director of the Time and Frequency Division of Britain’s National Physical Laboratory. He invented the atomic clock and so ought to be an authority on the measurement of time. That last quotation was by Dr. Essen. Somehow scientists say they can verify Einstein’s theory by conveying atomic clocks around the Earth in aircraft but nowhere in their analysis of their experimental findings do they show in truly physical terms how acceleration affects the rhythm of electron motion in the atom. It is no wonder therefore that Dr. Essen was outspoken concerning his disbelief in Einstein’s doctrines.

Now, of course, it is not the distortion of our understanding on the nature of time that has obstructed scientific progress. Rather it is the effect Einstein’s theory has had on our understanding of how energy is stored in what we see as empty space. Somehow we can inject energy into the vacuum and then recover it on demand, this being the property of electromagnetic inductors. The major question scientists face is whether that energy we feed into space is the same energy that is returned to us on demand. Or could it be that we feed energy into an existing universal pool of energy and are allowed to withdraw only the amount we have put on deposit. Should that universal energy pool exist in reality then it is logical to suppose that somehow it accounts for the creation of matter and so our universe, in which case the challenge is to try to tap energy from that pool.

With Tesla in mind that is the subject of this paper, but at this point, merely as an aside remark since I have just mentioned clocks, it is of interest to note that I was, not long ago, asked to contribute some input on my interest in the energy theme as a participant in a television presentation being directed and filmed by an Australian group who, having

travelled around USA and Europe interviewing several others, had arrived in London in U.K. I arranged for my interview to be at the Institution of Electrical Engineers, where, outside the entrance, they could film a statue of Michael Faraday to whom we owe the discovery of energy storage by magnetic induction. However, after that interview, and to my complete surprise, I was asked to accompany the film crew to the archives of the British Museum, where I would be shown a 'perpetual motion' machine that was several centuries old. It was a large clock, some six or seven feet high, that never needed winding up. I had never heard of it but soon got the message that they expected me, on camera, to stand in front of the clock and explain how it worked.

At this point I should explain that, whereas Einstein had experience examining patents, my career after my early research years at Cambridge, was spent in the patent profession explaining in detail how inventions worked and defining the legal patent claims that are the basis of protecting and so convincing Patent Office examiners as to the merits of those inventions. I was a Patent Attorney and my employers were the English Electric Company until the end of 1959, followed by IBM thereafter. Even so, with no prior brief from the inventor of that clock or any technical description, having had a glimpse of the clock, I heard myself explaining how it worked.

It was a grandfather-type clock having a pendulum and was operated by a weight that, by falling very slowly under gravity, powered the mechanism that operated the hour and minute hands. There were two such weights. As one was discharging its energy over a period of weeks and months, so the other was being lifted by a device that was sensitive to changes in atmospheric pressure. That device comprised an enclosed glass chamber partially filled with mercury and coupled to a vertical displacement tube sealed at one end, there being a vacuum cavity above the mercury in that tube but a vent at the top of the main chamber which exposed the surface of the mercury to atmospheric pressure. With ongoing change of air pressure, barometric pressure, the displacement of the mercury shifted weight from one side of a balance to the other side, thereby exerting force through an arm which, by its motion, effectively wound up the clock in respect of one of its two weights, pending interchange of roles.

Had the mercury not been removed by the Museum for preservation reasons, it would be, as it had been, a machine in perpetual motion powered only by the energy of our environment, but hardly a method which offers practical prospect for solving the world's developing energy problems. A machine before Einstein's time, but a message also that says: "Energy is available for exploitation if we probe into the depths of our environment and can visualize that deeper physical underworld of space, the aether." Thanks to Einstein, scientists have lost interest in that aether, but, thanks to Tesla, there are some of us who are still interested!

Tesla's Pierce-Arrow Car

Those who have written about Tesla's research have told us about his deep interest in atmospheric electricity, extending even to the possibility of transmitting real electrical power by natural propagation through the atmosphere. He was a genius and an inventor who has left his imprint on the electrical power industry, especially by his invention of the a.c. induction motor.

On November 17th, 2004, I was sent a letter by Don Kelly of the Space Energy Association in USA. He tells me there is now hope that there will soon be a 'final resolution of Nikola Tesla's excellent Pierce-Arrow car project of 1931, at Buffalo, N.Y.',

meaning how it worked. This car I, understand, was demonstrated and tested back in 1931 and shown to operate at high speed not with a normal fuel supply, but by power drawn from a mysterious source, which Tesla implied was aethereal atmospheric electricity. Tesla did not reveal its design details and so its secrets.

Don Kelly suggests that the clue to its operation may be found in Tesla's two 1901 U.S. patents, Nos. 685,957 and 685,958. They portray two radiant energy input sources, one from an X-ray tube as an example of power input to the patented device. Don Kelly notes in his letter:

"We have now slowly come to the conclusion that Tesla used both of these methods, i.e. the natural 'antenna' method, and the artificial way, via multiple (12) vacuum (X-ray) tubes within the car. At some point Tesla must have decided to use only one 6 foot high antenna, and use the collector radiant energy as the input to his 12 X-ray tubes."

Now, from my point of view, it is a very formidable task to try to decipher how Tesla's car really did function, based on little or no information other than that outlined above.

However, frustrated, as I am, by the seemingly universal dedication to belief in Einstein's theory, notwithstanding its blocking action on the aether energy front, I will try to build a picture of the kind that one sees in a patent specification, even though I have no input from the inventor (Tesla) and no sight of the working embodiment (the Pierce-Arrow car).

The focus of attention, as I see it, is (a) a large inductor (what Don Kelly refers to as the 6 foot high antenna which I understand was mounted at the rear of the car), (b) 12 vacuum tubes, though whether they were X-ray tubes is speculation in the light of patents dated 30 years earlier, and (c) a multiple set of large capacitors.

Don Kelly's letter indicated that a 60 kw level of power output would be needed and that he had information that 'a substantial large capacitor, or multiple smaller capacitors' needed to be in place as well as means for converting d.c. to a.c. to power the 'engine', which I presume was a three-phase induction motor, this being Tesla's brainchild.

Speculation by Deduction

Take a large inductor and assume a steady d.c. current flow through it. Ignore for the moment the possible energy source. Using capacitors how can one generate three-phase a.c. power output? We need to switch the d.c. current to feed current into each of three capacitors sequentially during a complete cycle of the a.c. generated. During periods when a capacitor is not receiving current we need to discharge it through the input winding of one phase of the motor. Each capacitor needs therefore two switches and that suggests a role for the vacuum tubes.

So here we see the need for six tubes, not twelve, Why did Tesla need twelve? I will presume that the tubes were of a type commercially available and that their rating may only have been half that needed to power his car at speed. So six tubes would suffice to explain the design principle but twelve were used, six sets of two in parallel, to get the required power output. The alternative interpretation is that Tesla's motor was a six-phase machine.

That said, where is the source of energy? We can presume, as Tesla may have done, that the inductor, being a large coil having many turns and mounted vertically at the

rear of his car, air-cored or possibly iron-cored to enhance inductance, was somehow tapping electrical power from atmospheric electricity. Note that the Earth has an electric field extending high into our atmosphere and known to be of the order of hundreds of volts per metre. This has not been seen as a source of useful power or harmful. After all we surely would find current flow in lightning conductors even in the absence of thunder and lightning were this the case. One can wonder if, by setting up a vertical field oscillation at 2 or 4 kHz, or so, we might develop a resonance effect owing to oscillations between the Earth's surface and the ionosphere, which somehow causes possible energy output to escalate to useful levels, but I am sceptical as to that possibility.

So where else can we look for that energy source. Don Kelly suggests it might be those 12 tubes. Might they have really been gas discharge tubes? In that case I am mindful of the research findings of Paulo and Alexandra Correa [6], but here again I am sceptical because the Correas use tubes of special fabrication and had such a property been evident from a tube commercially available back in 1931 then its excess energy property would surely have been discovered long ago.

I am then left to consider the capacitors as the seat of the power input and this is something that really arouses my interest. The reason is that, in 2002, with some considerable confidence, I spoke openly at a conference suggesting that I had reason to believe that, by pulsating the energization of a capacitor of concentric electrode design, we could tap energy from the aether [7]. I saw this as replicating a phenomenon involved in the creation of our sun, whereby setting up a radial electric field induces aether spin and taps energy from the aether that is retained in the spin of the sun before much of it is shed in imparting angular momentum to the planets. Unfortunately, tests using a.c. excitation of such a capacitor failed to verify what I had predicted.

So I now wonder if Tesla's electrical circuit in that car had a feature that makes this capacitor theme viable, a feature I had missed in my own research efforts?

Well, further speculation and analysis now points to a possible answer and revives my hopes in the capacitor theme, as I now explain.

Induction of Aether Spin

There are two essential factors that must apply if I am right in thinking Tesla's power source was those capacitors in his Pierce-Arrow car.

The first is that the capacitance has to be much higher than seems possible for the air dielectric capacitor that I had in mind and the second is that there must be a retardation effect involved in setting up the aether spin within the capacitor. The reason for this is that the induction of the spin is not spontaneous in response to the setting up of the radial electric field, as I had assumed, but involves delay and this precludes operation at 100 kHz which was the basis of the tests made. Operation at much lower frequency means the need for much higher capacitance to achieve the required power output. Note that my theory indicated that energy could be tapped from the aether owing to that radial field displacing the quantum orbital motion of aether charge and the need for phase lock as between that charge within the capacitor and the charge in enveloping aether. This meant either a vibratory effect that had to be contained with no spin or the development of aether spin giving a vibration-free and smooth deployment of energy. The spin condition implied import of kinetic energy from the aether to augment the electric energy priming the capacitor, with that kinetic energy being non-recoverable by the aether external to the

capacitor during electric discharge and so being shed by augmenting the output voltage to deliver more energy than was supplied as input.

I now suspect, in the light of further theoretical analysis and the inferences I draw from hearing about Tesla's Pierce-Arrow car, that the onset of the radial electric field creates a torque action within the capacitor dielectric, which stems from the aether it contains but is restrained by the fixed structural form of the capacitor. This torque, however, could be effective in initiating an aether spin that develops progressively from the spin axis and spreads outwards until it extends throughout the whole concentric form of the dielectric. The reason is that energy is needed to 'notch' the aether particles cell by cell at the slip boundary between the aether in spin and aether within the dielectric but still not spinning. The energy is returned in each 'notching' cycle but to set up spin spontaneously for all the aether contained within the dielectric demands too much energy and so the required result emerges only from a stage-by-stage progression.

From such considerations I can see it was a mistake to hope to achieve aether energy output operating at 100 kHz. This whole theory is based on the creation processes and spin induction associated with the creation of stars and planets which is a one-off half-cycle operation as compared with operating at a.c. power frequencies in electrical apparatus. So what frequency is possible with aether energy delivery? I cannot estimate this until I delve into the theory of that 'notching' effect, but for the time being I will assume, with hope, that the 60 Hz frequency that dates from Tesla's time is an operable frequency. That may have been the frequency of his car motor corresponding to top speed.

This leads now to the problem of capacitance. Whereas capacitance of the order of a nanofarad was what I had in mind with 100 kHz operation, it seems that I now must think in terms of hundreds of microfarads, given also that I doubt if Tesla's circuit was operating at the high a.c. voltage of 10 kV.

Here there has been revision of my thoughts on the use of a dielectric medium between the capacitor electrodes as opposed to mere air. The electric field that governs aether spin could well be very much higher than is evident from the capacitor voltage because the charge polarization of the dielectric offsets the primary field and what we measure is the difference. This would have a very substantial effect on the amount of energy tapped from the aether and so points to the need to use a capacitor insulator of high dielectric constant.

As a further thought I see there is much to be gained by pulsing the capacitor with unidirectional current rather than the normal sinusoidal current we associate with a.c. operation. This would keep the aether spin ongoing in the same direction but oscillating about a mean level. Accordingly, my interpretation of Tesla's Pierce-Arrow car has this feature. Finally, and concerning how a capacitor can deliver more output energy on discharge than during the charging stage, given the inherent power source, I can but suggest that, whereas charge input occurs in the normal way, it is desirable for the input voltage to be switched off before discharge begins and also desirable to force the current out in a controlled manner during discharge. Excess energy delivery can only be by virtue of an excess voltage in the output phase. All this points to the need for an inductor of high inductance which keeps the level of current flow constant and can absorb voltage pulsations but, by switching, diverts the current between input periods and output periods as between the several capacitors. What Tesla may have done to produce his three-phase output power, even though thinking he was exploiting aether energy input to his inductor, may, fortuitously and without him knowing it, have been the ideal way of operating those

capacitors in their aether energy-tapping role. I am, of course, assuming that he used large capacitors having concentric electrode construction such as are normally associated with high voltage operation. Maybe they incorporated a special kind of dielectric and here, I recall reading somewhere in connection with more recent over-unity energy claims, about experiments using barium titanate as dielectric, it having a very high dielectric constant. Also one sees, I believe, the use Leyden jars in the circuits used by the Swiss Methernitha community in their over-unity energy activities, an encouraging sign [8]. As to the stress now placed on d.c. operation I can further add that, after publishing my first proposals concerning a concentric capacitor having potential for anomalous energy effects, I heard from a German engineer experienced in d.c. power supply via coaxial cables, as used by underground railways, that he had observed that in servicing such power lines it was not sufficient merely to short-circuit the cable to discharge it once power had been switched off. Experience had shown that the cable could surprise one by recovering its voltage and it took quite a while for the energy stored in the cable capacitance to discharge fully, far longer than one might expect. A coaxial cable operating at high voltage d.c. is, of course, a concentric capacitor and so, if I am right in what I outline above, it should exhibit such an anomaly.

Conclusion

I have been prompted to write this by Don Kelly's communication concerning Tesla and this is my answer. Whether this inspires those with the resources to research the subject further, only time will tell, but, to be sure, there is so much money being spent building high energy particle colliders to probe the secrets of creation on Big Bang theory, that one might hope that a little governmental funding could be spared to explore this 'free energy' theme. It is founded on aether spin which itself already accounts for many features pertaining to the creation of the solar system. Big Bang research can only lead to taking risks that bring about destruction and take us no nearer to the technology that can one day tap aether energy. Tesla, it seems, achieved that objective, but we prefer in this year 2005 to celebrate Einstein, who blocked the way forward on the aether energy front, whereas Tesla is more deserving. Hopefully, by 2031, the centenary anniversary of his Pierce-Arrow car, our scientists will be wiser on this question of the aether and its energy resource.

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