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This file was inspired by a newspaper article in the local Dallas Morning News. It was in a column called Texas sketches written by A.C. Greene. I called Mr. Green and Mr. Langkop who both courteously sent the additional source material. Both also expressed an interest in more Tesla information as well as Texas experimenters, we are sending them material in return. There is also a second file with my thoughts on the Tesla power box, that file is listed on KeelyNet as TESLAFE2.ASC.

from January 24th, Sunday - Dallas Morning News  Texas Sketches column

The Electric Auto that almost triumphed Power Source of Ô31 car still a mystery by A.C. Greene

Not long ago, Texas Sketches told the story of Henry Dade Garrett and his son C.H.'s water-fueled automobile, which was successfully demonstrated in 1935 at White Rock Lake in Dallas.

Eugene Langkop of Dallas (a Packard lover, like so many of us) notes that the wonder car of the future may be a resurrection of the electric car. It uses no gasoline, no oil - just some grease fittings - has no radiator to fill or freeze, no carburetor problems, no muffler to replace and gives off no pollutants.

Famous former electrics include Columbia, Rauch & Lang and Detroit Electric. Dallas had electric delivery trucks in the 1920s and 30s. Many electric delivery vehicles were used in big cities into the 1960s.

The problem with electrics was slow speed and short range. Within the past decade two Richardson men, George Thiess and Jack Hooker, claimed to have used batteries operating on magnesium from seawater to increase the range of their electric automobile from 100 miles to 400 or 500 miles.

But it is a mystery car once demonstrated by Nikola Tesla, developer of alternating current, that might have made electrics triumphant.

Supported by the Pierce-Arrow Co. and General Electric in 1931, he took the gasoline engine from a new Pierce-Arrow and replaced it with an 80-horsepower alternating-current electric motor with no external power source.

At a local radio shop he bought 12 vacuum tubes, some wires and assorted resistors, and assembled them in a circuit box 24 inches long, 12 inches wide and 6 inches high, with a pair of 3-inch rods sticking out. Getting into the car with the circuit box in the front seat beside him, he pushed the rods in, announced, we now have power,Ó and proceeded to test drive the car for a week, often at speeds of up to 90 mph.

As it was an alternating-current motor and there were no batteries involved, where did the power come from?

Popular responses included charges of black magic,Ó and the sensitive genius didn't like the skeptical comments of the press. He removed his mysterious box, returned to his laboratory in New York - and the secret of his power source died with him.

A.C. Greene is an author and Texas historian who lives in Salado. The original article from which Mr. Greene gleaned the above info was from a Packard Newsletter. Mr. Gene Langkopf kindly sent us a copy of that article which now follows.

The Forgotten Art of Electric - Powered Automobiles, by Arthur Abrom

Electric powered automobiles were one of the earliest considerations and this mode of propulsion enjoyed a brief but short reign. The development of electricity as a workable source of power for mankind has been studded with great controversy.

Thomas A. Edison was the first to start to market systems (i.e. electric generators) of any commercial value. His research and developmental skills were utilized to market a direct current system of electricity. Ships were equipped with D.C. systems and municipalities began lighting their streets with this revolutionary D.C. electric system. (At that time) Edison

was the sole source of electricity!

While in the process of commercializing electricity, Thomas Edison hired men who knew of the new scientific gift to the world and were capable of new applications for electricity. One such man was a foreigner named Nikola Tesla. This man, although not known to many of us today, was without a doubt the greatest scientific mind that has ever lived. His accomplishments dwarfed even Thomas Edison's! Whereas Mr. Edison was a great experimenter, Mr. Tesla was a great theoretician. Nikola Tesla became frustrated and very much annoyed at the procedures Edison followed.

Tesla would rather calculate the possibility of something working (i.e. mathematical investigation) than the hit and miss technique of constant experimentation. So in the heat of an argument, he quit one day and stormed out of Edison's laboratory in West Orange, New Jersey.

Working on his own, Tesla conceived and built the first working alternating current generator. He, and he alone, is responsible for all of the advantages we enjoy today because of A.C. electric power.

Angered by Edison, Tesla sold his new patents to George Westinghouse for 15 million dollars in the very early 1900s. Tesla became totally independent and proceeded to carry on his investigative research in his laboratory on 5th Avenue in New York City.

George Westinghouse began to market this new system of electric generators and was in competition with Edison. Westinghouse prevailed because of the greater superiority of the A.C. generators over the less efficient D.C. power supplies of Thomas Edison. Today, A.C. power is the only source of electricity the world uses. And, please remember, Nikola Tesla is the man who developed it.

Now specifically dealing with automobiles in the infant days of their development, electric propulsion was considered and used. An electric powered automobile possessed many advantages that the noisy, cantankerous, smoke-belching gasoline cars could not offer. First and foremost is the absolute silence one experiences when riding in an electrically powered vehicle. There is not even a hint of noise. One simply turns a key and steps on the accelerator - the vehicle moves instantly! No cranking from the start, no crank to turn (this was before electric starters), no pumping of the accelerator, no spark control to advance and no throttle linkage to pre-set before starting. One simply turned the ignition switch to on!

Second, is a sense of power. If one wants to increase speed, you simply depress the accelerator further - there is never any hesitation. Releasing the accelerator causes the vehicle to slow down immediately - you are always in complete control. It is not difficult to understand why these vehicles were so very popular around the turn of the century and until 1912 or so.

The big disadvantage to these cars was their range and need for re-charging every single night. All of these electric vehicles used a series of batteries and a D.C. motor to move itself about. The batteries require recharging every night and the range of travel was restricted to about 100 miles. Understand that this restriction was not a serious one in the early part of this century. Doctors began making house calls with electric cars (do you remember doctors making house calls?) because he no longer needed to tend to the horse at night time - just plug the car into an electric socket! No feeding, no rub-down and no mess to clean up!

Many of the large department stores in metropolitan areas began purchasing delivery trucks that were electrically powered. They were silent and emitted no pollutants. And, maintenance was a minimum on electrically powered vehicles. There were few mechanics and garages in operation in the early 1900s So city life and travel appeared to be willing to embrace the electric automobile. Remember, these masterfully built vehicles all ran on D.C. current.

Two things happened to dampen the popularity of the electric automobile. One was the subconscious craving for speed that gripped all auto enthusiasts of this era. Each manufacturer was eager to show how far his car could travel (i.e. the transcontinental races) and what was its top speed! Col. Vanderbilt constructed the first all concrete race track in Long Island and racing became the passion for the well-to-do. Newspapers constantly record new records of speed achieved by so-in-so. And, of course, the automobile manufacturers were quick to capitalize on the advertising effect of these new peaks of speed. Both of these events made the electrically powered vehicles appear to only belong to the little old lady down the street or the old retired gentleman who talked about the good old days

Electric vehicles could not reach speeds of 45 or 50 m.p.h. for this would have destroyed the batteries in moments. Bursts of speeds of 25 to 35 m.p.h. could be maintained for a moment or so. Normal driving speed-depending upon traffic conditions, was 15 to 20 m.p.h. by 1900 to 1910 standards, this was an acceptable speed limit to obtain from your electric vehicle.

Please note that none of the manufacturers of electric cars ever installed a D.C. generator. This would have put a small charge back into the batteries as the car moved about and would have thereby increased its operating range. This was considered by some to be approaching perpetual motion - and that, of course, was utterly impossible! Actually, D.C. generators would have worked and helped the electric car cause.

As mentioned earlier, Mr. Westinghouse's A.C. current generating equipment was being sold and installed about the country. The earlier D.C. equipment was being retired and disregarded. As a side note, Consolidated Edison Power Company of New York City still has one of Thomas Edison's D.C. generators installed in its 14th St. powerhouse - it still works! About this time, another giant corporation was formed and entered the A.C. generating equipment field - General Electric. This spelled the absolute end for Edison's D.C. power supply systems as a commercial means of generating and distributing electric power.

The electric automobile could not be adapted to accommodate and utilize a polyphase motor (i.e. A.C. power). Since they used batteries as a source of power, their extinction was sealed. No battery can put out an A.C. signal. True, a converter could be utilized (i.e. convert the D.C. signal from the battery to an A.C. signal), but the size of the equipment at this time was too large to fit in an automobile - even one with the generous dimensions of this era.

So, somewhere around 1915 or so, the electric automobile became a memory. True, United Parcel Service still utilizes several electric trucks in New York City today but the bulk of their fleet of vehicles utilizes gasoline or diesel fuel. For all intensive purposes, the electrically powered automobile is dead - they are considered dinosaurs of the past.

But, let us stop a moment and consider the advantages of utilizing electric power as a means of propelling vehicles. Maintenance is absolutely minimal for the only oil required is for the two bearings in the motor and the necessary grease fittings. There is no oil to change, no radiator to clean and fill, no transmission to foul up, no fuel pump, no water pump, no carburetion problems, no muffler to rot out or replace and no pollutants emitted into the atmosphere. It appears as though it might be the answer we have been searching for!

Therefore, the two problems facing us become top speed and range of driving - providing, of course, the A.C. and D.C. problems could be worked out. With today's technology this does not seem to be insurmountable. In fact, the entire problem has already been solved - in the past, the distant past and the not so distant! Stop! Re- read the last sentence again. Ponder it for a few moments before going on.

Several times earlier in this article, I mentioned the man, Nikola Tesla and stated that he was the greatest mind that ever lived. The U.S. Patent Office has 1,200 patents registered in the name of Nikola Tesla and it is estimated that he could have patented an additional 1,000 or so from memory!

But, back to our electric automobiles - in 1931, under the financing of Pierce-Arrow and George Westinghouse, a 1931 Pierce-Arrow was selected to be tested at the factory grounds in Buffalo, N.Y. The standard internal combustion engine was removed and an 80-H.P. 1800 r.p.m electric motor installed to the clutch and transmission. The A.C. motor measured 40 inches long and 30 inches in diameter and the power leads were left standing in the air - no external power source!

At the appointed time, Nikola Tesla arrived from New York City and inspected the Pierce-Arrow automobile. He then went to a local radio store and purchased a handful of tubes (12), wires and assorted resistors. A box measuring 24 inches long, 12 inches wide and 6 inches high was assembled housing the circuit. The box was placed on the front seat and had its wires connected to the air- cooled, brushless motor. Two rods 1/4Ó in diameter stuck out of the box about 3Ó in length.

Mr. Tesla got into the driver's seat, pushed the two rods in and stated, we now have power He put the car into gear and it moved forward! This vehicle, powered by an A.C. motor, was driven to speeds of 90 m.p.h. and performed better than any internal combustion engine of its day! One week was spent testing the vehicle. Several newspapers in Buffalo reported this test. When asked where the power came from, Tesla replied, from the ethers all around us Several people suggested that Tesla was mad and somehow in league with sinister forces of the universe. He became incensed, removed his mysterious box from the vehicle and returned to his laboratory in New York City. His secret died with him!

It is speculated that Nikola Tesla was able to somehow harness the earth's magnetic field that encompasses our planet. And, he somehow was able to draw tremendous amounts of power by cutting these lines of force or causing them to be multiplied together. The exact nature of his device remains a mystery but it did actually function by powering the 80 h.p. A.C. motor in the Pierce-Arrow at speeds up to 90 m.p.h. and no recharging was ever necessary!

In 1969, Joseph R. Zubris took his 1961 Mercury and pulled out the Detroit internal combustion engine. He then installed an electric motor as a source of power. His unique wiring system cuts the energy drain at starting to 75% of normal and doubles the electrical efficiency of the electric motor when it is operating! The U.S. Patent Office issued him a patent No. 3,809,978. Although he approached many concerns for marketing, no one really seemed to be interested. And, his unique system is still not on the market.

In the 1970s, an inventor used an Ev-Gray generator, which intensified battery current, the voltage being induced to the field coils by a simple programmer (sequencer). By allowing the motor to charge separate batteries as the device ran, phenomenally tiny currents were needed. The device was tested at the Crosby Research Institute of Beverly Hills, Ca., a 10-horsepower EMA motor ran for over a week (9 days) on four standard automobile batteries.

The inventors estimated that a 50-horsepower electric motor could traverse 300 miles at 50 m.p.h. before needing a re-charge. Dr. Keith E. Kenyon, the inventor of Van Nuys, California discovered a discrepancy in the normal and long accepted laws relating to electric motor magnets. Dr. Kenyon demonstrated his invention for many scientists and engineers in 1976 but their reaction was astounding. Although admitting Dr. Kenyon's device worked, they saw little or no practical application for it!

So the ultimate source for our electrically powered automobile would be to have an electric motor that required no outside source of power. Sounds impossible because it violates all scientific thought! But it has been invented and H.R. Johnson has been issued a patent No. 4,151,431 on April 24, 1979 on such a device!

This new design although originally suggested by Nikola Tesla in 1905, is a permanent magnet motor. Mr. Johnson has arranged a series of permanent magnets on the rotor and a corresponding series - with different spacing - on the stator. One simply has to move the stator into position and rotation of the rotor begins immediately.

His patent states,

the invention is directed to the method of utilizing the unpaired electron spins in ferro magnetic and other materials as a source of magnetic fields for producing power without any electron flow as occurs in normal conductors and to permanent magnet motors for utilization of this method to produce a power source.

In the practice of this invention, the unpaired electron spins occurring within permanent magnets are utilized to produce a motive power source solely through the super-conducting characteristics of a permanent magnet and the magnetic flux created by the magnets are controlled and concentrated to orient the magnetic forces generated in such a manner to do useful continuous work such as the displacement of a rotor with respect to a stator.

The timing and orientation of magnetic forces at the rotor and stator components produced by permanent magnets to produce a motor is accomplished with the proper geometrical relationship of these components

Now before you dismiss the idea of a magnetically run motor - a free energy source, consider the following :

Engineers of Hitachi Magnetics Corp. of California have stated that a motor run solely by magnets is feasible and logical but the politics of the matter make it impossible for them to pursue developing a magnet motor or any device that would compete with the energy cartels.

In a book entitled, Keely and His discoveries by Clara B. Moore published in 1893, we find the following statements,

the magnet that lifts a pound today if the load is gradually increased day by day will lift double that amount in time. Whence comes this energy? Keely teaches that it comes from sympathetic association with one of the currents of the polar stream and that its energy increases as long as the sympathetic flow lasts, which is through eternity

Now consider some basic observations concerning magnets:

1) Two permanent magnets can either attract or repel depending on the arrangement of the magnetic poles.
2) Two magnets repel further than they attract because of friction and inertia forces.
3) Most of our energy comes directly or indirectly from electromagnetic energy of the sun, e.g. photosynthesis and watercycle of ocean to water vapor to rain or snow to ocean.

4) Magnetic energy travels between poles at the speed of light.
5) Permanent magnets on both sides of an iron shield are attracted to the shield and only weakly to each other at close proximity to the shield.
6) Permanent magnets are ferrous metals and are attractive only. Attraction is an inverse square force.
7) Magnetic energy can be shielded.
8) The sliding or perpendicular force of a keeper is much less than the force in the direction of the field to remove the keeper.
9) Most of the magnetic energy is concentrated at the poles of the magnet.
10) A permanent magnet loses little strength unless dropped or heated. Heating misaligns the magnetic elements within the magnet.
11) If a weight lifted by a permanent magnet is slowly increased, the lifting power of the magnet can be increased until all the magnetic domains in the magnet are aligned in the same direction. This becomes the limit.
12) Using magnets to repel tends to weaken them as it causes more misalignment of the domains.
13) A magnetic material placed between two magnets will always be attracted to the stronger magnet.

So, our ultimate motor becomes a permanent magnet motor of proper size with speed being controlled through the automobiles transmission. And, here is the biggest plus, permanent magnets keep their strength for a minimum of 95 years! So here we have a fuel- less automobile that would last us our lifetime.

There is only one drawback to an automobile powered by a permanent magnet motor - if the vehicle gets involved in an accident, the shock of the crash could jar the magnets and cause them to lose power! But this seems to be a small price to pay for an automobile that could run all day at 60 m.p.h. - use no fuel - and never need a recharge!

Now the only question left to be answered is, where do you buy one?Ó or perhaps, when will we be able to buy one?Ó At present there are several companies offering interim solutions. Some offer electric powered designs - but this is strictly batteries, while others offer a hybrid combination of batteries and small gasoline engines. All of these so-called modern alternatives suffer from the same lack of accessories we've become accustomed to.

They do not, or cannot offer power steering, brakes or windows or air-conditioning, etc. Since they are small aerodynamically shaped packages holding only two people, their appeal is distinctly limited.

When someone constructs an automobile run by a permanent magnet motor attached to the differential thus eliminating the transmission, the world will beat a path to his door - providing the energy cartel doesn't find him first!

In Richardson, Texas last year, two men - George Thiess and Jack Hooker have advanced the storage battery to a new level. Their new batteries will operate on magnesium made from seawater. The magnesium is used to charge the battery while in an electrolyte solution and the range of their auto is increased by replacing the magnesium rods every 400 to 500 miles. Their studies are being officially watched by the Department of Energy. Perhaps an all new era of electrically powered automobiles may be on its way to reality.

This subject is intensely interesting to many researchers so if you have any suggestions or comments, we here at KeelyNet would greatly appreciate your sharing with us.

There are three files that link to this particular subject and all will be bundled as follows : TESLAFE1.ASC - original articles TESLAFE1.GIF - PARALLEL version TESLAFE2.ASC - this commentary TESLAFE2.GIF - SERIES version TESLAFE .ZIP - all of the above bundled into one file additional related information can be found on KeelyNet as TESLAFE2.ASC.

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