

An Unexpected Source of Clean Energy?

Paul E. Rowe*

Magnetism

How can intelligent people play with two bar magnets for five minutes and continue to believe there is nothing, but air, between the magnets? Based on theories they do not understand, they are convinced that space is void and magnetism, light, and gravity are, somehow, transferred through the void.

Can void in the vicinity of a magnet have different properties than void far from the magnet? Can the properties of void near a magnet change when a second magnet approaches? If nothing, but air, separates the rotor from the rest of a motor, how can the motor develop enough power to destroy your hand if you try to stop the rotation?

In developing wave equations, both Huygens and Maxwell assumed space was filled with touching material particles. Since their equations correctly predicted important properties of light, their concepts of a material ether were generally accepted as fact, until early in the twentieth century.

Huygens¹ referred to an experiment, in which Torrecelli (a contemporary of Galileo) filled a glass U-tube with mercury to a sealed end and evacuated the tube through the open end. Light passed through the space that developed at the sealed end. Huygens concluded that the medium for light transfer was present in the vacuum and that the medium easily passes through the glass and/or the mercury. He proposed that the medium was made up of extremely fine, touching material particles which transferred light by a mechanism similar to that by which sound travels through air. He suggested that the energy is transferred much like the transfer of energy from sphere to sphere in a series of suspended metal spheres. All the energy on one sphere is transferred to an adjacent sphere. The velocity of energy transfer depends on the physical properties of the spheres.

The following is a translation from Huygens:

And it must be known that, although the particles of the ether are not ranged thus in straight lines, as in our row of spheres, but confusedly, so that one of them touches several others. This does not hinder them from transmitting their movement and spreading it always forward.²

He assumed that each activated ether particle is the start of a new wave and, on this basis, developed equations that predict observed diffraction patterns. For many years, scientists considered this strong evidence for a material ether.

The following quotes are from Maxwell:³

In several parts of this treatise an attempt has been made to explain electromagnetic phenomena by means of mechanical action transmitted from one body to another by means of a medium occupying the space between them.



Christian Huygens, 1629 - 1695 and James Clerk Maxwell, 1831 - 1879.

According to the theory of undulation, there is a material medium which fills the space between the two bodies and it is by the action of contiguous parts of this medium that the energy is passed on, from one portion to the next, till it reaches the illuminated body.

Let us next determine the conditions of propagation of an electromagnetic disturbance through a uniform medium, which we shall suppose to be at rest, that is, to have no motion except that which may be involved in electromagnetic disturbances. Let c be the specific conductivity of the medium, k its specific capacity and μ its magnetic permeability.

Both Huygens and Maxwell based their equations on the presence of touching material particles in vacuum. When I studied physics (many years ago), the professor told the class that there is no ether, but magnetism and light are much easier to understand if one, temporarily, assumes an ether. In my opinion, he was half right. I found that light and magnetism were much easier to understand when based on a material ether.

The following four quotes are from Albert Einstein:

In Maxwell's theory there are no material actors.⁴

The Ether does not exist.⁵

The electromagnetic fields are not bound down to any bearer, but they are independent realities which are not reducible to anything else.⁶

You seem to think that I look back on my life's work with serene satisfaction. Viewed more closely, however, things are not so bright. There is not an idea of which I can be certain. I am not even certain that I am on the right road.⁷

The first three quotes do not agree with those from Maxwell. Much of Einstein's mathematics is based on Maxwell's equations, which, in turn, are based on a material ether.

Hydrogen from Vacuum

Many respected experimenters have reported the surprising appearance of hydrogen gas in their experiments. The following quote is from Sir J.J. Thomson:

I would like to direct attention to the analogy between the effect just described and an everyday experience with discharge tubes. I mean the difficulty of getting these tubes free from hydrogen when the test is made by a sensitive method like that of positive rays. Though you may heat the glass tube to the melting point, may dry the gases by liquid air or cooled charcoal, and free the gases you let into the tube as carefully as you will from hydrogen, you will get hydrogen lines by the positive ray method, even when the bulb has been running several hours a day for nearly a year.⁸

The following is the introduction to an extremely interesting paper by Clarence A. Skinner of the University of Nebraska:

While making an experimental study of the cathode fall of various metals in helium it was observed that no matter how carefully the gas was purified the hydrogen radiation, tested spectroscopically, persistently appeared in the cathode glow. Simultaneous with this appearance there was also a continuous increase in the gas pressure with time of discharge. This change in gas pressure was remarkable because of its being much greater than that which had been observed under the same conditions with either nitrogen, oxygen or hydrogen.

Now the variation in the cathode fall with current density and with gas pressure in helium was found to be so like that obtained earlier with hydrogen that it appeared necessary to maintain the helium free of the latter in order to make sure that the hydrogen present was not the factor causing this similarity in the results. Futile endeavors to attain this condition led to the present investigation, which locates the source of the hydrogen in the cathode, shows that the quantity of hydrogen evolved by a fresh cathode obeys Faraday's law for electrolytes, and that a fresh anode absorbs hydrogen according to the same law.⁹

Skinner employed various metals as cathode and found that most tarnished during discharge and each produced hydrogen. Metals tarnish in the presence of hydrogen atoms, but not in helium. Skinner obtained thousands of times more hydrogen from a silver cathode than it could have contained and commented:

Altogether about two cubic centimeters of gas have been given off by this silver disk, which is 15 mm in diameter and about 1 mm thick. It shows no sign of having its supply of hydrogen reduced in the least.¹⁰

Since the gases tested by Thomson were produced in a dis-

charge tube, hydrogen gas may have been produced, similarly, as long as he continued the discharge.

This author¹¹ has produced surprising quantities of hydrogen gas by combusting mixtures of cupric oxide and aluminum powder in a fairly good vacuum. Mixtures containing excess aluminum produced the most hydrogen.

The Ether

This author is convinced that there is something in vacuum that can be converted into hydrogen and suspects that vacuum contains a matrix of protons and unpaired electrons. Such a matrix conforms to the assumptions of Huygens and Maxwell.

Magnetism is generally attributed to the presence of oriented unpaired electrons. Unpaired electrons in the proposed matrix would tend to orient in the vicinity of a magnet and this orientation would be considered a magnetic field. This concept leads to simple explanations for the forces between separated magnets and a reasonable mechanism for the transfer of light.¹²

Helium below 2 degrees Absolute is a super fluid. It has zero viscosity and, once in motion, continues to flow through tightly packed granules indefinitely. Many scientists believe that it is Bose-Einstein condensed.¹³ Recently, scientists have produced Bose-Einstein condensed rubidium, potassium, and sodium.¹⁴ These condensates transfer light, but at much lower velocities than vacuum. Could the matrix that permeates knowable space be Bose-Einstein condensed hydrogen?

A matrix of touching protons and electrons having particles of the classical diameter of the electron and the masses of the proton and the electron would be very massive, indeed. Substituting the calculated density into the equation developed by Bose and Einstein indicates that such a matrix would be stable at extremely high temperatures. Due to its great mass, the matrix near the earth would be attracted to the earth and move with the surface of the earth. Since their equipment moved with the earth, the Michelson and Morley interferometer observations are as expected. Some of my papers¹² attempt to explain other physical phenomena based on the presence of such a matrix.

If the matrix exists, why isn't it obvious to us? How can your hand move through it with practically no effort? Your hand is made up of atoms and molecules. The distance between the atomic nuclei of materials is a great many times the diameter of the electrons and protons of the proposed matrix. If the ether has zero viscosity, your hand moves through it effortlessly, just as a net would move effortlessly through a zero viscosity liquid. In other words, a body in motion, through the ether, will remain in motion until a force is applied.

Why aren't we crushed by the weight of the ether above us? If I am correct, the great majority of your mass is the ether within you. When you weigh yourself, you measure the difference between your other weight and the ether within you, much as a fish is weightless in water and much heavier in air. One difference is, you can't get out of the ether. You don't notice the weight of the air pressing on you from all directions and, similarly, you don't notice the pressure of the ether.

Could the dark matter that scientists are seeking be a matrix of protons and electrons that fills the knowable uni-

verse and is the transporter of electromagnetic radiation and gravity? I suspect it is.

Possible Source of Clean Energy

All the techniques which appear to produce hydrogen from vacuum (the ether?) require input of considerable energy. If one converted hydrogen into such an ether, one would produce considerable energy. If more energy than is required to convert water into hydrogen and oxygen is produced, one could obtain safe, clean energy from water.

Using a Tesla coil that delivers a 10-inch spark in air, I have passed discharges (separately) through similar glass tubes containing hydrogen, helium, and argon (pressure about one quarter atmosphere) and obtained dramatically higher temperatures in the hydrogen filled tube, under the same conditions. This may not prove anything, but it is interesting. This author has neither the equipment nor the talent to carry these researches much further. Incorporation of proper catalysts in the discharge tube may enhance this effect.

Could some of the energy produced by lightning come from conversion of the hydrogen in moist air into the ether, under high voltage discharge? According to the *Encyclopaedia Britannica*:

In the average thunderstorm, the energy released amounts to about 107 kilowatt hours, which is equivalent to a 20 kiloton nuclear warhead. A large, severe thunderstorm might be 10 to 100 times more energetic.¹⁵

Recently experimenters¹⁶ have found that X-rays and gamma rays are produced in certain portions of the lightning cycle. What is the source of such energy? Could it be from conversion of hydrogen atoms in moist air into Bose-Einstein condensed hydrogen to produce energy and oxygen?

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About the Author

Dr. Rowe has a bachelor's degree in chemistry from MIT and a doctorate in chemistry from Boston University. From 1953 to 1959, he was employed as Senior Chemist by the National Fireworks Company in Hanover, Massachusetts, where he experimented with explosives and propellants. From 1959 to 1980, Dr. Rowe was employed by Emerson & Cuming, Inc. in Canton, Massachusetts, where he was involved in research and development of plastic and ceramic materials for the electronics industry. From 1981 to 2000, he was a consultant on electronics materials, and retired in late 2000. Dr. Rowe continues his private researches.

*Email: 02649rowepaul@netscape.com