

Nether Pressure and the EPR Experiment

The electron is unique.

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**We could accomplish many more things
if we did not think of them as impossible.
C. Malesherbes**

Explanatory Note

This essay is one of many which (along with my website and the series *Behind Light's Illusion*) explain dynamic ether (nether) theory. In myth, nether may be considered the foundation of the universe.

Unique Subatomic Entities

The electron and its mirror-image the positron are the only subatomic entities that are single vortices that can stand alone. Other subatomic entities may exist for short periods when alone, but not for very long. The proton can exist for a longer time than most. It is actually made of three smaller entities which I call "quarkons" because the accepted entities are called "quarks" and "gluons" - and it is my contention that each quark must have a gluon attached because it is part of a quarkon. But this will come out in detail in a later essay and is also available in Book Six of the series *Behind Light's Illusion*.

The single vortex that is the electron (or positron) holds open a hole into the fourth dimension. I believe that the fourth dimension is time, but I cannot prove this. The point is, there is a hole in our three dimensional universe that is created when an electron-positron pair are formed, and the vortex is what keeps the hole open. It does this because the nether (dynamic ether) flows into the hole at a 45 degree

angle. The nether is under extreme pressure and the hole is an area without any pressure whatsoever.

The reactive speed of the nether is the square root of two multiplied by the speed of light. When the hole opens, the nether flows into it at that reactive speed. There are two vectors of interest from this inflow. One is the straight-in inflow vector that is equal to the speed of light. The other is the tangential vector that keeps the hole open according to the equation for centrifugal force,

$$F_c = m_e c^2 / r_s$$

in which "F_c" is centrifugal force, "m_e" is the mass of the electron, "c" is the speed of light, and "r_s" is the Schwarzschild radius for the electron.

The Electron's Schwarzschild Radius

A Schwarzschild radius is the distance from an entity's center to a point at which the inflowing nether velocity is equal to the speed of light. Inside this radius, the inflowing nether is greater than lightspeed, and outside, it is less. For a black hole, the Schwarzschild radius has nothing to do with the radius of the body itself. It is simply the distance at which light is sucked into the hole and is unable to escape. There is nothing sensational or mysterious about this. Celestial bodies may vary in size from small to large, and from loosely structured (like a gas giant) to very compact. When one becomes large or compressed enough, its nether inflow exceeds the speed of light, and light cannot swim fast enough upstream through the current to escape.

Nor is a black hole a singularity. It is merely a collection of compressed matter like any other sun or planet. Even when the compression is finally at a critical stage, the result is merely "burping" out what is known as Seyfert galaxies (see www.oldestscience.us/quasar.htm#three). Unlike the black hole, the electron is a singularity.

For the electron, the distance at which light cannot escape is considerably less than that of a black hole. The tangential vector of the inflow is equal to the speed of light at the same radius that the inward vector is equal to the speed of light. So the electron's Schwarzschild radius can be used in the above equation.

Inward Nether Force

We may call the force that is attempting to close the hole into the 4th dimension "F_i". It must be equal to F_c for the electron to be a stable entity.

$$F_i = F_c$$

Mass and mass

In nether theory, nether "Mass" with a large "M" is the fundamental Mass of the universe. What we call "mass" is the inflow of "Mass" divided by unit of time.

$$m = M/t$$

So the mass of the electron is the Mass inflow per second. The Mass inflow per second is what creates " m_e ".

Mass is actually Mass per volume which is nether density and varies according to the location within space. In a gravity funnel such as Earth, Mass is compressed to have more density at the surface than at several thousand feet above it. It is less compressed than that at the corona of the sun or at the surface of Jupiter. In space, far from any gravity funnel, the Mass density is much less than near a gravity funnel. In such space, Mass density varies from a point near the center of what is called the Big Bang to a point that it is farther from that center. Due to the accelerating expansion of the universe, Mass density becomes less with time.

The point is, there is no fixed value for Mass density. However, this does not affect the size of the electron.

Force vs Pressure

Force is a means of helping to describe pressure. Pressure is force divided by area - like 14.7 pounds of force per square inch is the standard pressure of air on Earth at sea level. When we are working with force against force ($F_i = F_o$), the area upon which the two forces are applied is the same area. One force is pushing upon one side of this area, and the other is pushing upon the other side of this area.

Force is mass multiplied by acceleration.

$$F = ma$$

In the metric system, kilograms of mass multiplied by gravity equals kilograms of force. In the English system, slugs of mass multiplied by gravity equals pounds of force. The "a" in the above equation is for acceleration and "g" the acceleration that we use for defining force. With the electron, the "g" is for micro-gravity at the electron Schwarzschild radius.

$$F_i = F_c$$

$$m_e g = m_e c^2 / r_s$$

We can see that the mass involved is the same mass for both forces. Mass density changes with location and with time, but we are dealing with the same mass for both forces. So the Mass density (and therefore the mass) does not affect the size of the electron.

Furthermore, any variation from "c", as the tangential speed, will be instantaneously met with a variation in "r_s", so the size of the electron will remain the same.

Nether Pressure at Earth's Surface

Just to provide a means of understanding the tremendous pressure within which we live, it is possible to calculate an approximate example here on the surface of our planet.

When working with flute theory, I discovered that there is an invisible hemisphere at the foot of an open-ended flute in which air enters as a vortex - and is at the same velocity as the air in the flute barrel. This is analogous to the hemisphere on our side of the electron hole into the 4th dimension. The hemisphere has the same properties as an extension for the flute barrel - or in the case of the electron, as an extension of the hole. Although we cannot see into the 4th dimension and, therefore, cannot use an area within it, we can use the area of the hemisphere in our calculations.

$$A_h = \text{the area of the hemisphere} = (2/3)(\pi)r_s^2$$

The area of a cylinder with a height of "r_s/3" and a circumference of "(2π)r_s" is

$$(r_s/3)(2\pi)r_s \text{ which also is } (2/3)(\pi) r_s^2.$$

So the hemisphere has an area that is the same as a cylinder with the height of r_s/3.

The Mass that enters the 4th dimensional hole at the speed of light, "c", is the flow that creates what we call the "mass" of the electron, "m_e".

The flow M/t must have a length of ct, and have a portion of this length that is equal to the length of the cylinder that extends into our three dimensional space. The fraction that is in our space would be

$$(r_s/3)/ct,$$

and this is the fraction that will tell us what part of the mass of the electron is within that fractional length.

We may call it m_f .

$$m_f = [(r_s/3)/ct]m_e$$

$$m_f = r_s m_e / 3ct$$

Let P equal the nether pressure at Earth's surface.

$$P = F_c / A_h$$

$$P = (m_f c^2 / r_s) / (2/3)(\pi) r_s^2 \quad \text{by substitution.}$$

$$P = 3m_f c^2 / 2(\pi) r_s^3 \quad \text{simplifying.}$$

$$P = 3[r_s m_e / 3ct] c^2 / 2(\pi) r_s^3 \quad \text{substituting for } m_f.$$

$$P = 3r_s m_e c^2 / 3ct [2(\pi) r_s^3] \quad \text{simplifying.}$$

$$P = m_e c / t [2(\pi) r_s^2] \quad \text{further simplifying.}$$

$$P = m_e (c/t) / [2(\pi) r_s^2] \quad \text{further simplifying.}$$

Note that we now have a mass and an acceleration, which is force, divided by an area - just as it should be.

m_e is known to be approximately 9.10956×10^{-31} kilograms

c is known to be approximately 2.9929×10^8 meters/second

r_s is approximately 1.3529×10^{-57} meters

π is approximately 3.14159

So

$$P = (9.10956 \times 10^{-31})(2.9979 \times 10^8) / 2(3.14159)(1.35296 \times 10^{-57})^2$$

$$P = 2.3747 \times 10^{91} \text{ kilograms/meter squared}$$

This is rounded off and only an illustration of the kind of pressure that exists - and it is huge.

There is a question regarding the light half-wave and the mass involved in Planck's constant which is the mass being moved by the acceleration that is the half-wave. One wonders how it could be that such a mass could be affected over distances of many light years (see the EPR experiment below and what it really is all about).

The half-wave mass being moved (regardless of how long a path it encircles) is only 3.7595×10^{-52} kilograms. Because the reactive speed of the nether is caused by nether pressure, that tiny mass is being moved by a pressure of about 2.4×10^{91} kilograms/meter squared, using the Mass density at earth's surface.

Another consideration mentioned in *The Nature of Light* is that the number of half-waves in a photon (of one second duration) are twice the frequency of the photon. Although a natural photon is considerably less than a second in duration and passes its receiver in only a small fraction of a second, it still has time during its passage to gradually transmit the full energy (from its half-waves) to the receiver.

What follows is Chapter Six of Book Six of *Behind Light's Illusion*.

Six FASTER-THAN-LIGHT COMMUNICATION

*Our minds possess by nature
an irresistable desire to know the truth.*
Cicero

There was an experiment first performed by Albert Einstein, Boris Podolsky, and Nathan Rosen in 1935, later called the **EPR experiment**. It was a thought experiment in quantum mechanics and produced

results so strange that Einstein rejected them as a flaw in quantum theory.

In 1980, the experiment was physically performed by splitting a single photon into two, each of which had half of the energy of the "mother" photon. These two "entangled" photons were polarized at ninety degrees to one another. Whenever the polarization of one of the two was detected, it was a certainty that the polarization of the other would be at ninety degrees to the first. The first polarization detection could be either horizontal or vertical, and the experimenter had the choice, but once the first measurement was made, the second measurement would always be at ninety degrees to the first.

The problem Einstein had with this experiment had to do with the fact that the removal of one polarization (by detecting it) made the second one predictable *instantaneously, regardless of the distance between the two detections*. This was an example of faster-than-light (FTL) communication to the extreme.

In 1992, an experiment was performed by Ming Lai and Jean-Claude Diels. In this experiment it appears that a single photon travels in two directions simultaneously even though the two directions are almost at ninety degrees to one another. This was explained by the quantum physicists as the photon being a probability wave.

According to neither theory as proposed by Mart Gibson and myself, a photon moves outward as a group of circular waves effectively in one plane and the idea of it being in two places at once is quite acceptable. In fact, it can be in an infinite number of places at once, but this is *not* because it is a probability wave.

According to this same theory, a photon of light that has been split into two photons, as in the case of the EPR experiment, are mutually moving parts of the same photon. The removal of one part at one point will result in the complete removal of that part at any distance from that point, leaving only the other part of the split polarization to be removed at a distant point. This happens *instantaneously even though the two removals may be light years apart*. This is why some of us believe that FTL communication is possible - and even possible with our current state of technology.

Going back to neither theory, it should be possible for a receiver called "A" to absorb a photon or to not absorb this photon. If a more distant possible receiver (from the photon source), called "B", were attempting to absorb this same photon, the fact that this photon was or was not there to be absorbed would provide a binary message from the first receiver.

For this to happen, the following conditions must be the case. First, the photon "time schedule" must be known. This is possible. Second, the photon must be able to penetrate effectively through obstacles, such as gas in space, or to avoid such obstacles. Again, this is possible. Third, the photon must be polarized precisely perpendicular to the plane described by the source and the two possible receivers. Fourth, "A" must be closer to the source than "B". Fifth, the correct photon must be identified. This is also possible, in theory, as follows.

The nature of electromagnetic radiation from most sources is a jumble of many photons, many half-waves of light moving outward at various times, in various frequencies, and with various angles of polarization. When we receive light, we are receiving this jumble.

To make things even more complicated, no electron and no half-waves of its photons can exist in the same place or places at the same time as those of another electron and its photons. We could say this is due to an exclusion principle, but such words are just a cop-out as compared to understanding why it occurs.

Every electron is a vortex of nether (dynamic ether). So no two electrons can exist in precisely the same place at the same time. No two electrons can exist in the same place at the same time, so no two exact nether inflows can exist in the same place at the same time. Every half-wave is merely the change in direction of inward nether flow. Thus, no exactly similar half-waves can exist in the same place at the same time.

This means that any electron which is in the same neighborhood as a multitude of other electrons will have nether flow into it that has been and will be continually adjusted by the nether flows into the surrounding electrons. And this, in turn means that half-waves moving outward from an electron will also be adjusted in direction and polarization. Thus, the ideal ring-like shape of the half-wave becomes distorted beyond recognition and, rather than moving outward as a ring in an infinity of directions in a single plane, after going only a short distance outward it moves in directions which deviate greatly from the ideal - which effectively prevents its use in FTL communication.

The foregoing problem can be prevented by using a single electron which has been separated from other vortices (particles) by a large volume of space. The single photons emitted can then move outward in the ideal shape with a slight exception where the atomic nucleus is located.

However, it might be very difficult for "A" and "B" to detect a single photon from the many that traverse space. Many such must be used for adequate detection. Furthermore, these must be separated from the others. It is the proper separation from the unwanted photons that should be first accomplished. This gives us a better chance of proper detection.

Photons can be separated by their (1) frequencies, (2) polarizations, (3) times of propagation, and (4) directions of movement.

(1) The electrons used to send the photons should move at a very discrete frequency such as that of a laser or maser. This frequency should be very high for it to have the energy to more easily move through obstacles such as gas in space.

(2) The antenna in which the electrons move should be one atom in thickness (or the equivalent), ideally. And to have enough electron motion for easier detection, it should be a very long antenna (or the equivalent). The polarization of this antenna should be precisely perpendicular to the "plane" in space described by the antenna, receiver "A", and receiver "B". "Plane" is in quotes because the thickness of this plane might be the length of the antenna which makes it something other than a true plane. The receiving antennae must be polarized in the same direction as the sending antenna and must also be very long.

(3) The times of propagation would be a problem without the use of pulse code modulation (PCM). With PCM, we can use a recognition code. This allows for framing pulses (to distinguish one piece of coded material from another) and also will allow for proper frequency tuning by the receivers when doppler effects tend to "adjust" the frequency.

(4) The receiving antennae can be shielded from photons which are arriving from directions other than that of the sending antenna.

The fact that light moves outward as a wave along the inflowing nether means that electrons within a multitude of other electrons will have nether flow with altered directions. Even though the flow begins as an incoming disc, the disc is warped at farther distances from the electron. This means that a half-wave or photon from a pulsar will probably have the same polarity only for receivers within a few degrees of one another, using the pulsar as the point for the angle. But for large angles, this is very unlikely.

We can choose a particular frequency or range of frequencies for both receivers to use. We can also filter out some of the unwanted polarizations. Perhaps we have a technological method of filtering out most of the unwanted polarizations, but I am not aware of it now. It should be safe to say that a more advanced scientific civilization would have a means to do this. We can also choose a pulsar that is located so that the angular distance from the two receivers is very small.

Using this kind of set-up, "A" can choose whether or not to absorb several photons of the correct frequency range and the correct polarization. "B" can see what "A" has left in this same frequency range with the same polarization. This is the basis for a binary code that can be used with what we call pulse code modulation (PCM).

A civilization acting upon a desire to explore the galaxy (or beyond) would be sending vehicles in many directions. A variety of wave sources (such as pulsars) could be used, according to which is the most convenient for the necessary wave orientation and the distances needed between the source and each of the two receivers.

Also, at least one source would be needed for information to move from the home planet to the ship,

while another is needed for information to move from the ship to the home planet. In the first case, the planet must be slightly nearer to the source than the ship. In the second case, the ship must be slightly nearer to the source than the planet.

Assuming that a technologically advanced extraterrestrial (ET) would have this form of PCM, we should be developing a means of receiving such messages, rather than using radio - if we wish to communicate with him.

If we are to eavesdrop on an alien transmission, we must somehow (1) choose the correct polarization within a few seconds of arc, (2) choose the correct time to receive it, (3) decode the frames of the transmission in terms of the alien equivalent of amplitude modulation, and (4) understand the language in which it was sent. This is a tall order. If it is possible, it will require many hours of work and a high degree of genius to accomplish.

The dollars being spent on radio are probably being wasted. The difficulties of finding the correct polarization and time of the transmission, and of understanding the alien language would be more easily overcome if the sending ET were aiming at us and if this ET were attempting to help us overcome these problems. Even so, the challenge is daunting.

It is possible that someday we may tune into a universal or galactic network. It may be only a matter of time before we have the scientific truths that we need to join in their conversation.

Truth is the daughter of Time.

from an old poet as presented by Aulus Gellius

the general science
Journal