Vitreous Electricity and Centrifugal Potential Energy

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Abstract. All atomic and molecular matter possesses a net negative charge that accounts for gravity. Negative charge can be explained hydrodynamically in terms of mutually attracting aether sinks.

In this article, we equate aether with vitreous fluid. When aether is compressed into a material body, this will linearly polarize the internal electron-positron dipoles and any other internal dipoles. The polarized dipoles then take the form of a kind of knot in which there exists intersecting circular orbits. This knot effect invokes the centrifugal lock mechanism which blocks the aether inflow. The excess aether pressure will then penetrate into the space beyond the body, hence leading to the linear polarization of the surrounding electron-positron dipoles. We then say that the body is vitreously charged.

When a body has its internal aether pressure reduced, this will open the microscopic gravity sinks wider and the body will become more strongly charged negatively. Increased aether inflow leads to an increased polarization of the surrounding electron-positron dipoles. In this case, the polarization is opposite to that in the pressurized scenario. If the centrifugal pressure in the surrounding polarized dipoles leads to a repulsion effect which overrides the attraction effect of the inflow, we then say that the body is resinously charged.

Two vitreously charged bodies will repel each other and two resinously charged bodies will repel each other, whereas a resinously charged body and a vitreously charged body will attract or repel each other depending upon which is the stronger. The overall negative charge in the universe favours attraction in the latter scenario.

Centrifugal Potential Energy

I. It was shown in section **III** of 'Gravitation and the Gyroscopic Force' at,

http://www.wbabin.net/science/tombe5.pdf

that there exists a missing fourth term to the Lorentz force. The missing fourth term is the centrifugal term +grad (**A**.**v**). The vector **A** is closely related to the aether field momentum, and it is commonly referred to as the magnetic vector potential. Since the curl of a gradient is always zero, it follows that the centrifugal force, just like the inverse square law attractive force, is a radial irrotational force and that its associated potential energy must be **A**.**v**.

Interestingly, the potential energy term **A**.**v** is actually introduced to the Lorentz force in Lagrangian mechanics in connection with the **v**X**B** force. However, if the **v**X**B** force is taken to refer to its effects in electromagnetic induction, then it will be a fine-grain Coriolis force and it cannot have an associated potential energy since it doesn't involve any energy transfer between kinetic and potential, and besides that, the Coriolis force is a tangential force. The term **v**X**B** can however also refer to centrifugal force in situations in which **v** and **B** are inter-connected, and in cases of magnetic repulsion, the **v**X**B** term does indeed refer to fine-grain centrifugal force. See 'The General Convective Force' at,

http://www.wbabin.net/science/tombe41.pdf

The velocity dependent potential **A**.**v** as used in Lagrangian mechanics must therefore refer to the centrifugal repulsive force that arises when two magnets repel each other. In other words, **A**.**v** in electromagnetism is magnetic potential energy. Centrifugal force in the fine-grain of the electron-positron sea is the cause of all repulsive forces in magnetism, and of many of the repulsive forces in electrostatics. This repulsion takes place by virtue of the solenoidal alignment of the rotation axes of the electron-positron dipoles within the electric sea when either magnetization or polarization occurs. See 'Electrostatic Repulsion and Aether Pressure' at,

http://www.wbabin.net/science/tombe44.pdf

More generally, centrifugal potential energy is equivalent to rotational kinetic energy, and in the special case of the Keplerian orbit we can substitute the areal constant into the angular velocity term to obtain an inverse square law position dependent potential energy. This in turn means that centrifugal force in planetary orbits is an inverse cube law radial repulsive force.

The Principle of the Electric Current Circuit

II. Positive electric current is a pressurized flow of aether. An electric wire acts like an aether pipe with holes at the sides. The aether will flow along the pipe, but some aether will escape sideways out of the pipe. The amount of sideways leakage is controlled by the magnetic and dielectric properties of the surrounding electron-positron sea. Fine-grain Coriolis force will control how much aether leaks rotationally into the magnetic field, and fine-grain centrifugal pressure will control how much aether leaks such as to cause linear polarization in the surrounding electron-positron dipoles. The aether can instantly detect the path of least resistance due to its own pressure.

When the electric current is switched on, the aether will arc sideways from the wire in order to take the shortest path through space to the return wire. This will have the effect of linearly polarizing the electron-positron dipoles of the electric sea along the way. Linear polarization involves stretching the dipoles into two interlocking orbits. This is a knot effect which impedes the aether flow. The aether will then flow around the impeded region to by-pass it. This situation will repeat incrementally and the current loop will expand until it is exclusively confined to the electric wire. While this is happening, a transverse bore of linear displacement current will propagate in the space between the outward wire and the return wire. When this transverse electropolarization bore (TEP) has expired, the two dimensional space enclosed by the electric circuit will be saturated with aether pressure, and the circuit will now be vitreously charged.

Magnetization

III. Magnetization of the electric sea occurs when the electron-positron dipoles are subjected to a tangential force due to the flow of aether in the wire. This tangential flow will curl into the electron-positron dipoles leading to an increase in both their angular velocity and their vorticity, and hence to an increase in centrifugal pressure. This effect will radiate outwards from the wire in the form of electromagnetic radiation. Unlike in the case of the transverse electropolarization bore (TEP) we can firmly link electromagnetic radiation (TEM) to the speed of light.

This fine-grain rotational magnetic pressure will be maintained so long as the electric current continues to flow in the wire. The pressure is locked in by the fine-grain Coriolis force that is associated with Ampère's Circuital Law. If the electric current is abruptly halted, the magnetic field will burst and sparks will fly. Magnetic fields and free flowing electric currents are mutually inseparable. The magnetized electron-positron dipoles are clearly behaving like mechanical fly-wheels.

Linear Polarization

IV. Linear polarization of the electric sea occurs when the electron-positron dipoles are subjected to a direct flow of aether. This direct aether flow will cause the individual orbits within each dipole to separate and intersect each other, hence bringing the electron and the positron closer together at the moment of closest approach. Along the line of action of the force field, all the electrons and positrons in the electric sea will be brought closer together. Hence, polarization will induce a fine-grain centrifugal force that will oppose the applied aether flow (Lenz's law). Centrifugal aether pressure will hence accumulate along the field lines.

In atomic and molecular matter, Lenz's law can lead to the gravity sinks becoming totally blocked. See 'Electrostatic Repulsion and Aether Pressure' at,

http://www.wbabin.net/science/tombe44.pdf

The Capacitor Circuit

V. Consider a single long straight wire with a capacitor plate at each end. Now cut the wire in the middle and insert an electric power source. One plate will become vitreously charged and the other plate will become resinously charged. This will be due to the fact that aether will be pumped into the vitreous arm (the cathode) and withdrawn from the resinous arm. Vitreous charge is simple aether pressure that is associated with fine-grain centrifugal force. Resinous charge occurs when the aether pressure in a body is reduced. Resinous charge opens up the microscopic gravity sinks wider and hence allows a greater inflow from the surrounding gravitational field that polarizes the surrounding space in the opposite direction to that in the case of vitreous charge.

When we bring the vitreously charged plate up close to the resinously charged plate, the polarization field lines will cross directly between the two plates. A barrier potential will however restrict the flow of the vitreous fluid across the gap from the vitreously charged plate to the resinously charged plate. This barrier potential will be determined by an elastic, leakage, and blockage equilibrium between the conduction material of the circuit and the dielectric material between the two plates. When a conducting circuit is not fully connected, the conducting material acts as a much better dielectric than an insulating material, and it can absorb a lot more aether.

When equilibrium occurs, the flow of electric current across the gap can be increased by subjecting the vitreously charged plate (the cathode) to electromagnetic radiation. Electromagnetic radiation is itself a flow of aether pressure. Electromagnetic radiation is the propagation of fine-grain angularly accelerating aether. Hence pressurized aether is being injected into an already saturated situation, and so overflow will occur.

The Force acting between Vitreously Charged Bodies

VI. It was explained in ‘Gravity Reversal and Atomic Bonding’,

http://www.wbabin.net/science/tombe6.pdf

how linearly polarized electric field lines must be intertwined with solenoidal rings that are based on connecting the rotation axes of the electron-positron dipoles. The fine-grain centrifugal force acting laterally between these solenoidal rings will lead to mutual repulsion.

The Force acting between Resinously Charged Bodies

VII. Two resinously charged bodies will repel each other. As with two vitreously charged bodies, this is due to fine-grain centrifugal force between the adjacent solenoidal rings that permeate through the radial electric field lines. However, if the field strength is very weak, a reversal threshold will occur and a force of mutual attraction will take over.

See ‘Gravity Reversal and Atomic Bonding’ at,

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In general, where gravity is a large scale mutual attraction due to aether inflow tension, electrostatic repulsion between vitreously charged bodies and resinously charged bodies is a back-feed pressure due to fine-grain centrifugal force that congests the gravity sinks in the sea of tiny vortices.

The Force acting between a Resinously Charged Body and a Vitreously Charged Body

VIII. The electric field lines will cross over directly between the two bodies due to the fact that each body’s polarization field will be reversed compared to that of the other. Aether will then flow along the field lines between the two bodies. Attraction or repulsion will occur depending on which of the two bodies is the more strongly charged. Normally the vitreous charge is quite weak and so mutual attraction is what happens.

Positive Electric Charge

IX. Positive charge is a strongly repulsive irrotational aether outflow phenomenon. It is associated with source particles such as the positron and perhaps also the proton. It is almost certainly the source of electric current that is being supplied from a battery.

Benjamin Franklin used the name positive charge for vitreous charge. This has caused a certain amount of confusion. First of all, it later transpired that the vitreous fluid is actually positive in a resinously charged object. This problem was in effect cancelled out when modern

science replaced the vitreous fluid with the negative electron cloud, but the negative electron cloud has since caused even greater confusion. Secondly, Benjamin Franklin did not distinguish between vitreous pressure that is caused by fine-grain centrifugal force and vitreous pressure that is caused by pure irrotational flow emerging from a source particle. This article uses the term vitreous charge in relation to aether pressure that is sourced in fine-grain centrifugal force and it uses the term positive charge in relation to aether pressure that is sourced in outflow from a particle such as a positron. This means that vitreous charge as used in this article actually corresponds to resinous charge as used by DuFay and as understood by Franklin. The reason for not going along with the modern convention is that the properties of electric current in a wire clearly indicate that it is a positively pressurized affair.

The mutual interactions of vitreous and resinous charge are based on the polarization effects of the intervening electron-positron sea. If we remove the electron-positron sea and consider positive and negative charge, the the rules will be as follows. Two positive charges will repel each other. Two negative charges will attract each other. But a positive and a negative particle with either attract or repel according to which is the stronger. If we now consider positive and negative charge in the midst of the electron-positron sea, positive charge will always behave like strong vitreous charge. Two positively charged bodies will repel. Two negatively charged bodies will either attract or repel depending upon whether the internal aether pressure is low enough to induce resinous charge. A negatively charged body and a positively charged body will repel or attract depending upon which is the stronger. However, there is usually a tendency for negative charge to be stronger.

In the 1937 Encyclopaedia Britannica article on electricity it says "*Aepinus* (1724-1802) *also suggested that the attractive forces between two uncharged bodies might be very slightly greater than the repulsive forces and that this difference might be the cause of gravitation.*"

The Electric Eel and the Vitreous Pulse

XII. Electric shocks are traditionally associated with free flowing current electricity that flows in a closed solenoidal circuit. On such example is when the fish known as the Torpedo Ray touches its victim under water with both of its fins, and the circuit is complete. The Torpedo Ray has an inbuilt battery and it passes a current through its victim.

The phenomenon of lightning however reminds us that electric current doesn't have to be solenoidal. Vitreous pressure can build up in a body and then discharge into another body.

A controlled version of this effect seems to be occurring in the case of the electric shock associated with the Electric Eel. The literature tells us that these fish can project an electric shock at a distance. It seems that the Electric Eel can squirt a jet of pure aether (vitreous electric fluid) through water and cause an electric shock. It seems that Electric Eels are equipped with their own cathode ray gun.