

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

When a body has its aether pressure reduced, this will open the sinks wider and it will become more strongly charged negatively. Aether inflow leads to a polarization of the surrounding electron-positron dipoles oppositely to the pressurized scenario. If the centrifugal pressure of the polarized dipoles overrides the inflow effect, 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 will attract a vitreously charged body.

Centrifugal Potential Energy

I. It was shown in section III of ‘Gravitation and the Gyroscopic Force’,

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

how the Lorentz force is missing a fourth component that should be the centrifugal term $+\text{grad}(\mathbf{A}\cdot\mathbf{v})$. The vector \mathbf{A} is closely related to the aether field velocity, 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 Coulomb force, is a radial irrotational force and that its associated potential energy must be the term $\mathbf{A}\cdot\mathbf{v}$, which is the product of two velocities. Interestingly, the potential energy term $\mathbf{A}\cdot\mathbf{v}$ is actually introduced to the Lorentz force in Lagrangian mechanics. It is introduced under the mistaken notion that it is the potential energy associated with the $\mathbf{v}\times\mathbf{B}$ force. However, the $\mathbf{v}\times\mathbf{B}$ force cannot have an associated potential energy since it doesn't involve any energy transfer between kinetic and potential, and besides that, the $\mathbf{v}\times\mathbf{B}$ force is a tangential force. The velocity dependent potential $\mathbf{A}\cdot\mathbf{v}$ of Lagrangian mechanics must refer to the centrifugal force. When we view the law of conservation of energy in situations involving radial symmetry, the centrifugal potential energy can double for the kinetic energy that is associated with the tangential motion. If we wish to only look at the radial component of the motion, we will need to use the centrifugal potential energy to cover for the tangential kinetic 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 electron-positron dipoles within the electric sea when either magnetization or polarization occurs. See ‘Gravity Reversal and Atomic Bonding’ at,

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

The Principle of Electric Current

II. Electric current is a circulatory flow of aether. An electric wire acts like an aether pipe with holes at the sides. The aether will flow along the pipe unless it detects a lesser impedance to one side in which case it will flow sideways out of the pipe. This lesser impedance to one side is known as capacitance. 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 flow sideways from the wire in order to arc along the shortest path through space to the return wire. This will have the effect of linearly polarizing the electron-positron dipoles that permeate space. 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. This situation will repeat and the current loop will expand until it is exclusively confined to the electric wire. A transverse bore of linear displacement current will propagate between the outward wire and the return wire. When this transverse electropolarization bore (TEP) has expired, the two dimensional space enclosed by the electric wire will be saturated with aether and the circuit will now be vitreously charged. The aether will now flow along inside the wire and drive a free electric current.

The circulatory aether flow will also have a tangential effect on the surrounding electron-positron dipoles leading to angular displacement current and hence magnetization. When the electric current is changing in magnitude as is the case in the first few fractions of a second after commencement, an electromagnetic wave (TEM) will radiate outwards in all directions from the expanding current loop at the speed of light.

Magnetization

III. Magnetization of the electric sea occurs when the electron-positron dipoles are subjected to a tangential (angular $-\partial\mathbf{A}/\partial t$ force) flow of aether. 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 pressure will be maintained so long as the electric current continues to flow in the wire. 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 an electron-positron dipole is subjected to a radial (Coulomb force) flow of aether. This linear flow will curl into the electron and positron orbits leading to an increase in their angular velocity (but not their vorticity) and hence an increase in centrifugal pressure. The radial aether flow will also have the effect of stretching the dipole linearly into a double circle pattern and it will become like a stretched spring. The double circle pattern is what prevents any increase in vorticity. The dipole is then said to be vitreously charged having effectively screwed aether out of the inflowing aether supply. This supply is endless in the case of the gravitational field.

A vitreously charged body will retain its charge so long as there is no outlet vent that would allow an electric current to flow. Such an outlet might take the form of direct contact with another body. It might take the form of a free flow through a vacuum tube. Or it might take the form of a sudden gaseous discharge where the vitreous charge effectively bursts and all the excess aether comes out at once causing sparks to fly. When this occurs, the danger of the situation lies in the amount of excess aether that had been stored. For example a bolt of lightning driven by a voltage equal to that of a Van de Graaff generator will have a much more devastating effect than the Van de Graaff generator due to the much greater volume of excess aether that had been stored in the thundercloud as compared to that stored in the metal dome of the Van de Graaff generator.

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 for the resinous arm. Resinous charge occurs when the aether pressure in a body is reduced. This opens up the microscopic sinks wider and allows a greater inflow that polarizes the body 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 prevent the vitreous fluid from jumping the gap from the vitreously charged plate to the resinously charged plate. The combined back EMF due to polarization in both the dielectric space between the plates and in the vitreously charged plate itself will prevent the vitreous fluid from flowing into the resinously charged plate. This barrier potential can be increased by increasing the electric permittivity of the dielectric material between the two plates.

When equilibrium occurs, an electric current can be made to flow across the gap by subjecting the vitreously charged plate (the cathode) to electromagnetic radiation. The microscopic mechanism of the photoelectric effect is not altogether clear due to the fact that we don't have a clear picture of the linear polarization mechanism inside matter. In general when two circular orbits are linearly polarized the two circles will separate and form a kind of knot. A centrifugal force will be induced which opposes the applied EMF.

Since the linear polarization knot effect undermines the vorticity in a magnetic field, it is possible therefore that the reverse may occur when a polarized field is subjected to EM radiation. EM radiation involves a propagation of angular acceleration. This may have the effect of untying the knots and allowing the vitreous fluid to flow.

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 based on 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 attraction will take over.

See ‘Gravity Reversal and Atomic Bonding’ at,

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

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. The linear polarization of the electron-positron dipoles will result in the electric field lines behaving like stretched springs. Fine-grain Coulomb force in the electron-positron dipoles will pull the two bodies together.

Positive Electric Charge

IX. Benjamin Franklin named vitreous charge positive charge. Positive charge is in fact something quite different. In fact, vitreous charge actually corresponds to what has been mistaken nowadays for negative charge.

Positive charge is a strongly repulsive irrotational aether outflow phenomenon that is seldom encountered in everyday situations due to the fact that it is usually shielded by a stronger negative charge.

Two positive charges will unequivocally repel each other should they ever find themselves in each other's vicinity.

When we consider the interaction of positive charge with negative charge we normally do so at positron-electron level and we only consider the interaction for situations in which the pure aether is the intervening medium. In such a situation, the electrons attract the positrons due to the fact that the aether flows into the electrons at a greater rate than it flows out of the positrons. It is this imbalance in nature that gives us gravity.

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.*"

If we now consider the force associated with positive charge when it is submerged in the electric sea will also then have to consider how it reacts to vitreous charge. Vitreous charge and positive charge will almost certainly repel each other.

If a positive charge is placed beside a negative charge in the electric sea, the Coulomb force in the linearly polarized dipoles along the electric field lines that will connect the two charges will cause an elastic force of attraction. But if the positive charge is very much stronger than the negative charge, this elastic force of attraction will be overridden by a hydrodynamical force of repulsion due to aether outflow from the positive charge.

Vitreous Electrical Conduction

X. When an object is electrified with vitreous electricity, it is in a state of high fine-grain rotational aether pressure. When it physically touches another unpressurized body, a linear irrotational aether flow will occur between the two bodies which will result in a balancing of pressure weighted for the relative permittivities of the two bodies.

Vitreous Electrical Induction at a Distance

XI. The essential aspect of either a vitreous electric field or a resinous electric field is the fact that the electric sea is linearly polarized. When the electric sea is linearly polarized, the constituent electron-positron dipoles are linearly stretched and also possess an increased angular velocity and hence an increased centrifugal pressure.

When a neutral body is submerged in a polarized electric sea there exists an imbalance of centrifugal pressure. However, under the terms of Ampère's Circuital Law, the rotational pressure cannot discharge directly into another rotational situation. The pressure imbalance is therefore rectified by the all pervasive background irrotational aether flow being induced to feed the neutral dipoles such as to cause them to become linearly polarized in sympathy with the surrounding field. This is the infinite vitreous electricity effect that is associated with the electrophorous device.

Once the neutral object has been polarized in sympathy, the electric field lines will connect directly between it and the source of the electric field. The fact that the electron-positron dipoles along these electric field lines are linearly polarized means that they will be behaving like stretched springs and they will pull the source object and the newly polarized body together elastically by virtue of the Coulomb force acting in the fine-grain of the electron-positron dipoles.

This is the effect that is occurring when an electrified hair comb attracts a neutral piece of paper.

The Paramagnetic Analogy

XII. Vitreous electric induction bears striking parallels with paramagnetic induction. In the magnetic case, the electron-positron dipoles permeate the paramagnetic material and are then subjected to an aligning precession and to an increase in their angular velocity. In the electric case, the electron-positron dipoles are subjected to a linear polarization and to an increase in their angular velocity.

In both cases a force of attraction occurs on the newly magnetized or polarized bodies. In the electric case, this force is caused by the Coulomb force within the electric field lines which are acting like stretched springs.

The chances are that paramagnetic attraction is caused by the Coulomb force within the magnetic field lines which are acting like helical springs along the double helix axes of the electron-positron dipoles.

Maxwell however attributed the paramagnetic force to a centrifugal pressure gradient. See “Archimedes’ principle in the Electric Sea” at,

<http://www.wbabin.net/science/tombel1.pdf>

Maxwell was however only guessing. His guess was based on the fact that he derived an expression for magnetic force based on such a centrifugal pressure gradient by doing a hydrodynamical analysis of his sea of molecular vortices. He thought that this expression might ideally account for paramagnetism and diamagnetism.

It is likely however that only diamagnetic repulsion lends itself to an explanation based on centrifugal force.

It is of further interest to note that since relative electric permittivity, which is related to transverse elasticity, is always greater than unity, it follows that there can be no electrical induction analogy to diamagnetism.

The analogy with paramagnetism also causes us to ask whether or not aether is absorbed into from the infinite background supply during magnetization by induction.

The Negative Electron Sea

XIII. A major problem occurred in modern physics when the Franklin/Watson system of vitreous charge was replaced by the resinous sea of negative electrons.

Since then, all electrostatic phenomena have been explained in terms of a surplus or deficit of electrons. This is all fine until we come face to face with the infinite supplies of charge associated with the electrophorous and the Van der Graaff generator. In order to fully understand these devices,

we need to return to the traditional ideas of vitreous electric fluid. The infinite supply of vitreous fluid is in fact the aether and it is being screwed into the electron-positron dipoles from the all pervasive background aether inflow that constitutes gravity.

The aether is essential to the full understanding of all matters to do with electricity. The aether pervades all of space. It is not in any way connected to the speed of light. When an electric circuit is switched on, the aether will know instantaneously which is the path of least resistance. It will normally flow sideways from the wire causing a transversely propagating linear displacement current until the space enclosed by the circuit is saturated. The current will then flow inside the wire.

There will also be a sideways release of aether pressure into the magnetic field.

The speed of light is only relevant in the special case of electromagnetic radiation when the aether swirls from vortex to vortex.

The Electric Eel and the Vitreous Pulse

XIV. 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 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.