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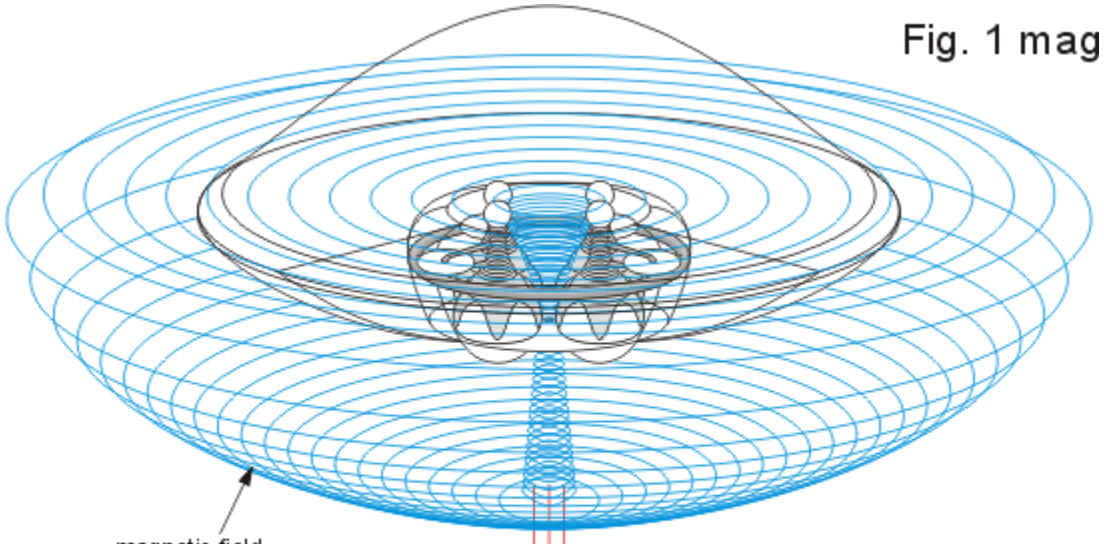
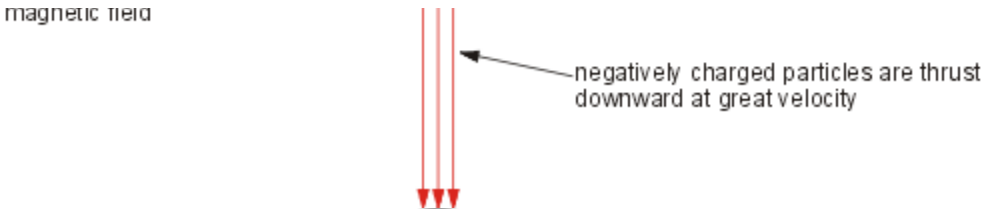
Physics of UFO gravity manipulation

174–220 minutes

The Andreasson UFO ship

The drawings of the overall shape of the UFO craft published in the first of the *Andreasson Affair* books were slightly misleading (see fig.1) but as the additional publications of the *Andreasson Affair* series progressed a greater insight into the craft's shape and indeed it's internal functions could be appreciated, and when Betty Luca's most recent booklets were published by her in 1999, which included detailed drawings of the craft's 'power system' a much more comprehensive understanding of their workings could be gleaned (see fig.2). It will be to those internal functions of the UFO craft's power system and the generation of the magnetic fields it utilizes that this webpage will be dedicated.





The lower section of the UFO ship

While the top section of the craft, the section which contains the various medical examination rooms, the human transporting chamber, and the actual control center that the ETs use to operate the craft are very interesting, and are amply described in the various *Andreasson* books, I consider the lower part of the craft where the electrical energy is generated and manipulated to be even more interesting. In the lower part of the craft are, fundamentally, two co-operating components; one - the large toroidal shaped casing which generates the main magnetic field and two - the rotating assembly of spherical conductors which collapse the main magnetic field and generate a central magnetic field that forces charged particles through the base of the craft at great velocity.

Most of the structures of these craft are made from aluminum or aluminum alloy, sometimes laminated with other materials to aid their conductivity or storage of electric charge, and sometimes formed with a honeycomb structuring for strength and lightness. Also in the *Andreasson* type of UFO some of the components are formed from a glass/quartz like material so as to take advantage of their intrinsic dielectric or semi-conducting qualities. But, as with all things made by 'aliens' of an advanced scientific wisdom, whatever material they have used appears to have undergone rigorous modification so as to facilitate an enhancement of that material's fundamental attributes, for example; the glass/quartz spheres

which rotate in the center of the craft are embedded with metal rods or wires to modify the way electric charge reacts to such material normally; fluids are used for their electromagnetic qualities when circulated through their casings; gases also for their polarizability when circulated through their casings. It's alien engineering but engineering that is not too distant from our own - and the basics of it are certainly understandable in our realms of physics.

The toroid

The largest component of the lower section of the craft is a toroidal casing specifically manufactured so that its cross-section is three-pointed and that all three corners, or edges of the toroid (or arced-toroid), exhibit three different degrees of acuteness - such a structure points to the laws of electrostatics... any volume made up of varying curves and sharp points exhibits a variety of electrical densities at those curves and points when the whole is charged up electrically. This UFO displays such technology in abundance (see fig.3).

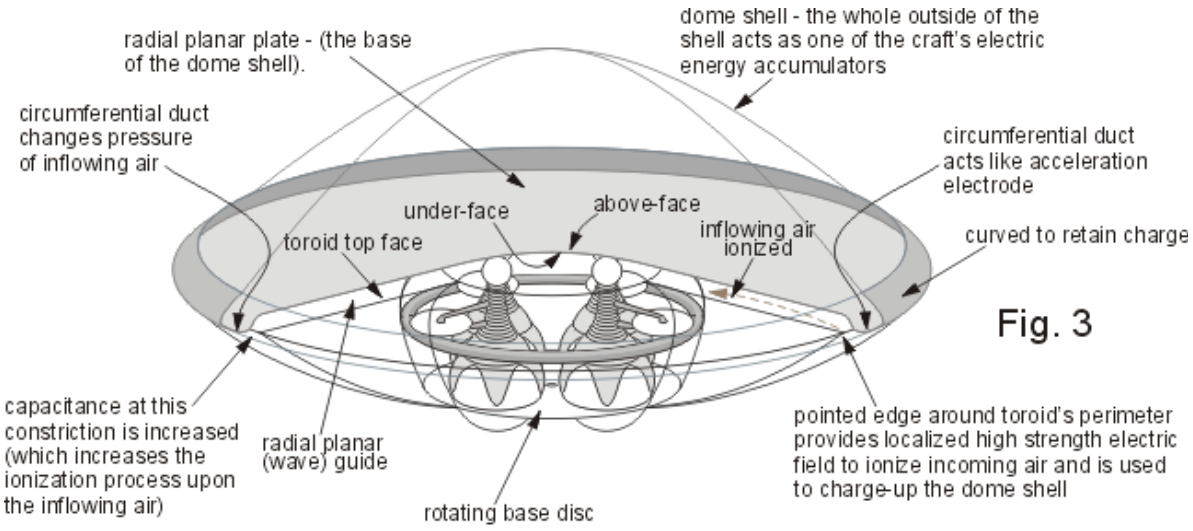


Fig. 3

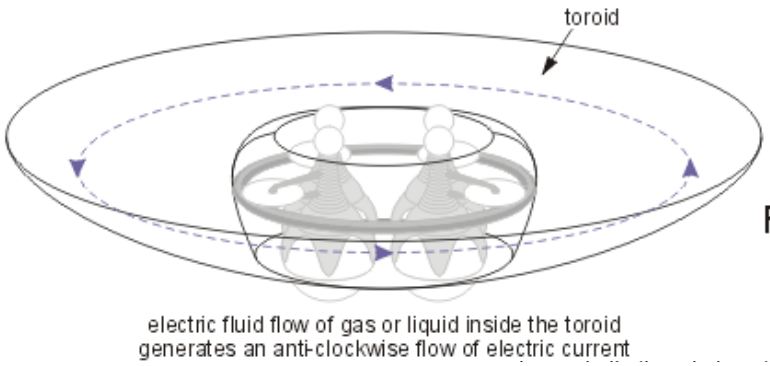
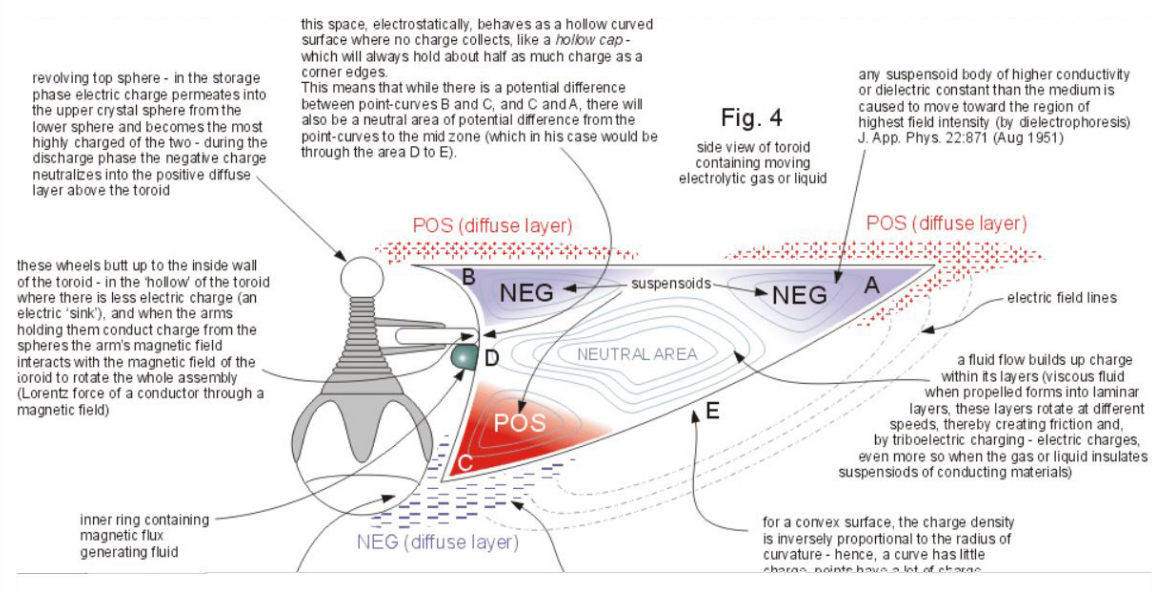


Fig. 3a

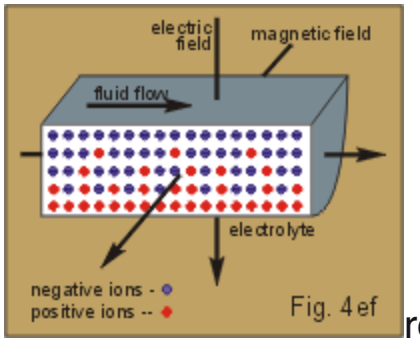
Contained inside the toroid is an electrically polarizable fluid that when rotated round the toroid generates a magnetic field that extends far outside the craft - exactly what that fluid is contained inside the toroid is subject to further research, possibly it is a gas in the form of deuterium gas (deuterium can be electrolyzed out of water as a 'heavy hydrogen' gas and separated from the oxygen of water) which can be ionized by passing an electric current through it (see note 1 [2]). It could be that the toroid holds a liquid as simple as water modified in such a way as to be insulating, but carrying metallic suspensoids so as to generate electrical charges. Another possibility might be that an electrolytic liquid containing metallic particles could be used, and propelled inside the toroid's insulating walls so as to induce extremely high voltage electrostatic charges, by interface charge separation, laminar charge separation, or triboelectric charging (of the different types

of conducting and dielectric substances) within the fluid as it is moved(see note 2 [2]) around the toroid. As the fluid's electric charge builds up the more conductive metallic suspensoids in the insulating fluid would move toward the insides of the sharp-pointed circumferential edges by dielectrophoretic motion to where the field intensity in the liquid would be at its highest (see note 3 [2]) (also see non-uniform electric fields page [3]) and consequently creating potential-difference zones at different places around the toroid (see fig.4).



In all cases the toroid would need to be made of an insulating material, perhaps a metal like aluminum laminated with insulating skins (see note 4 [2]). This would be necessary to prevent electric charge leaking away from the inner fluid through the toroid's casing. Also, if the casing were of an insulating material *diffuse layers* would form on the outside surfaces of the toroid opposite in polarity to the fluid inside the toroid.

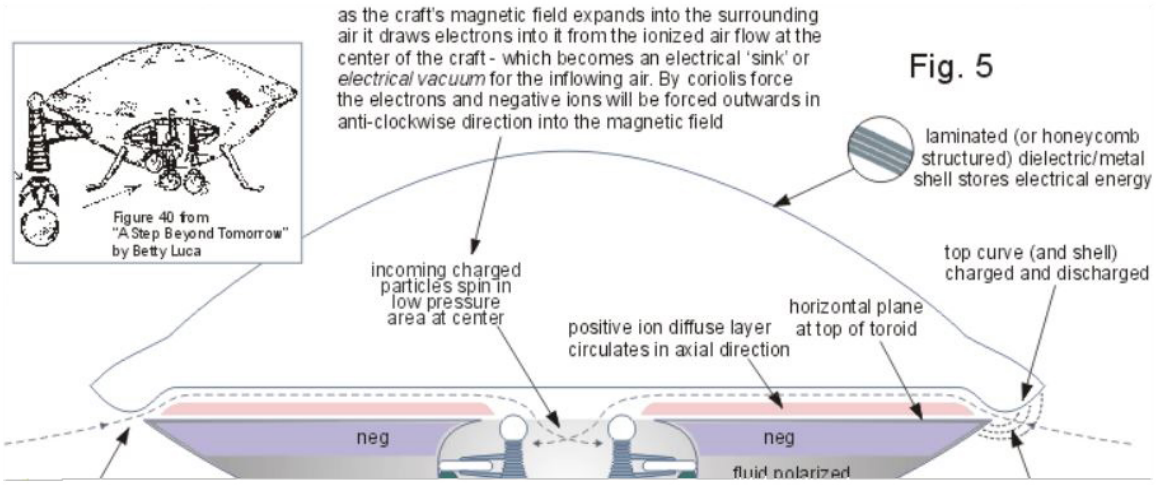
As soon as the fluid generated an electric current, and a magnetic field, there would then follow a *Lorentz force*



reaction in the toroid's fluid which governs how the electrical charges separate from each other and interact with magnetic field lines within that body of fluid, within that particular toroidal shape, which, providing the fluid is moved around the toroid as a clock-wise (from above) flow would ensure that the top section of the toroid's fluid was negatively polarized and the bottom section positively polarized. Furthermore, because of the distinct differences in the degree of arc at the three corners of the toroid's cross-section the electric density (negative) would be highest at the top inner corner of the toroid, while the top outer corner (still negative) would exhibit a slightly lower electric density - charge density being inversely proportional to radius of curvature. The other polarity of electric charge (positive) would concentrate itself inside the sharp-pointed lower inner corner of the toroid , and providing the fluid is in continual motion those polarities would always predominate in these areas. All three corners, of course, denote the whole of their circumferences around this forty-foot diameter toroid and it can be readily seen that by such an arrangement, of densifying of the charges into such small volumes, it represents a high concentration of the available electrical energy generated by the large volume of fluid in the toroid into a relatively small amount of surface area at the toroid's corners.

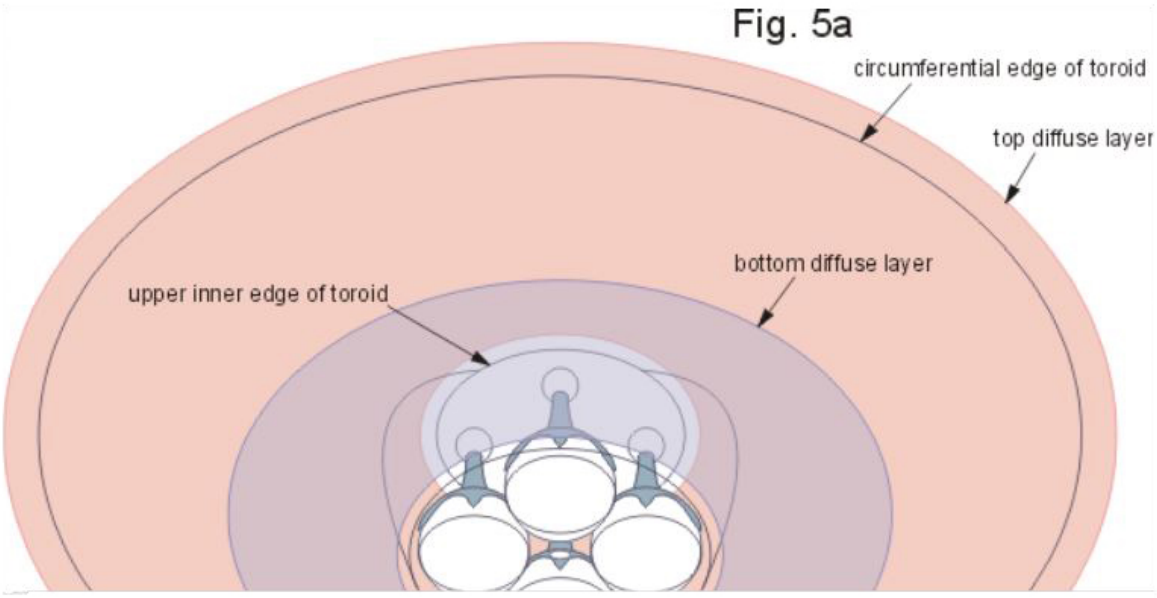
As mentioned above, electric charges cannot be conducted directly from the charge-accumulating fluid of the toroid, through

it's walls and corners, there will however be a capacitive effect which will accumulate charges of an opposite polarity, on the outside surfaces which will correspond to the inner ones in intensity and location. Thus there would be a build-up of positive charge on the top-inner corner of the toroid outside the casing (and a build-up of positive charge on the outside of the top-outer corner), and correspondingly, a build-up of negative charge on the outside of the bottom-inner corner, throughout their circumferences. These diffuse layers of electric charge occur most effectively when the liquid is moving, and the faster the polarized fluid moves inside the toroid the more pronounced will be the separation effect of the electrical ions of the differently moving outside diffuse layers of the toroid.



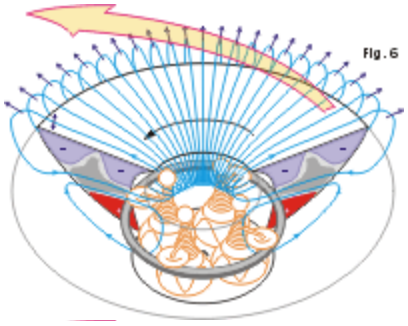
In this respect the charges that accumulate outside in the space around the lower inner edge of the toroid in its diffuse layer, that encircles the base disc assembly, would be negative. And the charges accumulating around the outside of the whole of the top plane and outer circumference of the toroid would be positive (see fig.5 and 5a). Inside the craft, over the top horizontal plane of the toroid - beneath the base of the dome shell, the induced electrical charges react with the toroid's magnetic field so as to form a

horizontally rotating field of positive ions (see note 5 [2]).



This revolving positive field inside the craft helps create an electric *sink* for the normal air outside the craft to initiate an inflow, through the craft's circumferential duct, of polarized and neutrally charged air which, as soon as it passes through the aerodynamically-shaped craft's circumferential duct and over the toroid's electrically-charged outer edge, becomes ionized from the effect of sharp-edge ionization (see fig.5). The duct is especially designed to provide an upper curved surface to act as a constrictor of air flow to speed up the air flow (like a venturi) under it to thereby create a low-pressure area inside the duct, and also to move the incoming air directly over the toroid's ionizing sharp edge.

Centrifugal store of electrons

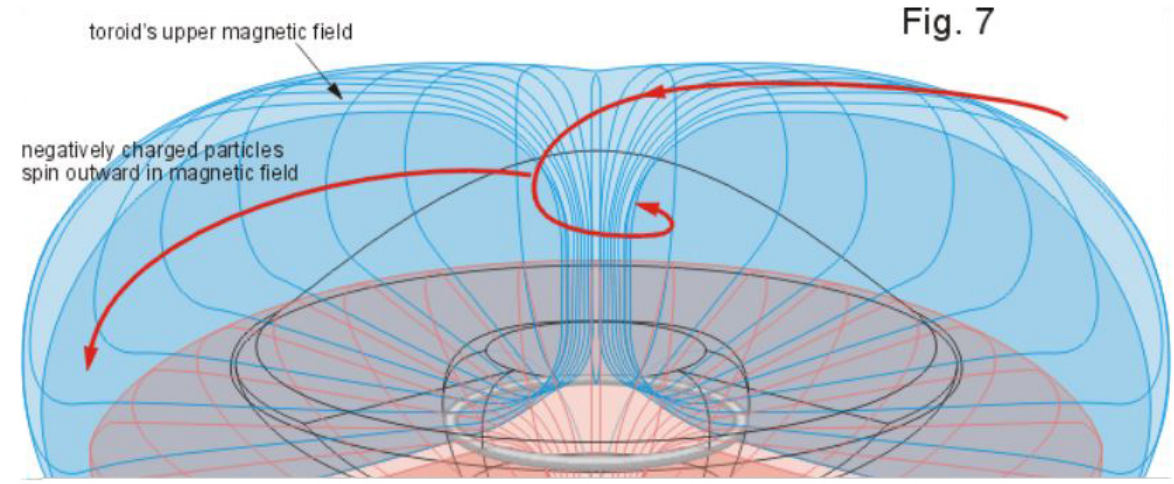


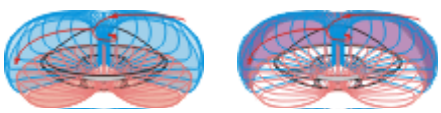
Another factor, which enforces the positive and neutral air particles

in the craft's center, is the toroid's pulsing magnetic field. When this magnetic field is momentarily generated it expands far out into the air surrounding the craft, and by Lorentz force, any negatively charged particle in or around the craft will be accelerated into it's moving flux lines into a circulating path around the craft. Electrons will be forced by this field to spiral out from the craft and spin round this magnetic field as an external sheet of permanently excited electric energy.

This *Coriolis thrust* upon the electrons will also exert on them a centrifugal force increasing their mass by several thousands(see note 6 [2]) as they spin outside the UFO (for a more detailed, and scientific, description of this phenomenon of spiralling electrons out into an external electrical sheet around a UFO see the excellent paper "Magnetic Vortex" by Vencislav Bujic).

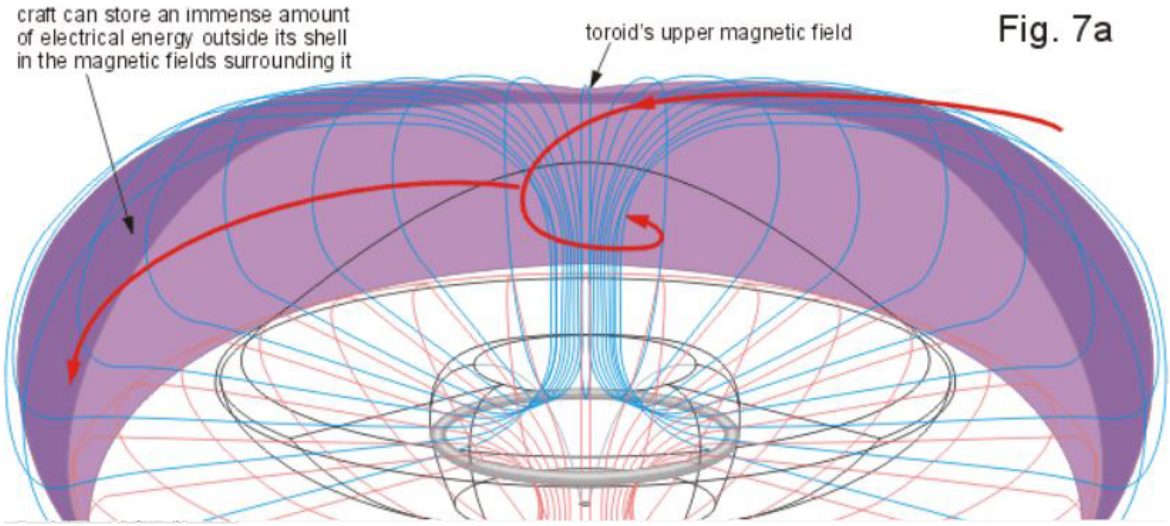
Fig. 7





Because the toroid generates both an upper and a lower pulsed magnetic field, and that the intensity of one adds to the intensity of the other, the forces upon the outward spiralling electrons will be even greater than having just one oblate spheroid field. This is where the bulk of the UFO craft's energy is stored - it is in the form

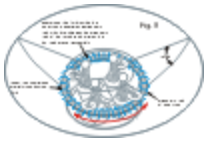
of accelerated electrons extracted from the craft and from the air surrounding it - and these sheets of energy are held outside of the craft (see fig.7 and 7a) momentarily until the toroid's double magnetic field is made to collapse back into the center of the craft.

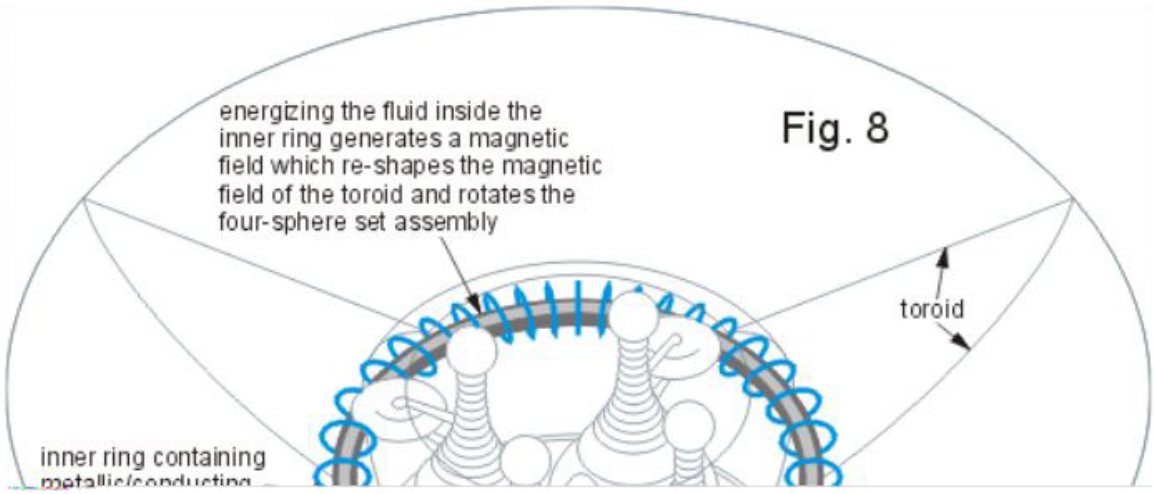


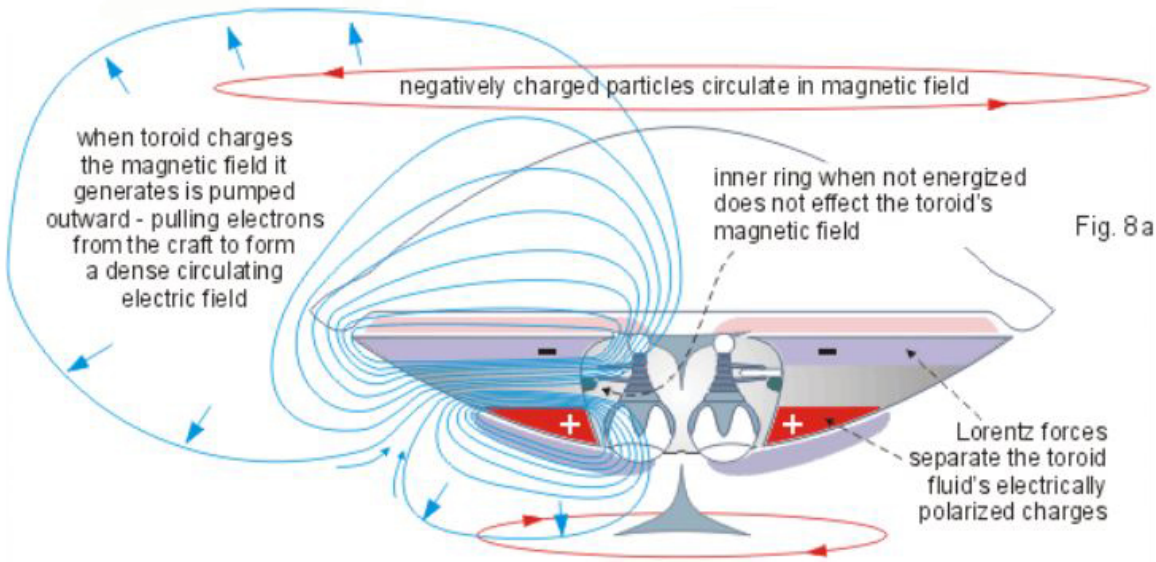
Inner magnetic ring

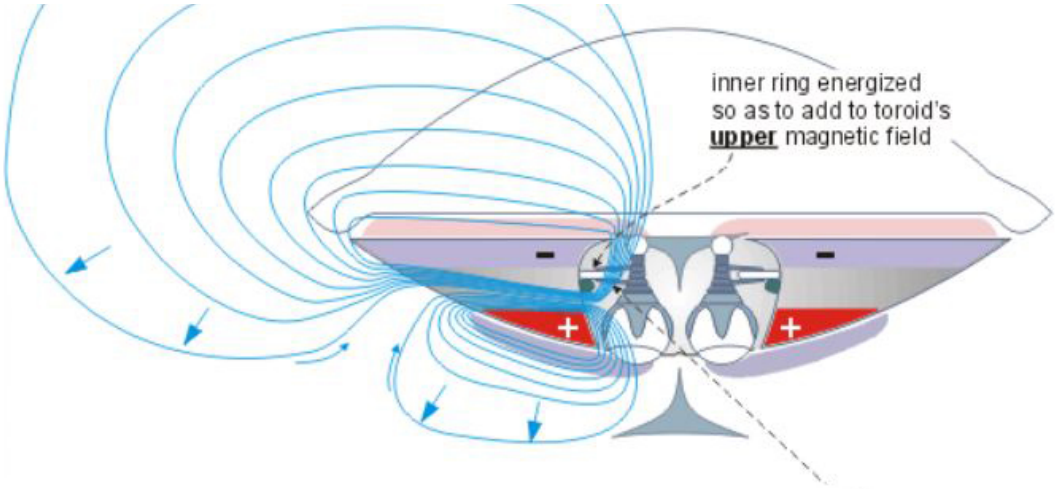
It was difficult to understand the purpose of the inner ring (see fig.8) from the initial descriptions of the UFO that would take Betty Luca (then Andreasson) on her nocturnal visits to an alien world, but from the details she forwarded in books like *"The Watchers"* by Raymond Fowler and from her own booklets *"Extraterrestrial Communications - A Step Beyond Tomorrow"* (Pt I & Pt II - 1999) it eventually became clear that inside this ring was a fluid formulated to energize a strong magnetic field. More especially it was used to energize a magnetic field which enlarged and re-routed the main magnetic fields of the toroid which encircled it (see figs.8a to 8c). Briefly, in these cross-section figures it can be seen that the magnetic flux lines of the upper and lower toroid fields run parallel to the horizontal axis of the wheels of the sphere set assemblies, but in the figure 8b it shows that when the ring's magnetic field is

energized it pulls the toroid's upper field down below the ring - to ensure that these magnetic flux lines traverse the wheels (and the arms that hold them) *perpendicular* to the wheel's horizontal axis. What that means and what that does will be covered in the following section on the crystal sphere sets below after a brief description of the sphere sets.



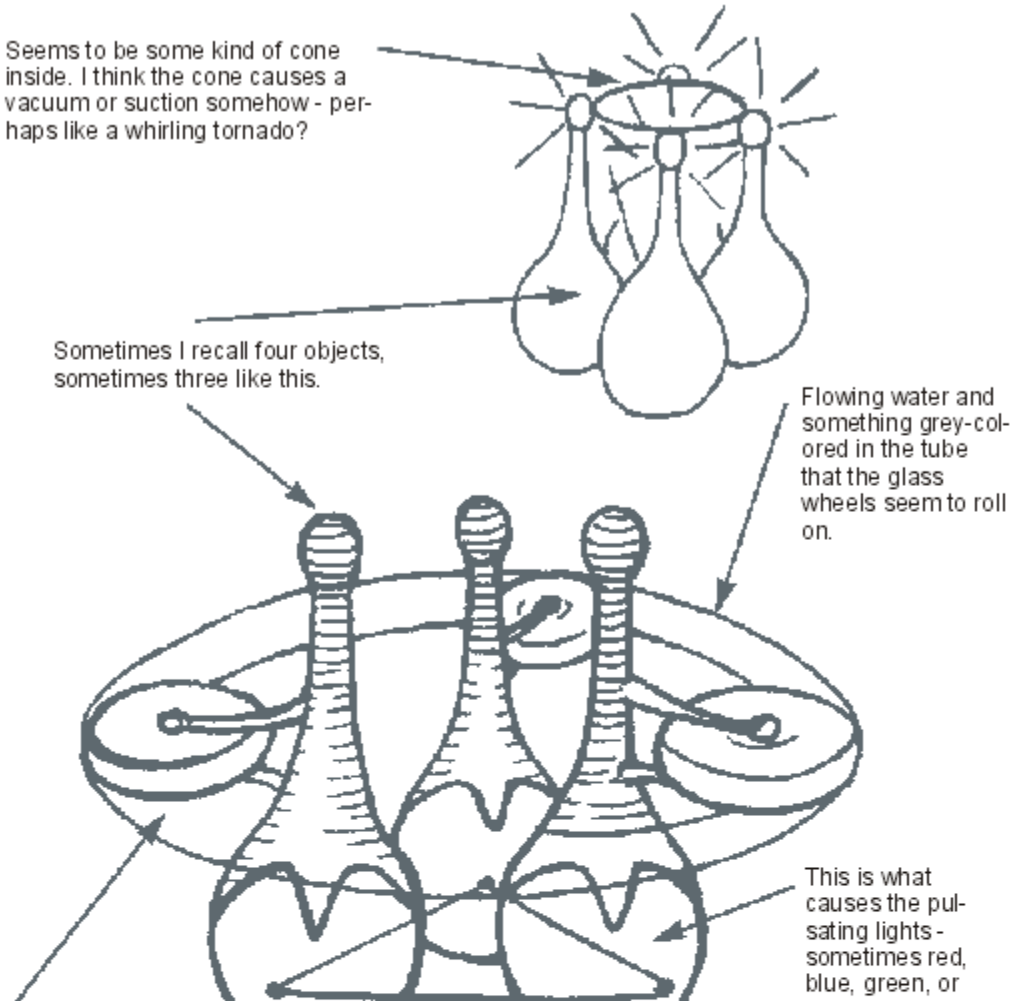






Crystal sphere-sets

The central rotating assembly is made up of four sphere-sets (or three sphere-sets (see fig.9), which will work just as well for the effect they produce is just the same, as will be seen below) held equally spaced in a metallic plate or disc.



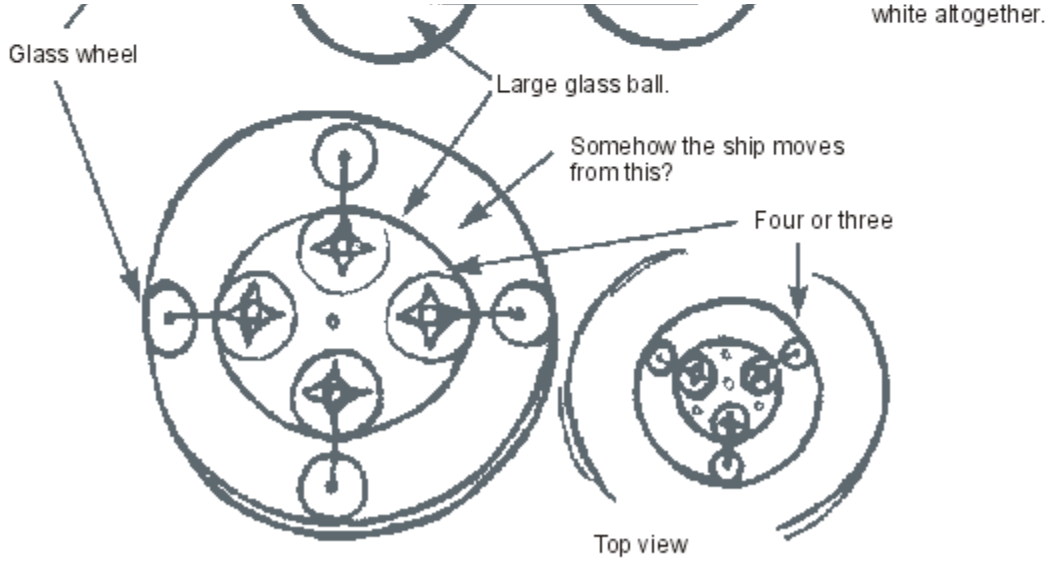


Figure 9 taken from "Andreasson Affair" (fig.8 on p35)

The base disc is formed in such a way as to fit inside the perimeter of the circular inner lower edge of the toroid, so as to be able to rotate freely with the sphere-sets (but to possibly form an electrostatic coupling with the charges on the lower edge of the toroid). This base disc also has a small diameter emission hole, of about six inches, at its center; and it may or may not be advantageous to have this base disc made of a non-magnetic metal - to create eddy currents from the lower magnetic flux lines of the toroid (see note 7 [2]).

Between the small upper sphere and the large lower sphere is a hollow stem made of aluminum or grey metal, smooth-curved, that looks as if it might be made of corrugated aluminum. Extending out from these stems are arms made of hollow aluminum tube which hold on an axle a glass or quartz wheel that is free to rotate (see note 8 [2]). This stem with arms and the two spheres and the wheel (see fig.9a and 9b)

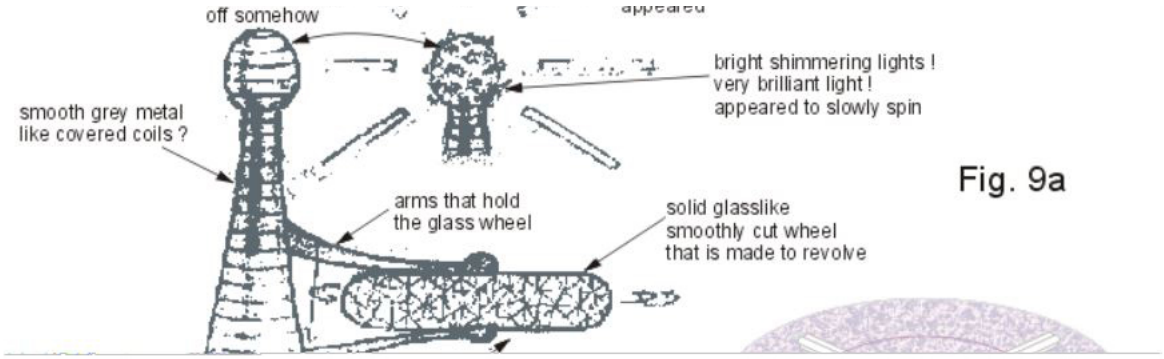


Fig. 9a

is what I refer to as the *sphere-set*, and which Betty Luca describes as *'machines'* (in reference to their ability to hover in the air of their own accord when detached from the main body of the UFO, with a mechanism that is probably hidden inside the aluminum stem that, is not wholly relevant to the fundamental function of these *sphere-sets* and their interaction with the electric fields of the toroid when they remain located inside the craft. This extra ability of the sphere-sets awaits further detailed research if necessary).

adapted from fig.42 in "Extraterrestrial Communications Book II - A Step Beyond Tomorrow" (1999) by Betty Luca

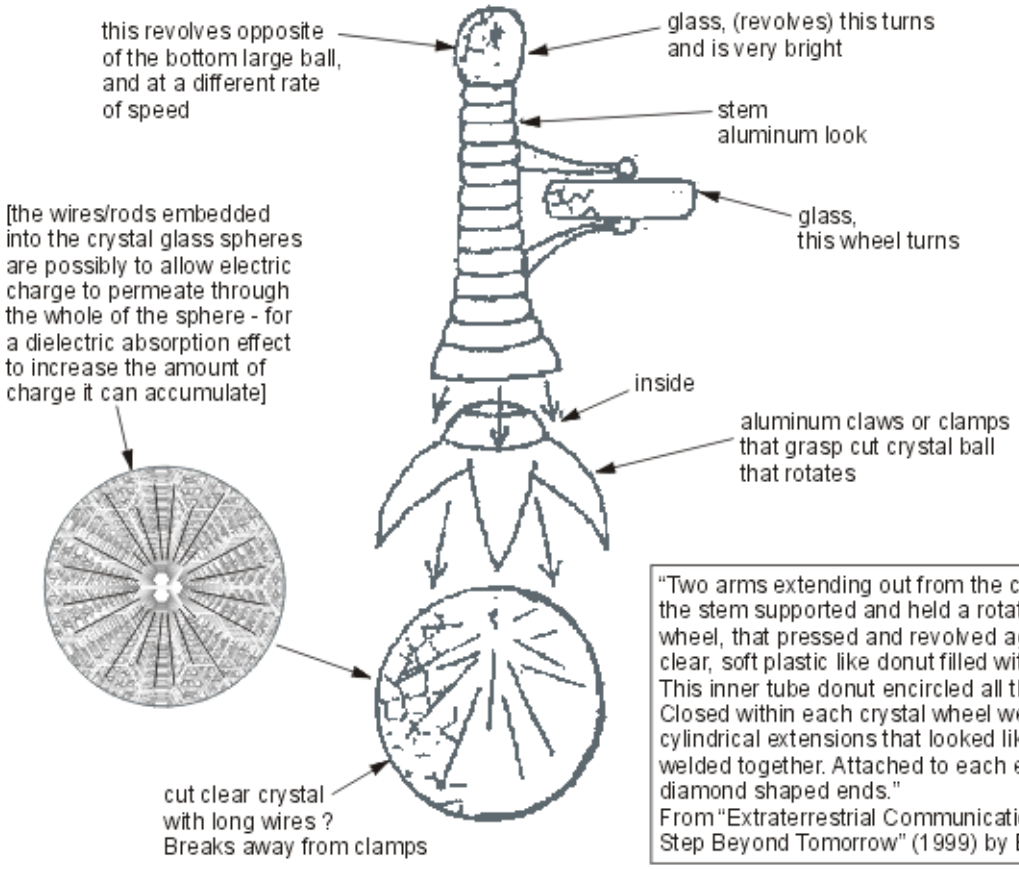
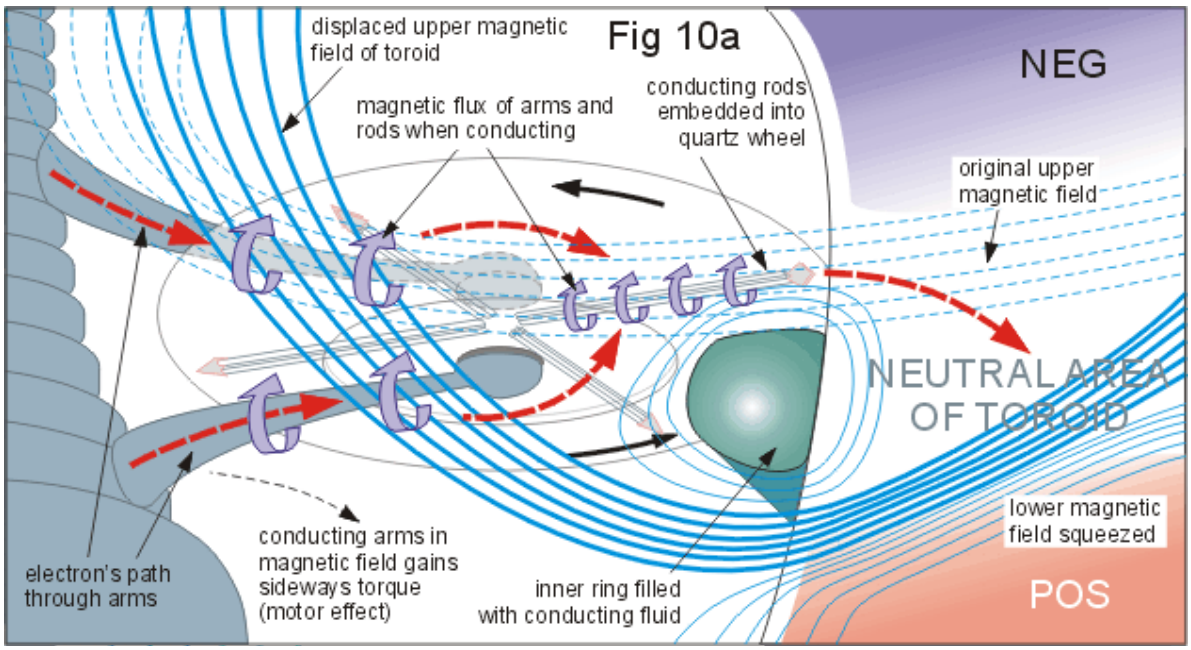


Fig. 9b

"Two arms extending out from the central part of the stem supported and held a rotating crystal wheel, that pressed and revolved against a large, clear, soft plastic like donut filled with grey fluid. This inner tube donut encircled all three machines. Closed within each crystal wheel were four thick cylindrical extensions that looked like many cables welded together. Attached to each extension were diamond shaped ends."
From "Extraterrestrial Communications Book II - A Step Beyond Tomorrow" (1999) by Betty Luca p27

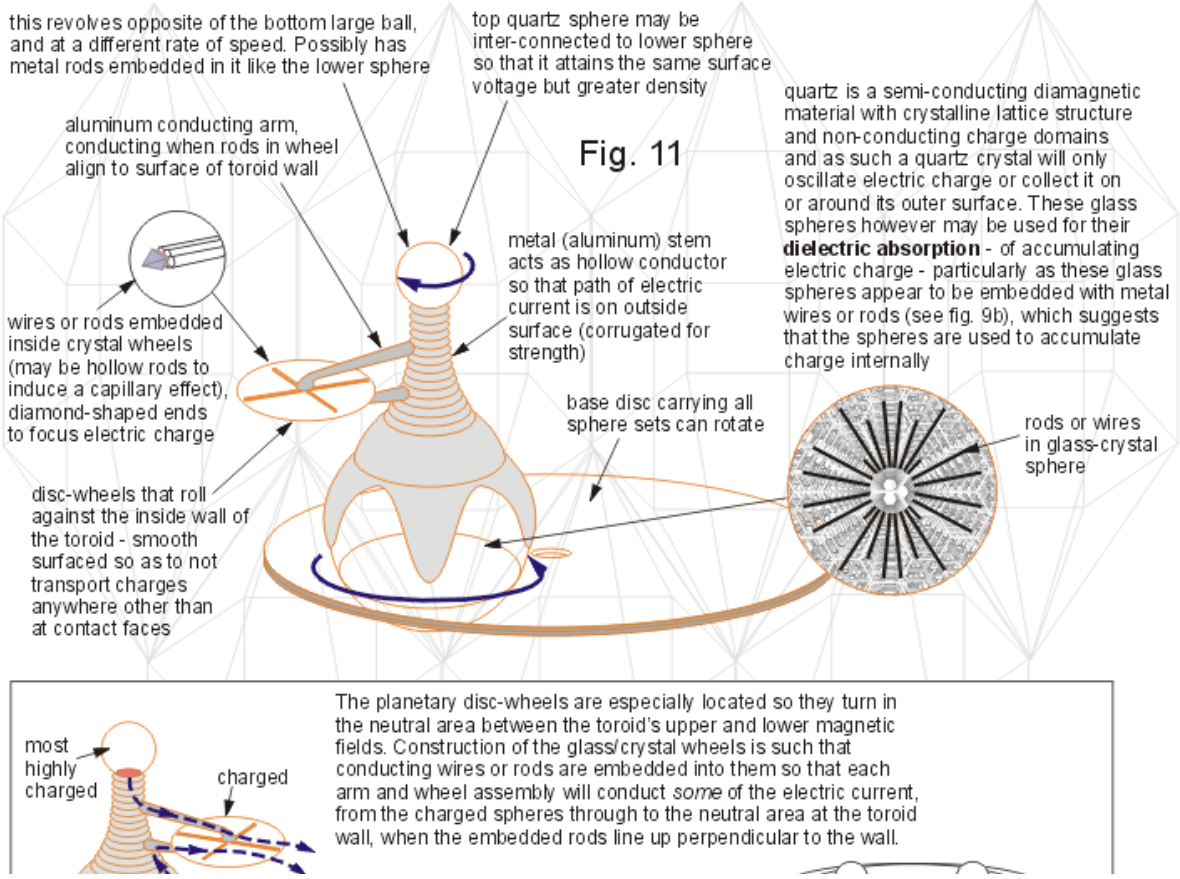
The arm and wheel of each of the four, or three, sphere-sets locates the whole central assembly in the toroid's central cavity and the wheels, resting on the inner ring, allow it to turn along the inner concave wall of the toroid so that (all) the sphere-sets attached in the base disc can be rotated about a vertical axis on an even plane - as one assembly.

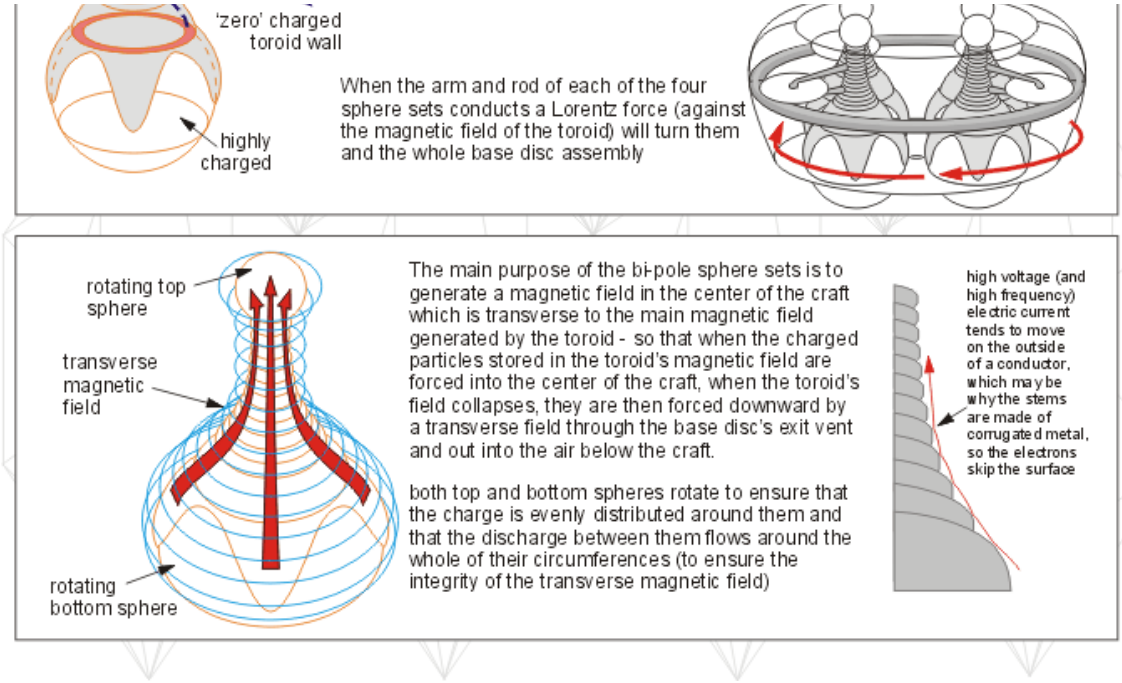


The construction of the wheels and arms holding them is truly ingenious, and once again the most recent descriptions of them (see fig.9a above) afford a much improved understanding of how they work... for inside the glass/quartz wheels are radial wires or metal rods and when they line up perpendicular to the toroid wall they will form a path of electrical conduction, from the charged spheres through the metal arms to the electrical charges accumulated in the fluid inside the toroid ! That those rods or wires have a specially shaped terminal at their peripheral ends is indicative of a charge-focusing devise, probably needed to concentrate the charge into a narrow beam that will penetrate through the toroid wall to allow conduction to take place. Further,

when conduction does take place, and that flow of electrons creates it's own magnetic field around the arms and the wires/rods of the wheel that magnetic field will react against the magnetic flux lines of the upper and lower toroid fields, and by Lorentz force (see fig.10a) (and fig.10b,10c for an alternative configuration) the whole sphere-set will be moved sideways around the inside walls of the toroid !

This is where the magnetic field created by the inner ring comes in; as mentioned above (and in fig.8a to 8c) when the toroid's magnetic flux lines are in their normal position those flux lines run *parallel* to the arms and the conducting rods inside the wheels - hence no Lorentz force and no sideways movement of the central sphere-set assembly, but when the fluid inside the ring is energized and pulls down the toroid's upper flux lines below it the whole central sphere-set assembly rotates - just like an electric motor !

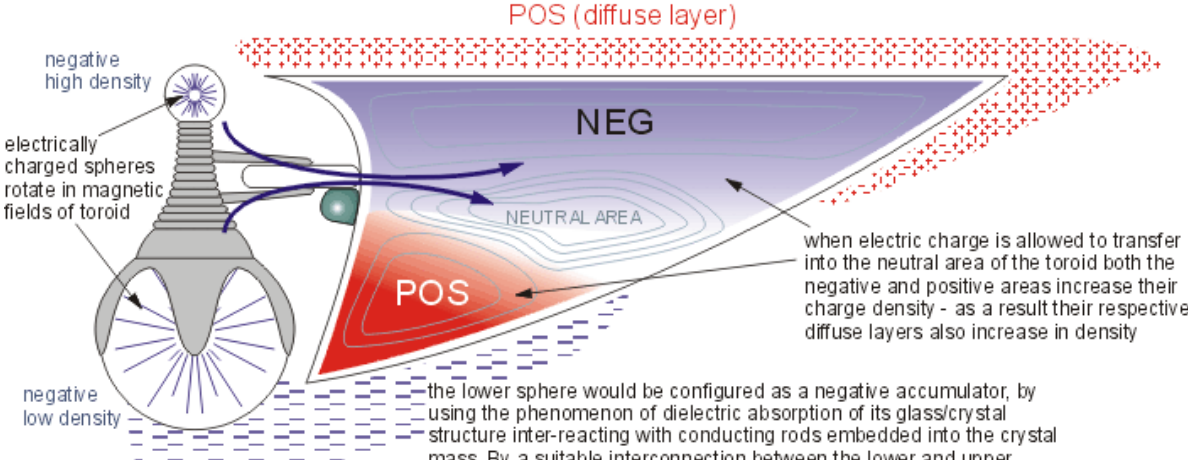


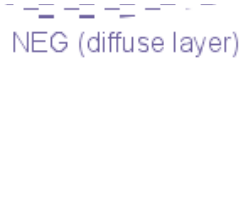


From the illustrations extracted from Betty Luca's books (of fig.9a and 9b above) and from her descriptions (see fig.11) it can be seen that the ETs took the trouble to look at the basic qualities of an albeit mundane material such as quartz and doctored it so as to achieve the result they required... this is most evident in what they have done with the glass/quartz spheres used in this UFO craft. A glass or quartz sphere treated even as a semi-conducting dielectric will not allow electric charge to permeate into, and accumulate in, the body of the quartz to any great degree - the effect of quartz oscillating electric charge is well known but it won't *hold* charge and be of any use in this circumstance. But, these large glass or quartz spheres, and possibly the small top spheres also, are specifically constructed with conducting rods or wires embedded into them so that electric charge can conduct into the sphere along the conducting wires/rods to a core zone that can be made to become a positive-polarity 'sink' for pulses of electrons to be drawn to. What the exact configuration of those wires/rods are cannot be determined from the drawings available, but the process of establishing a positive 'sink' are; ie, through dielectric absorption

- dielectric absorption is when the dielectric has a current applied to it, to polarize the structure of molecular interfaces of positive and negative charge, but when the applied current is reduced to nothing the positive charge, of the charge carriers, tends to move so slowly that for all intents and purposes they remain stuck, and so when the next 'pulse' of an electric charge comes in it compounds upon the previous unmoved charge, and so on and on, hence the accumulative effect which carries on pumping in more and more charge. (see for example *Dielectrics* P.J. Harrop (1972) pp71; *Electrostatics – And Its Applications* A.D.Moore (1973) p122; R.Kohlrausch *Ann. Phys*. Vol 91 (1854) p56-82, p179-214.). If the metal inserts are of radial configuration then the effect on the negative electric charge might be as a non-uniform electric field [3] (of inner positive terminal with an outer negative terminal) whereby electrons will continually migrate toward the positive core and accumulate there, with the aid of the metal conductors and the capacitive effect from the surrounding positive dielectric. Possibly this is how large amounts of electrical energy could permeate into them and store until they were discharged wholesale at a given moment. The electrical charging of the lower spheres is, of course, from the negatively ionized diffuse layer at the lower edge of the toroid.

Fig. 12





spheres the upper sphere becomes the terminal of highest electric flux density, because it is the smallest, so that there will always be a 'potential difference' between the two. The 'negative' and 'positive' configuration between the two spheres would be a result of how each sphere were 'embedded' with conductors and doped with charge carriers within their structures. For, just as a transistor can be doped to conduct in a certain way, then so too can these spheres be configured to accumulate charge in a certain way.

In addition to this electric charge accumulating function of the spheres there is a further mechanism, just by looking at the process of turning the sphere-set assembly (as described above), that allows *some* of this accumulated electric charge to leak through the sphere-set arms and wheels into the neutral area of the surrounding toroid (see fig.12); for as in an electric circuit the *neutral* potential is mid-way between the positive voltage and the negative voltage, but in this case a transfer of charge into the neutral area of the toroid would presumably increase the potential difference between the negative and positive areas - and by the capacitive effect make the diffuse layers more energized.

Through the aluminum stems between them the large lower spheres are used to transfer electric energy into the small upper spheres, for, as in electrostatics if two spheres, one large and one small, are inter-connected by a conductive link so that both spheres are at the same potential, then the intensity of charge on the small sphere will be much greater than that of the large sphere (ie density is inversely proportional to radius of curvature).

Another important, and recent, discovery about these upper and lower spheres is they both revolve, about the vertical axis of the stem, presumably to ensure that when electric current is conducted by them that current is spread round the whole circumference of the sphere so as to induce a uniform magnetic field around them. Both spheres rotate at different speeds.

Transverse magnetic field

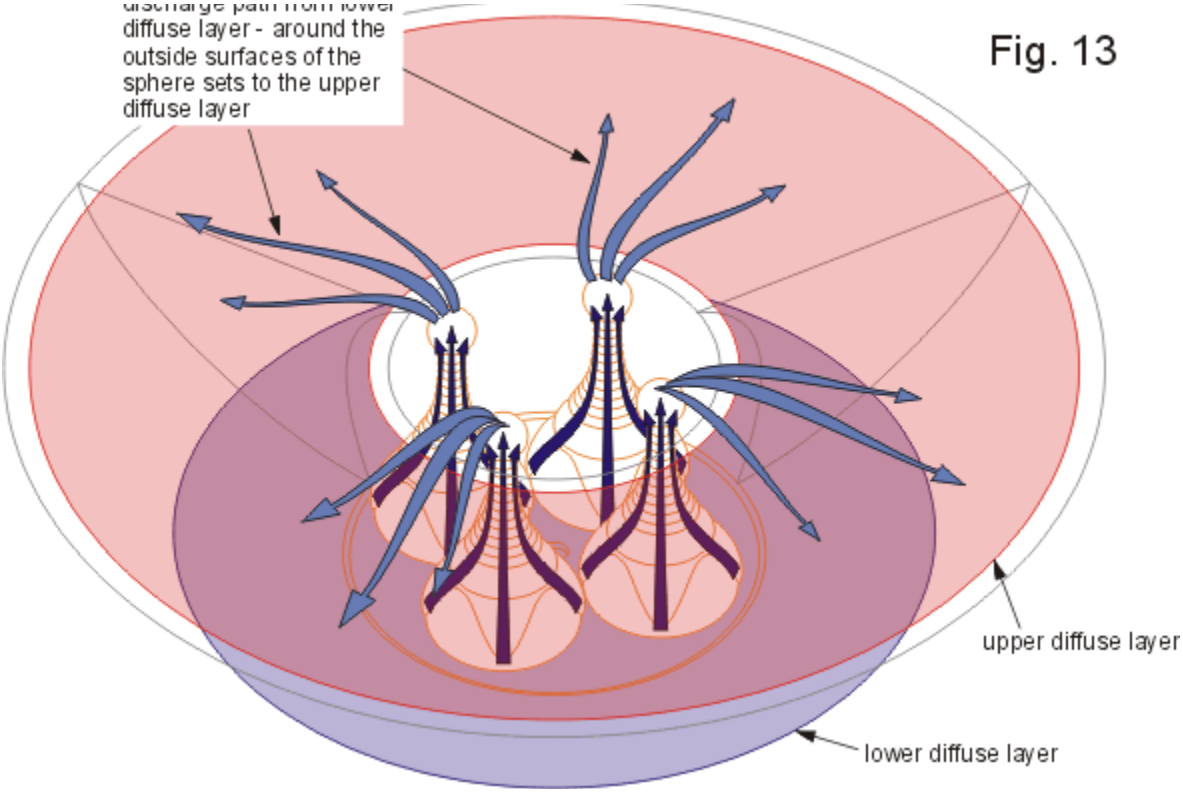
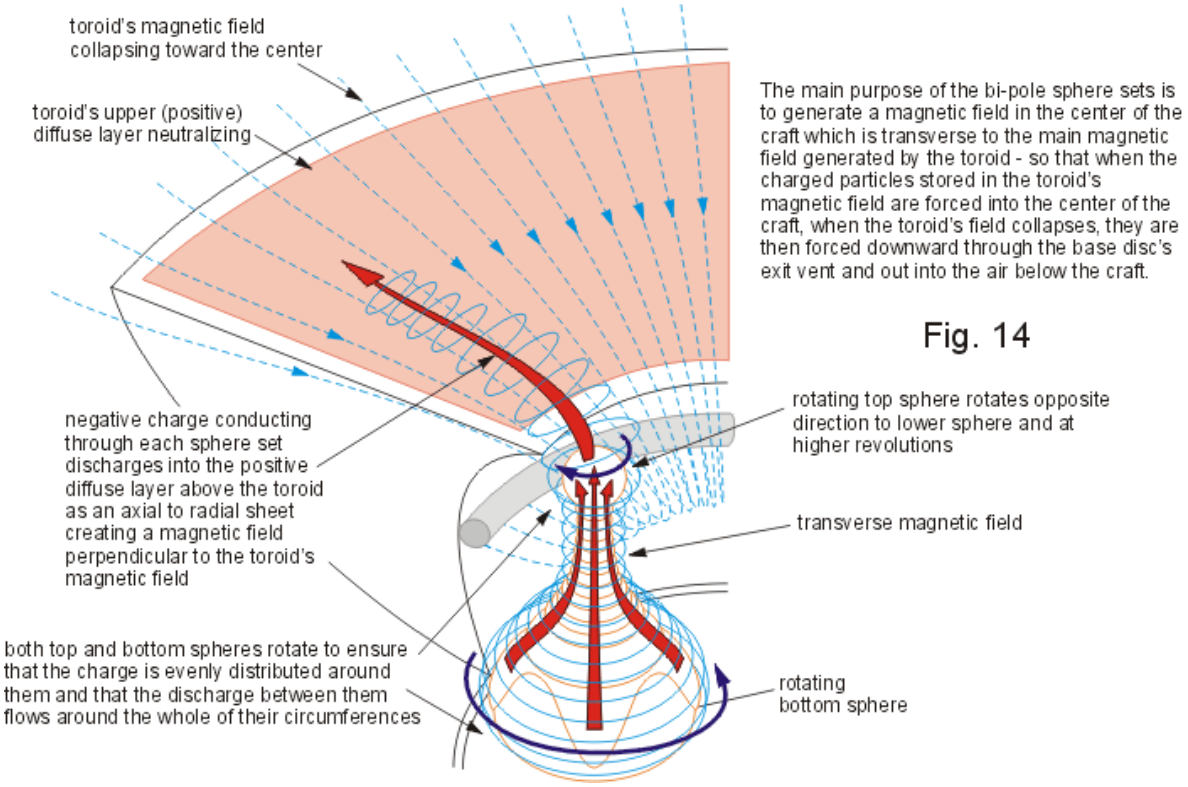


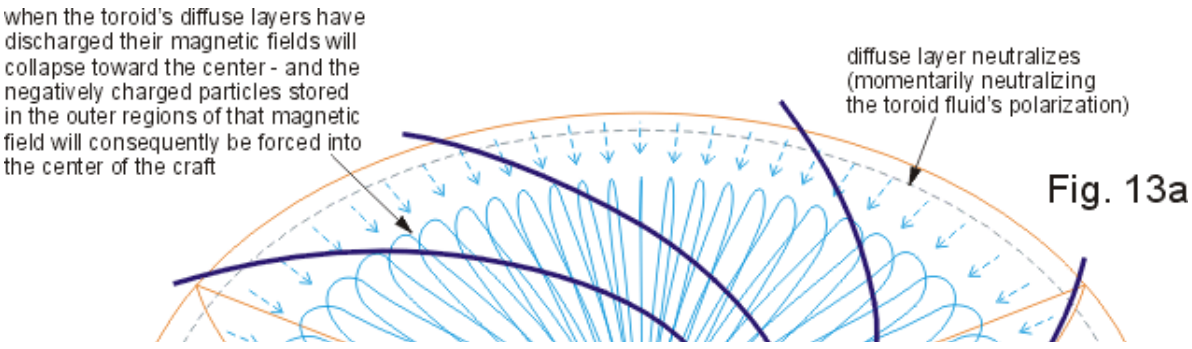
Fig. 13

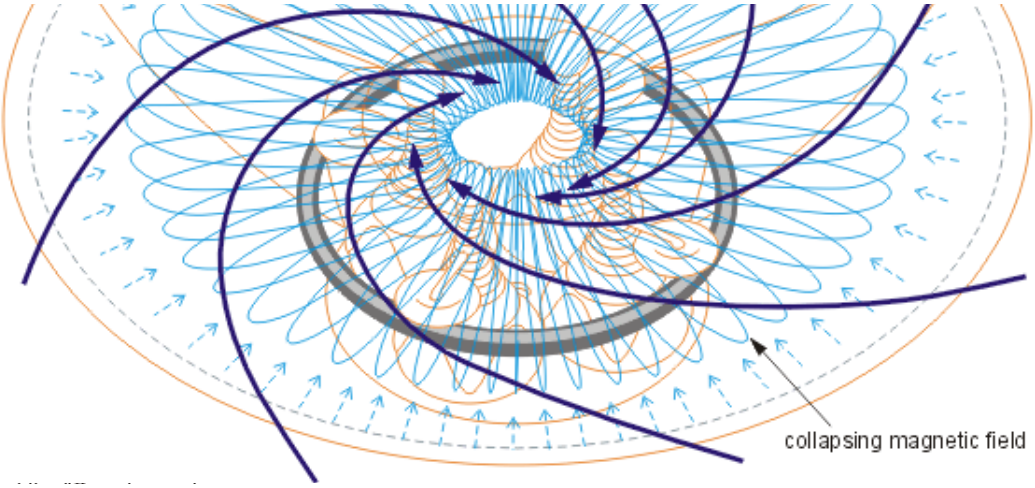
When the upper small sphere, from it's electrical connection to the charge accumulating lower sphere, saturates with a high enough density of negative electric charge the insulating effect of the air between it and the positive diffuse layer of charges rotating above the toroid inside the craft will breakdown (see note 9 [2]) and all the negative charge accumulated in each of the lower spheres will flow up around the outside surface of the sphere-set stems, over the upper spheres - into the diffuse layer above the toroid (see fig.13).



This achieves two results; one, the flow of electrons along this conductive path will set up a magnetic field around the sphere-sets whose lines of flux will be perpendicular, or transverse, to the main field of the toroid (see fig.14); and two, as a result of this flow into the positive diffuse layer above the toroid it will neutralize that layer and momentarily reverse-polarize (by reverse emf) the fluid flowing *inside* the toroid - to collapse the toroid's magnetic field that extends outside the craft (see fig.13a).

The full effect of the collapse of the toroid's magnetic field, and its sheet of rotating electrons, will be covered in the next section because to fully appreciate it's effect firstly the transverse field needs to be looked at.





The large bulky shape of the sphere-sets with their large lower sphere is not cumbersome designing, but wholly relevant to how this transverse magnetic field is shaped around them and how this field works.

Fig. 14a

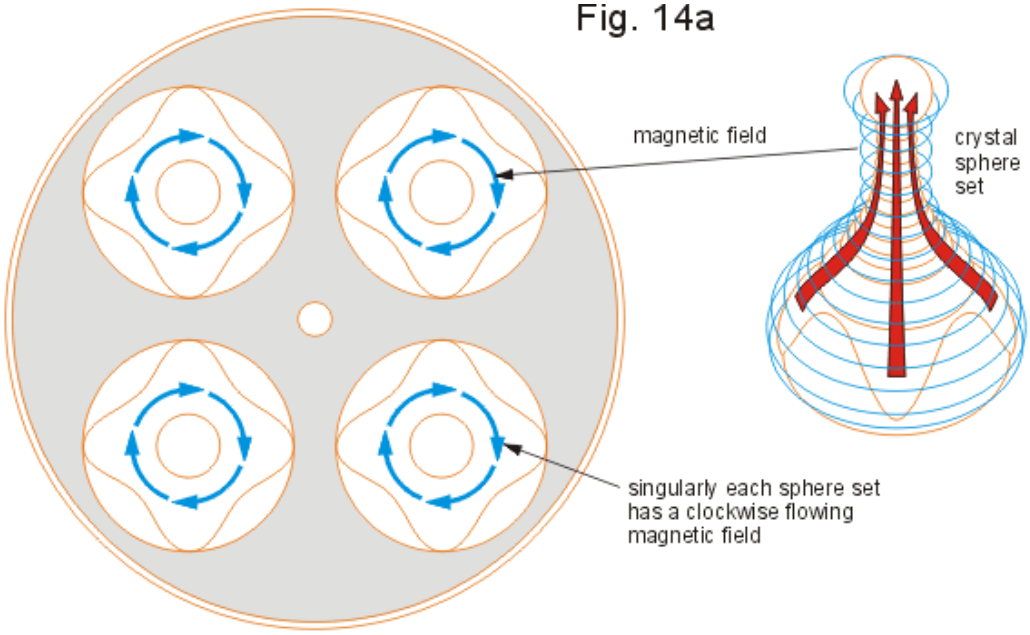
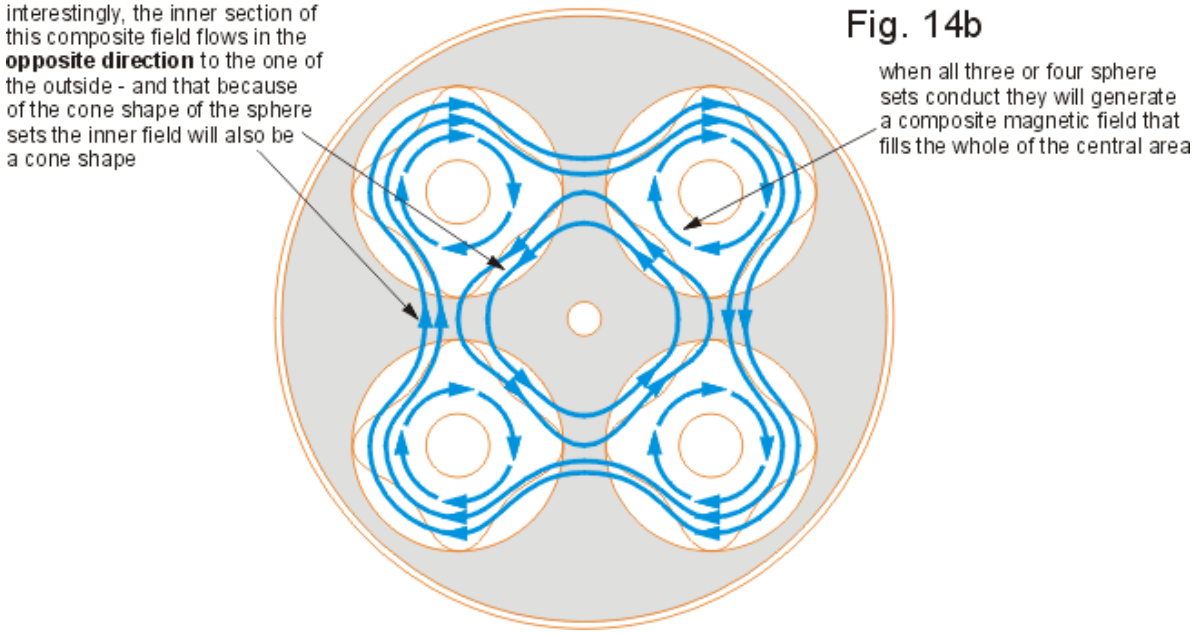
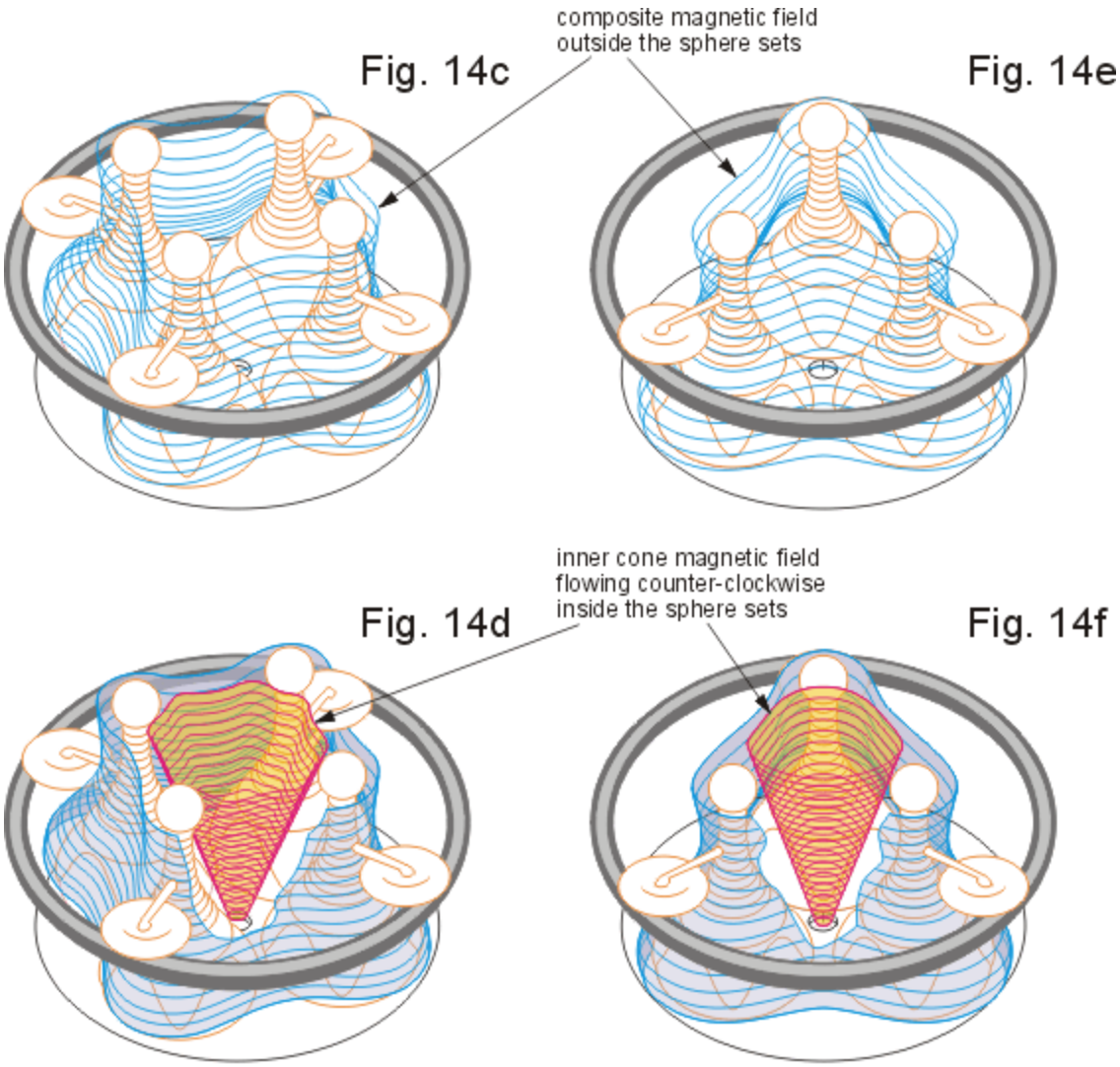


Fig. 14b



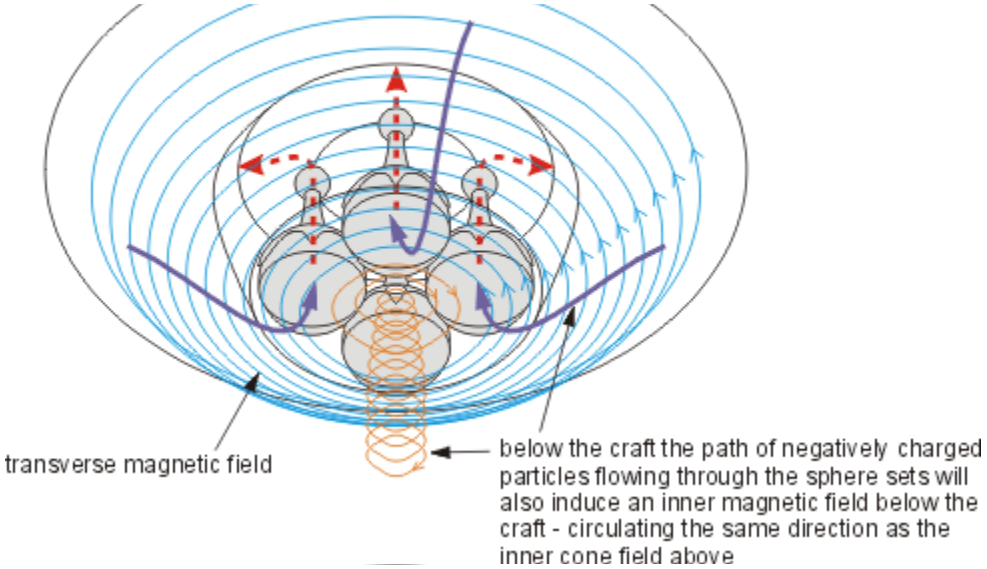
A conducting sphere-set on its own will have as its magnetic field a series of flux rings around it perpendicular to the stem's axis (perpendicular to the flow of current) (see fig.14a), as the current is flowing upward the flux lines will flow in a clockwise direction around it. But when all four, or three, sphere-sets conduct simultaneously a composite magnetic field establishes itself - and a strange arrangement occurs within that composite magnetic field (see fig.14b), for while the outer flux lines of that transverse field will turn *clockwise*, the inside flux lines will turn *anti-clockwise*.



when all three, or four, sphere sets conduct from the lower sphere through the upper sphere (to the upper diffuse layer) a composite magnetic field is formed around the outside of the sphere sets - as well as another, of opposite rotation, inside the sphere sets. the inner field is cone-shaped and will force negatively charged particles downward with great force.

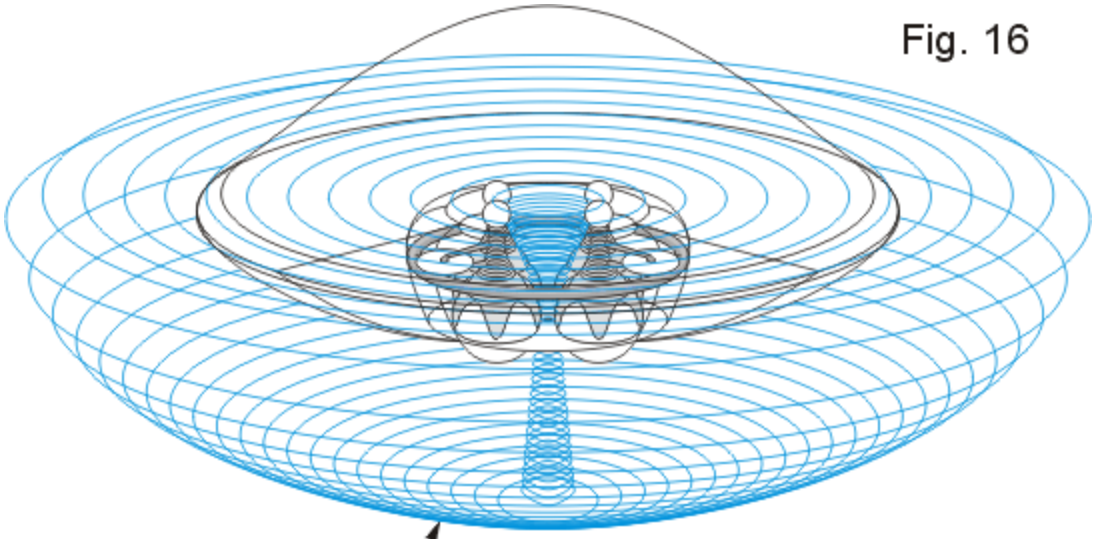
In such an arrangement the inner magnetic field will always be much stronger than the outer because the inner field is confined, whereas the outer is not, especially as this inner field, because of the 'conical' shape of the sphere-sets, is shaped itself into a conical field, more constricted at the bottom than at it's mouth which is at the level of the top spheres (see fig.14c to 14f). As can be seen in figures 14e and 14f the exact same phenomenon occurs whether there are four sphere-sets or three sphere-sets.

Fig. 14g



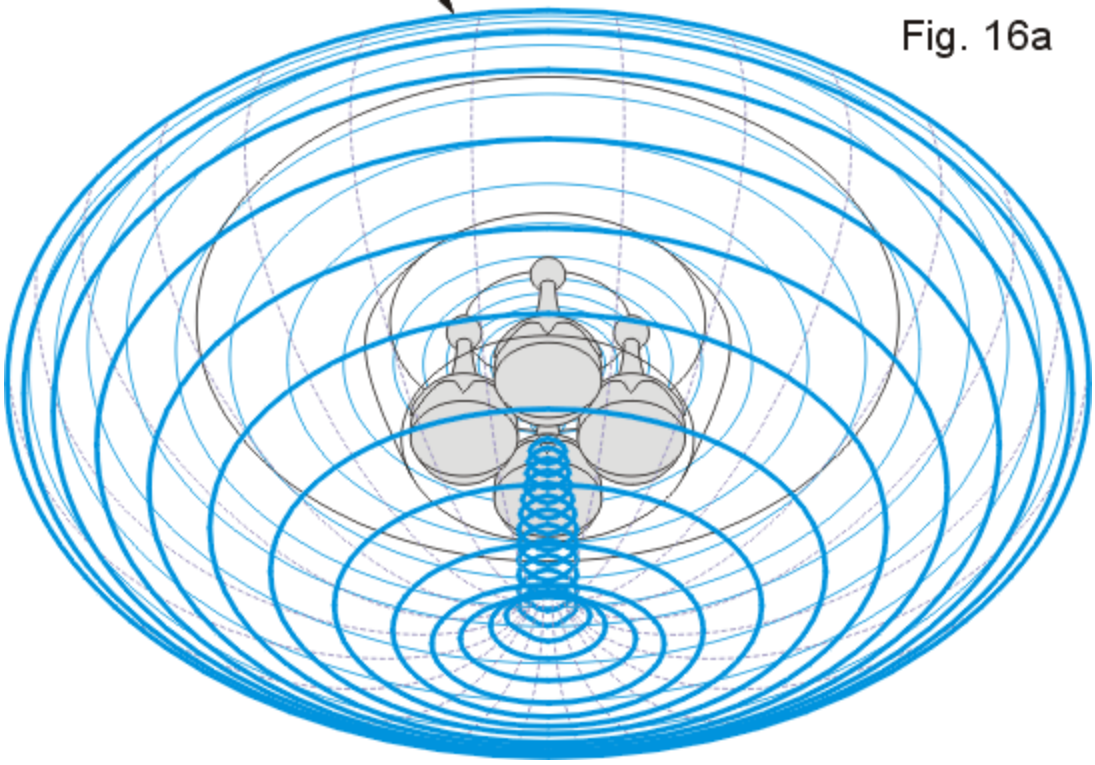
Below the craft will be a similar arrangement, the outer part of each lower sphere will conduct the electrons of the toroid's lower negative diffuse layer and consequently induce anti-clockwise flux lines (as viewed from below) while the flux lines inside the paths of conduction will be clockwise (as viewed from below - see fig.14g). The flux lines of both sections of the inner transverse magnetic field circulating above and below the base disc will rotate in the same direction - meaning that any negatively charged particle caught inside the center of the craft will be forced downward (by the Lorentz force) through the central exit vent in the base disc and out below the craft.

Fig. 16



transverse magnetic field of discharge cycle

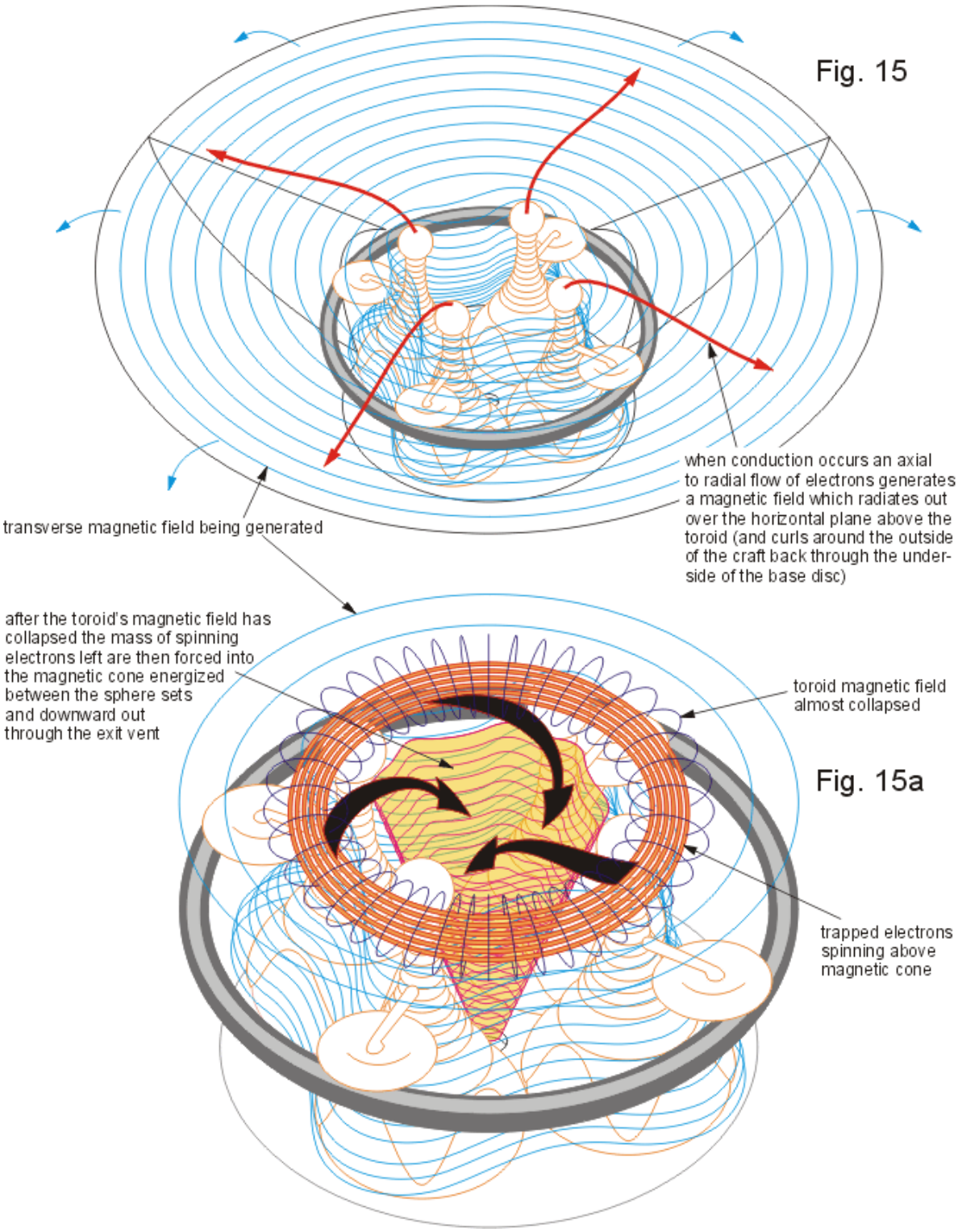
Fig. 16a



Collapsing field

When the toroid's diffuse layers have been discharged, and the fluid inside the toroid reverse-polarized, and it's magnetic field collapses the collapsing field will bring with it the vast store of circulating electrons that it had previously formed outside the craft

in the surrounding air back into the craft's center to the very mouth of the inner cone of the newly formed transverse field (see fig.15a). This mass of spinning electrons now compressed and even more excited by a magnetic field which has reversed it's flux direction, decreased in volume, and has greatly increased in flux density will be extremely energetic and accelerated (see note 10 and 11 [2]). For this reason the magnetic field surrounding the spinning electrons will not collapse completely but will hold with the electrons, keeping them together and confined, until they are forced *en masse* by the Lorentz force down the magnetic core, the inner cone at the center of the sphere-sets, and out through the small exit vent in the middle of the base disc.

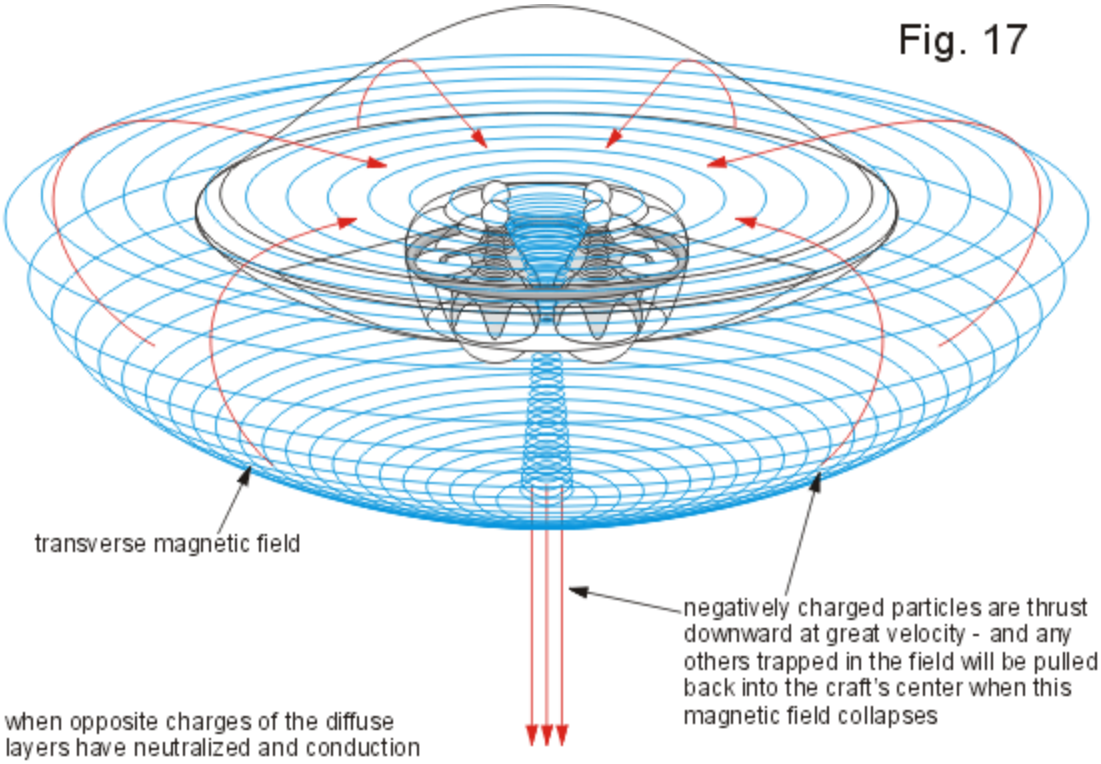


Alternating Magnetic fields

After the spinning electrons have been forced out below the craft, and because the transverse magnetic field will collapse when current ceases to flow up through the sphere-sets after the

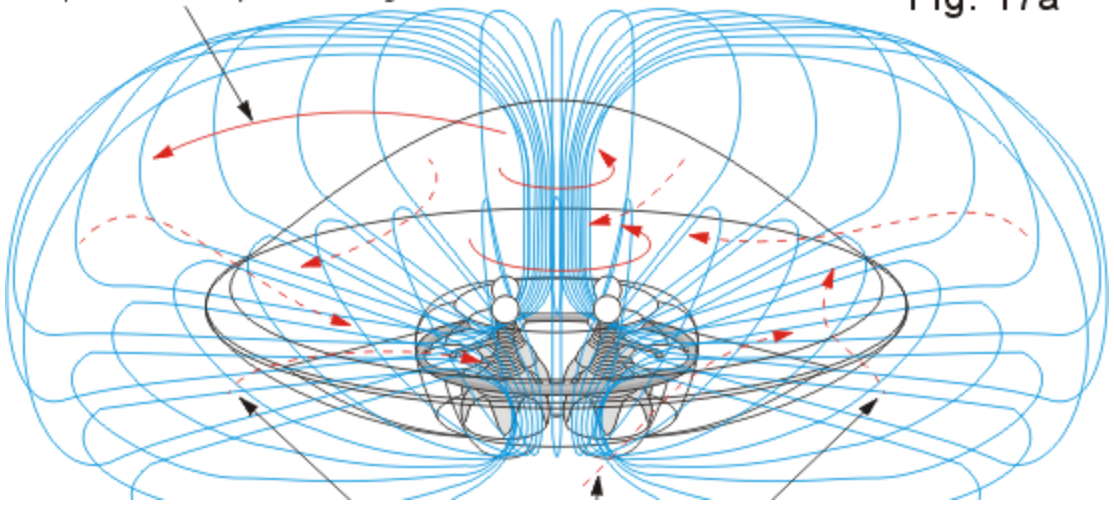
neutralization of the diffuse layers, the fluid in the toroid will once again revert to it's 'normal' polarization and re-create it's magnetic field and also the two oppositely charged diffuse layers above and below it (for no electric charge will have been actually *lost* from the toroid's fluid - only will it's content have changed polarity momentarily while the toroid's diffuse layers were being neutralized). And so the whole cycle repeats itself all over again, and again...

Fig. 17



when opposite charges of the diffuse layers have neutralized and conduction through the sphere sets ceases the fluid inside the toroid will once again charge up the diffuse layers and again generate the toroid's magnetic fields, to repeat the whole cycle all over again

Fig. 17a



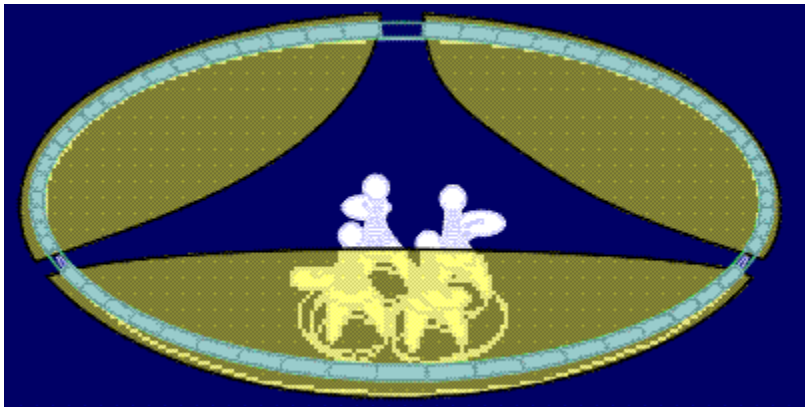
negatively charged particles entering the collapsing transverse field will be drawn into the toroid's fields once they have been re-established and once again circulate and store in the magnetic field outside the craft ready for the next transverse field to be generated and to be discharged downward through the central vent hole

The two magnetic fields, of the toroid and the transverse, would be made to resonate together - this creates the vector for gravity manipulation. Simple.

Propagated High Frequency Wave Propulsion

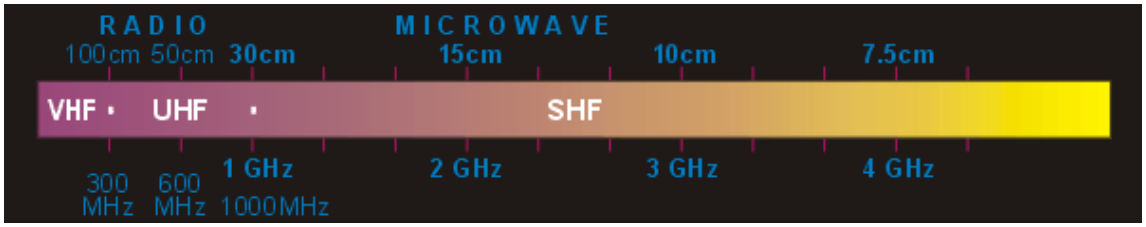
(Millimeter Wave Propulsion)

mikrodalga sevk sistemi



The above graphic shows a slowed-down version of the events inside the Andreasson type ufo.

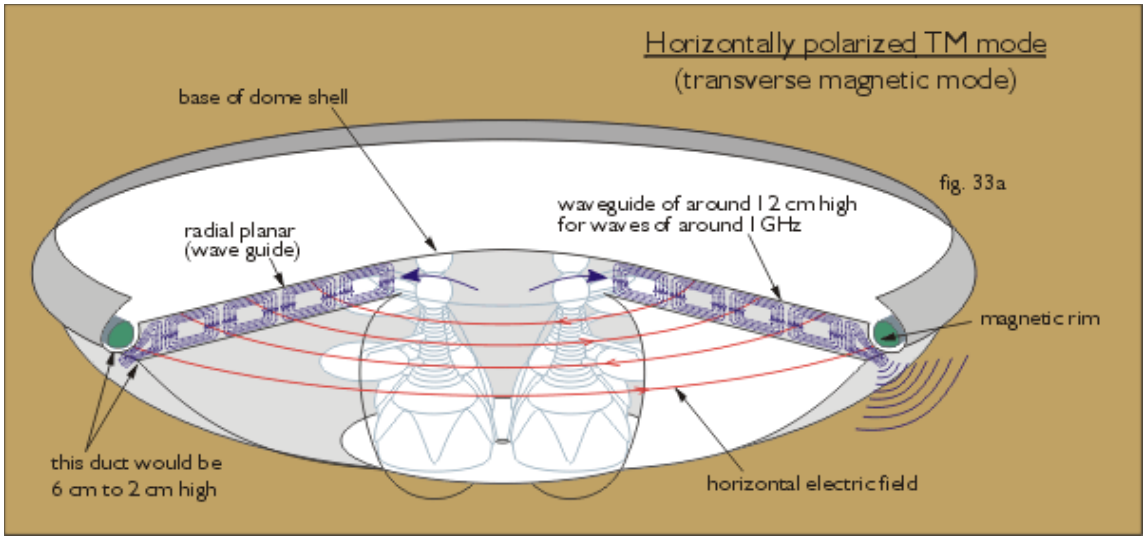
What researchers are finding is that some UFOs are sending out an electronic signature of super-high radio-frequency electromagnetic pulses (see the the USAF account of "UFO Encounter One"). The pulses are in the 3 GHz region (the microwave region) of the electromagnetic spectrum at a wavelength of 10 centimeters.



Because the waves are so short and their frequency so high the normal sort of capacitance-inductance oscillator with its conductor / antenna emission systems can't cope and so a different sort of electronics technology is needed to radiate these waves out of the craft and into the air or space around it. There are various methods of doing this with short 'millimeter' waves, one of which is called the transmission line, another is with the parabolic antenna and another is the waveguide. Of these three the best suited system for propagated-electric-field-propulsion is the waveguide, which basically, is a rectangular metal tube whereby at one end the microwave power is pumped in, and at the other end the delivery of those power waves occurs with almost undiminished intensity. The science of waveguides is quite fascinating and is nothing like cable or conductor type electronics, the size and the very shape of a waveguide computes in an entirely different fashion toward the end result. Microwaves though are a very useful range of frequencies; at one particular frequency (3 GHz for atmospheric air) they can then create spin-resonance in the electrons of the atoms of the gases in the surrounding air. ***Electron spin resonance*** (ESR) raises the normal-mode 'lower energy' state of the electron up to the higher energy state, the visual effect of which is an emission of light photons of various colours (the subject of which is already covered elsewhere on this website).

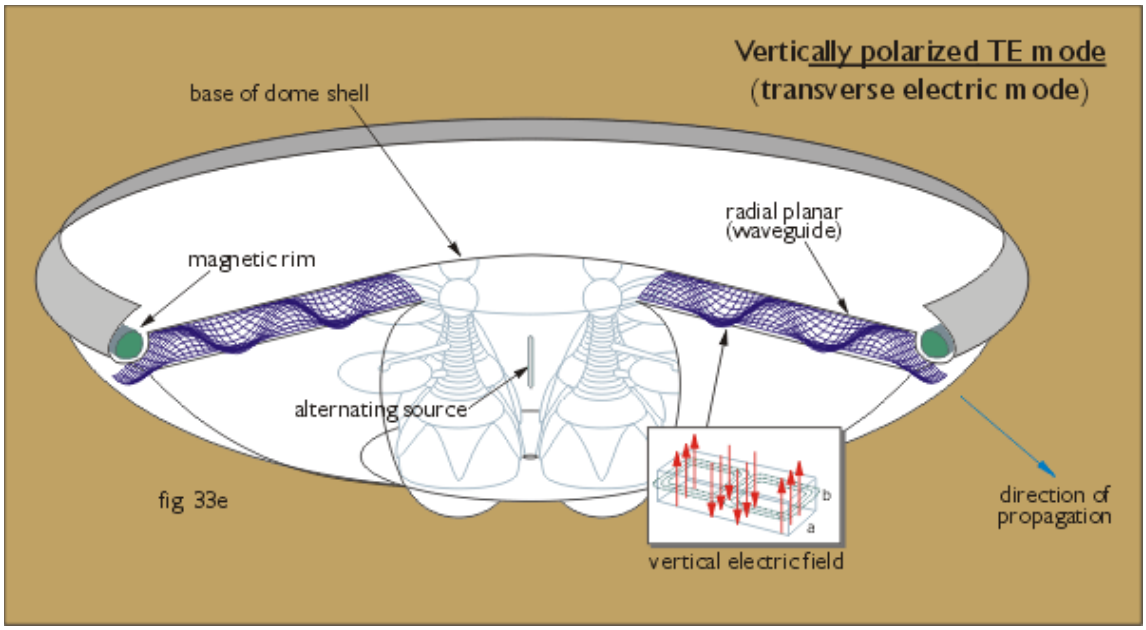
The use of the waveguide is then divided into two propagation modes: ***transverse electric mode*** (TE mode) and ***transverse magnetic mode*** (TM mode). Strickly speaking the TM mode would produce a horizontal electric field (see fig. 33a below) which is not what is required here, and this sort of wave needs

to be completely contained within a tube of four walls and in the present application metallic side-walls would need to be run from the center to the circumferential duct and so it wouldn't be suitable.



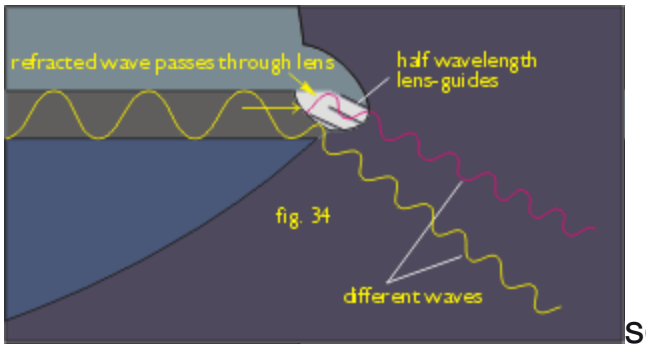
What would be most suitable is the transverse electric mode (TE_{10}), where the magnetic field lines are parallel to the a - b (x - y) plane and the electric field lines are upright and orthagonal (in this case) to the upper and lower planes of the radial planar waveguide (see fig. 33e below). In the TE mode the most important conductor walls are the top and bottom planes because they are the ones that will contain the electric field element of the waves, and in fact microwave propagation can occur through an open-sided parallel-plate waveguide because of this factor (there are several advantages to open-sided waveguides and their applications are numerous according to "*Open Electromagnetic Waveguides"* by T. Rozzi & M. Mongiardo (1997). Microwave 'lenses' of course, are also open-sided). The difference being that with open side walls the waveguide will operate through a broader band of wavelengths rather than within one narrow bandwidth which, for the present

set of circumstances, is not a disadvantage because the waves will go through a secondary 'shaping' to the required wavelength and frequency when they exit through the circumferential duct.



Directing the Propulsion

If the propagation left the craft's duct through the whole of it's 360º the thrust force would only move the craft straight up (or allow it to come straight down), and so to control the direction of movement the propagation has to be directed by the duct in some way or another. The beauty of a system that utilizes electromagnetic waves in the millimeter range is that those waves can be 'lensed' fairly easily, for just as electromagnetic waves of the light-wave frequency can be focused through glass lenses, so too can millimeter waves be directed through specially constructed 'lenses' made of metal baffles, or with artificial dielectrics (that are formed of a lattice structure), which will change the shape of the wave (



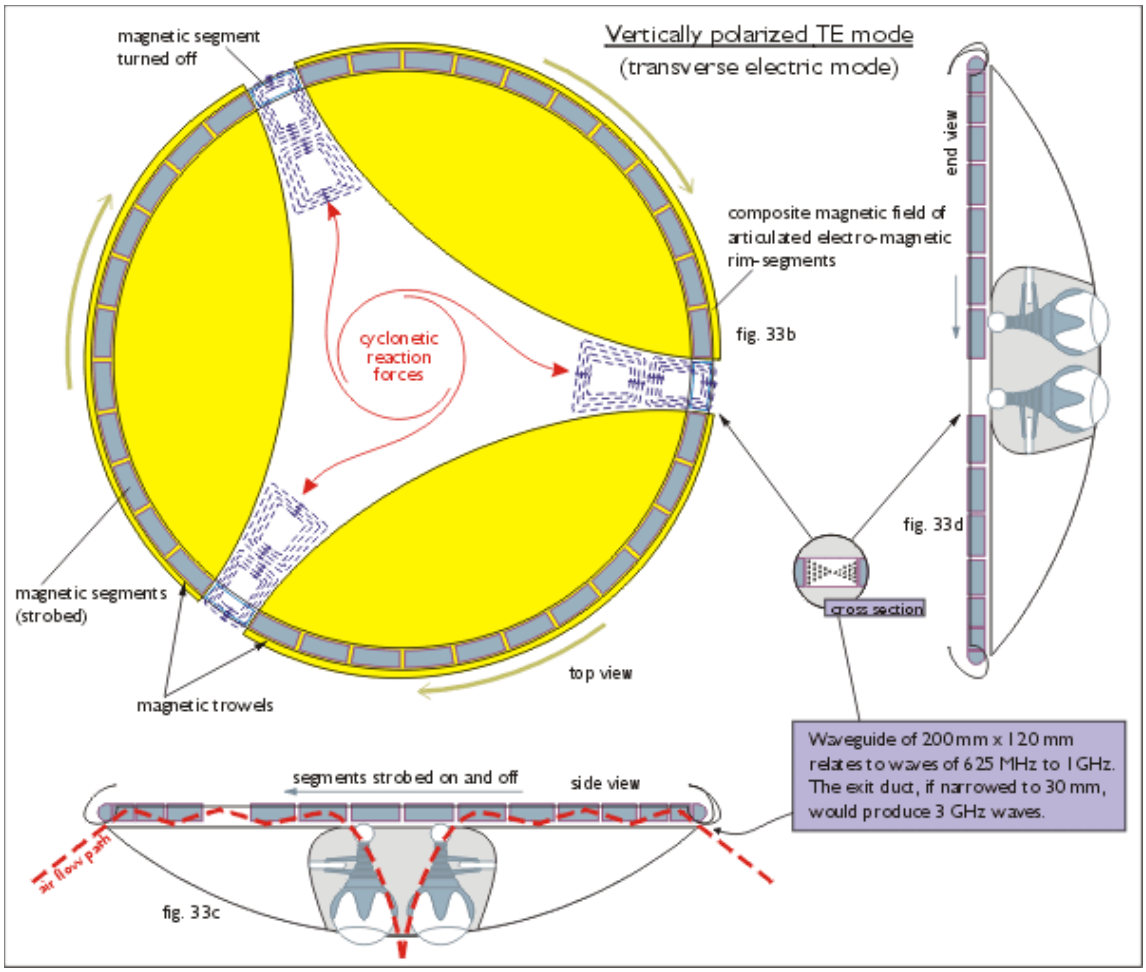
see fig. 34).

It seems highly likely that Lazar's ufo uses its hull as a form of lens for its wave propagation - see Lazar's Gravity Guide page - so perhaps the Andreasson type does too. At these microwave frequencies the 'optical properties' of the electromagnetic wave can be used to great advantage; and the particularly useful ability of the lens to refract or redirect part of the wave could be used to produce two waves.

Magnetic Trowels

The "magnetic trowel" configurations (shown in these graphics for illustrative purposes as three eye-shaped sectors) (see figs. 33b-d below) work by strobing electric power to magnetic flux producing segments situated inside the circumferential duct, so that they form into three (or two, or four, or however-many) trowels of magnetic flux and rotate around the circumference of the craft and are separated by three (or two, or more) nulls of magnetic flux. This is done by having one segment switched off between the trailing edge of one trowel and the leading edge of the next trowel. The purpose of these trowel configurations is to channel the high frequency electromagnetic waves, that are generated in the center (in the *accumulator reactor* - see UFO Propagation text) through their waveguide-like forms so as to 'shape' the waves into the required frequency and wavelength - very much in the same way that rectangular metal waveguides

are used to shape microwaves. As can be seen in the accompanying diagrams (see figs. 33a) the radial planar waveguide appears to be about 12 cm high, which within a conventional rectangular waveguide would equate to a 625 MHz to 1 GHz frequency wave, but it is quite apparent that at the point where the waves actually exit the craft, at the space between the circumferential rim and the outer edge of the toroid, the height of the duct possibly comes down to between 6 and 2 cm, and this size of waveguide would then relate to a 2 to 4 GHz micro-wave-region frequency... (If indeed there is any gap at all - for energy in the microwave frequency range can be made to pass THROUGH the craft's skin by using artificial *dielectric metal*. The idea of making these artificial or metallic dielectrics was first announced in 1946, see "*Metal-Lens Antennas"* by W. E. Kock in Proc. IRE (Nov 1946) vol 34 p828-836; "*Path-Length Microwave Lenses"* by W. E. Kock in Proc. IRE (Aug 1949) vol 37 p852-855; and "*Metallic Delay Lens"* by W. E. Kock in Bell System Tech J. (Jan 1948) vol 27 p58-82. Also see "*Antennas"* by John D. Kraus (1988) ch.14 *Lens Antennas* p661-691. In this way a ufo craft would have what looked like a smooth unbroken surface, with no seams or joints, but still have the ability to radiate a series of energy waves)...



The strobing of the magnetic trowels can be configured to rotate clockwise or counter-clockwise, or they can be made non-rotating. Additionally, the nulls or 'gratings' through which the electromagnetic waves are propagated can be spaced much closer together to within a few wavelengths of each other to facilitate an in-line dual radiation of electromagnetic pulses (as per Mike Competillo's Radio Wave Controlled Electric Field Drive System page). For current research suggests that the most efficient configuration is two power sources (of slightly different frequency), spaced a few wavelengths apart, so that the patterns of constructive and destructive interference work collectively to produce an electric field directional propulsion.

UFO Propagation - by Paul E Potter

The prime examples of this technology are the aerodiscs detailed in the Andreasson Affair books (see fig.1). The main branches of physics involved are;

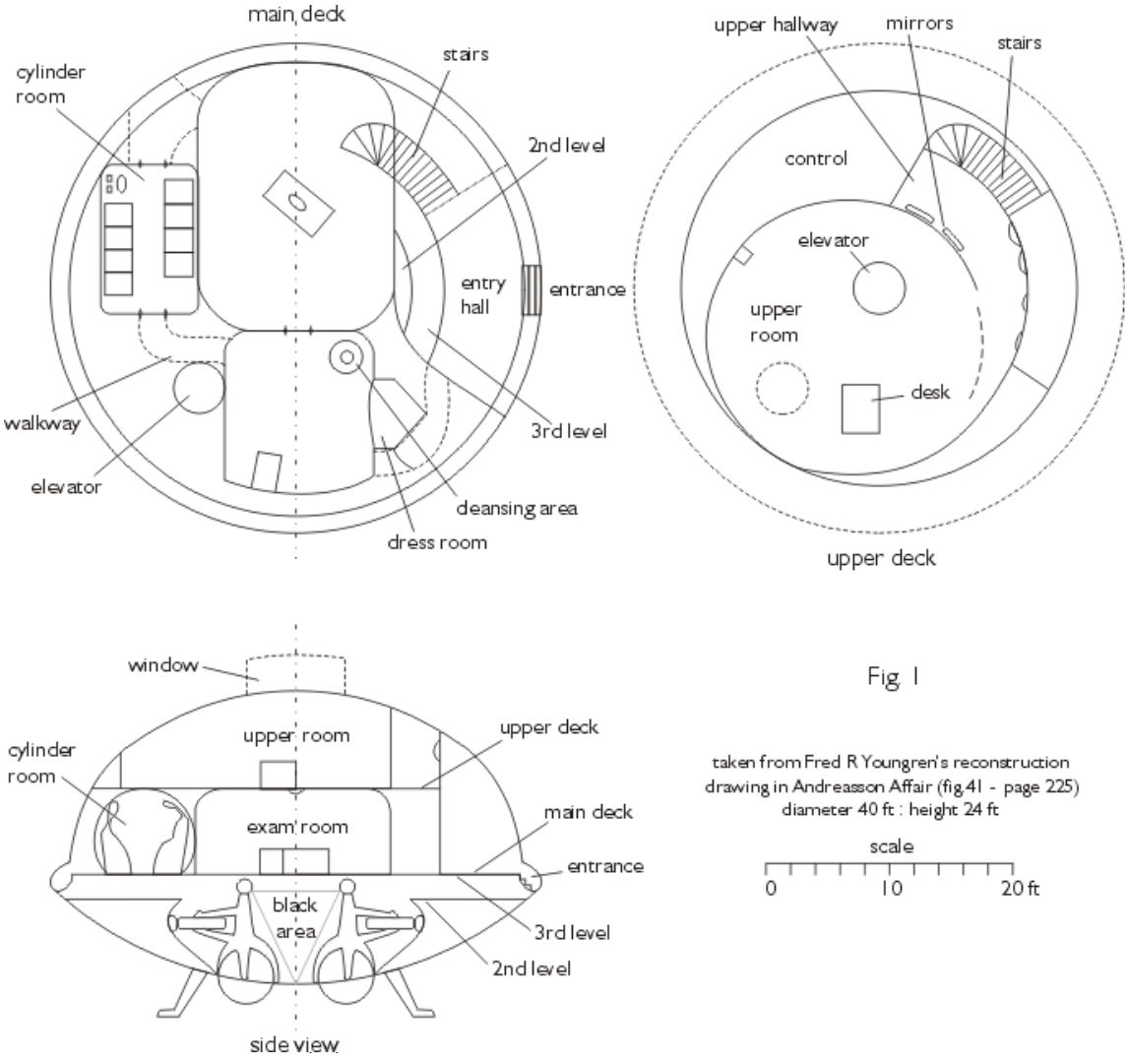


Fig. 1

MAGNETOHYDRODYNAMICS

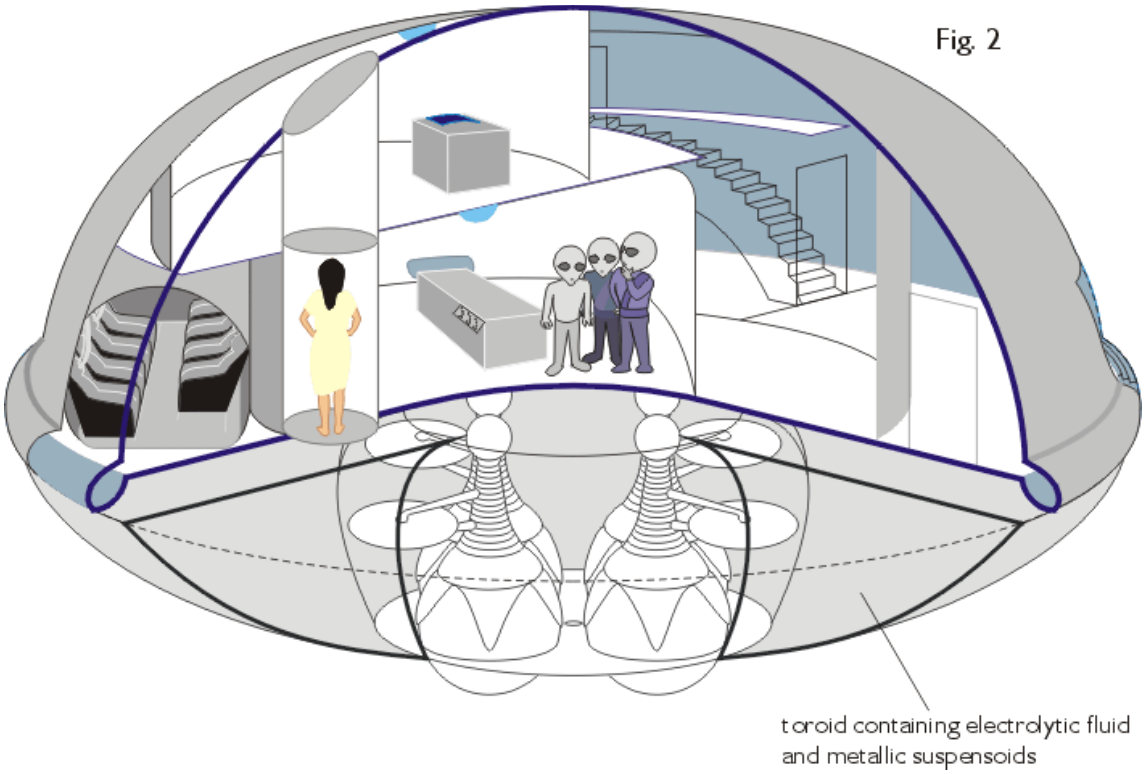
FLUID DYNAMICS

ELECTROCHEMISTRY

VORTICAL IMPLOSION

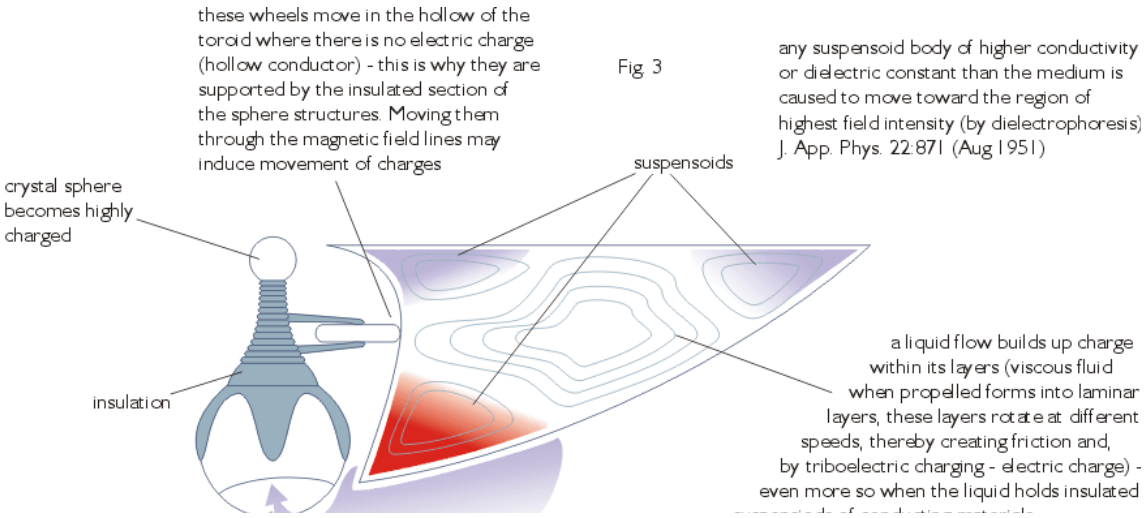
ELECTROKINETICS

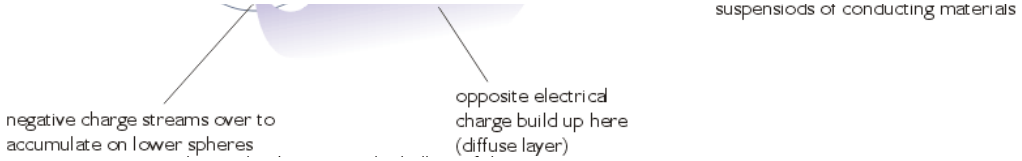
PLASMA PROPULSION PHYSICS



These aerodiscs are composed of three parts; top half interior, top half metallic shell (which acts as both a positive electrode and a capacitor), and the bottom half (which is a very effective asymmetric generator that propagates electromagnetic energy)(see fig.2).

Aircraft such as those described by Bob Lazar and other experiencers will also be mentioned in a separate page (see Electrokinetic UFO page).





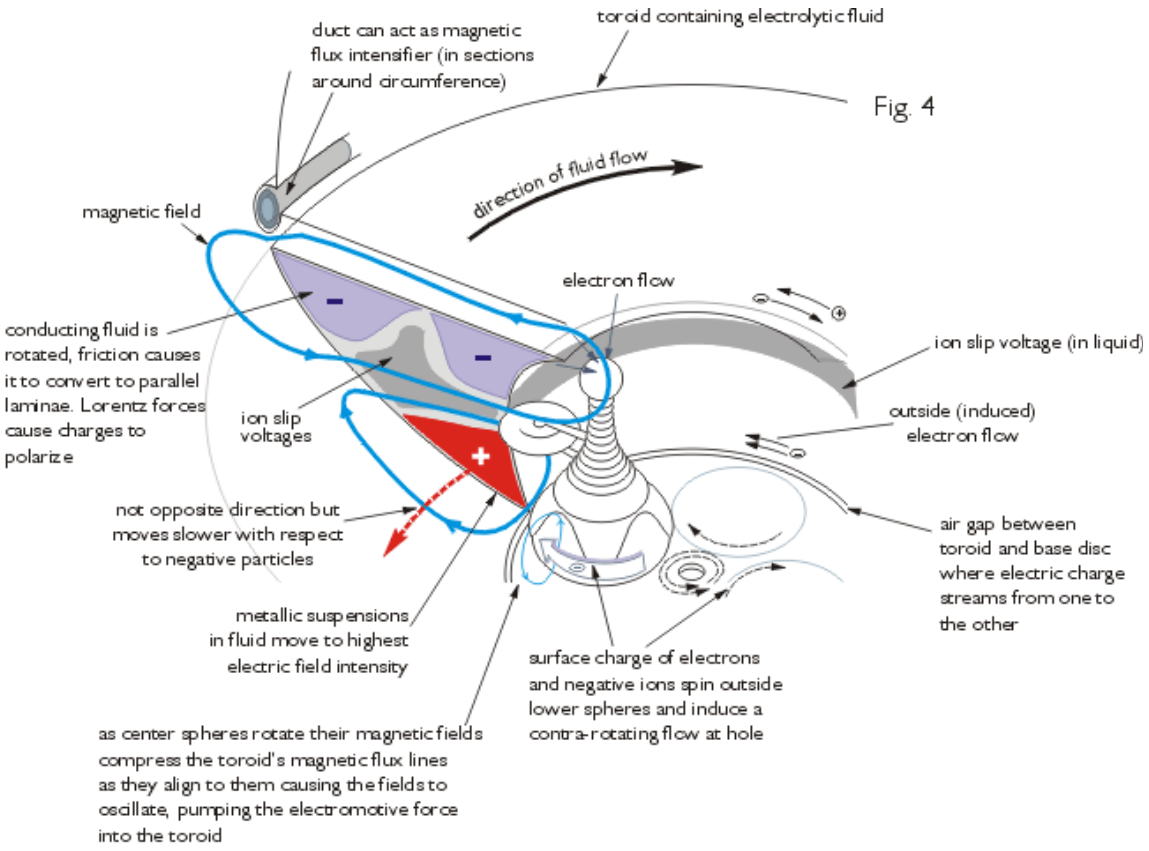
In the hollow toroid an electrolytic fluid containing metallic particles is propelled, inside its insulating walls, in a clockwise rotation so as to induce extremely high voltage electrostatic charges (see fig.3). This is by interface charge separation, laminar charge separation, and triboelectric charging (of the different types of conducting and dielectric substances) within the fluid as it is moved (see note 1).

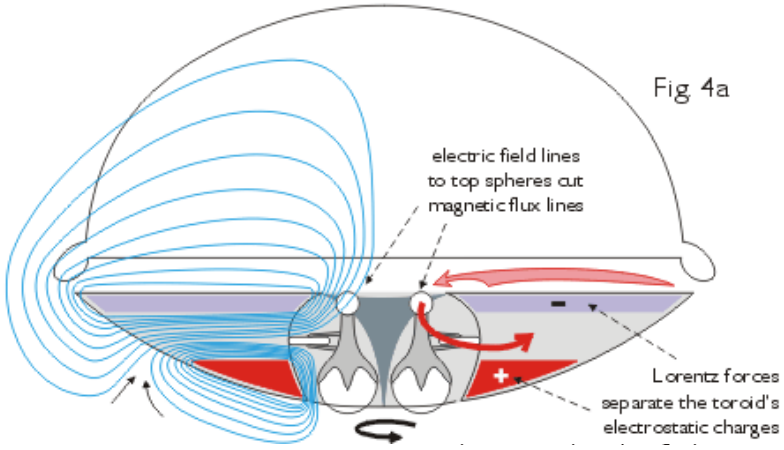
As the high intensity charges build up the more conductive metallic suspensoids in the insulating fluid move toward the inside of the sharp-pointed circumferential edges (by dielectrophoretic motion to where the field intensity in the liquid is at its highest) (see note 2) (also see Non-uniform Electric Fields page).

The fluid's composition should be such that it will create a polarized electric field; is insulating (so as to prevent current leakage between electric poles), and that it creates a magnetic field perpendicular to the flow of the fluid.

Movement of the liquid can be produced in several ways; one of which involves a TT Brown concept using a simple rod as one electrode submerged in the liquid surrounded by a hollow conical electrode, and using the reaction of the fluid in the resultant non-uniform electric field (see his US patents 3,267,860 and 3,196,296). Present research into the electro-kinetic effects produced when an insulating fluid is subjected to an electric field is called electrohydrodynamics, and as an effect has been around a long time; indeed, Michael Faraday made

note of it as a ‘violent motion’ back in the 1830’s.





Set up within and around the toroid is a reaction known as the Lorentz Force which intrinsically governs how the accumulating charges and magnetic field lines interact with each other (see figs.4 & 4a). Because of this interaction of forces the electric charges generated by the movement of the fluid inside the insulated structure polarize, and one pole (negative) will situate itself about the top half of the toroid, concentrating mainly inside

the top inner edge and inside the top outer edge (see Electrolytic Flow page). The other polarity of electric charge (positive) will concentrate itself inside the sharp-pointed lower inner edge of the toroid (or arced-toroid see note 3a). All three edges, of course, denote the whole of their circumferences (which, for a forty foot diameter toroid, is a large capacity).

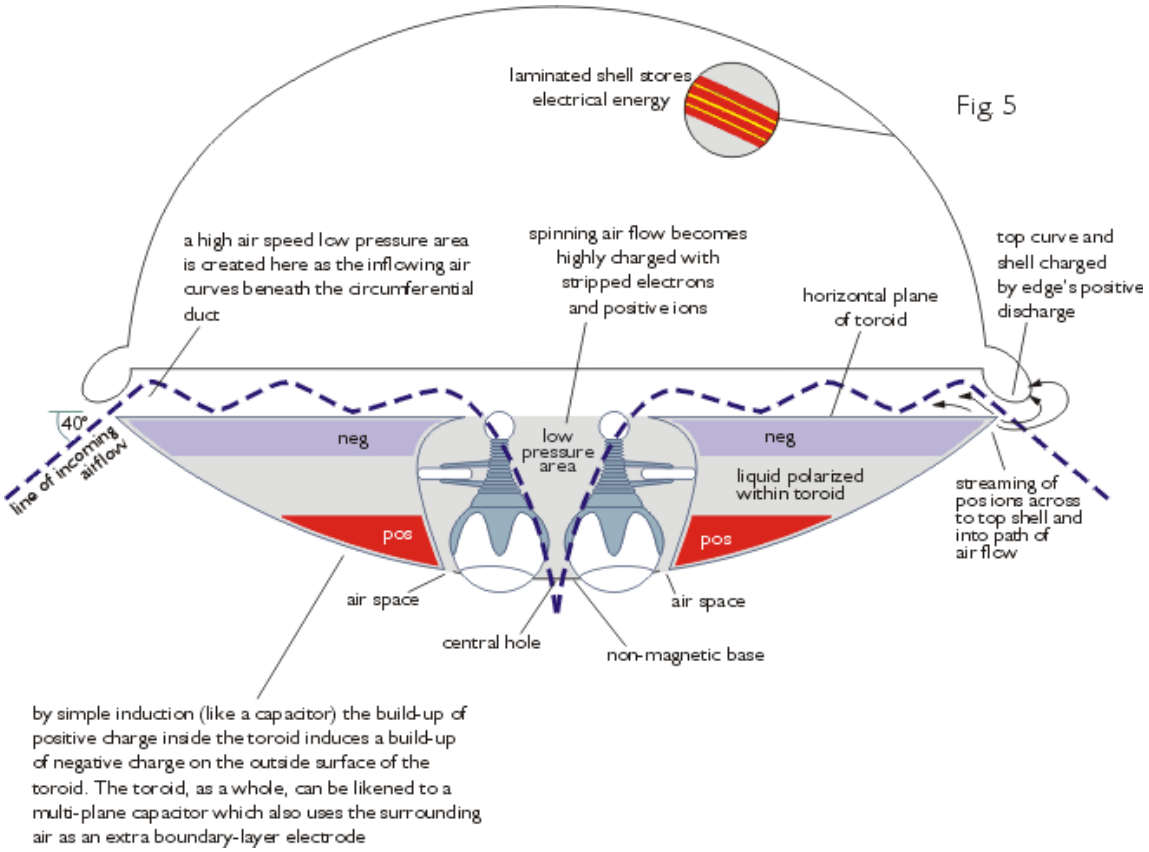
Toroid's Structure

For the toroid and the upper shell of the ufo some metals used in their construction are similar to the metals found on earth, but the structuring *process* that the metals have gone through is *wholly unconventional* and involves some sort of electrical orientation of its molecules to enhance a 'directional' conductivity. The late Colonel Philip J. Corso (in his book "The Day After Roswell") alluded to US Army R&D research into the ET Tech of molecular alignment of metallic alloys. As did the scientific lab tests performed on the Roswell metals delivered to Art Bell (who used to host the US radio talk show *Dreamland*) in that they have 60 times more pos ion content (*"Glimpses of Other Realities - Vol 2"* Linda M. Howe p19) (see note 3).

While electric charges cannot be conducted from the charge-accumulating fluid directly through the toroid walls and edges there will be a capacitive effect which will accumulate charges of an opposite polarity, on the outside surfaces which will correspond to the inner ones in intensity and location. This ‘diffuse layer’, as its called, of electric charge, occurs most effectively when the liquid is moving, and the faster the liquid moves the more pronounced will be the separation effect of its electric ions from the ions in the differently moving diffuse layer outside (see note 4).

With this same respect the charges that accumulate outside in the space around the lower INNER edge of the toroid in its diffuse layer, that encircles the base disc assembly would be NEGATIVE. And the charges accumulating around the outside of the whole of the OUTER circumference of the toroid would be POSITIVE.

So, below the craft there are two concentric donut-rings of electrical energy – inner negative, outer positive – separated by a neutral field of insulating air. While the process of charge accumulation continues inside the craft these two donut-rings or 'dipolar electrodes' get stronger and stronger, building up between them electrostatic field lines and a potential magnetic field around those lines (but more about these energy rings in the Wave Propagation section below) (see note 5).

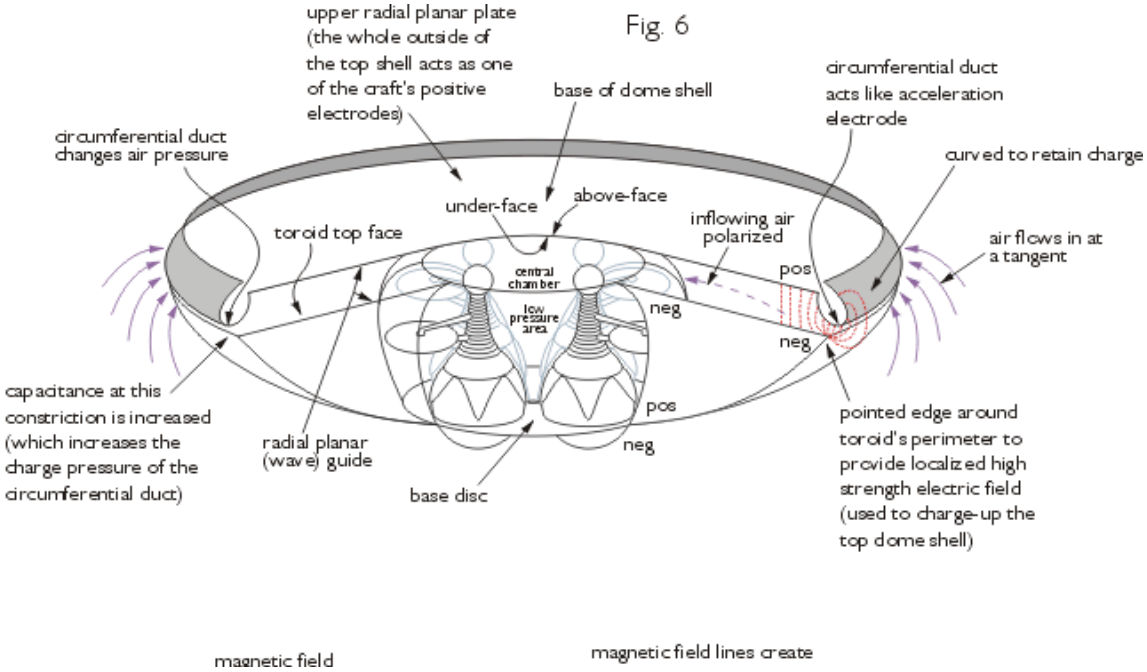


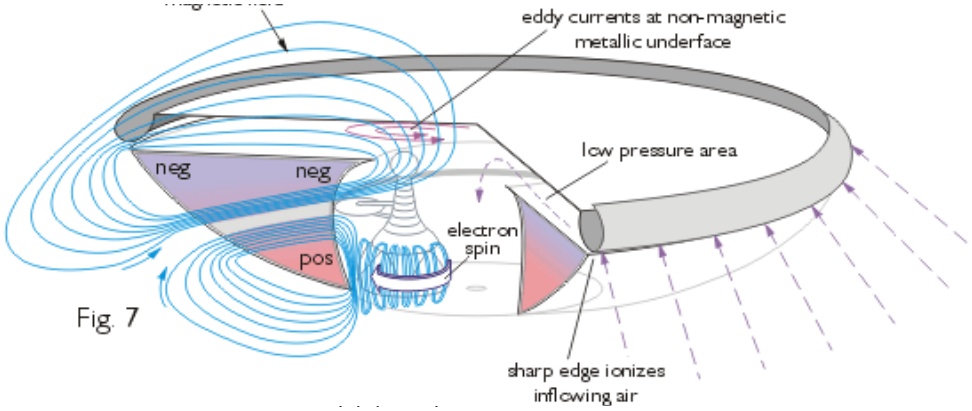
Inside the craft, over the top horizontal plane of the toroid, which

also forms the lower face of the radial planar guide, the induced electrical charges react with the toroid's magnetic field so as to form a horizontally rotating field of polarized (positive) ions. This revolving positive field reacts with the normal air outside the craft to initiate an inflowing of polarized and neutrally charged air which, as soon as it passes through the craft's circumferential duct and over the toroid's electrically-charged outer edge, becomes positively ionized from the effect of sharp-edge ionization (see figs.6 & 7). Also, it should be noted, that as the inflowing air passes through the duct its specially designed curved surface acts as a constrictor to speed up the air flow (as per aerofoil dynamics) – thereby creating a low-pressure area inside the duct. As will be seen below this is but one of various mechanisms to create a low pressure area so as to pull large amounts of air into the center.

This increase in the circumferential duct's peripheral potential correspondingly increases the oppositely-charged potential of the fluid on the inside of the toroid (by way of the capacitive effect).

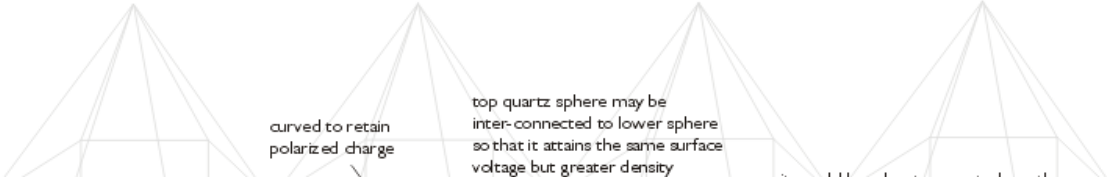
Fig. 6

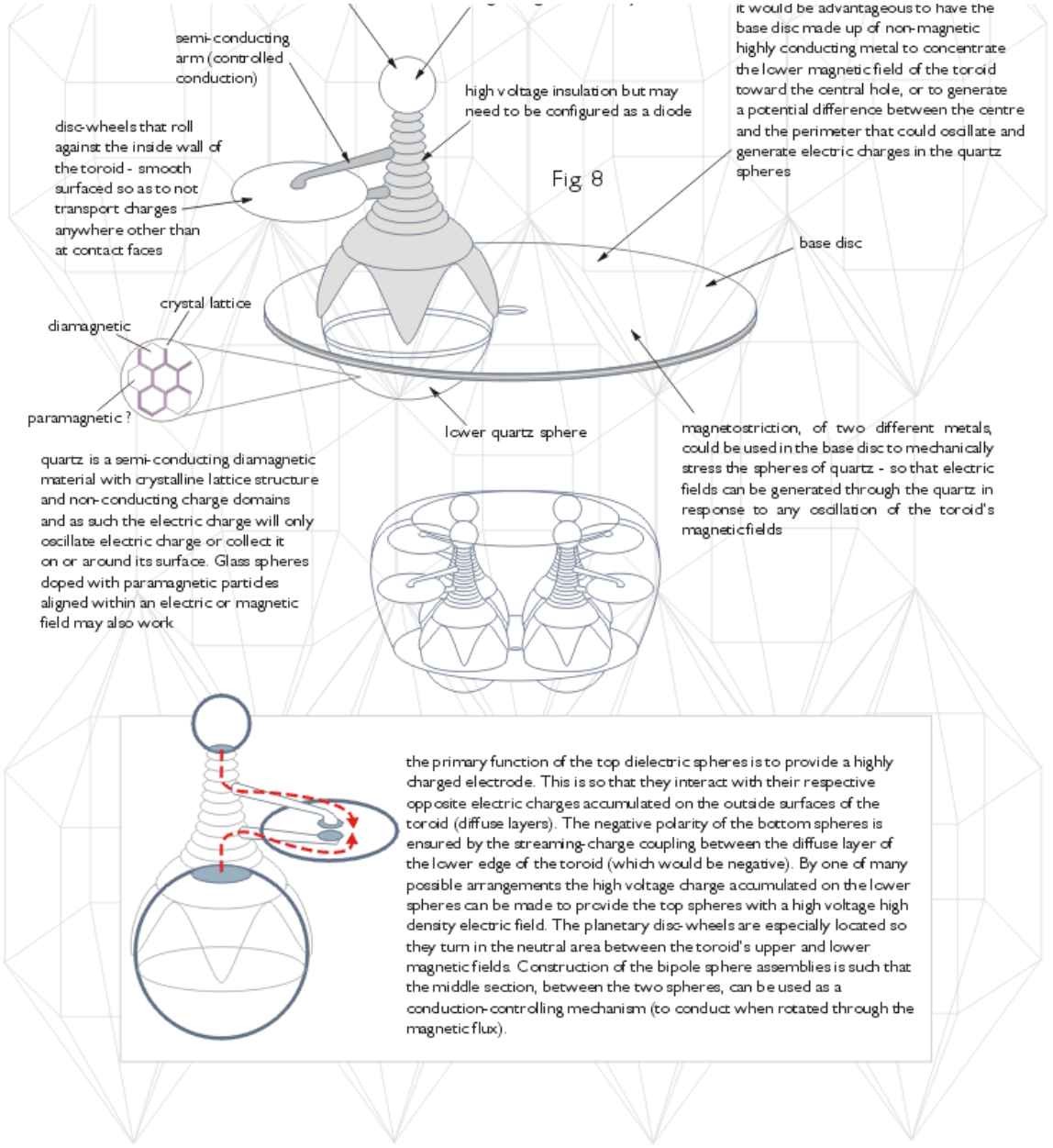




As can be seen from the illustrations (see figs.6 & 7) the top surface of the radial planar guide is also the base and floor (or main deck) of the upper 'operations' section of the craft, and would be made of laminated metal that shields the upper section from the electrostatic fields (by Faraday Effect) and to some degree the electromagnetic fields generated by the toroid below.

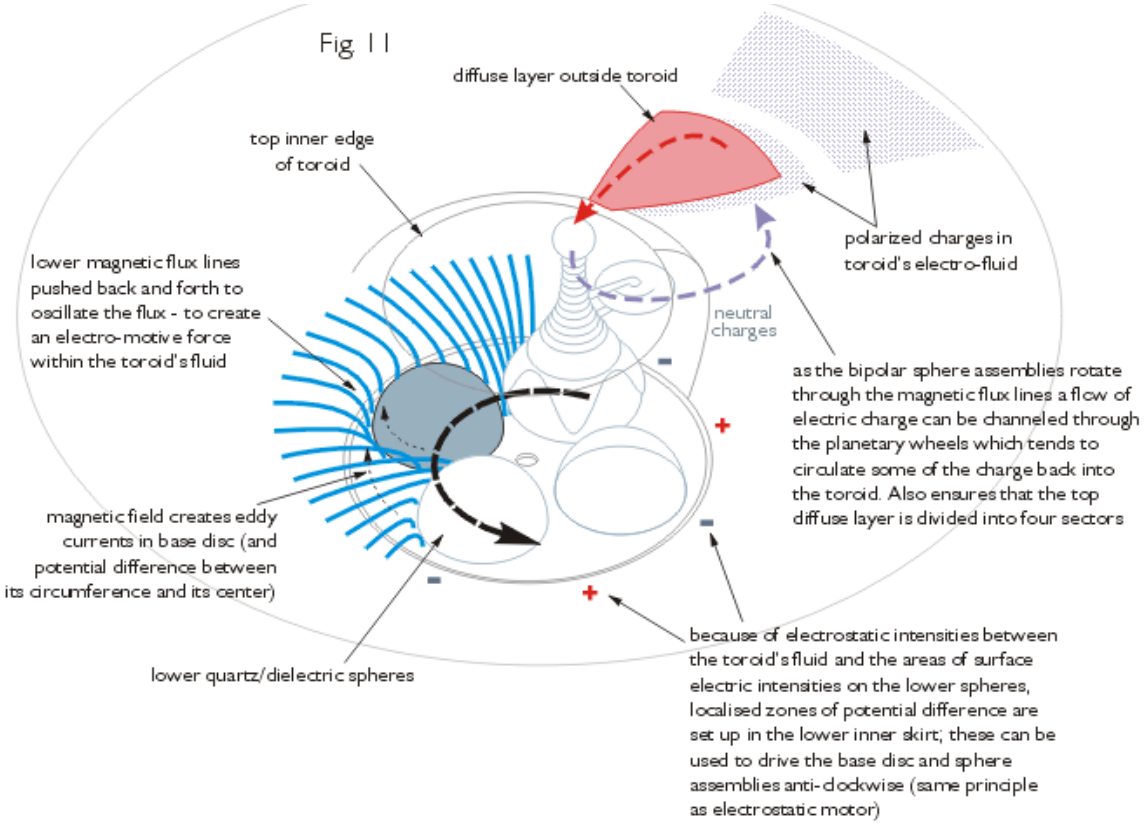
When the magnetic fields begin to resonate the flux lines will create electrical eddy currents over the under-face of the floor surface, so that a skin of charged particles will circulate around the surface (in conjunction with the other circulating fields). The base can be capacitively coupled (or directly coupled) to the upper outside dome-shell of the craft so as to enable the metallic dome to acquire an outside positive charge (see fig.5). The dome itself can be made to store a tremendous amount of electrical energy, over it's whole surface area, if it is structured as a capacitor (ie laminated with very thin layers of insulating/dielectric material – the thinner the more enhanced will be the capacitive effect – in between various layers of conducting materials) (see note 6).





Bi-Polar Sphere-Sets

The central rotating assembly is made up of four bi-polar sphere-sets held equally spaced in a metallic plate or disc. The disc is formed in such a way as to fit inside the perimeter of the inner lower edge of the toroid, so as to be able to rotate freely with the sphere-sets, but to also form an electrostatic coupling (and when appropriate an electrokinetic coupling - see fig.11) with the charges on the lower edge of the toroid. This base disc also has a small diameter emission hole at its center.



The small and large spheres are specifically constructed so as to accumulate large amounts of electric energy (see fig.8). They can, for this purpose, be made from dielectric* glass doped with paramagnetic particles (or diamagnetic quartz structured with different mass particles or sections). These are spherical and smooth-surfaced to prevent stray leakage of their accumulated charges (the ratio of size of which corresponds to the ratio of charges accumulated throughout the craft – as will be seen below) (*see Dielectrics page).

Holding the two spheres apart is a moulded insulating neck-frame (again smooth-curved) that also holds, with insulating arms, a rotating glass/quartz wheel which is smooth curved so as not to provide any current path to leak away charges (see note 7).

The arm and wheel of each of the four bi-pole sphere-sets

locates the whole central assembly within the toroid and the wheels allow it to turn along the inner concave wall so that the sphere-sets can be rotated about a vertical axis on an even plane.

Accumulator Reactor

Because the inner assembly of the base-disc and four sphere-sets, and its relationship to the inner concave-curved center of the toroid, can be likened to the plates and dielectrics of a capacitor, it can be seen that the electric charges distributed around it respond wholely to the movement of charges accumulated in, and around the outside perimeter of, the toroid.

In fact, the whole craft behaves, moreover, as a multi-sectioned capacitor with multiple oppositely-charged interfaces (see fig.9 electronic circuit); whereupon, when a charge is increased or decreased at any one section all other sections will correspondingly undergo charge increases and decreases through the various interfaces. It is, by definition of its action, an accumulator reactor.

Ufo structure pays special attention to shapes; in that sharp edges move electric energy whilst curved shapes and more especially smooth-surfaced spheres store electric energy. Charge density being inversely proportional to radius of curvature. There is very little about a ufo that is ‘for show’ or is perfunctory and it seems that every curve every edge has a special function (see fig.10).

The four large lower spheres accumulate charge from the pointed inner bottom edge of the charging toroid, while the top small spheres attract to their surfaces electric charge from the

pointed inner top edge of the toroid, although this effect is more enhanced as the central sphere assembly actually rotates, as explained below.

The large spheres are used to feed electric energy into the small spheres. For, as in electrostatics if two spheres, one large and one small, are inter-connected by a conductive link (thin wire) or even a semi-conductor so that both spheres are at the same potential, then the intensity of charge on the small sphere will be much greater than that of the large sphere (ie density is inversely proportional to radius of curvature), and that if the larger sphere were negatively charged then the outer (upper) curve of the small sphere would correspondingly be negative, while the inner (lower) curve of the small sphere will be positive (or rather - less negative). These small-and-large-sphere sets follow the same principle, and it is for the same reason that the small spheres inside these ufos have been seen to glow intensely bright with energy. Another beauty of these configurations, particularly with the use of quartz, is that they don't conduct their charges away - they accumulate it - and so there will always be an attractive force exerted between the diffuse charges of the toroid and these spheres (see note 8).

With this established electrical relationship in mind the small-large sphere assemblies can more conveniently be termed bi-poles or bi-polar sphere-sets, simply to distinguish them as having different electrical configurations between top and bottom (as will be explained further below, neither sphere will be predominantly negatively or predominantly positively polarized).

That these dielectric spheres are said to pulsate with light, of all colours of the rainbow, is indicative of the electrical energy of

the atoms and molecules from the surrounding air being pummelled and stressed, to the point where electrons as they get thrown out of their normal energy orbits and jump in and out of higher bands exhibit all sorts of changes. This throwing off of coloured photons is only the visual effect of extreme 'Fermi level' energy-exchanges of when electrons are accelerated or decelerated. The higher the colour up the spectrum (ie blue-white) the more energy exchange that is being exhibited. A ufo will therefore glow red or orange at 'low revs' and progress through yellow, green and blue 'through the gears', to be 'flat out' pulsating a bright-white light – and it will cruise with a bluish-white haze around it (see note 9) (see Witnessed page)(see Explosion Almost page).

By remarkable ingenuity the locating wheels rotate through an area of the inner wall of the toroid (ie the mid-section of the concave curve) which, electrostatically, has very little accumulation of charge anyway because of it's hollow curvature, and which corresponds to the area of neutralisation of charge in the center of a fluid flow by Lorentz Forces.

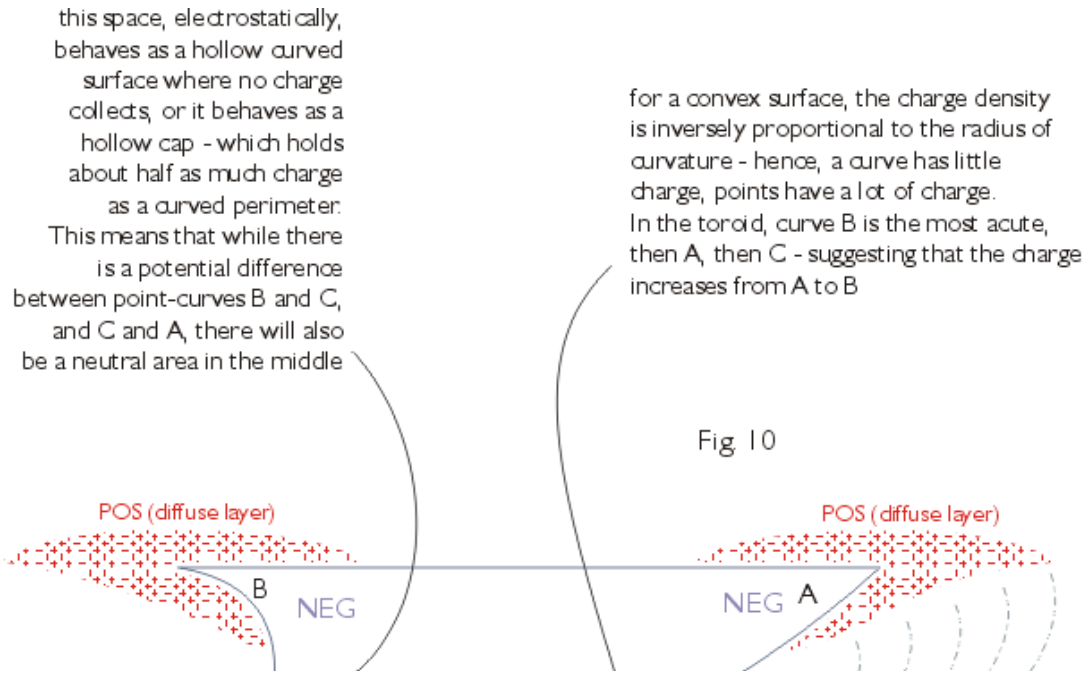
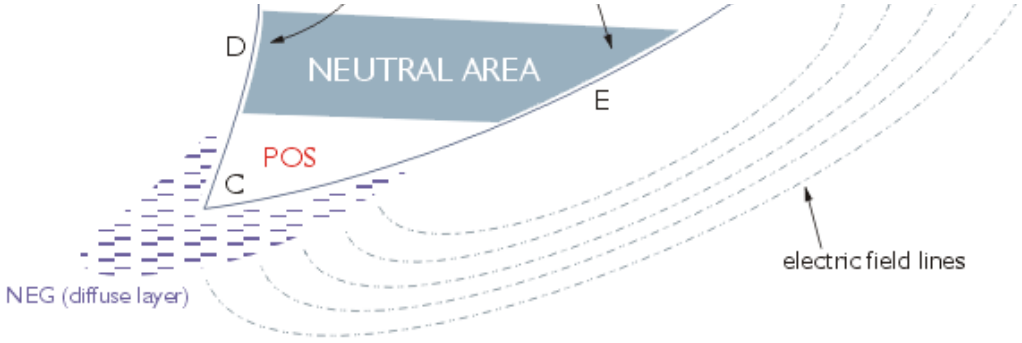


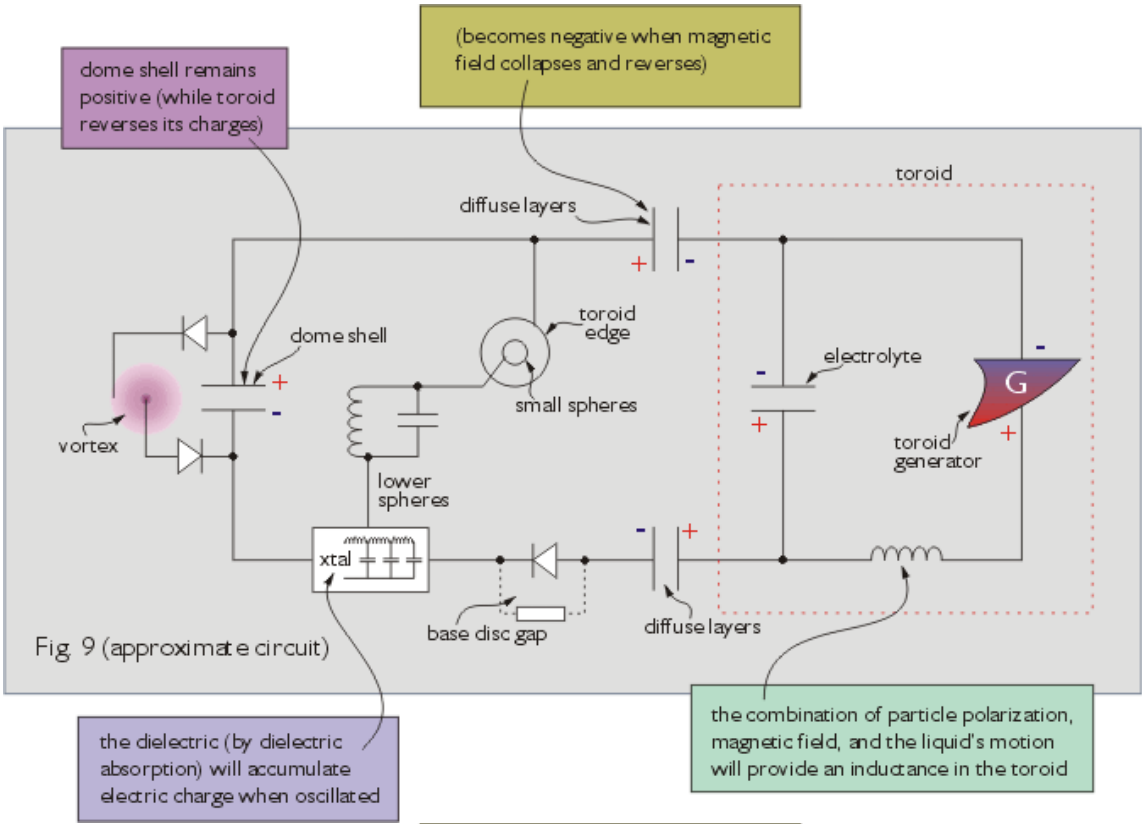
Fig 10



this electro-system is all about shapes, curves, points and movements of charge around those points and curves.
In essence it follows the basic laws of electrostatics, where if there are any sharp points on a highly charged conductor, there will be extremely intense electric fields around them; and a charged particle in the vicinity of such a point is accelerated by the field so that it ionizes the air around the point by making energetic collisions with the air molecules. Thus, the insulation of the air breaks down around such sharp points on charged conductors.
(See for instance "*A-Level Physics*" Roger Muncaster p585) ("*Explaining Physics*" Stephen Pople p222/3)

The base disc, as well as holding the four bi-poles, has to impede and constrict the lower magnetic field of the toroid, so as to direct the flux lines through, or mainly through, its central hole. This then, would not be made of the same construction as the toroid shell, and would be made of a non-magnetic metal such as an aluminium alloy – and perhaps even of the exotic magnesium/bismuth layered combination found in the remnants of one of the downed Roswell ufo's (for some excellent investigative research on this material see *"Glimpses of Other Realities Volume 2"* by Linda Moulton Howe pp11). Interestingly, bismuth does have the sort of qualities needed as it does exhibit what is called 'lag current' when pulsed currents are applied to it at very low frequencies and in a strong magnetic field (see note 10); indicating that it has capacitance. Bismuth also has a high atomic mass, and of course a Hall effect resistance or diamagnetism. Either way, a non-magnetic material while not able to prevent all the magnetic flux lines from penetrating

through it, will convert some of the flux to a rotating electric field (ie eddy currents *) over it's surfaces (see figs.11 & 4), which will supplement the action of other charged particles spinning around the large lower spheres by other interactions, and these rotations will coalesce into a flux-constricting force. The base disc metal could also be laminated on its outside with insulating material (*see note 11).



Centralised Vortex

Several factors compound to ensure that a large amount of polarized air is sucked (see fig.12) into the central concave chamber. As mentioned above, when the toroid's magnetic field is moving some of its flux lines, particularly the outer ones, will come into contact with the circular under-face of the upper radial planar (see figs.13 & 14 & 15) and will transfer their energies to that surface metal and induce electric currents in and around that non-magnetic material. This induction will react with the

'diffuse layer' charges from the top flat surface of the toroid, and while also reacting to the radial non-uniform magnetic field (perpendicular to it) will move in a mostly rotational direction, toward the area of the highest magnetic flux density – in the center. And with the electrical and aerodynamic relationship between the outer duct (through which fresh air is sucked and ionized with positive charge), and the base disc area which is negatively charged, there will be a drawing inward, towards the center, of the heavier positive air ions (by electrophoresis) (see Non-uniform Electric Fields page) and neutral air ions (by dielectrophoresis); and a generally curving of those motions as they react electrically to the converging magnetic field lines - that will have also induced a 'spinning axle' of lighter-mass electrons (also ionized from the air) at the center – to which the positively charged air will be drawn. And finally, by the laws of induction, when the conducting fluid is rotated around the toroid a circulating electric fluid will be induced in direct response to it, at its center in the axial plane, as a result of the interaction between the non-uniformity of magnetic flux lines generated by the original fluid and the 'magneto-phoretic' movement of the charged particles of its diffuse layers and the ionized air sucked in through the circumferential duct – and that the intensity of the induced fluid current will be significantly greater in response to the higher flux density in the center...

Fig 13

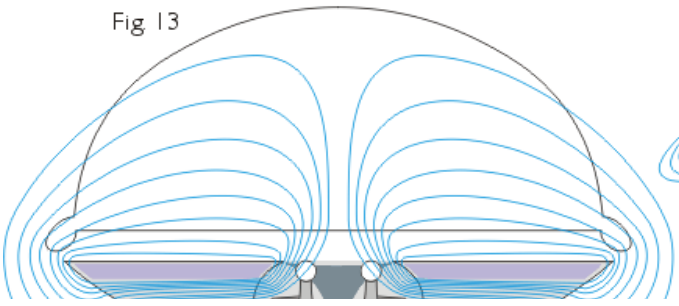
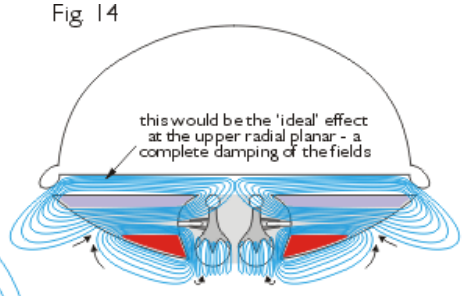
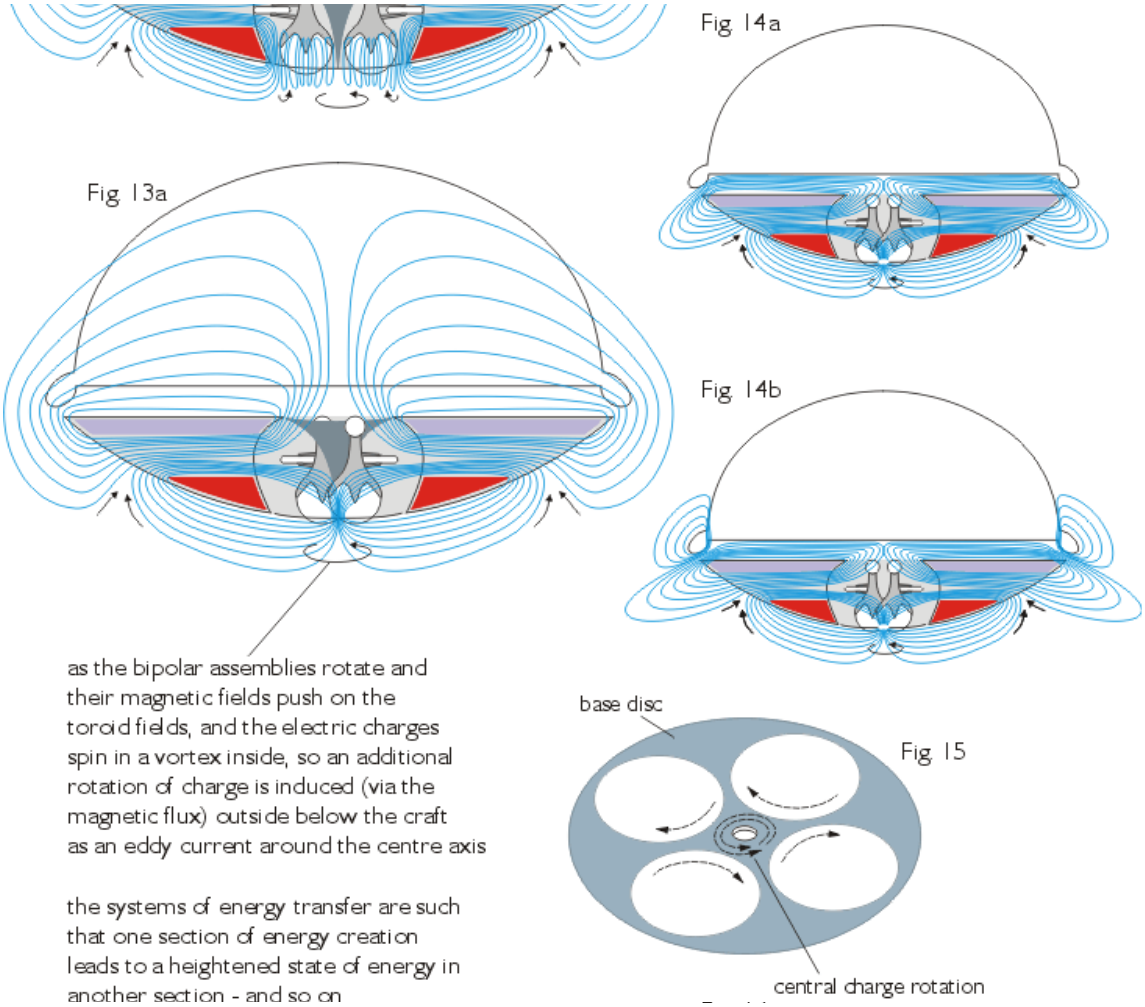


Fig 14

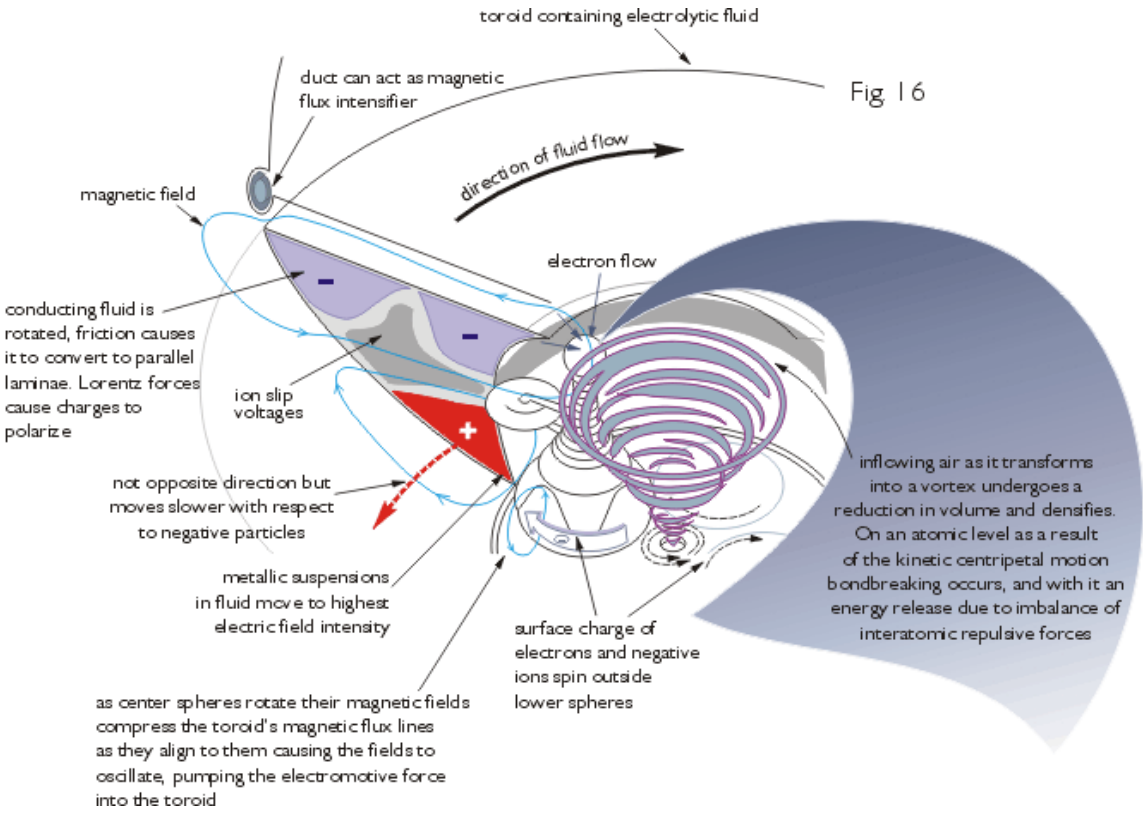




The result is a very intense revolving mass of air and charged particles, which is all the while sucking in more of the same tangentially (see fig.16) from the atmosphere outside; and as it is centralized about the center-hole so it creates its own magnetic field lines, which extend downward through the center-hole, out the bottom of the craft, and after panning out and up through the air, then return inward into the circumferential duct area, converging along the radial guide and squeeze down through the circulating negative charge to force their way back through the confines of the central hole.

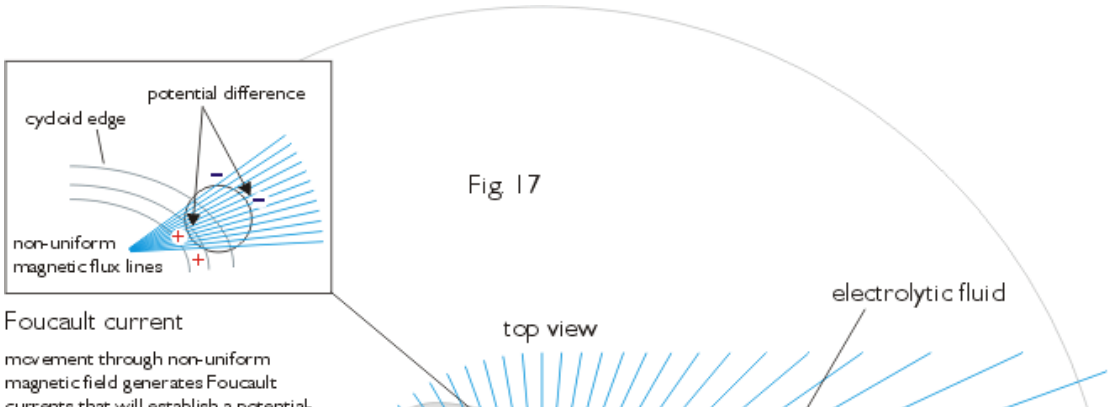
As will be seen below, this revolving cyclonetic field, or vortex (see Vortex page), will be further constricted and its power further amplified by additional electrical fields still yet to be set in

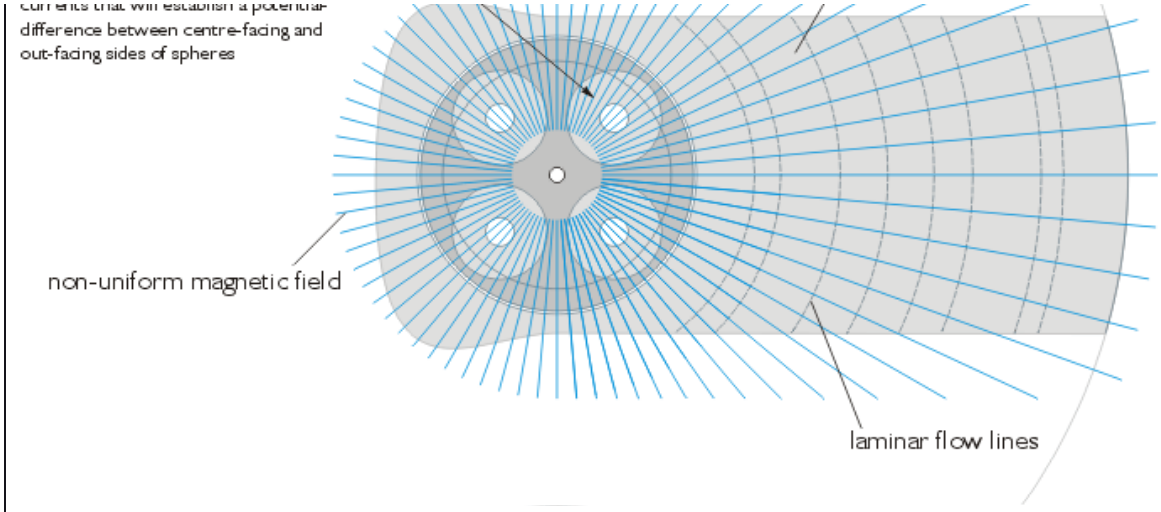
motion around it, within the central chamber.



But already, the congestion of magnetic flux lines and electric field lines, and the continual inflow of polarized and ionized air and particles – all of which are being drawn into this central chamber area is quite remarkable.

It will be noted that, with all these energies pouring into the central chamber there are only two ways out:
One is back the way they came in – along the radial planar guide and through the circumferential duct completely against the incoming flow; or,





Two, through the small hole in the center of the base disc – which is now bottle-necked with magnetic flux lines that would normally inhibit any passage through it of electrically charged particles for they would be forced to spin IN REVERSE at such a constriction, like a 'magnetic mirror', and try to shoot back up the magnetic field lines to where they had just come from. Only in this arrangement with its vortex, the vorticle polarizing forces would then almost immediately spin the charged particles downward again - to result in an oscillating motion within the confines of the internal vortex.

Central to the action of a vortex, or cyclonetic field, is its ability to create a low pressure suction area. This it does by compacting its fluid into a much smaller volume than is 'normal' (see Vortex page). If its fluid (which in this case is air) takes up a certain volume of space and a vortex revolves that mass into a space 800 times smaller then air from further away will be drawn in to fill up that emptied space – hence the vacuum. Mostly a vortex is just a turning funnel which spurts out the bottom the densified air (or fluid) which upon 'escaping' normalizes again to a larger volume – and, in the case of air,

with a higher pressure. So, below the center of a craft like this is created a high pressure zone – just like under a conventional aircraft's wing.

Further, a vortex has a centripital action, or convergence, where the densation and possibly pressure ionization* occurs, as the particles of the fluid are compressed together in an ever-more confining space. Densation in a vortex, if powerful enough, can alter the very balance of atomic structuring, to affect a compression of the interatomic spacing that intrinsically gives order to electron shells and energy bands. Densation is one of the very few ways of calling up the power of repulsion – which on an atomic level – is the most powerful force in the universe (*see note 12).

A Vortex also performs a centrifugal action that separates very efficiently the electric charges of the atoms and molecules of its revolving fluid, be it air or liquid; the heavier particles (mainly positive) are left to slowly rotate around the mouth of the vortex while the thirty-thousand-times more agile negative electrons are whisked down the ever-constricting throat at infinite speed to establish a substantial potential difference between top and bottom (or outer and inner, respectively). As in a 'black hole' vortex while all and sundry is being swallowed down into ever-smaller 'quanta' both positive and neutral particles are actually being forced out of the mouth into the space around them.

Cycloconstrictive Fields

Rotation of the central sphere assembly greatly increases the accumulation of charges on the top and bottom spheres; as the spheres turn through the toroid's upper and lower non-uniform

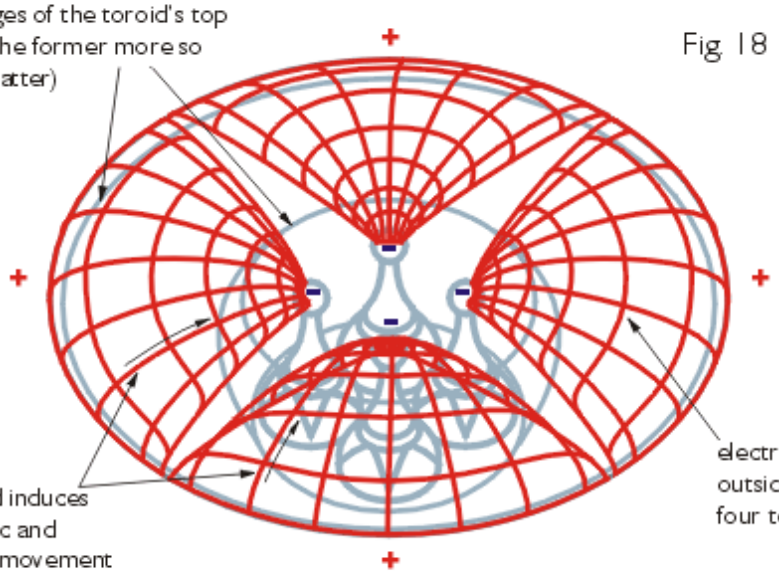
magnetic fields a potential difference is set up on each sphere's surface charges between those on the center-facing curve and those on the outward-facing curve (see fig.17); this electrical potential difference, or Foucault Current, is created when a conductor is moved through a non-uniform magnetic field that has a stronger flux density on one side of the volume than the other.

As a result of the Foucault differential on the top spheres the inside (center-facing) curve would have a positive charge-difference and the outer a more negative potential. Complimentary to this arrangement is the charging process of the vortex, for when the central vortex is formed and it's outer mouth-edge's highly positive charge links with the inner center-facing sides of the top spheres an opposite potential (negative) will be induced on their outer sides as they rotate.

Now the electric field of positive ions that have been gathering on the top flat surface of the toroid becomes attracted to the negative charge on the top spheres as they rotate, each sphere pulling a division of that positive field across the air gap (with the help of the streaming action of the toroid's top inner sharp edge)(see figs.18 & 19 & 20), and in the course of its rotation stretches its division like an elastic sheet. The four stretching sheets then are forced to coil around the outside perimeter of the central vortex (because its positive charge will repulse them), and additionally, while still being pulled electrically by each one of the top spheres, will also be repulsed from each other stretching sheet to ensure that they tighten around eachother into four separate 'cycloconstrictive' coils (see figs.21 & 22) (see note 13).

highest concentrations of positive charges collect at the inner and outer edges of the toroid's top surface (the former more so than the latter)

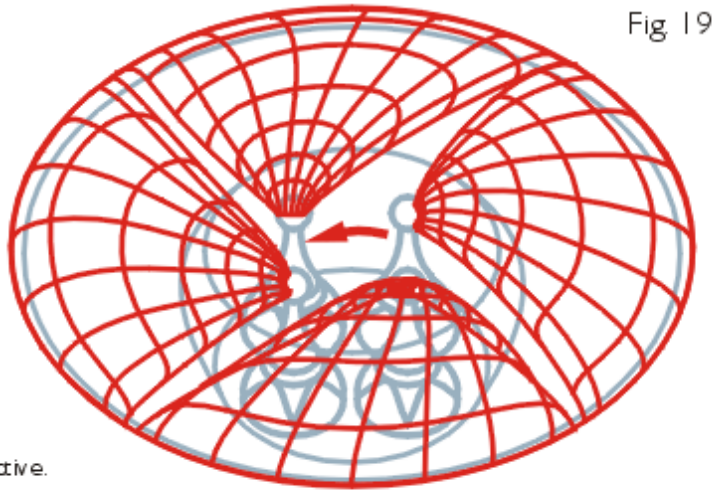
Fig. 18



electric field lines from outside of toroid to the four top spheres

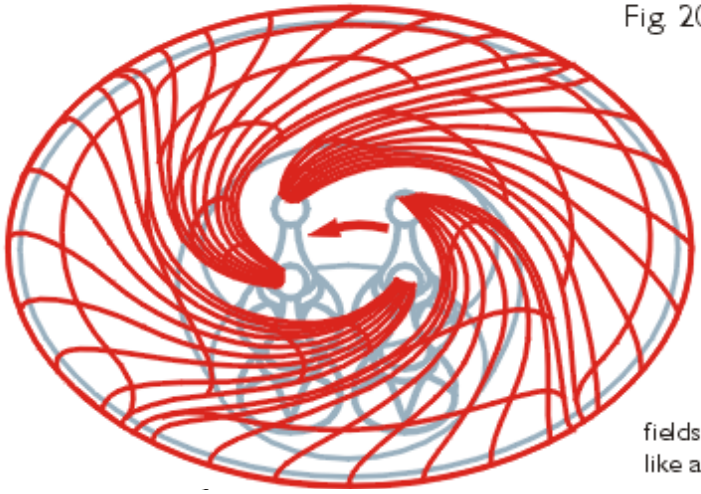
nonuniform field induces dielectrophoretic and electrophoretic movement of both neutral and charged particles, respectively, toward the central top spheres

Fig. 19



as the central sphere assembly rotates the electric fields converge into highly concentrated and highly localized zones of electrophoretic force, hence the term cycloconstrictive. Consequent repulsive forces between the fields ensure non-migration to other discharge points

Fig. 20



fields tighten toward centre like a clockwork spring

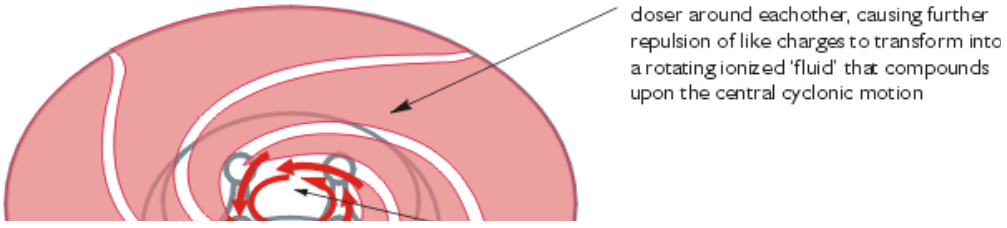
Such are the effects of the polarizing mechanisms of the vortex,

in combination with the Foucault differential charging that the top and out-facing curves of the small spheres will possess the highest intensity of negative charge, while these bipoles are rotating, particularly if some sort of electrostatic link is made with the large lower spheres so that they both obtain the same voltage pressure (see fig.8) (see note 14).

Wave Propagation

Outside and below the craft the polarized electric charges that have been massing in the two concentric donut rings beneath the craft are primed and ready to conduct across the insulating air gap between them (the still air normally has a breakdown field strength of 3 x 10^6 Volts/metre), to form an electromagnetic wave that would shoot off into the air below – but they cannot conduct because of the strength of the magnetic fields from the toroid, which are keeping the two charges apart and, in fact, which are spinning both these electric fields around the outside shell of the toroid in the same direction (and forming a 'double shell' between the metal's surface and the surrounding air). I've actually seen this for myself - the metal skin of the 'ship I was underneath gave the impression of depth, not as just a two-dimensional flat surface; this thick surface shimmered as if it were energized, as if it were a vibrational material rather than a dead metal - as if its atoms were only loosely bonded. So I guess I was seeing the electro-energy that adheres so closely to the outside surface that its actually an integral part of a ufo.

Fig. 21



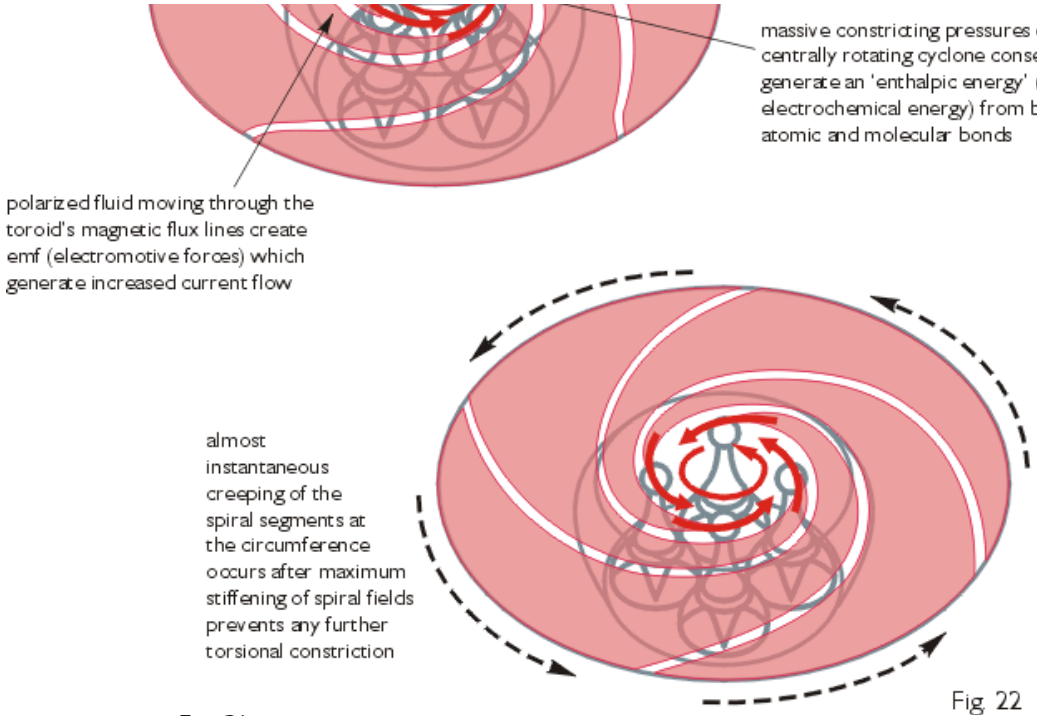
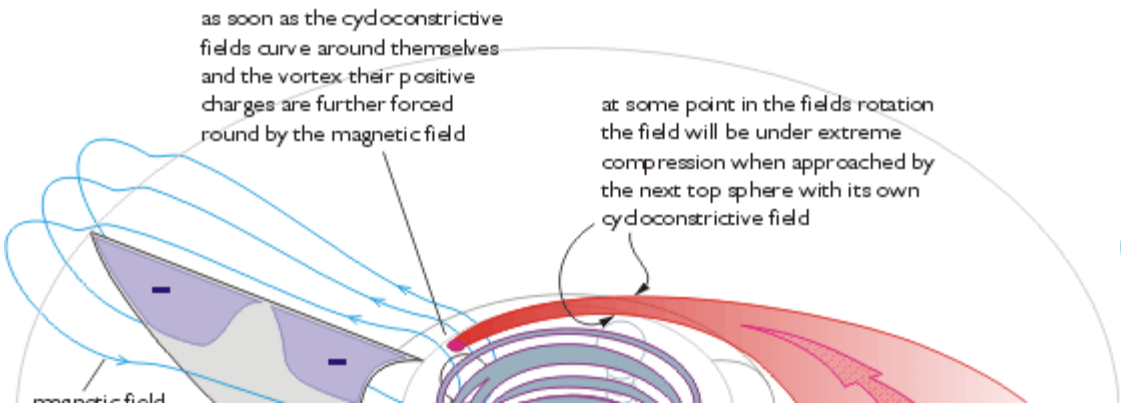


Fig. 22

The energy release mechanism occurs when, as the cycloconstrictive fields wind around the center they get pulled into a compressive 'wedge' between the other coiling fields and the central vortex (see fig.23), all of which are positively charged (these coiling fields are then further tightened, by interaction with the radial magnetic field, which will tend to drive the positive charges even further round the center in an anticlockwise rotation - and any negative charges clockwise toward the outside). The compression results in repulsion – and just like a tightly coiled clockwork spring when its link suddenly snaps – the fields break loose and recoil in the reverse direction (see fig.24).



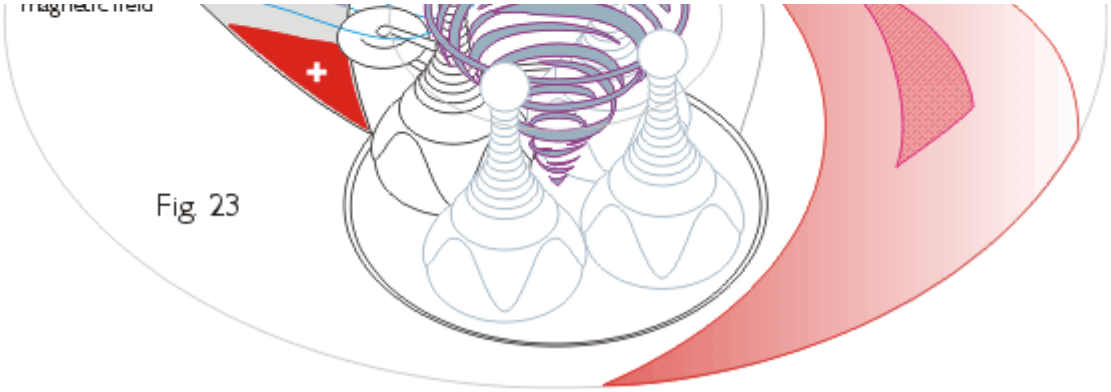


Fig. 23

The large masses of stored energy within each of the four cycloconstrictive fields of ionized particles (mainly protons and positive ions) now create a reverse-electromotive-force (back-emf against the toroid's magnetic field) as these 'plasmas' force their way through the radial planar wave guide and out through the circumferential duct (with the internal reversal and change in electric pressures, between inside center and circumferential duct, the plasma of ionized atoms and molecules are then further accelerated outward because the 'electrodes' that make up the planar wave guide have become oppositely charged and so their convergent force, as mentioned above, is now divergent throughout the radial planar wave guide).

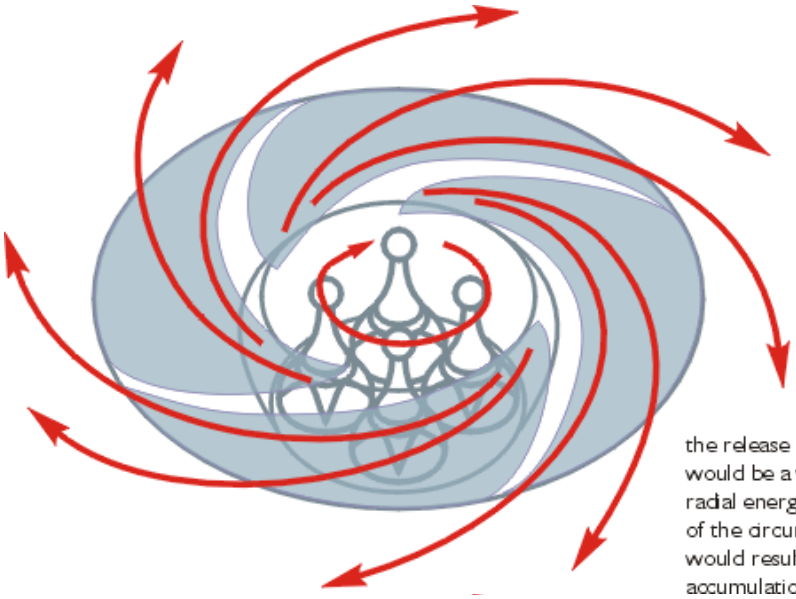


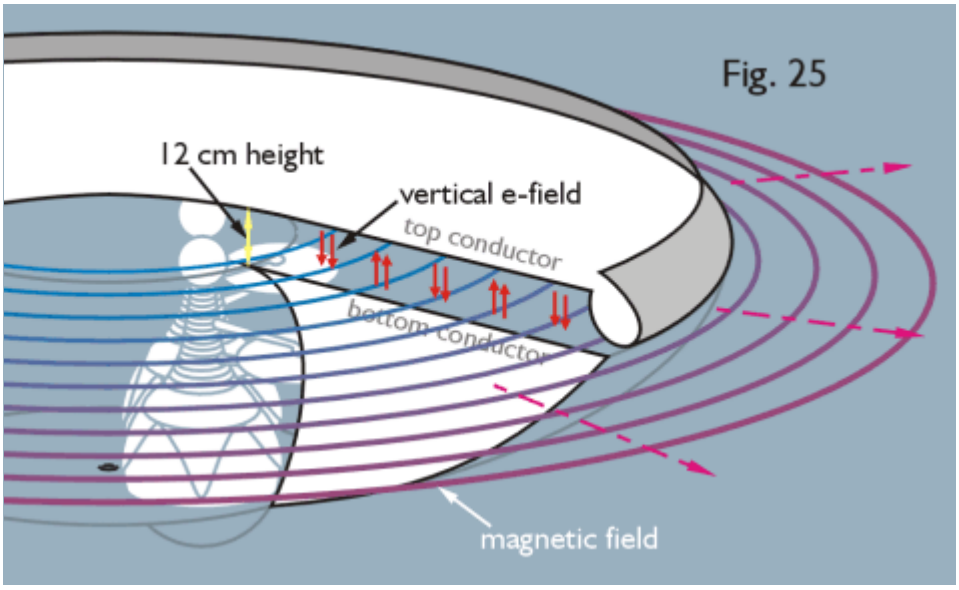
Fig. 24

the release 'reaction' to the charge-reversal would be a very powerful counter-force of radial energy thrusting outward - and by way of the circumferential duct - downward. This would result in an alternation of inward energy accumulation and outward thrust. An oscillation.

In fact, the radial planar guide is the perfect configuration for a

magnetohydrodynamic power generator, which would accelerate a plasma (see Plasma Wave page), because it has two planar electrodes (with a high potential difference between them) and a radial magnetic field, so that a current would be passed through the plasma perpendicular to the magnetic field, which, if no other forces were involved would transform the plasma into a transverse, rotating ring.

By capacitive coupling and the reverse-electromotive-force the reversal of polarity in the diffuse layers around the toroid causes the toroid's internal charges to reverse and the toroid's magnetic field to momentarily collapse and reverse (which, depending on the capacitances and inductances surrounding the toroid will continue to reverse and collapse, to continually oscillate, in concert with the rest of the electrical reactions in the accumulator reactor - just as would a 'tuned circuit' (see note 15).



[Note: As to the optimum frequency of that circuit's oscillation, it might be advantageous to correlate an established observation about ufos with a **newly discovered gravitational technology**.

For amongst those who have observed ufos at close range and have reported (and in some cases have audio-recorded) a humming, whirling, or pulsing noise coming from them, some have indicated that such sounds had a frequency rate of between 2 to 8 pulses-per-second (or 2Hz - 8Hz), which seems to be the optimum frequency range which, when propagated at a certain power level into mass, renders it weightless (see Professor Aquino's "System G" anti-gravitation page) - or see note 15a for the website link...]

The beauty of this system is that although the initial charges are generated by the toroid, strictly speaking they never actually leave the craft – the charges propagated in the electromagnetic wave are induced charges taken from the surrounding air. It doesn't expel its own energy - it expels the diffuse layers - not one ion of its own is lost...

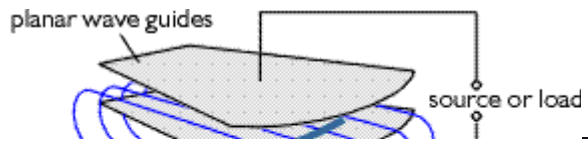
Plasma Propulsion Forces

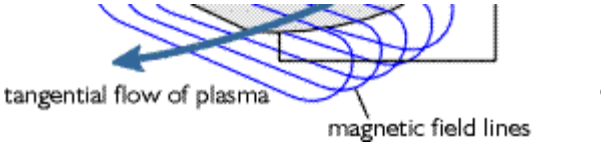
Each time the magnetic field suddenly collapses and the plasma gets forced out it generates its own magnetic field that will be fixed into the plasma ring as the plasma ring expands out through the duct, and pulls with it the other charges from below the craft (see fig.25)(see note 16) (see UFO Plasma Engine page). The whole seething mass of plasma then reacts to the magnetic field ‘frozen’ inside it by vibrating in a highly energized kinetic state and expands at almost the speed of light. The effect is similar to the propagation of an electromagnetic wave but while the electric field and the magnetic field frozen inside the plasma resonate, the continually changing magnetic field is creating an ever-expanding electric current inside the plasma. And while this interaction is taking place a third force, a vector

force, is producing an expanding 'force wave' of energy against the outside air, thereby completely transforming the electromagnetic energy into kinetic propulsive energy - thereby providing thrust to the ufo (see animation below).

One more thing... That the lower spheres are said to pulsate with light, of all colors of the rainbow, is indicative of the electrical energy of the atoms and molecules in the fields of charged particles surrounding them being pummelled and stressed by the changes in the magnetic fields of the craft. Indeed, the electrical environment of whole UFO craft is so extreme that atoms in the air surrounding them undergo tremendous forces and the orbiting electrons of those atoms get thrown out of their normal energy orbits and jump in and out of their adjacent energy bands exhibiting all sorts of photon emission as they do. This throwing off of colored photons is the visual effect of extreme *Fermi level* energy-exchanges of when electrons are accelerated, decelerated and forced to flow in the opposite direction - phenomena which occurs at least four times every cycle of the two opposing magnetic fields energizing and collapsing.
The highly compressed field of spinning electrons stored outside the craft, for instance, by the time they are forced back into the craft and out through the vent in the base disc would be so highly energized when they exited below the craft that they would appear as a flash of bright light from the photons given off in such abundance (see note 12 [2]).

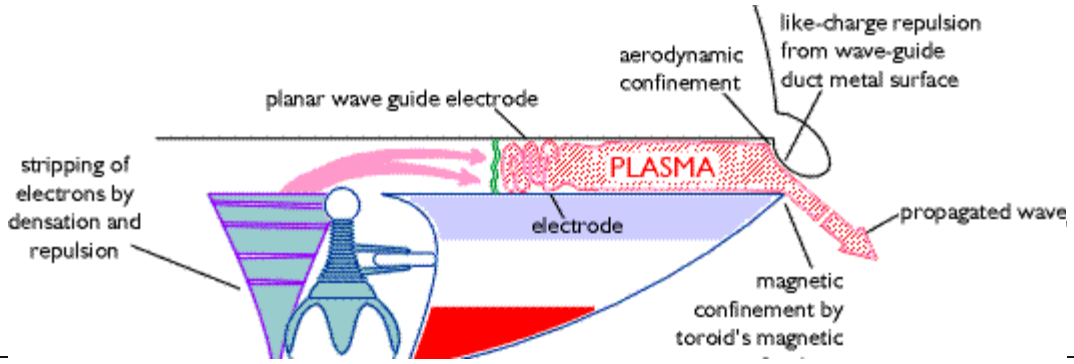
PLASMA WAVE





The radial planar guide is the perfect configuration for a magnetohydrodynamic power generator, which would both accelerate the plasma, and induce electric energy from it. ("The Plasma State" J.I. Shohet (1971) p145)

The combination of the radial planar wave guide, the capacitive configurations, and the coiled up cycloconstrictive fields (of stored electro-magnetic energy) are the main component parts, along with a plasma of ionized particles, that make up a plasma acceleration device (broadly similar to a coaxial plasma gun - but, of course, more refined and much bigger). The plasma, of mainly positive ions and protons would be set in motion by the recoiling action of the repulsed cycloconstrictive fields and then accelerated by the oppositely-charged planar wave guide electrodes, out in a tangential flow through the toroid's radial magnetic field. Confinement (which amplifies its force even more) in the wave guide would be in all directions except at the circumferential duct, where the aerodynamic shaping of the duct (and like-charges repulsion) would constrict the plasma and then direct it downward and outward, whereupon the plasma would blast its way through the toroid's magnetic confining field - as a propagated wave of kinetic energy - at almost the speed of light.



Some comparative figures from a small 8cm diameter hydromagnetic plasma gun might give an idea of the energies involved. Using a coaxial tube to accelerate a hydrogen plasma, and where the conversion of electrical input to kinetic propulsive energy was rated at 40% efficient;

delivery of 5×10^{19} protons (from 1 cm^3 of hydrogen input)
with an output kinetic energy of 100 ev per proton
at an output speed of 1.5×10^7 cm/sec

Unfortunately the above data is rather ancient (*"Performance of a Hydromagnetic Plasma Gun"* by John Marshall (Los Alamos Scientific Labs) in "The Physics of Fluids" Vol 3 (1960) p134-5). A more recent approximation of output may come the results of work done by French physicists Petit, Viton and Poher who, in the mid-1970's developed a 'ufo engine' that developed 1,000 million watts (UFO Plasma Engine - French Physicists page).

UFO PLASMA ENGINE

"Three leading French physicists claim to have made a 'sensational breakthrough' into the mysteries of how UFOs are powered.

Dr. Jean-Pierre Petit, Dr. Claude Poher and Dr. Maurice Viton, have constructed what they term a 'UFO engine' or, The Petit-Viton Magnetohydrodynamic Motor' by using, so they say, a combination of both electromagnetic and nuclear energy.

The French scientists claim fantastic results and tremendous power output in the order of 1,000 million watts. The ufo engine was built at the Astronomical Observatory in Marseilles.

Possibly one of the most amazing developments of the French

ufo engine, is that the physicists claim to have discovered how to suppress the shock waves which slow down any object moving through the air. Petit said:

"It all comes down to standard physics. An electromagnetic field can create a low pressure area under an aerodyne, or flying saucer. To this can be related the peculiar property of plasma. Plasma's magnetic field is frozen inside while it expands at unimaginable speeds, producing an electrical current. Using plasma, a belt of 'free air' can be created. The molecules of air in front of this belt are pushed aside without piling on top of each other, as they do when a normal aerofoil passes through the atmosphere fast enough to break the sound barrier

We're not saying we've solved the problem, but we think we have cracked the principle behind the effects observed in unidentified-flying- objects".

Plasma, referred to in the preceding quote, is an intensely ionized gas containing roughly equal numbers of positive ions, and electrons. *Ionized* means to electrically charge an atom or group of atoms. An *electron* is a negatively charged atomic particle.

As a matter of interest, one of the physicists who co-developed the ufo engine is now head of an official French ufo research group. Dr. Claude Poher, formerly in charge of the Astronomy Department, Scientific Systems, Projects Division and Sounding Rockets Division of the French National Centre for Space Studies (CNES), is now director of GEPAN (*Groupe d'Etude des Phenomenes Aerospatiaux Non Identifies*)".

[Sourced from a book called "Prehistoric Germ Warfare" by Robin Collyns (1980), which gave its source as *Australasian Post* (from Los Angeles ?) dated March 31 1977 from an article on the *French Ufo Motor* by Bernard D. SCOTT.]

[1] **UFO TECHNOLOGY** - The Short Bibliography

Glimpses of Other Realities Vol II - High Strangeness (1998) **Linda Moulton Howe**

The Andreasson Affair (1979/1994) **Raymond E. Fowler**

The Andreasson Affair - Phase Two (1982) **Raymond E. Fowler**

The Watchers (1990) **Raymond E. Fowler**

The Watchers II (1995) **Raymond E. Fowler**

The Day After Roswell (1997) **Col. Philip J. Corso**

Alien Contact (1993) **Timothy Good**

The Threat (1998) **David M. Jacobs** (read with caution)

Transformation (1995) **Julie Soskin**

Living Energies (1996) **Callum Coats**

Living Water (1990) **Olof Alexandersson**

Ufo Quest (1994) **Alan Watts**

The Fantastic Inventions of Nikola Tesla (1993) **David H. Childress**

Anti-Gravity and The World Grid (1992) **David H. Childress**

Prehistoric Germ Warfare (1980) **Robin Collyns**

The Philadelphia Experiment (1979) **Charles Berlitz** & **William Moore**

[2] **UFO notes page**

note 1) Deuterium is hydrogen water without oxygen and can be produced by electrolysis from normal water. Deuterium when pressurized then breaks down into atoms and converts to a conductive fluid. To lend credence to the deuterium theory is the fact that several observers have reported seeing UFOs hovering over the sea and over lakes apparently drawing up into them huge quantities of water - but are they taking in and retaining the water - or are they *processing* it for deuterium and dumping the residue... Betty Luca herself mentions watching this phenomenon (in *"Watchers"* p54) and, she does actually mention seeing sparks of electricity flying all over the place when the process was taking place !

note 2) As an example of laminar or streamline flow, a liquid flowing through a channel of uniform cross-section, depending on it's viscousity, will flow as a series of parallel layers (or laminae). The layers in immediate contact with the walls will be at rest while those layers close to the center of the channel will be fast-flowing, and therefore the liquid will form into intermediate layers - especially when the channel is curved. With respect to such laminar flow insulating fluids can generate large amounts of electrostatic charge simply by moving them through insulated curved containers (as with the case of petroleum storage and distribution - where a lot of research is done on eliminating these large and potentially hazardous electric charges, created when they are pumped, by dispersing them through ground conductors).

Further on from the above example of layering is when suspensoids are introduced into an insulating fluid, because in the presence of the electric and magnetic fields around the toroid the

suspensoids in its fluid will move at differing speeds relative to whether they are dielectrics, paraelectrics or ferroelectrics with differing magnetic susceptibilities and the fluid in the toroid will behave much like a solid dielectric does with a variety of positive and negative charge domains, and those factors will subsequently effect the fluid's electrostatic charging.

How the liquid is composed and how that composition reacts to electric and magnetic fields greatly effects its electric-charging cababilities. See, for instance, Patrick Flanagan's research into the surface tension of negatively-charged colloidal water, extracting from a small volume of water when spun in a vortex an electric charge of 10,000 volts "*Secrets of the Soil"* by Peter Tompkins & Christopher Bird (1991) p109; and "*Experiments on the Sign of Electric Charge Assumed by a Metal Immersed in a Liquid"* in "Physical Review" Vol 22 (1923) p134-6; and the Reynolds fluid research in "*Elementary Fluid Mechanics"* by Robert L. Street et al (1996) p231-5, and in "*The Feynman Lectures on Physics"* by Richard P. Feynman et al (1970) Vol 2 p41-6 to 41-10; and of course Schauberger's work on high voltage generation from water in "*The Energy Evolution"* by Callum Coats (2000) especially Schauberger's mention of producing 200 million volts from water (p43). Also see *"Magnetic Fluids - Engineering Applications"* B.M.Berkovsky (1993) pp20 for water-based magnetic fluids.

note 3) Dielectrophoresis occurs in a non-uniform electric field; as for instance if a small electrode is central to a larger, cylindrical electrode and the lines of electric flux converge toward the central electrode, like spokes in a wheel, that non-uniform field will cause polarized (neutral) particles to move toward the strongest part of its electric flux - at the center where the lines of force converge.

Opposite to this dielectrophoretic motion is electrophoresis, which is an attraction of charged particles to the terminal of opposite polarity. From *"The Motion and Precipitation of Suspensoids in Divergent Electric Fields"* by Herbert A Pohl in "Journal of Applied Physics" vol 22, p871,(1951). Also see 1980 *"Annual Report Conf. Elec. Insul. & Dielectric Phenomena"* (National Academy Press - Washington) pp82 (T.B.Jones).

note 4) The arced-toroid, while it should be made of an insulating material or a laminate of metal-insulator-metal materials, some descriptions describe it as a glass-plastic material, or that some metals inside the craft become transparent with an applied electric field – but this transparency effect must be down to an alignment procedure of the metal on a molecular level and must be established upon its construction-materialization process. Actually, the transparency effect of metals has been mentioned by many independent witnesses and experiencers, such as Travis Walton, Daniel Fry, Betty Andreasson Luca, and Bob Lazar, et al, so its obviously prevalent.

An extraterrestrial artifact of a miniature ufo found in England had an alternate coupling of copper (non-magnetic) – polystyrene (insulator) – copper; where (according to the lab reports from the Cavendish Laboratory of Cambridge and the Department of Metallurgy at Manchester University) the copper had a non-crystalline structure and the polystyrene had an unusually high mass, and spread throughout the various layers was a fine magnetic powder. Was it some sort of hint as to how a real ufo is structured? (See *"UFO Quest"* (1994) [retitled *"Unidentified Flying Objects"* in 1999] by Alan Watts p47-8.)

Molecular alignment is in Corso's book *"The Day After Roswell"*

p115 (p/back p125). In the same book Corso also says that one of the craft he worked with had an outer shell made from a thin alloy of pure silver and copper - and that this metal was *"remarkable for its conductivity, as if the entire craft was an electrical circuit offering no resistance to the flow of current."*, ibid p107 (p/back p117) (see a short summary of his references to ufo technology in the Corso Page). Presumably, as in the case of the Roswell samples, such extra ion content enhances the polarizability of the metal.

According to "New Scientist" Danijel Djurek, a physicist at A.Volta Applied Ceramics in Zagreb, Croatia, has discovered a new 'magic formula' for a superconducting ceramic that works reliably at room temperature. The Croatian scientists says that current will flow without resistance through the material, which is a mixture of lead, lead carbonate, and silver oxides, at up to about 30 °C (from "New Scientist" 31 March 2001). This follows their very recent discovery that the chemical magnesium diboride superconducts at temperatures almost twice those needed for previously-known metallic superconductors to work (from "New Scientist" 3 March, p 6).

And contrary to the misguided belief, by some scientists, that a ufo in order to travel through earth's atmosphere has to withstand tremendous amounts of heat, a ufo, has at its outer shell-casing a temperature completely unaffected by air-friction, because through the electrochemical reactions and boundary-layer effects of the electronic ionizing of the propulsion systems it uses it produces a 'soft' buffer to the air-medium it travels through, and even against the 'supersonic barrier effect' - and so a ufo does not have a 'hard edge' to produce air friction with. Apparently, American, British and

Russian physicists have for a long while been working on this very same principle, to provide reduced air-drag, for commercial aircraft (see an article called *"Plasma Magic"* by Justin Mullins in "New Scientist" 28 Oct 2000), and I do believe the B2 bomber had a similar facility too (as seen in numerous photographs of B-2A bombers flying over Edwards air force base sporting electronic 'vapour' plumes, recently 'released' via a special edition of *Airforces Monthly - Planes 2: The Next Generation"* in October 2000 in the UK).

note 5) When the magnetic fields begin to resonate the flux lines will create electrical eddy currents over the under-face of the floor surface (see fig.3), so that a skin of charged particles will circulate around the surface (in conjunction with the other circulating fields). The top surface of the radial planar guide is also the base and floor (or main deck) of the upper 'operations' section of the craft, and would be made of laminated metal that shields the upper section from the electrostatic fields (by Faraday Effect) and to some degree the electromagnetic fields generated by the toroid below. The base can be capacitively coupled (or directly coupled) to the upper outside dome-shell of the craft so as to enable the metallic dome to acquire an outside positive charge. The dome itself can be made to store a tremendous amount of electrical energy, over it's whole surface area, if it is structured as a capacitor (ie laminated with very thin layers of insulating/dielectric material – the thinner the more enhanced will be the capacitive effect – in between various layers of conducting materials)...

note 6) [27] "Einstein derived his equation from the special theory of relativity. One way to glimpse the link is to reflect on the fact that material bodies cannot go faster than light. So what happens if you

just go ahead and try to accelerate a particle of matter through the light barrier ? This is precisely the sort of thing that physicists working with subatomic particles do with their giant accelerator machines. The result is that as the particle gets nearer the speed of light, it becomes heavier, i.e. puts on [28] mass. (**An electron whirling around inside the LEP accelerator, for example, weighed about 200,000 times an electron at rest**). This makes the particle harder and harder to speed up." (From "How To Build a Time Machine" by Paul Davies (2001) p27/28.)

note 7) To assist the inner *transverse* magnetic field project the spinning electron field down through the central exit vent in the base disc, when the transverse field becomes energized, it may be advantageous to have this base disc made of a non-magnetic material, such as aluminum, which would convert the magnetic flux of the lower toroid's field to a rotating electric field (eddy current) around it's surfaces (above and below), which will supplement the action of other charged particles spinning around the large lower spheres by their interactions with the same magnetic field when that field collapses. Such rotations of electric charge just outside of the exit vent would form a flux-constricting force for the newly energizing inner core of the transverse field.

note 8) There may be located in the arms a semiconductor type of current-flow control that allows voltage pressure to remain accumulated in the lower and upper spheres and only allow conduction through the arms when it is required.

note 9) Still air normally has a breakdown field strength of 3×10^6 Volts/metre.

note 10) As the field of electrons get forced back into the center of

the craft the angular momentum of that spinning sheet increases - but the question is, what happens to the extra centrifugal mass gained by the electrons in the outer magnetic field (as in note 6 above) - does it increase even more when the sheet is brought inward ?
And what of the air surrounding the outside spinning sheet of electrons - it would be positively charged but when the electrons suddenly imploded into the craft there would be a tremendous electrical stress in the volume of air between it and the craft...

note 11) A rotating electric field stores kinetic energy and electrical energy (with its force-field acting from its center to its outside region) (*"Plasma - The Fourth State of Matter"* D.A. Frank-Kamenetskii (Trans. J. Norwood) 1972 p86).

note 12) It would seem logical that the higher the color is up the spectrum (ie blue-white) the higher is the energy exchange that is creating it. A ufo glowing red or orange at would therefore be running at 'low revs' and when it's emission progress through yellow, green and blue it would be energizing 'through the gears', and be 'flat out' pulsating with a bright-white haze around it.

note 13) Of the many video shots I've seen of UFOs, especially filmed over mexico, a light haze (sometimes colored) can be clearly seen around the craft - but more precisely the energy haze is usually slightly above and to one side of the craft. That's electronic ambient phenomena.

note 14) The phenomenon of pressure ionization occurs when, in a highly volatile and compressed state electrons are squeezed out of their high energy levels (ie Fermi energy) breaking the outer shells and detaching from the atom. See *"Plasma – The Fourth*

State of Matter" D.A. Frank-Kamenetskii (Trans. J. Norwood) 1972; also see *"Francis Bitter - Selected papers on Electromagnetism"* ed: T. Erber (1969) p518-522.

note 15) The most appropriate way of getting this power out is to 'tune the circuit' so that it's charge-discharge-recharge cycle corresponds to a resonant frequency. There would be such an array of charge backflows (or, reverse electromotive forces) from the capacitive couplings, and a collapsing magnetic field to work with, and a planar wave-guide that would function as a waveguide (for short wavelengths), to enable this circuit to work repetitively so as to oscillate, that, once the component parts of the craft's capacitance and inductance were controlled so could the output frequency be controlled, and so too could its kinetic propulsive power be controlled.
Indeed, **A.H. Bahnson Jr**, who carried forward some of the electrokinetic ideas of TT Brown, says in his *"Electrical Thrust Producing Device"* patent that his device worked much more efficiently when the frequency of the voltage applied to it was "in resonance with the internal amplitude of the molecules of the air or other gaseous medium in which the apparatus operates." (US patent 3,223,038 Dec 14 1965 p1:50) (see note 35 below for link to Bahnson page).

NOTE: If the liquid is polarized and its dipolar-molecules were aligned to the electric field, after discharge they would reverse-align themselves and, although the tendency would be for the reversal to 'brake' the flow of the fluid its inertia would bring the dipole-molecule alignment back to the original alignment. This would also have a bearing on the tuning of the circuit because it would act as an inductance in the circuit - unless this 'part' of the

circuit was oscillated at resonance - in which case it would greatly *increase* the available electric charge.

note 16) Does this electronic propulsion **work in space...** If there are particles in space that can be electrically polarised then yes ! According to Cambridge (UK) physicist Paul Davies who says there is potential energy in space, and that our idea of space being full of *nothing* is outdated, "Incidentally, the Heisenberg (energy-time) uncertainty principle also has important implications for the nature of empty space: it means there is no such thing as a perfect vacuum. Even when you have removed all particles of matter and all photons, there will still be virtual photons (and virtual versions of all other types of particle) popping into temporary existence. Virtual photons permeate all of space, filling it with a seething ferment of quantum activity. What may appear at first to be total emptiness is, in fact, a beehive of fluctuating ghosts, appearing and disappearing in an unpredictable frolic. And this isn't just theory. Virtual photons manifest themselves physically in a number of ways. For example, they jostle electrons in atomic orbits, producing small but measurable changes in the energy levels". (From "How To Build a Time Machine" by Paul Davies (2001) p84/85).

In his laboratory at Electrokinetics, Inc. (during the late 1950's) TT Brown discovered that his electrokinetic effects actually worked *better* in a vacuum, and that less current would be used in a vacuum to produce the same amount of lift. He also discovered a link between light and electrokinetic energy (see his documents on EHD at the link below in note 17).

Professor Hal Phuttof, one of the world's leading scientists in advanced propulsion systems, has said that by exciting atoms in a

vacuum a spontaneous emission of energy can be stimulated - by a factor of 100 (from a report on the Advanced Propulsion Workshop of Jan 2001 at the Institute of Development Studies, Sussex University - see UFO Magazine March 2001 pp16).

One small insight into the ET tech of manipulating electric energy out in space may come from observations that orbiting craft (ie the 'cigar' mother-ships) emit liquid vapour or 'steam' around their shells - whereby if it were as simple as water-vapour (perhaps this is a form of electrically induced thermionic emission) or perhaps this is another case of an ESR (electron spin resonance) thermoelectric reaction from the use of microwave radiation on something as basic as water - which is something the ETs seem to want to replenish their stocks of quite often... Then the movement of it could be used to generate electric charge for the craft while in space (see *"Watchers Two"* Raymond E. Fowler p86).

note 17) While American military scientists of the late 1950's were fumbling to hide their ufo investigations Townsend Brown proved emphatically his ample understanding of electrokinetic propulsion by developing in his own laboratory machines that gave a return of 110% contra-gravity thrust.
For in Townsend Brown's own words: "Laboratory devices weighing 100 grams (~3.5 ounces) less power source have produced a thrust of 110 grams, for an electrical power expenditure of **500 watts** (**250,000 volts @ 2.0 milliamperes**). This experiment was performed in air (1 atmosphere). Supplementary research indicates much greater efficiency (same thrust for less power input) results when operated in a vacuum (10^{-4} mm. Hg. or better), when the current drops to about 2.0 microamperes.

This performance compares with the ion propulsion unit being operated at NASA's Lewis Research Center, which weighs several pounds (kilograms) and produces 28.35 grams of thrust for a power input of 1,200 watts (10,000 volts @ 120 milliamps). It produced these results in a 10^8 mm. Hg. vacuum." (For more information, on what Townsend Brown then called ***Hydrostatic Propulsion***, see his original documents on Electrohydrodynamics (Supp. A) (circa 1960), from the T Townsend Brown family website).

note 18) See *"Alien Contact"* by Timothy Good (1993) p187; but also see Bob Lazar's video.

note 19) ibid. p179

note 20) ibid. p188

note 21) US patent 7,326,715 (7 April 1989)

note 22) See *"Alien Contact"* by Timothy Good (1993) p181; and see the Lazar Gravity Generators page.

note 23) See *"The Andreasson Affair - Phase Two"* p154. And for the encounter of a similar craft by a US Army Lieutenant see *"Glimpses of Other Realities Vol 2"* by Linda M. Howe p93. Interestingly, recent sightings of spheres in large formations, perhaps on some sort of reconnaissance, have been made in Wales (between November 1999 and May 2000) (*"Western Mail"* Cardiff 16 May 2000) (*"Ufo Magazine" (UK)* July/August 2000 p43) (*"Ufo Magazine" (UK)* Nov/Dec 2000 p4).

note 24) Projecting a negative electric field into the air some distance from the craft is a lot more logical than 'projecting' a positive field. But as TT Brown himself explains his effect works

not exclusively toward a positive electrode - but that it works toward the area of least density of electric flux lines (see Brown's patent 3,187,206 fig. 8C). So in the case of the orb-sphere, it's body could be positively charged and the ambient it electrifies above it could be negative (as long as the ambient is dispersed over a wide area so as to shape the electric field).

note 25) From the way Lazar explains the propulsion system of the ufo he worked on it can't be an 'anti-gravity' wave, or even a 'gravity' wave, that that ufo rides on. For he says, in his video, that by using only one of the three gravity amplifiers it pushes out a pulsing wave which it 'floats' on. And while it is weightless the other two gravity amplifiers are used to create and project a 'disturbance' in the air-space ahead of it. This sounds like more electromagnetic 'seeding' of the distant air-space to me (see Jon Farhat's "Bob Lazar" website for sketches, pictures and text about UFOs and aliens)... anyway, Lazar then explains that it works just the opposite to aircraft thrust, in that as the disturbance is projected into the distance the craft reacts to it as if it were running downhill to it - and thats how it travels . We'll see...
In fact, the "hill" analogy used by Lazar seems to be straight out of Mason Rose's contemporary account of TT Brown's electrogravitational propulsion; and the concept of thermoelectric conversion from a 'nuclear reactor' directly to electrical power is almost straight out of a Brazilian naval intelligence report from the late 1950's ("Alien Contact" p181) – can we deduce from this that the military physicists Lazar worked with at Area 51 were still using analogies coined in the 1950's !?!
...As a matter of fact NASA (Franklin B. Mead's Research Laboratory) is stuck in tests on a principle similar in nature to

Lazar's concept. They have a "Lightcraft" that focuses part of a lasar beam ahead of their craft as an "air spike", and then when ionized air-ambient is forced back past the craft (accelerating its slipstream) the craft is forced forward (see the article Highways of Light by Leik N. Myrabo in "Scientific American" Feb 1999 pp68).

note 26) Although Tesla at that time in his life only wanted to design destructive war machinery the principle of propulsive force is similar to what he called 'scalar wave interference' of when the two beams were pulsed, from different source points, and where they converged they'd produce another, interference wave, of increased power and velocity (a bit like the Star Wars weapon where two energy waves, angled slightly differently, are made to converge at a particular location in space (like meshing 'lower hybrid waves' of slightly differently angled propagation - each with a different angle of incidence) and the resulting vector wave energises the charged particles – in spectacular fashion to shoot off at speed into the distance. But for a propulsion system the waves have to be 'amalgamated' at a finite distance from the craft and to produce an electronic reaction with the atmospheric air at that location - so as to then **push against** that electronic reaction in the atmospheric air.

Perhaps M.K.Jessup knew a bit about this 'cold concourse' too, in his *"The Case For The Ufo"* (1955) pp33 when he wrote "*Suppose that some intelligent entity was directing a concentration of potential which could make small volumes of rarefied air rigid, could set up a sort of island in the gravitational or magnetic field, moving the island about as the* spot *of a searchlight is moved on thin clouds." and, "In moving, this* island *would simply "freeze" on the advancing edge and "thaw" on the trailing edge. In this way it*

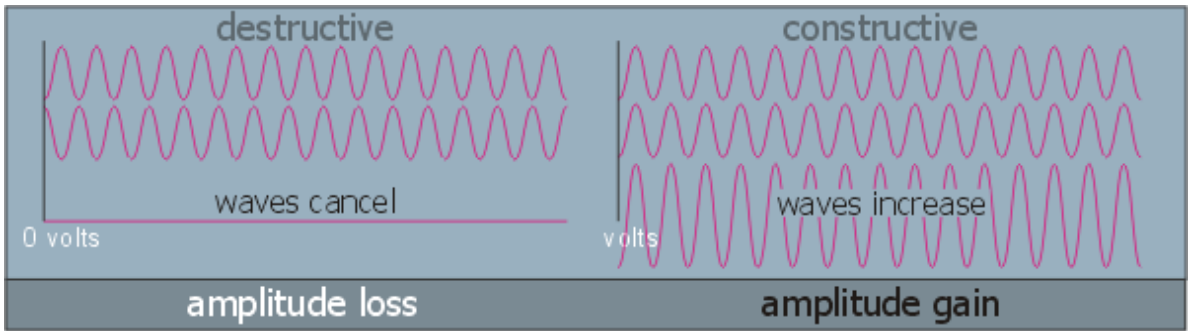
could have almost infinite velocity, and also acceleration..."
In a more simplified form Wilhelm Reich also used a system of ionizing-at-a-distance with his 'cloud-buster'. Also see *"The Fantastic Inventions of Nikola Tesla"* (1993) p270. And *"Nexus Magazine"* April-May 1996 pp55. And see *"Plasma - The Fourth State"* p118.

note 27) I would like to see more UFO reports like this one by James McDonald; it is very informative, its writer had obviously done his homework and he didn't compromise with his own reality - especially when he was confronted by the 'misinformation bridage' who tried to hide this report behind mis-dating and mis-filing proceedures. Right Stuff ! His work lives on. See the PDF of "Air Force Observations of an Unidentified Object in the South-Central US".

note 28) Betty Andreasson Luca, over her many years of hypnotic regression, became extremely adept at recalling events during her abduction experiences. She was/is obviously a highly-evolved and highly experienced spirit for the ETs she met would freely converse with her about the most profound of spiritual tenets, or the most technical of details to do with the alien's machinery. In "The Watchers" (Raymond E. Fowler 1990) she has recalled details of alien electronic engineering that are both mystifying and inspirational to say the least. Obviously in those sort of circumstances a person is not going to recall *all details* word perfectly, but I'd like to include here some of the phrases to do with electric field transfer that she has heard the ET's mention;
"... And the being says they are PURGING and LINING the CYCLONETIC TROWEL." (p76), which is something to do with a fluid (of water or some other liquid) flowing counterclockwise

around the smooth outside surface of one of the crafts. And, "... The being says: 'BALANCING the OSCILLATING TELEMETER WHEELS and LEVELING.' Ah, I just can't understand some of that." (p77), followed by "... ROTATING series of SEMI-FULL SWING BACK. LIQUID LINE ? MAGNETIC RINGS and the DEPOLARIZED RIM." (p77), whereupon Betty then describes seeing a series of glowing electric discharges crawl all over the crafts and into the surrounding air as if she were standing right in the middle of an electric storm (see Betty's illustration). But the most interesting phrase is one she recalls after seeing a pretty spectacular explosion. In that incident Betty has been watching a ufo craft in the middle-distance hovering over a lake drawing up water through hoses, all of a sudden there is a very loud "bang", sparks of electricity are flying all over the place, and obviously something has gone very wrong; Betty then continues, "...And they said, they had something, something about a TRANSVERSAL SHOCK from something." (p54). Now, TRANSVERSAL SHOCK is not in your everyday electronics phrase book, and it certainly won't be on your average university physics course - but it is a known phenomenon.

note 29)



In the graphic above when the two waveforms on the left are compared the second one is simply phase-shifted by 180º from the top one and their amplitudes cancel eachother out; whereas the

two top waveforms on the right are of the same phase (and of the same amplitude) and so they result in a boosted signal.

An affiliated technology to cancelling of the two amplitudes is "noise cancelling" whereby an electronic amplifier can be made to reproduce an exact copy of the sound coming from a localised area, give it a 180-degree phase-shift, direct it back to anyone 'listening' in that same localised area - and as if by magic - they will hear nothing but silence. Well, that's the theory, in practise it is very difficult to cancel *completely* all of the sound. Saab have had such a sound limiting system on their commercial aircraft for a while, but it doesn't produce complete silence. An interesting and poignant example of noise cancelling is associated with certain reported cases of cattle mutilation in America. Britain's Nick Cook, in a TV documentary "*Billion $ Secret"* on Channel 5(UK) (in 1999 and 2000) reporting on Black Budget enterprises in the US using pseudo-ufo technologies, interviewed John Harr, a cattle rancher in Colorado who described 'observing' a black craft hover around his ranch house one night that gave him the impression something sinister was going on. For although it made no sound whatsoever the incident made the rancher clearly believe that the 'craft' was not a ufo but a helicopter, because he could feel the revolving rotor-blade down-pressure as it hovered only a few meters above him before moving off silently into the darkness. In daylight the next day upon inspecting his herd, sure enough a number of cattle had been mutilated in copy-cat fashion to that done by the aliens. The military is trying to say, Oh yes we are doing all that - but no-one is being fooled that it isn't being done by extraterrestrial aliens elsewhere for their own particular needs...

note 30) See *"Living Energies"* by Callum Coats p287; but also see *"The Energy Evolution"* by Callum Coats p140 and *"Living Water"* (1st edition) by Olof Alexandersson p142 (of Callum Coat's postscript notes).

note 31) Schauberger, in the 1950's stated that his apparatus "functioned at the first attempt ... and rose upwards, trailing a blue-green, and then a silver-coloured glow." See *"Living Water"* p94.

note 32) See *"Living Energies"* p287. One of Schauberger's small prototypes of the 'Repulsine' was appropriated along with many more of his machines by the American forces at the end of the war (see *"Living Energies"* by Callum Coats p288; and *"The Energy Evolution"* by Callum Coats pp177 for the accompanying patent application text).

note 33) One small point, when a tornado gets fierce bolts of lightning can be seen to flash from the top to the bottom, which obviously, is where the separation of charge effect discharges the accumulations of opposite electricity – but the reason why the lightning flashes *perpendicular* to the ground and not around the curve of the twisting air is because in a vortex the heavier particles get forced out centrifugally and accumulate in the air surrounding the vortex. That the amount of electricity stored in the air, and indeed that can be taken ***from the air*** can be colossal is attested to by the experimental disaster of the French physicist Gerard Renault (c.1926) when his 'air plasma' machine destroyed part of the French Academy building in Paris, and the more successful discoveries made by Viktor Schauberger in the 1940s in Germany.

note 34) The essential ingredient proves to be the 'wide-brim' disc which shapes the electric field, and which creates the all-important

differential in the electric field density between the upper area of the craft and the lower area. The Piatan ufo image is taken from *"The Fantastic Inventions of Nikola Tesla"* (1993) p298/299.

Ironically, the T Townsend Brown endeavor to develop the ultimate electrokinetic ufo doesn't end with T Townsend Brown. For one of his co-researchers at that time, **Agnew H. Bahnson Jr**, must surely be given at least equal acknowledgement for his furtherance of Brown's work to quite a high level of success. He was granted four patents (US 2,958,790 (Nov 1 1960); US 3,223,038 (Dec 14 1965); US 3,227,901 (Jan 4 1966); US 3,263,102 (Jul 26 1966)), that basically follow on from Brown's arcuate 'umbrella' design (see fig 27 (v) and see his patent list). And while Bahnson's 3,263,102 patent offers the earliest method of applying DIRECTIONAL thrust to steer this type of design by, the electrogravitic designs of Bahnson's 2,958,790 patent includes an extensively developed flying disc version - that is remarkable not only for its ingenuity of construction but is also remarkable for its resemblance to one of George Adamski's ufos...(see Bahnson (Adamski) Ufo page) (and see the T Townsend Brown family website for more information).

note 35) And how about a teaser for US Astronautical Science, seeing as it has a penchant for StarTrekisms, how about them using a collimated polarizing beam from an electro-dynamic craft as a tracker-beam, or a presser-beam…same principles as outlined above. As an extreme example, take the case of Travis Walton, hit unconscious by a presser beam from a ufo, again, from a stream of polarized particles while he stood underneath the craft before it pulled his unconscious body up into the craft (which, as an aside, probably saved his life for if the craft 'powered up' to

move away from him at speed the energy emission from it would have severely burned his body... I think the poor guy had quite enough to contend with when he was 'taken up' as it was, with at least an almighty engram to contend with that put a block on his memory) (for engram see below, note 36).

note 36) An **engram** is a mental block which contains mental image pictures, they happen when the person has gone unconscious and is in pain, the conscious mind has closed down but the subconscious mind is still recording the events taking place - in every detail. When the person comes to he or she will not remember anything consciously - but the images are there locked in the subconscious mind - and they can be retrieved if you are helped past the pain. Knowledge of the abduction phenomenon (based on the thousands of experiencer's actual testimonies) can be found t through Dr. John Mack's organisation. Tohis end there is an 'interesting' mechanism used *only* by the ET abductors, where when they 'return' an abductee back to their normal environment they give him or her an 'overlap' (of an event just before the abduction takes place), which ensures continuity - so that the person doesn't remember what happened to them. The ETs also know each individual's 'full track' (of this and past lifetime experiences) - just like, seemingly, the *Lipika Watchers which record upon the Akashic records* that Theosophist H.P. Blavatsky commented on in *"The Secret Doctrine"* (1888), when she wrote "*The **Lipi-ka**, from the word lipi, "writing", means literally the "Scribes" (these being the four "Immortals" which are mentioned in the 'Atharva Veda' as the "**Watchers**" or Guardians of the four quarters of the sky). Mystically, these Divine Beings are connected with Karma, the Law of Retribution, for they are the Recorders or*

Annalists who impress [to us and] on the invisible tablets of the Astral Light (the great picture-gallery of eternity) - a faithful record of every act, and every thought, of man and woman; of all that was, is, or ever will be, in the phenomenal Universe... ". (For an interesting correlation to the latter see *"Glimpses of Other Realities Vol 2"* pp310); and surprisingly, this learning from our full past-lifetime track of experiences is quite a main feature of the ETs ***'Logos'***. The ETs, by all accounts, are experts on how the human mind, and the spirit works - and in these fields they cannot be eclipsed.

How... Oh how, we have ignored the *spirit* on this planet... and fed the dogs of war their bones.

note 37) For the many people in this world who have experienced alien or ufo phenomena, who have approached military establishments (or even government officials and the like of NASA) to ask them "What was this...?", who are still waiting for a satisfactory explanation from these "experts" - my message to those people is; look for and find your answers elsewhere. For if the truth be told the military (regarding the subject of Aliens, UFOs, and ETs) are not in possession of an understanding of the whole truth and are in no shape to do the explaining. Dana Redfield in her book "Summoned" offers an interesting viewpoint, as do Art Bell and Whitley Strieber in their book "The Coming Global Superstorm".

note 38) Although the structure of ET language looks complex, and looks even 3-dimentional, the ET alphabet is surprisingly straight-forward. It's letters basically correspond to the structures of the English alphabet – with either one 90° bend missing or one semicircular curve missing from the letter's shape. For more

information on recent discoveries in ET symbol language see *"Glimpses of Other Realities - Vol 2"* pp195.

note 39) There are several advantages to open-sided waveguides and their applications are numerous according to "*Open Electromagnetic Waveguides"* by T. Rozzi & M. Mongiardo (1997). Microwave 'lenses' of course, are also open-sided (see sources in note 40).

note 40) Oh yes they do... the idea of making artificial or metallic dielectrics was first announced in 1946, see "*Metal-Lens Antennas"* by W. E. Kock in Proc. IRE (Nov 1946) vol 34 p828-836; "*Path-Length Microwave Lenses"* by W. E. Kock in Proc. IRE (Aug 1949) vol 37 p852-855; and "*Metallic Delay Lens"* by W. E. Kock in Bell System Tech J. (Jan 1948) vol 27 p58-82. Also see "*Antennas"* by John D. Kraus (1988) ch.14 *Lens Antennas* p661-691.
With such a technology as this would it indeed be necessary to have any air gap at all at the craft's outer shell. Once the waves are conventionally generated between two conductors inside the craft they would then be propagated actually ***through*** the 'metal' skin of the ufo... I would postulate that by using an artificial e-plane dielectric lens you wouldn't need an air gap ! If so that would indeed answer a lot of questions about ufo construction.

note 41) Bob Lazar has indicated that his ufo had a honeycomb structure to it, and so did Betty Luca mention that the ETs used honeycomb structures (see "*Andreasson Affiar"* by Raymond E. Fowler p43). Also see "*Antennas"* by John D. Kraus p674. And for microwave technology in general see the excellent "*Microwave & Wireless Communications Technology"* by Joseph J. Carr (1997).

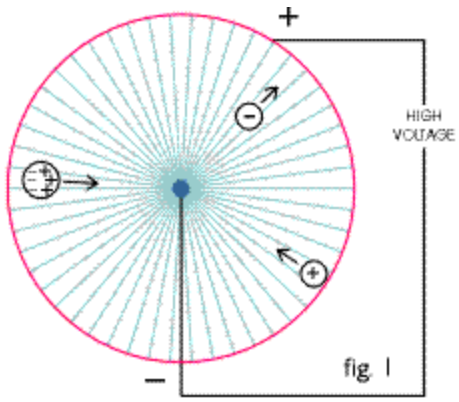
Speaking of waveguides, a long time ago when Bob Lazar announced to the world the UFO craft he worked on at Area 51, he mentioned that this particular craft had no discernible wiring system to connect together its electronic circuits. What it did have, he said, was a system of glass fibre conduits, and of course when he speculated that electronic signals could be transfered **through glass** everyone laughed. But now our telecommunication systems use just this very same technology to convey electronic data signals, indeed, the newest development (courtesy of the researchers Chris Schaffer and Eric Mazur of Harvard University) is that waveguides can be burned below the surface of glass, with suitably focused lasers, to form electronic channels and switching points (see the article *"Guiding Light"* by Ian Sample in "New Scientist" 21 Apr 2001 p21).

[3] **NONUNIFORM ELECTRIC FIELDS** - by Herbert A Pohl

When a piece of iron jumps toward a magnet, it is responding to a nonuniform field. In approaching the pole faces it travels in a direction of increasing magnetic strength. Placed in a uniform field, no matter how strong, it would not move at all. Much less familiar is an analogous effect of nonuniform electric fields. They too can set matter in motion.

The behaviour of a nonuniform field can best be understood by considering first the simpler case of a uniform field, such as the one between a pair of flat, parallel metal plates that are oppositely charged. A charged body freely suspended between the plates - for example, in a nonconducting liquid - will move parallel to the field, toward the plate bearing the opposite charge. A neutral body, on the other hand, is not impelled in either direction; it stays put.

Even though it appears to ignore the field, however, the neutral body is not completely unaffected. It acquires, in effect, a negative charge on the side facing the positive electrode and a positive charge on the side facing the negative electrode. The reason for this polarization, as it is called, is that the atoms composing the neutral body are made up of separate electric charges - positive nuclei and negative electrons. Under the influence of the outside field the electrons and nuclei are pulled in opposite directions, so that the center of negative charge no longer coincides with the center of positive charge. The amount of separation produced by a given electric force (the 'polarizability') varies widely for different materials, but all are influenced to some degree.



Lines of electric force converge toward electrode at center, indicating that the field grows stronger from outside in. Nonuniform field acts on both neutral and polarized particles; neutral particles move to the strongest part of the field, while polarized particles move to the electrode of opposite polarity.

The net effect is an excess of positive charge on one half of the body and an equal excess of negative charge on the other. Therefore the two sides of the gross body are also pulled in opposite directions by the field. Since the charges are equal and the field is the same on both sides, the opposing forces exactly

cancel.

If, however, the field is made stronger on one side than the other, the forces are no longer in balance, and the body is pulled in the direction of the stronger field. The effect can be demonstrated with electrodes in the form of a pair of concentric cylinders [see fig.1]. In running from the larger to the smaller electrode the lines of electric force converge. This means that the field grows stronger from the outside in. An uncharged body suspended in the space between is seen to move toward the inner electrode.

Note that it travels the same way no matter which electrode is positive and which is negative ! The polarity of the field makes no difference; the only thing that matters is how its strength varies. Thus an alternating voltage applied to the electrodes produces the same result as a direct voltage. This is because the polarization induced in the body switches with the field. Each half is always charged oppositely to the electrode it faces, and the pull of the inner electrode is always greater than that of the outer one.

The motion of electrically polarized matter in nonuniform fields is called DIELECTROPHORESIS [attraction to the strongest part of electric flux]. Compared to the movement of charged particles (ELECTROPHORESIS) [attraction to opposite polarity electrode], it is a mild effect, which is why it has been so long neglected.

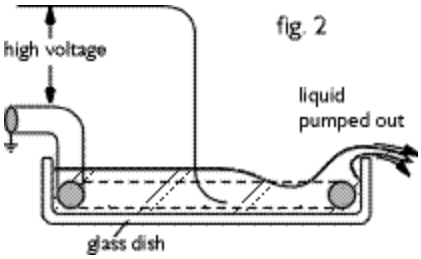


fig. 2

When the central electrode is extremely thin, the field immediately around it reaches very high values. The molecules of the

suspending liquid can no longer stand the electrical stress; they break down, becoming charged. In effect the concentrated charge on the wire is diffused over a much larger region in a sort of incipient corona discharge. Particles entering the region acquire a charge themselves and are then pushed away from the electrode rather than attracted toward it. A similar breakdown occurs if the applied voltage is too high. Thus there is a critical minimum for the diameter of the electrode and a critical maximum for the voltage.

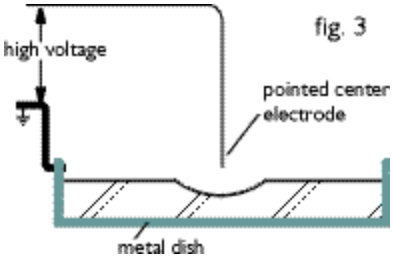


fig. 3

In fig. 3 is shown a sketch of the action of a properly placed, sharp-pointed electrode with its strongly divergent field. The field apparently repels the liquid below. In reality, this is but a secondary manifestation of the field effect upon the air in the neighbourhood of the pointed electrode. The air molecules are attracted to the point by dielectrophoretic action, then charged at the electrode and subsequently repelled strongly. The pressure of the 'electric wind' pushes down the liquid below. By slightly changing conditions, as by adjusting the height of the wire, or using a wire loop instead of the point, the liquid may be made to rise to the wire instead of appearing to be repelled.

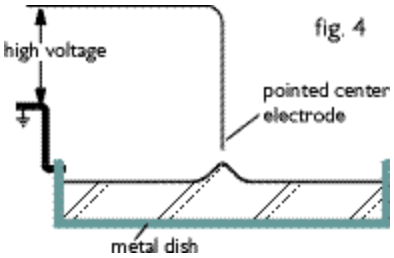


fig. 4

In fig. 4 is shown a sketch of properly arranged electrodes

attracting the liquid [of CCL4, benzene, etc.]. This particular effect is capable of widely varied character. Differing arrangements of the electrodes will cause the liquid to move quietly or vigorously at the same applied voltage. By using a sharply pointed central electrode passing up through the liquid, the motion may be made to pump the liquid.

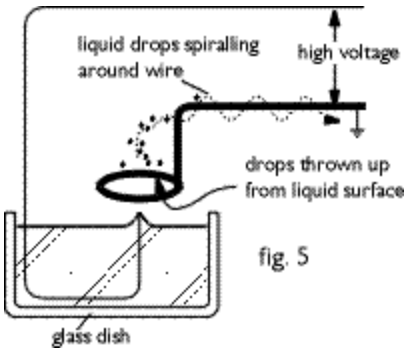


fig. 5

In figs. 5 and 6 are shown sketches of several arrangements in which liquid is made to leave the main body of the liquid at rather high velocities. Fig. 5 shows the drops leaving the dish and 'hanging' in the air around the electrode. Occasionally the individual drops will remain suspended or circling around the lead-in wire for as long as 15 seconds. It would appear that most of these drops have become charged, hence the effect is a combination of dielectro- and electrophoresis. The voltage applied in this experiment was 11,000 volts DC.

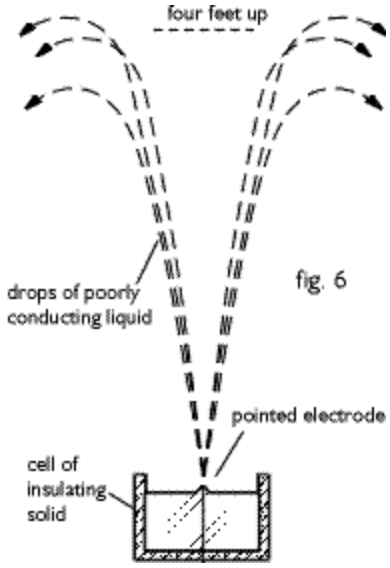


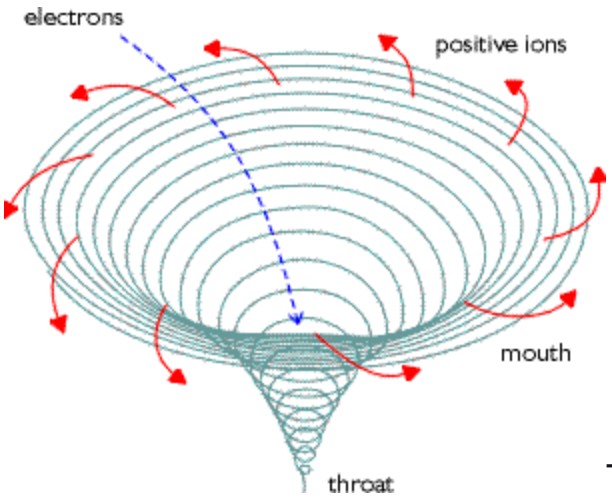
fig. 6

electrode at 100,000 volts (neg)

In another experiment, shown diagrammatically in fig. 6, where CCL4 liquid was thrown over four feet up into the air at about 50 cc/sec, the voltage was applied from below by a small Van de Graaf generator. The voltage was approximately 200,000 volts (negative) at the fine wire electrode. The electrical power input, at 20 μA was therefore about 4W. The power expended in the liquid rising at the indicated rate and height is about one joule/sec, indicating the electromechanical 'pump' to be about 20 to 25% efficient.

From: Journal of Applied Physics 22, 869-871(1951); 29, 1182-1188 (1958): Scientific American (Dec 1960) 108-116: Journal Electrochemical Soc. 107,390 (1960).

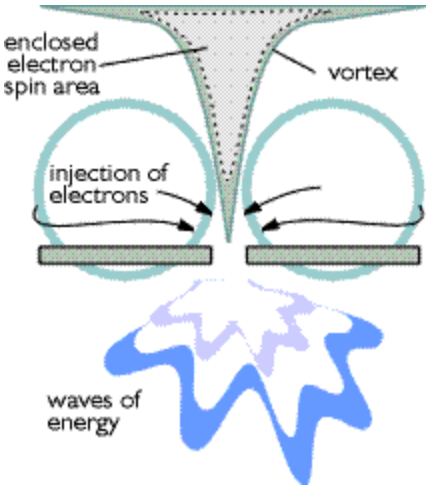
THE VORTEX



The centrifugal effect in a vortex throws heavy liquid/air out to the perimeter whilst lighter air/ liquid is pushed to the center. Electrically, the air polarized with negative ions or as electrons will be pushed to the center and down, the air with positive ion content will move upward and outward. With mass weights for an electron at 9.109×10^{-31} kg. and a positive ion of air at around 2.656×10^{-26} kg it can be seen that the negative electron can be only one thirty-thousandth of the positive ion, and of course

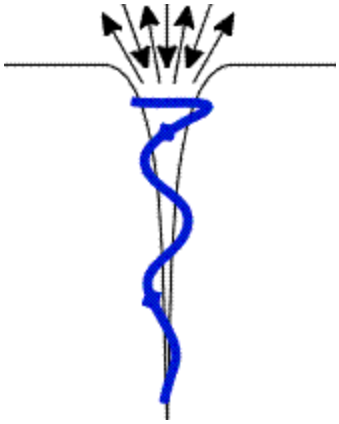
much more agile.

Similar to how Viktor Schauberger's aerodynes utilized levitation thrust the ufo-type expulsion energy is a *created reaction to* the comprehensive densation of the air that is continually being sucked in through the vortex.



But in this case, in the center of the accumulator reactor there are comprehensive constrictive devices in operation that are preventing the highly turbulent implosion cycloid, or vortex, from outflowing. Expulsion cannot occur unless by force. Once it does expulse, when it reaches a certain threshold and the repulsion force takes over, the release would be sudden and very powerful - the highly compressed energy will immediately expand, once it has passed through the hole, or the circumferential duct, into the surrounding atmospheric air to regain it's normalized state.

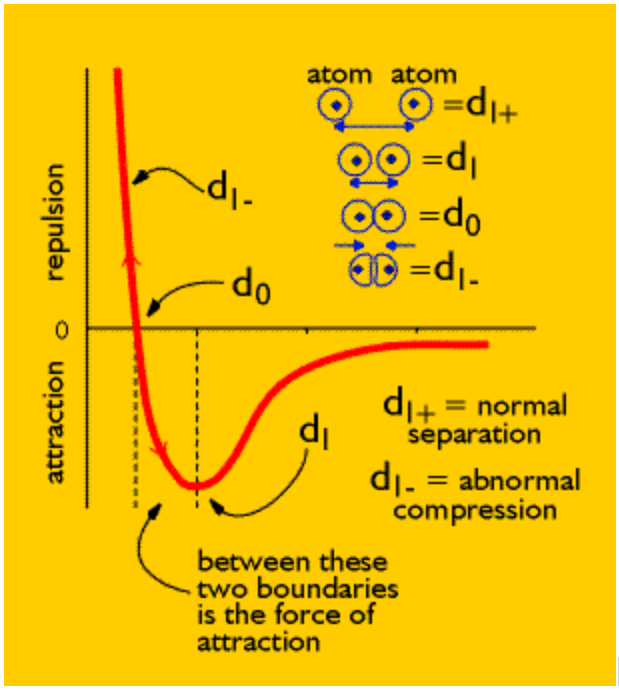
The usual hue of the energy around an electro-aerodyne is blue, which of course is the atoms / electrons accelerating and decelerating and then normalizing. The 8Hz (or 8 times per second) beat-frequency that sometimes accompanies the whirling sound some observers have heard around these electro-aerodynes when just hovering may be one of the discharge/recharge time-cycles for that mode of energy-output.



A vortex has centripetal (as well as centrifugal) forces that can compress its ‘fluid’ by as much as 816-fold, creating a powerful implosive suction force. A vortex can be considered as a wave of ever-diminishing amplitude. And as a type of black hole, where energy is drawn in and by extreme compression is polarized electrically, so that particles sucked in split into electron/positron pairs, and where, as according to Hawking’s Theoretical Physics * there is an emission - even from black holes in space - of both positive and neutral charges. Correspondingly, there is at the mouth of a vortex a relative centrifugal force which is positively charged with respect to its central (negative) throat.

Viktor Schauberger, the Austrian physicist, and Patrick Flanagan (*"Secrets of the Soil"* p99-115), have both found that water when revolved at high revolutions creates a substantial potential-difference in electrical energies in its structure.

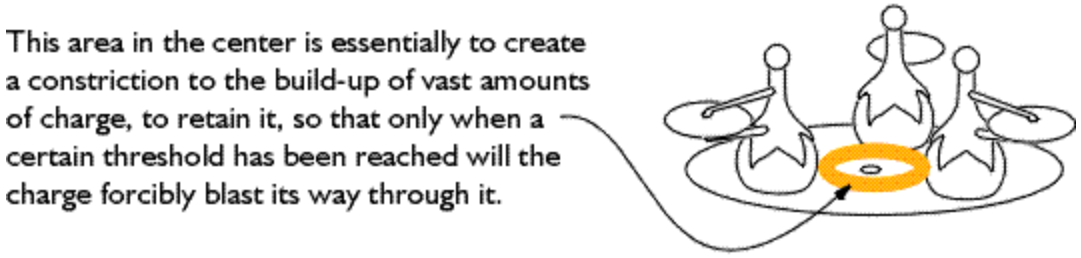
vortex5According to the research of T.J.J. See in his *‘Wave Theory: Discovery of the Cause of Gravitation’* the molecular structure of air or water (or indeed any fluid) changes quite dramatically at a critical point of inter-atomic-spacing where the ‘normal’ forces of attraction transpose to an opposing force of repulsion...



Between the atoms and molecules that make up liquids and air a balance is maintained where electrons orbit a nucleus of an atom in precisely defined shells. Electron shells of one atom cannot mesh with those of other atoms - if they could the whole world would collapse into a very tiny ball ! Obviously there has to exist an all-powerful mechanism that can dramatically, if needs be, get the atomic and molecular structures ‘out of a tight corner’. So when the inter-atomic spacing between orbit shells is too tightly compressed a ‘repulsion’ occurs to force things back toward normality. As the chart shows, when atoms get to a certain closeness, between d_1 and d_0 they undergo an attraction to eachother - but further compression beyond d_0 is met proportionally with repulsion. If there were a situation where the atomic structures were forced momentarily through a constriction that resulted in an ultra-high compression d_{1-} then the repulsive forces would be very powerful indeed.

* While this is theorized by Stephen Hawking in *"A Brief History of Time"*, Stephen also postulates a theory that gravity is linked to

electrostatics, although I would think, surely, that it is more likely that gravity is a vortical reactive energy, especially as the planets are themselves held in space by vortical motions.

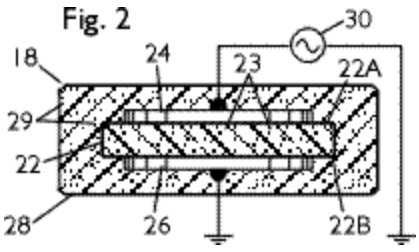


Strangely enough mainstream science has more than anything ignored the vortex, Hermann von Helmholtz back in 1858 wrote a mathematical paper on it called "*On The Integrals of Hydrodynamic Equations to Which Vortex Motions Conform*". T.J.J.See wrote of stellar vortical movements in his "*Wave Theory: Discovery of the Cause of Gravitation*" (1943). And more recently researchers have discovered that insects (and birds too I would think) actually fly by creating vortical motions between their wings and the surrounding air. See the articles in *"Nature"* (19/26 Dec 1996) Vol 384 p626-630: and *"New Scientist"* (11 Oct 1997) p24-27.

But the vortex has really only been mastered by one man, Viktor Schauberger - and thankfully his wisdom is coming back into the limelight.

ELECTRON FIELD GENERATOR

Patrick Flanagan's US Patent # 4,743,275 of May 10 1988.



Referring to fig.2, the field emitter 18 may be seen to comprise a slab or sheet 22 of a solid dielectric material

such as glass, paraffin, acrylic, epoxy or other suitable dielectric in which a plurality of small particles or granules 23 of conductive or semiconductive material are dispersed. A pair of planar electrodes 24 and 26 are mounted to the opposite faces 22A and 22B of the member 22 to form a capacitor which may be encapsulated in an insulator 28. The member 22 is square when viewed from the top as are the electrodes 24 and 26, but these members may, if desired, be circular or of some other suitable shape. The corresponding dimensions of the dielectric member are greater than those of the electrodes 24 and 26. The insulator 28 is also a solid dielectric material such as glass, paraffin, acrylic, epoxy or other suitable dielectric and may be **DOPED** so as to include conductive or semiconductive particles or granules 29 dispersed therein.

As shown, the electrode 24 is connected to one terminal of a high voltage, high frequency source of electric energy 30, and the electrode 26 is connected via ground to the other terminal of the energy source 30. The voltage applied across the emitter has a frequency of at least 20 kiloHertz and a voltage of at least 5000 volts rms.

The reason why the field strength is increased by the presence of conductive particles in the dielectric material is not fully understood. However, comparative tests have proven that the electric field is strengthened and significantly improved air purification is achieved when such materials are dispersed in the dielectric, and it is believed that the work function of the dielectric is altered by the added material and this results in the increased emission from the device.

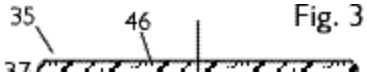
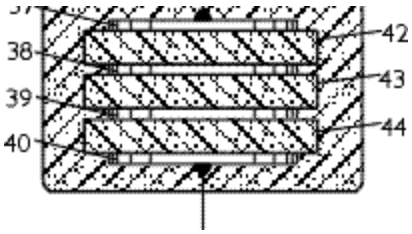


Fig. 3



Referring to fig.3, there is shown a negative electric field emitter 35 which comprises a plurality of planar metallic electrodes 37, 38, 39 and 40 separated by a plurality of flat dielectric members 42, 43 and 44. The electrodes and the dielectric members are encapsulated in an insulating material 46. Conductive leads extend from the electrodes 37 and 40 through the insulating material 46 for connection of the field emitter 35 to a high frequency, high voltage source to develop a generally toroidal electric field around the field emitter 35…

In order to substantiate the fact that doping of the insulator with different non-dielectric materials alters the resultant field and in some cases increases the field strength a substantial amount, several different experiments were conducted. In making these experiments, three different emitters of identical size and shape were constructed. The dielectric slabs were circular being 80 mm in diameter and 15 mm thick. The plates were 63 mm in diameter. In one emitter, the dielectric was a pure epoxy. In a second emitter the dielectric was epoxy containing ten percent by volume of small lead spheres dispersed throughout the epoxy so as to be insulated from one another. The spheres had a diameter of 0.7 mm. In a third emitter the epoxy was doped with SILICON CARBIDE GRANULES having a size of 75 mesh. These granules were of the type used in lapidary grinding and thus contain a substantial amount of elemental impurities wherefor the material is actually a crude semi-conductor. It is also PARAMAGNETIC.

The emitters were connected across a high frequency power supply of 24 kV at 44 kiloHertz in the manner described in my US Patent # 4,391,773 using a Kiethly electrometer and an ion/electron probe.

[Additional data from his other US patent 4,391,773…When a power source having a voltage of 24 kilovolts at a frequency of 38 kiloHertz was used, readings as high as $6.38X10^{13}$ ions per cm^2 were measured at a distance of 50 cm from the device 10. This negative field is sufficiently strong to purify air by discharging particulates entrained therein and to destroy bacteria in the air. An input voltage of 5 kilovolts at a frequency of about 20 kiloHertz produced a negative field which appears to have about the minimum strength for purifying air. The measured field strength at 50 cm from the device was 500,000 ions per cm^2 per second.]

At a distance of ten centimeters from the emitters the following measurements were made.

Pure epoxy dielectric $2.98X10^{11}$ electrons/cm^2

Epoxy with lead spheres $3.97X10^{11}$ electrons/cm^2

Epoxy with silicon carbide $4.76X10^{11}$ electrons/cm^2

It may thus be seen that the addition of conductive or semiconductive or PARAMAGNETIC particles to the dielectric greatly increases the field strength of the field generated by the emitter.

DIELECTRICS

A dielectric is a non-conducting material which has the unique ability of preventing electrical conduction but is at the same time capable of absorbing electric charge. Indeed, it will carry on

absorbing charge until its saturation capacity is reached, whereupon, if its power source is still connected and still trying to pour more electricity into it it will rupture and a path will be created through it for current to discharge. This phenomenon, called dielectric breakdown is most certainly to be avoided for it renders the solid material useless thereafter. If, however, before it ruptures the charge accumulated within the dielectric rises toward its saturation point and reaches a level of voltage higher than the voltage of the charging circuit, then the dielectric's voltage will discharge itself (just like a short circuit - very violently) back through the power source.

From the very earliest days of electronics discoverers such as Faraday, Maxwell, and Lord Kelvin found that dielectrics didn't merely insulate; and that even the humble Leyden jar condenser was found to hold significantly more electricity, surface area for surface area, than a flat-sheet condenser with air between it's sheets – because it had a dielectric of glass sandwiched between its electrodes. Dielectrics were found to exhibit what was then termed 'elastic stress' which enabled its structure to absorb unusually large quantities of charge.

Thomas Townsend Brown, the pioneer of electrokinetics, or as he called it the 'electrogravitic' effect, discovered that certain dielectrics perform much better when charged up at a slower rate of oscillation than others* and it was he who originally devised, in 1958, the science of 'doping' dielectric materials with higher-mass particles (the higher atomic-mass particles he used were lead oxide granules) to enhance the dielectric's electric charge absorption. To understand how this occurred, if you can imagine that such particles create 'interfaces' with the main structure of the

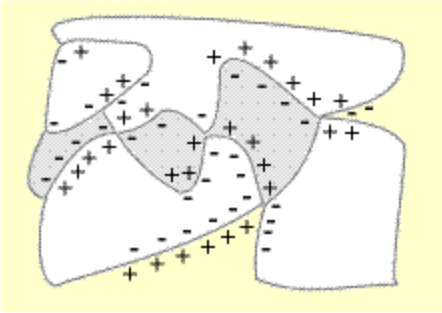
dielectric and that opposite polarity charges accumulate at each side of those interfaces, then what Brown invented was a cluster of mini capacitors held inside the dielectric body (which in itself was connected inside a capacitor).

[* NOTE: TT Brown first patented this idea in 1928 (British 300,311), and in his US patent 1,974,483 of 1934 he wrote of the kinetic reaction he had discovered, *"It is evident from consideration of [the figures] that any type of dielectric under the conditions revealed therein produces both direct and reactive forces as shown. These forces, however, are different with dielectrics of different physical characteristics and are roughly proportional to the massiveness."*
Indeed, his research into 'massiveness' was a key element of Brown's work through to the 1950's. He wanted to continue the work of C.F.Brush, a physicist who had discovered certain anomalies between mass and gravity in certain materials, and had discovered that;

"the ratio of mass to weight is not the same for all kinds of matter, as has been supposed, and the mass-weight ratio is not constant even in the same kind of matter." (*Physical Review* Vol 31, p 1113(A); Vol 32, p 633 abstract. *Proc. Amer. Philosophical Soc.* Vol IX No. 2, 1921; Vol LXVII No. 2, 1928; Vol LXVIII No. 1, 1929. *Journal of Franklin Inst.* Vol. 206, No. 1, 1928).

As can be seen in one of his research papers ***"The Space Vehicle Program"*** (c. 1955) Brown proposed to carry out an extensive research program into the electrogravitic effects of different dielectrics and indicated future production of new super-light alloys of high-mass low-weight aircraft metals (see TT Brown family website).

Unfortunately, Brown rarely wrote for scientific journals - he did have an article on his "gravitator" published in the *"Science and Invention"* journal of Aug 1929, (reprinted in "Nexus" magazine Aug-Sep 2000 p45), but none of his discoveries have really been explained in full detail in published form, although his use of dielectric doping can be found in his US patent 3,187,206 (see Electrokinetic page).]



random interfaces in dielectrics Dielectric absorption is when the dielectric has a current applied to it, to polarize the structure of molecular interfaces of positive and negative charge, but when the applied current is reduced to nothing the positive charge, of the charge carriers, tends to move so slowly that for all intents and purposes they remain stuck, and so when the next 'pulse' of an electric charge comes in it compounds upon the previous unmoved charge, and so on and on, hence the accumulative effect which carries on pumping in more and more charge. (see *Dielectrics* P.J. Harrop (1972) pp71; *Electrostatics – And Its Applications* A.D.Moore (1973) p122; R.Kohlrausch *Ann. Phys*. Vol 91 (1854) p56-82, p179-214.)

Now dielectrics have been subdivided into non-polar, polar, paraelectric, and ferroelectric properties and it is better known now how dielectrics behave differently at various radio and higher frequencies (how their relative electric permittivity can be altered by these frequencies).

Patrick Flanagan, who as a physicist has on occasion worked with NASA on the Gemini space program and the US Navy, was a great admirer of TT Brown's discoveries and, indeed, he has also used dielectric materials doped with lead to create a high powered 'electron cascade' effect in his Electron Field Generator (US patent 4,743,275 (May 10, 1988)). Flanagan further discovered that if the doping was done with paramagnetic granules (of silicon carbide) then the electronic field effect of the dielectric was greatly increased.

Perhaps if a dielectric were doped with paramagnetic particles in a strong magnetic field (or like an *electret* in a strong electric field) so that the particles were aligned in parallel layers, as in the molecular lattice of quartz, instead of indiscriminately, the coupling effect of the capacitive interfaces would be even more amplified.

United States Patent Office
3,187,206 Patented June 1, 1965

ELECTROKINETIC APPARATUS

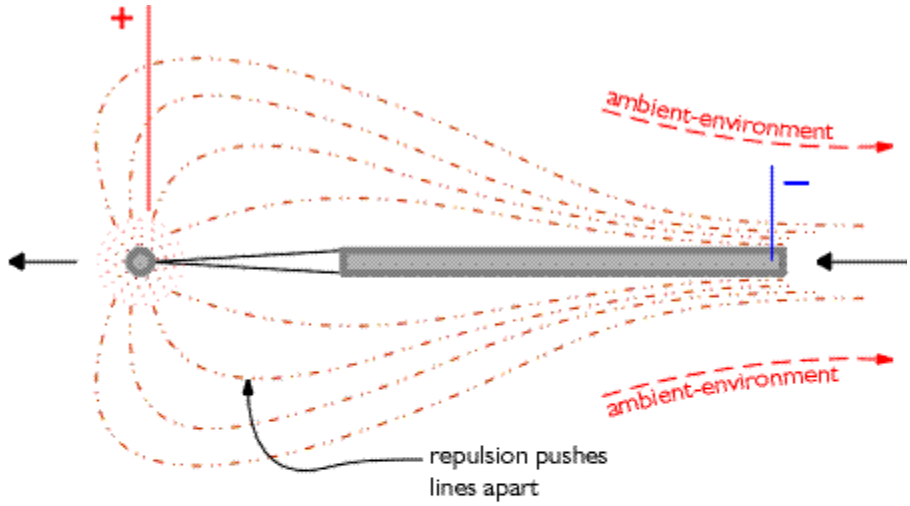
Thomas Townsend Brown, Walkertown, N.C., assignor, by mesne assignments, to Electrokinetics, Inc., a corporation of Pennsylvania

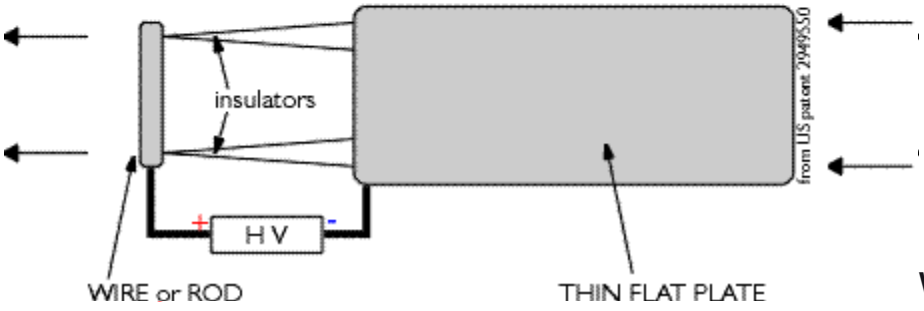
Filed May 9, 1958, Ser. No. 734,342 23 Claims (Cl. 310-5)

This invention relates to an electrical device for producing thrust by the direct operation of electrical fields.

I have discovered that a shaped electrical field may be employed to propel a device relative to its surroundings in a manner which is both novel and useful. Mechanical forces are created which move the device continuously in one direction

while the masses making up the environment move in the opposite direction.





When the device is operated in a dielectric fluid medium, such as air, the **forces of reaction** appear to be present in that medium as well as on all solid material bodies making up the physical environment.

In a vacuum, the **reaction forces** appear on the solid environmental bodies, such as the walls of the vacuum chamber. The propelling force however is not reduced to zero when all environmental bodies are removed beyond the apparent effective range of the electrical field.

By attaching a pair of electrodes to opposite ends of a dielectric member and connecting a source of high electrostatic potential to these electrodes, a force is produced in the direction of one electrode provided that electrode is of such configuration to

cause the lines-of-force to converge steeply upon the other electrode. The force, therefore, is in a direction from the region of high flux density toward the region of low flux density, generally in the direction through the axis of the electrodes. The thrust produced by such a device is present if the electrostatic field gradient between the two electrodes is non-linear. This non-linearity of gradient may result from a difference in the configuration of the electrodes, from the electrical potential and/or polarity of adjacent bodies, from the shape of the dielectric member, from a gradient in the density, electric conductivity, electric permittivity and magnetic permeability of the dielectric member or a combination of these factors.

June 1, 1965
3 187 206
TT Brown
Electrokinetic Apparatus

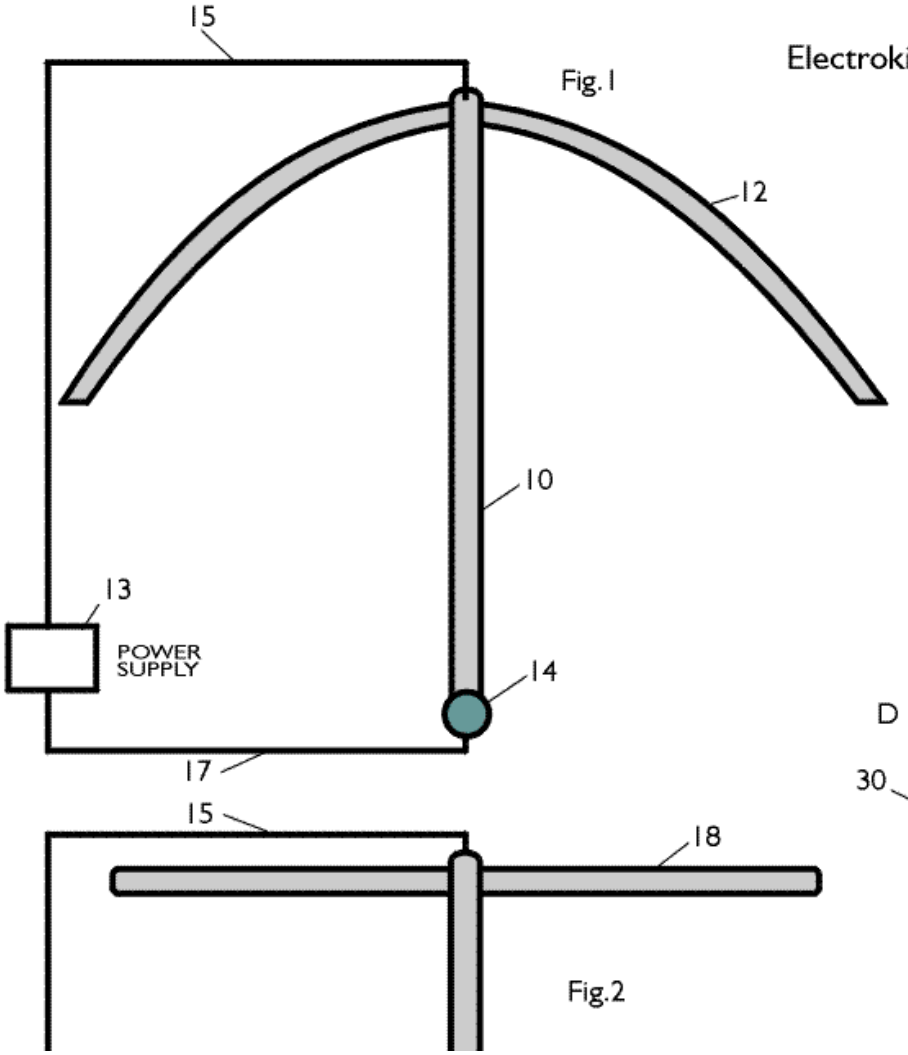


Fig. 1

Fig.2

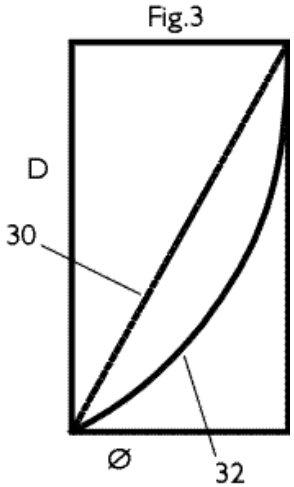
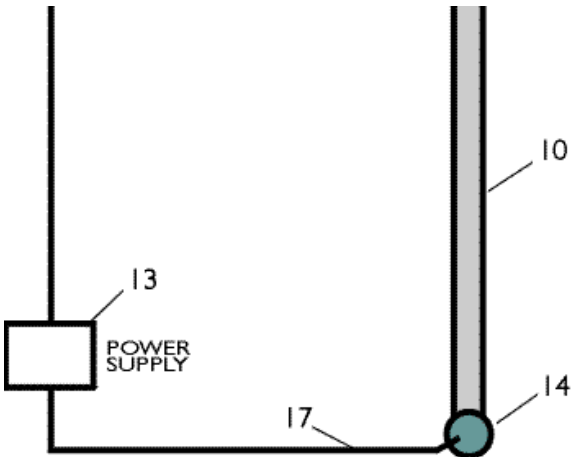
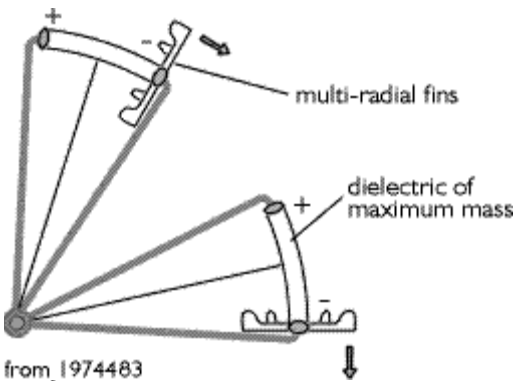


Fig.3





A basic device for producing force by means of electrodes attached to a dielectric member is disclosed in my Patent 1,974,483. In one embodiment disclosed in my patent, an electrostatic motor comprises devices having a number of radially directed fins extended from one end of the dielectric body and a point electrode on the opposite end of the dielectric body. When this device is supported in a fluid medium, such as air, and a high electrostatic potential is applied between the two electrodes, a thrust is produced in the direction of the end to which the fins are attached.

Other electrostatic devices for producing thrust are disclosed and described in detail in my British Patent 300,311, issued August 15, 1927.

Recent investigations in electrostatic propulsion have led to the discovery of improved devices for producing thrust by the use of electrical vectorial forces.

Accordingly, it is the primary object of this invention to provide an improved electrical device for producing thrust.

It is another object of this invention to provide a device for producing **modulated thrust** in response to varying electrical signals, which device produces a greater effect than the prior type devices mentioned above.

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TT Brown
Electrokinetic Apparatus

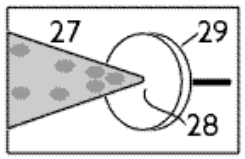


Fig.4a

Fig.4

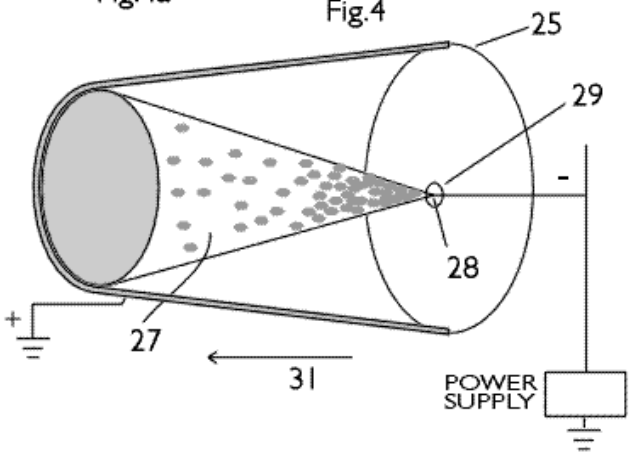


Fig.5

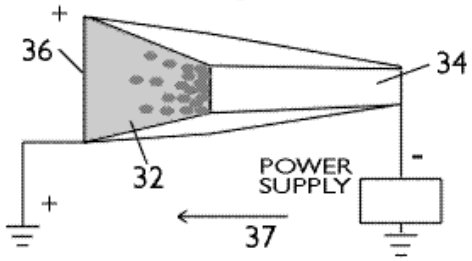
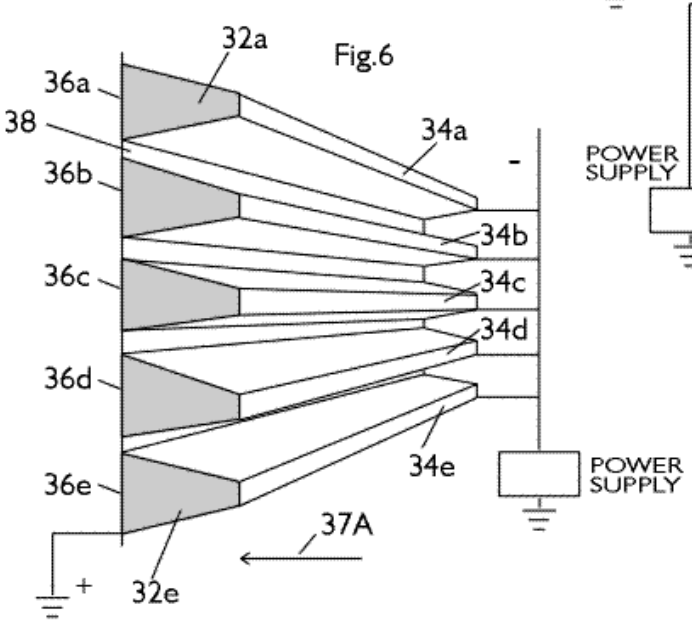


Fig.6



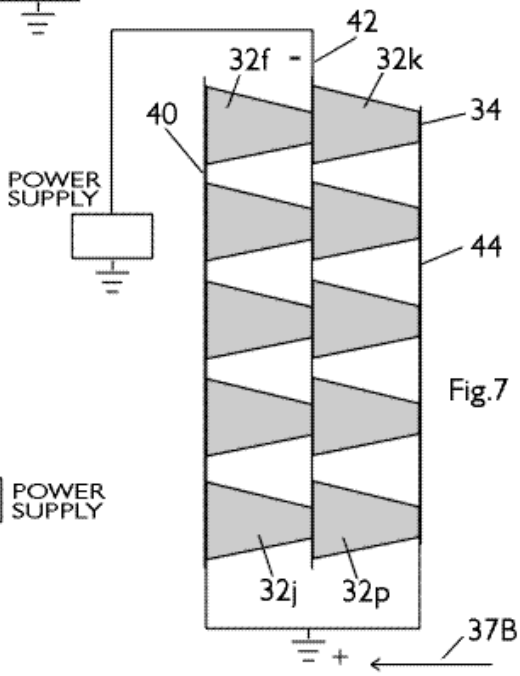
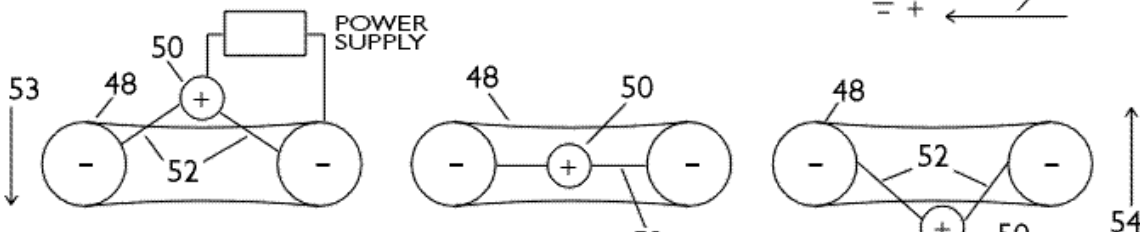


Fig.7

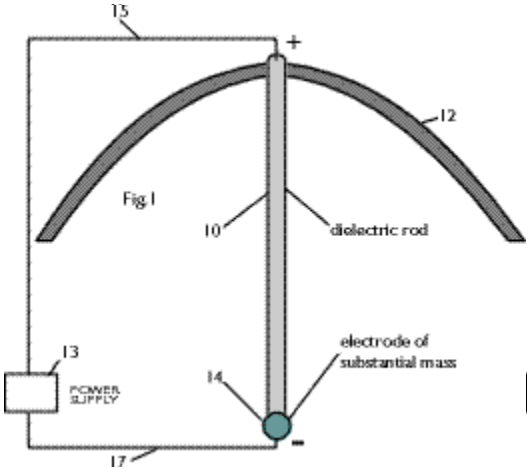


52

Fig.8B Fig.8A Fig.8C

It is another object of this invention to provide a device which shapes or concentrates electrostatic flux to produce an improved thrust.

Broadly, the invention relates to shaping an electrical field to produce a force upon the device that shapes the field. The electrical field is shaped by the use of an electrode of special configuration whereby the electric lines-of-force are made to converge at a distance from the electrode. One illustrative embodiment of this invention which satisfies the above requirement is an arcuate surface, or alternatively, a system of wires, tubes or plates embedded in a dielectric surface and forming a directive array.



One such highly-charged electrode acting within and upon an ambient of different electrical potential will move in response to the forces created by the shaping of the electrostatic field. If a smaller electrode is added at or near the focus of the field-shaping electrode and mechanically attached to that electrode, both electrodes as a system will move in a direction of the larger or field-shaping electrode. As is mentioned above, the field-shaping electrode alone, when charged with respect to its

electric ambient, will move or possess a force in the direction of its apex. If another electrode carrying a different charge is added at or near the focal point of the field-shaping electrode, then the field becomes more concentrated, i.e. shaped to a greater degree and the resulting thrust is greater than that which exists when the field-shaping electrode alone is employed.

Briefly in accordance with aspects of this invention, an electrode is connected on each end of a dielectric member and one of the electrodes defines a large area flat or preferably arcuate surface which is curved in such a direction to produce, usually in co-operation with the other electrode, a shaped electrostatic field.

Advantageously, if the arcuate electrode is in the form of a parabola or hyperbola, the length of the dielectric member may be such that the other electrode is located in the region of the focus of the parabola or hyperbola, as the case may be. If the arcuate electrode is hemispherical, the other electrode is located near the center of the hemisphere.

In accordance with other aspects of this invention the dielectric member supporting the two electrodes may have electrical conductivity and/or dielectric constant which varies progressively between its ends so that the dielectric member contributes to the non-linearity of the field gradient and causes a greater thrust to be developed.

In accordance with still other aspects of this invention, an annular electrode member is secured to an electrode mounted in the region of the axis of the annular electrode.

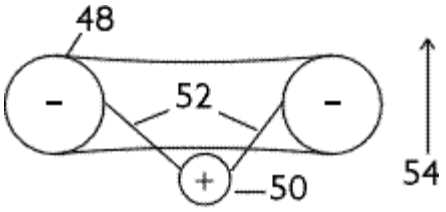


Fig.8C

If the second electrode is located at the center of the annular electrode and the two electrodes are energized, such force is not detected. However, if the second or innermost electrode is displaced from the center of the annular electrode in the region of the axis of the annular electrode and the electrodes are energized, then thrust will be produced by the two electrodes (see figs 8a to 8c). The annular electrode may either be a flat ring, a toroid, or a section of a cylinder. [NOTE: As can be seen in fig.8C motion is not *always* toward the positive electrode - it is toward the ambient of lowest electric-flux-density].

In accordance with still other aspects of this invention, tapered dielectric members having electrodes secured to opposite edges thereof may be employed to produce a thrust in response to the application of potentials to these electrodes. The thrust produced by these tapered dielectric members may be further augmented by embedding **massive particles**, such as lead oxide, in the wedges, which particles are usually more concentrated near the points of the wedges. [Note: By *massive particles* is meant particles of high atomic mass, such as gold, lead, and bismuth - (in his descriptions of fig.4 and fig.5, below, Brown refers to these as *granules of semi-conducting materials...such as lead oxide*).]

Accordingly, it is a feature of this invention to provide an electrical device for producing thrust which includes a dielectric

member and electrodes supported at each end of the dielectric member, one of which electrodes is located in the region of the focal point of the arc of the arcuate surface electrode.

It is another feature of this invention to provide a device for producing thrust having a dielectric member and a pair of electrodes secured to opposite ends of the dielectric rod or member, one of which electrodes defines a parabolic or hyperbolic surface, the other electrode being located in the region of the focus of said surface.

It is another feature of this invention to employ an insulating rod or member between two electrodes, which rod or member has a varying dielectric constant, said dielectric constant progressively increasing or decreasing along the length of the dielectric member.

It is still another feature of this invention to employ a rod or member connected between two electrodes across which an electrostatic potential is applied, which rod or member has a varying electrical conductivity, said conductivity progressively increasing or decreasing along the length of the dielectric member.

It is another feature of this invention to employ a single electrode having an arcuate surface and to connect a source of potential to the arcuate surface which is opposite in polarity to the potential of the masses comprising the environment of the arcuate surface.

It is still a further feature of this invention to employ an arcuate electrode as a device for producing thrust and to apply a varying electrical signal to the arcuate electrode.

It is still another feature of this invention to employ a wedge of dielectric material having electrodes on opposite ends thereof to produce a thrust in response to the application of electrical potentials.

It is still a further feature of this invention to employ a tapered dielectric material having massive particles embedded therein to produce a thrust in response to the application of potentials to the electrodes secured to the dielectric member.

It is still a further feature of this invention to employ an annular ring electrode and a second electrode secured to the annular electrode in the region of the axis of the annular electrode to produce a thrust in response to the application of electrical potentials thereto.

These and various other objects and features of this invention will be apparent from a consideration of the following description when read in connection with the accompanying drawing wherein:

FIGURE 1 is a view in elevation of one illustrative embodiment of this invention;

FIGURE 2 is a view in elevation, partly in section, of another illustrative embodiment of this invention;

FIGURE 3 is a graphical representation of the field gradient between the electrodes of one illustrative example of this invention in which distance from one electrode [D] is plotted as the abscissa whereas flux density [ø] is plotted as the ordinate;

FIGURE 4 is a perspective view of another illustrative embodiment of this invention;

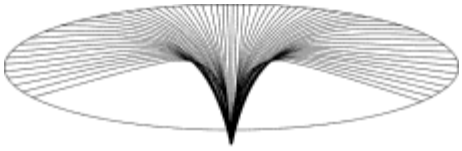
FIGURES 5 and 6 are perspective views of still another illustrative embodiment of this invention;

FIGURE 7 is an end view of another illustrative embodiment of this invention employing a pair of devices of the type disclosed in FIGURE 6, which devices are mounted and serially connected in a single array;

FIGURES 8A, 8B and 8C are views in elevation, partly in section, of still other illustrative embodiments of this invention.

Referring now to FIGURE 1, there is depicted an insulating member 10 having an arcuate electrode 12 mounted on one end thereof and a second electrode 14 mounted on the opposite end thereof. A source of direct current voltage 13 is connected to electrodes 12 and 14 through conductors 15 and 17, respectively. I have discovered that if two electrodes are mounted on opposite ends of a dielectric member, and a field emanates from these electrodes which produces a linear gradient through the dielectric member as shown by the dotted line 30 of FIGURE 3, then no thrust is produced by the dielectric member. However, if the field is distorted to produce a non-linear gradient such as graphically represented by line 32 in FIGURE 3, then a thrust will be produced, which thrust will be related to the degree of non-linearity of the field gradient. One way to produce a gradient which varies non- linearly is to shape one of the electrodes in a form of an arcuate surface such as 12. However, numerous other ways to influence the field gradient will be disclosed below. Electrode 14 represents a substantial mass and it has been found that best results are obtained if the surface area of electrode 14 is greater than the surface area of the end of rod 10. In one particular example, a

spherical electrode having a diameter greater than the diameter of rod 10, produced very satisfactory results.



one example of a non-linear field gradient

Advantageously, the dielectric member 10, may be employed to increase the non-linearity of the field gradient. For example, the dielectric member may be of material having a uniform relative dielectric constant and be tapered in the direction of electrode 14 such that the member 10 in the region of electrode 12 has a much greater cross-sectional area than the end of member 10 which is connected to electrode 14. An equivalent result may be obtained if the member 10 is of uniform diameter but has a dielectric of graduated density or which comprises a material having a progressively different electrical conductivity or dielectric constant. In any of these arrangements, the dielectric constant, or alternatively the electrical conductivity, varies from a low value in the region of electrode 14 to a high value in the region of electrode 12.

The arcuate electrode 12 may be either a stitched wire surface or a solid conducting surface. In the case of stitched wire surface, the wires are very close together so that when an electrical potential is applied to these wires, they act substantially in the same manner as a conductive surface. Arcuate electrode 12 will produce a thrust when a potential is applied to the electrode 12 which is opposite in polarity to the potential of the bodies in the region of electrode [14]. Such a thrust will be produced even though the dielectric member 10 and the electrode 14 are eliminated from the structure.

However, the thrust produced by the charged arcuate electrode 12 when actuating alone is less than the thrust produced by the combined device, that is, employing the dielectric member 10 and the oppositely charged electrode 14.

Referring now to FIGURE 2, there is depicted another illustrative embodiment of this invention in which field-shaping is accomplished. In the embodiment of FIGURE 2, the planar electrode 18 is connected to a hemispherical electrode 14 by means of a dielectric rod 10. When a source of electrical potential (not shown) is connected through wires 15 and 17 to electrodes 18 and 14, respectively, a field gradient will be produced between electrodes 18 and 14, which field gradient varies in accordance with the graph represented by the solid line 32 of FIGURE 3. In this particular embodiment, as well as in the embodiment of FIGURE 1, the non-linearity of the field gradient is further augmented by the use of a connecting rod 10 which is a dielectric with progressively different dielectric constant between electrodes 18 and 14. A similar result may be produced by the use of a rod 10 having electrical conductivity which varies progressively between electrodes 18 and 14.

Referring now to FIGURE 4 there is depicted still another illustrative embodiment of this invention in which a thrust is produced in response to the application of electrical potentials.

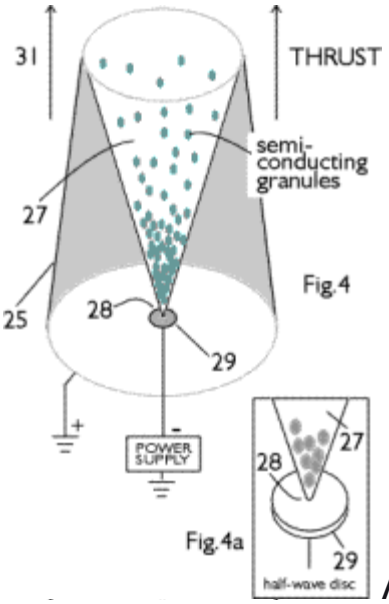


Fig.4a

A frusto-conical surface 25 comprising a metal or having a metal surface to be used on an electrode is connected to a tapered member 27. The tapered member 27 is frusto-conical and is primarily of non-conductive material but contains **granules of semi-conducting** material, which granules are concentrated near the tip 28. Mounted on tip 28 is a half-wave radiator 29 which may be in the form of a disk (see Fig.4a). [Note: A half-wave length of 3cm, for instance, would correspond to a signal of 5 GHz frequency].

It is to be noted that the axis of member 27 coincides with the axis of member 25. When a source of potential is connected to electrodes 25 and 29, a thrust is produced in the direction of the arrow 31 regardless of the polarity of the applied voltage. However, a greater thrust is produced if the electrode 25 is positive with respect to electrode 29. Alternating current voltages may also be applied to electrodes 25 and 29 and the potential may either be superimposed upon or substituted for the direct current voltages. Preferably, the frequency of the applied A.C. voltage is such that the diameter of the disk 29 constitutes a half-wave length of the applied voltage.

Referring now to FIGURE 5 there is disclosed a tapered member 32 which is of non-conductive material and may contain particles of semi-conducting material in a manner similar to member 27. The semi-conducting material contained in member 32 and in member 27 may be any convenient form of massive particles such as lead oxide. Along one surface of member 32 is an electrode 34 while along the opposite surface is another electrode 36. When a potential is applied to these electrodes, preferably of a polarity such that electrode 36 is positive with respect to electrode 34, a thrust is produced in the direction of the arrow 37. In the devices disclosed in both of FIGURES 4 and 5, the thrust produced by the electrodes is augmented by the varying cross-sectional area of the non-conductive member connecting the electrodes and is further augmented by the voltage gradient produced by the embedded particles, which voltage gradient is greater than that which would be introduced by a tapered non-conductive member without embedded particles.

Referring now to FIGURE 6 there is depicted a bank of members 32 such as disclosed in FIGURE 5 in which like electrodes 36A through 36E are secured together by a connector in any convenient form, such as plate 38. Each of these members 32A through 32E produces a thrust in the direction of the arrow 37A and the resultant force is equal to the sum of the thrust produced by the individual members 32 in response to the application of potentials to the electrodes 34A-34E and 36.

In FIGURE 7 there is depicted a pair of banks of members, such as depicted in FIGURE 6, in which the electrodes are serially

connected. In this particular instance, a plate or other member 40 comprises an electrode on which are mounted an array of members 32F through 32J. A second electrode 42 is secured between electrodes 32F through 32J and electrodes 32K through 32P. A third electrode 44 is connected to the electrode 34 on each of members 32K through 32P. It is to be noted that electrodes 40 and 44 are connected to a source of one potential while electrode 42 is connected to a source of the opposite potential. The thrust produced by this array is in the direction of arrow 37B and the manner in which this thrust is produced is similar to that explained in connection with FIGURES 5 and 6, although it would appear that electrode 42 will experience a mutual attraction for electrodes 40 and 44. A non-linear field gradient is produced between these electrodes by the varying cross-sectional area of members 32 and by the presence of semi-conducting particles in members 32. This non-linear field gradient gives rise to the thrust, as mentioned above.

Referring now to FIGURES 8A, 8B, and 8C there is depicted other illustrative embodiments of this invention. In FIGURE 8A a toroid member 48 has an electrode 50 supported at its center by means of insulating rods 52. If the electrode 50 and the toroid member 48 are both conducting surfaces defining electrodes and these electrodes are connected to sources of opposite potential, no thrust will be developed by the device. If, however, as depicted in FIGURE 8B electrode 50 is translated along the axis of generation of toroid or annular member 48 and again supported by non-conductive members 52, this device will experience a downward thrust, as indicated by arrow 53, in response to the application of potentials of either polarity. It is

believed that this force is produced by the annular configuration of electrode 48 and the off-central location of electrode 50. In the instance of FIGURE 8C, electrode 50 is positioned beneath the center of electrode 48 and positioned on the axis of generation of electrode 48. When potentials are applied to electrodes 48 and 50 in FIGURE 8C, a thrust is produced in an upward direction, as indicated by arrow 54. Here again the field gradient is produced by the configuration of electrode 48 and the location of electrode 50 with respect to electrode 48.

From the foregoing discussion, it is also apparent that a combination of a curved electrode, a supporting member of varying cross-sectional area, and a second electrode supported by the connecting member will produce a thrust along the axis of the curved electrode when potentials are applied to the electrodes. Similarly, a thrust may be developed between plane electrodes of unequal areas which are connected by a member of varying cross-sectional area. The thrust developed by this last mentioned device is further increased by the introduction of semi-conductive particles in the non-conducting member, which particles are more concentrated in the region of the smaller electrode than in the region of the larger electrode. Further, these tapered members having planar electrodes connected to opposite surfaces may be stacked in vertical arrays and connected in parallel, or they may be stacked in vertical arrays connected in series with similar vertical arrays.

In applying potentials to these various embodiments, it has been found that the rate at which the potential is applied often influences the thrust. This is especially true where dielectric members of high dielectric constant are used and the charging

time is a factor. In such cases, the field gradient changes as the charge is built up. In such cases where initial charging currents are also high, dielectric materials of high magnetic permeability like-wise exhibit varying thrust with time.

One advantageous manner of applying potential is that of employing potentials which vary cyclically.

It is thus apparent that one embodiment of this invention embodies a pair of electrodes mounted on an insulating member, one of which electrodes defines an arcuate surface to produce an improved thrust in response to the application of direct current potentials. It is also apparent that this thrust is augmented by increasing the non-linearity of the field gradient by a progressively-changing characteristic of the dielectric member connecting these electrodes. This non-linearity of field may be produced by a gradient in electric conductivity, electric permittivity and/or magnetic permeability along the length of the [insulating] member, or it may result from a change in the cross-sectional area of the rod which rod has otherwise uniform characteristics.

While I have shown and described various embodiments of my invention, it is understood that the principles thereof may be extended to many and varied types of machines and apparatus. The invention therefore is not to be limited to the details illustrated and described herein.

I claim:

1. A device for producing thrust comprising a field shaping surface formed of stitched, closely spaced conductors and having a dielectric material therebetween to define a smooth

surface, a dielectric member connected to said field shaping surface and an electrode on the end of said dielectric member remote from said field shaping surface, and means for applying electrical potential between said electrode and said closely spaced conductors.

2. A device for producing thrust in accordance with claim 1 wherein said dielectric member has a dielectric constant which varies progressively between said electrode and said surface means.

3. A device for producing thrust comprising an electrode having a relatively large surface area, an electrode positioned in the region of the axis of generation of said surface and having a relatively small surface area, dielectric means connecting said electrodes and means for applying a varying electrical potential to said electrodes.

4. A device in accordance with claim 3 wherein said dielectric means exhibits a dielectric constant which varies progressively from a relatively high value in the region of the large electrode to a relatively low value in the region of said small electrode.

5. A device in accordance with claim 3 wherein said dielectric means has an electrical conductivity which varies progressively between said electrodes.

6. A device for producing thrust comprising a planar electrode, a second electrode positioned in the region of the axis of generation of said planar electrode and having a surface area smaller than the surface area of said planar electrode, a dielectric member connecting said electrodes and means for applying a high electrostatic potential to said electrodes.

7. A device in accordance with claim 6 wherein said dielectric member is tapered from the planar electrode towards the smaller electrode.

8. A device in accordance with claim 6 wherein said dielectric member has a conductivity which varies progressively from a relatively high value near the planar electrode to a relatively low value near the smaller electrode.

9. A device for producing thrust in response to the application of electrical potentials to the electrodes thereof comprising a first electrode, a second electrode having a relatively large planar surface area with respect to said first electrode and means including a connecting member supporting said electrodes in spaced relationship for producing a varying field gradient between said electrodes.

10. A device in accordance with claim 9 wherein said connecting member has a varying cross-section.

11. A device in accordance with claim 9 wherein said connecting member tapers between said electrodes.

12. A device in accordance with claim 9 wherein said first and second electrodes are flat electrodes of unequal area.

13. A device according to claim 9 including means for applying a varying electrical potential to said electrodes.

14. A device in accordance with claim 9 wherein said connecting member has a dielectric constant which varies between electrodes.

15. A device in accordance with claim 14 wherein said first electrode is a frusto-conical surface and wherein said

connecting member extends along the axis of generation of said first electrode.

16. A device in accordance with claim 14 wherein said first electrode defines a frusto-conical surface.

17. A device in accordance with claim 9 wherein said connecting member comprises semi-conducting particles whereby said connecting member is given a conductivity gradient.

18. A device in accordance with claim 15 wherein said second electrode is a disk-shaped radiator and wherein the potentials applied to said electrodes are alternating current potentials, the diameter of said disk-shaped electrode being equal to a half-wave length of the alternating current potential.

19. A device in accordance with claim 15 wherein said connecting member contains semi-conducting particles which are more concentrated in the region of the disk radiator than in the region adjacent said first electrode.

20. A device for producing thrust in response to the application of electrical potentials to the electrodes thereof comprising an annular electrode, a second electrode, and insulating means connecting said electrodes whereby thrust is produced along the axis of generation of said annular electrode in response to the application of electrical potentials thereto.

21. A device in accordance with claim 20 wherein said annular electrode comprises a toroidal surface.

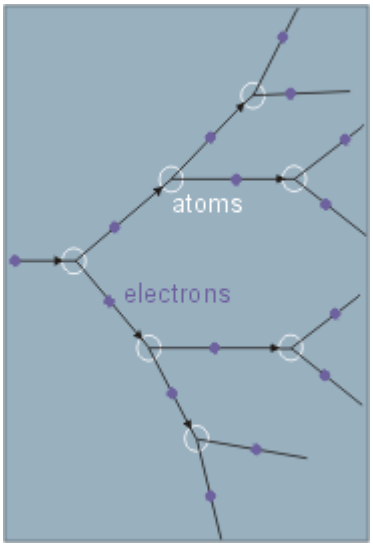
22. A device in accordance with claim 20 wherein said second electrode is mounted on the axis of generation of said annular

electrode.

23. A device in accordance with claim 22 wherein said second electrode is displaced from the center of said annular electrode whereby a thrust is developed along said axis in a direction from said second electrode towards that annular electrode in response to the application of electrical potentials thereto.

References Cited by the Examiner 1,003,484 11/51 France (as well as Brown's #300,311 British Patent) (see TT Brown patent list).

Electron Avalanche Mechanisms



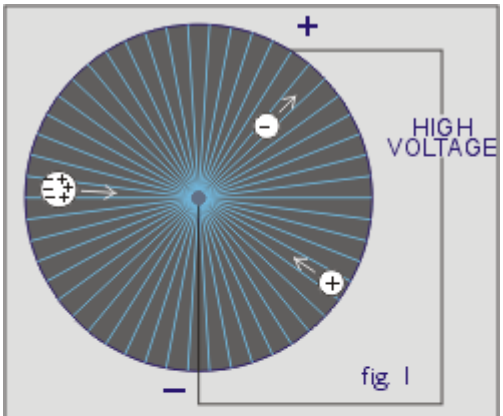
The process of creating an electron avalanche, or cascade, begins with applying a large electric field to a gas or body of air (at normal temperatures) to knock out of the atoms a few electrons so that they are then accelerated by the electric field. With the extra energy imparted to a few free electrons they will soon impact upon other atoms to knock off more electrons. "These secondary events are sufficient even if there is only a small number of free electrons since these can liberate new electrons after being accelerated by the field. In this way, electron multiplication proceeds in a geometrical progression.

Just as a small number of plague microbes can cause a huge epidemic, so a very small number of electrons, produced perhaps by cosmic rays or emitted from a metal surface, can cause ionization of an entire gas and turn it into a plasma." (From "Plasma - The Fourth State of Matter" by D.A. Frank-Kamenetskii (1972) p10).

Electron Cascade Generator

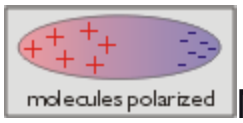
The electron cascade effect is the phenomenon of *continuous* production of electrons - throughout the environment in the air itself. What determines the production of this *electron cascade effect*, can be explained below by Patrick Flanagan [from his taped lecture on **The Electron Field Generator** c.1988]...

"Number one, we have this phenomenon whereby we found that certain insulators, and some insulators are more effective than others, if we apply a high frequency, high voltage, alternating field across an insulator that we produce this [J.Willard] Gibbs phenomenon, this non-Maxwellian field, which has a differential polarization, that is, that it creates a polarity differential between it and the environment such that neutral and charged air molecules are accelerated at extremely high speed, not very low speed, but at very high speed toward the emitter.



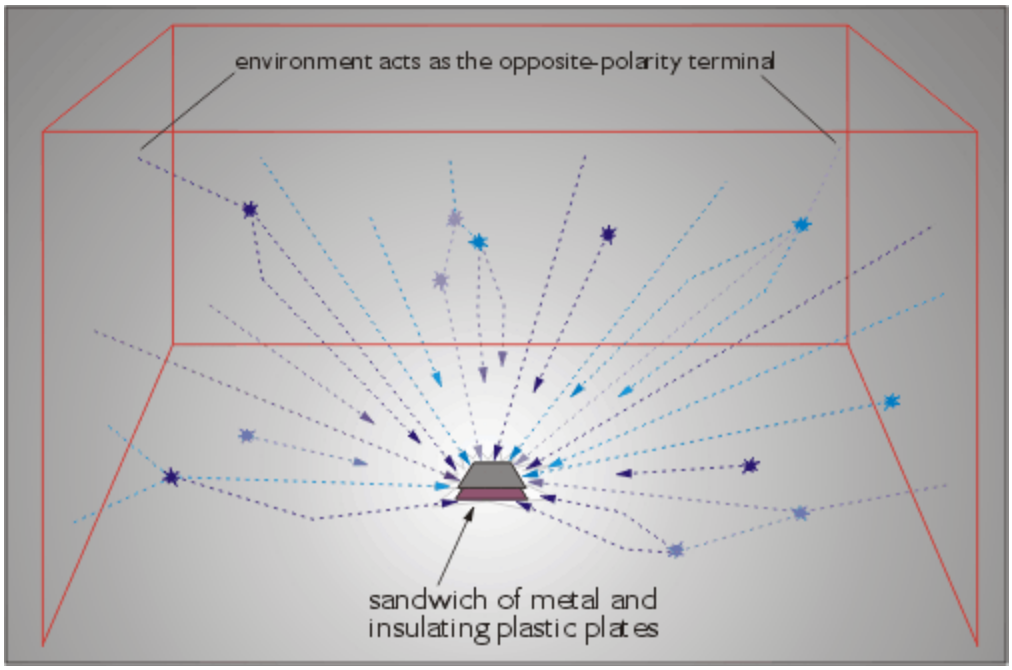
Nonuniform field acts on both neutral and polarized particles; neutral particles move to the strongest part of the field, while polarized particles move to the electrode of opposite polarity.

As these molecules are accelerated they collide with other molecules in the air and when this collision occurs the electrons are knocked off the molecules, that is, free electrons are knocked off the molecules and they in turn are accelerated by this field and then collide with the other molecules causing a discharge of more electrons and this is the origin of the basis of what we call the electron cascade - we have an entire cascade of electrons being generated everywhere in the environment.



Now its true that we have a greater, that is, higher velocity, electrons being generated in the vicinity of the machine, however, so that the air passing through the machine (we have a fan that brings air through the machine, through this emitter device), although the air passing through the machine is exposed to very high concentration of free electrons the machine is also creating free electrons in space around the machine, that is, so that, it is affecting air and purifying air in the environment."

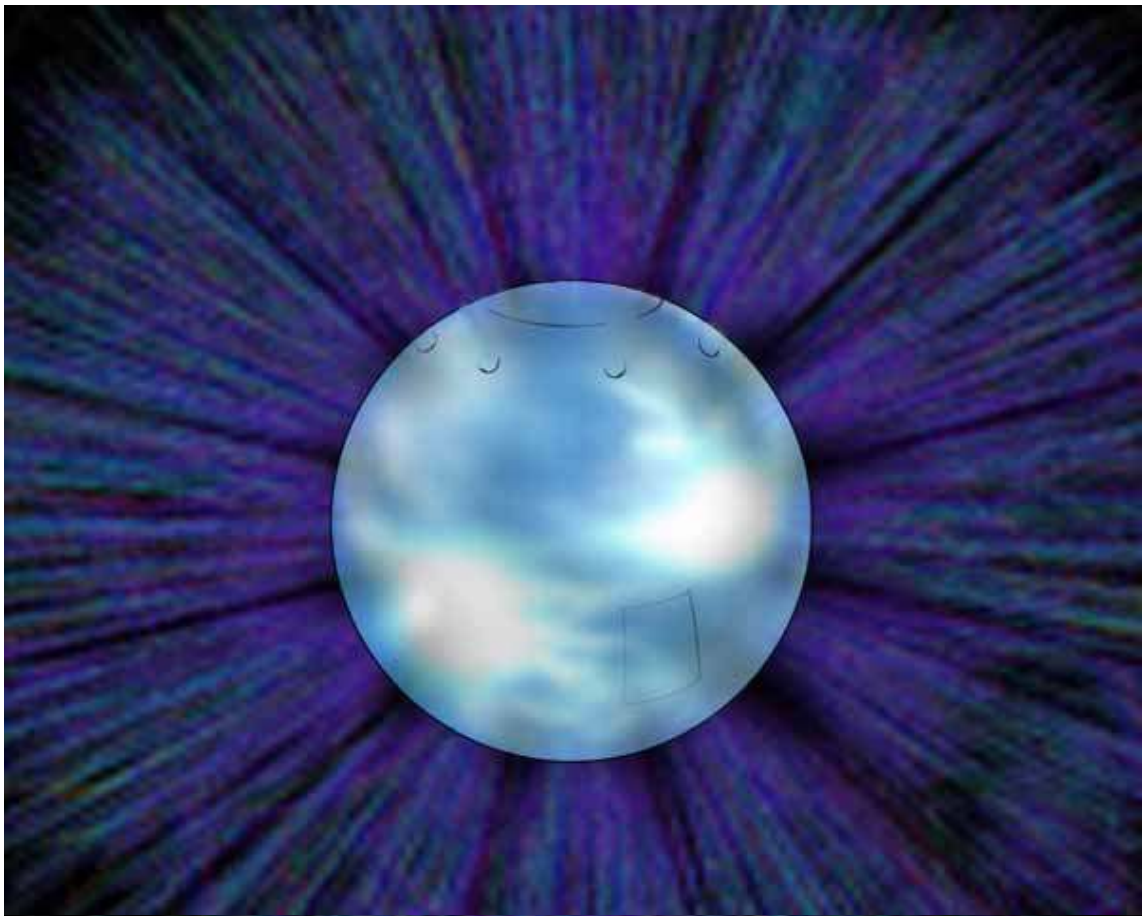
(See his US patents 4,391,773 (July 5 1983), and 4,743,275 (May 10 1988) The Electron Field Generator).



The force of the free electrons is then enhanced by dielectrophoresis and electrophoresis acting in a nonuniform electric field, resulting in the electrons being forced at a high velocity into a small volume surrounding the 'emitter device'. Such a device or configuration can be set up anywhere, on any scale - even inside a liquid providing the liquid is a dielectric.

Obviously, before a ufo craft can manipulate an electric field around it's metallic shell it first has to transform the surrounding air in some way or another so as to bring a higher level of energy out from the molecules and atoms of that air. This process of electron avalanching with it's chain-reaction effect, much the same as a nuclear explosion is a chain-reaction effect, is one way of creating a higher level of energy from what is seemingly a 'low energy source'. Another way of 'raising the octane' involves a high frequency oscillating electric field to produce electron spin resonance - the visual effect of which is an emission of light photons of various colours.

This hyper-energizing of the air-ambient is essentially just as crucial to ufo propulsion as the actual manipulation of that electrified air by the UFOs.



USAF report of *UFO Encounter One*

The key factor that led to the realisation that the electric ufo uses a microwave-frequency propulsion was originally based around a **USAF report** from back in the 1970's which gives an unusually detailed account of a UFO's propulsion system, as observed by the crew of a fighter jet utilizing (as then) state-of-the-art electronic detection equipment. They were able to track the ufo for a significant period of time, to monitor its moves - and even try to attack it (at which instant it would evade the assault simply by

'disappearing').

That the airforce plane detected electromagnetic radio signals oscillating at **2995 Mhz** to **3000 Mhz** coming from the ufo craft was interesting enough, but the fact that they, as the report verifies, were detected within a 'beat' frequency of 600 Hz has possibly unlocked the most significant piece of information about a UFO's electronic field propulsion. For the meaning behind the *beat frequency* is that the 'beat' is a result of combining two currents of different frequencies together resulting in a variation in amplitude (causing it to beat). This means that the power signature of the ufo was not coming from one signal but from **two**... The full significance of this discovery will be gone into in depth through other pages of this website, while right here is a look at that *UFO Encounter One* report.

It took me a while to track down this 3000 MHz report but with the help of Eric Hartman (Vice President of MUFON - Orange County) we got there in the end, and what an interesting account it is too, but here below is the relevant passage that I am referring to: These details are taken from the original account of July 17 1957 when an RB-47 had flown out of Forbes Air Force Base (Topeka, Kansas) on a routine gunnery and monitoring exercise over the Texas-Gulf area. The plane was equipped with ECM (electronic countermeasure) monitoring equipment capable of detecting signals in the 1000 to 7500 MHz range. The following transcription comes from the summary report prepared by the Wing Intelligence Officer, COMSTRATRECONWG 55, Forbes Air Base:

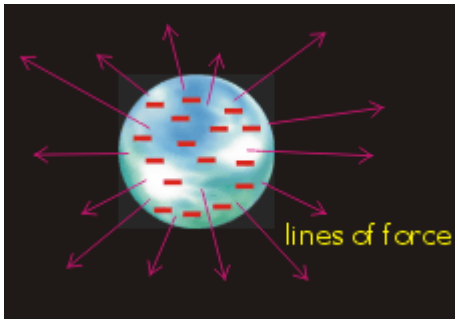
"ECM reconnaissance operator #2 of Lacy 17; RB-47H aircraft, intercepted at approximately Meridian, Mississippi, a signal with the following characteristics: frequency 2995 mc to 3000 mc; pulse

width of 2.0 microseconds; pulse repetition frequency of 600 cps; sweep rate of 4 rpm; vertical polarity. Signal moved rapidly up the D/F scope indicating a rapidly moving signal source; i.e., an airbourne source. Signal was abandoned after observation."
(From the article *"Air Force Observations of an Unidentified Object in the South-Central U.S., July 17, 1957"* complied by James McDonald published in "**Astronautics & Aeronautics**" (AIAA) July 1971 p66-70) ...

Radio Wave Controlled Electric Field Drive System
by Mike Competillo

To understand the principle of my radio-wave controlled electric field drive system, lets first review the basic principles of waves and electric fields.

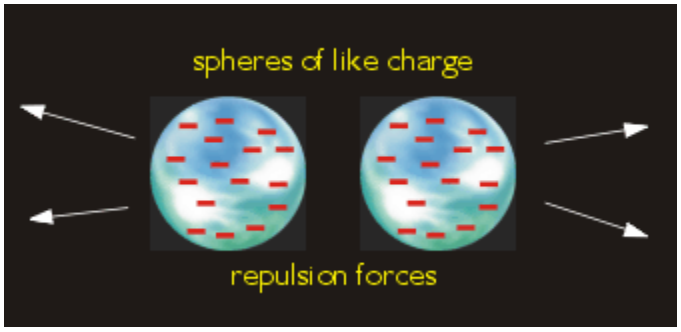
An electric field has the ability to exist with only one pole. All magnetic material exists with two poles. In this way, an electric field is not like a magnetic field. The lines of force of a magnetic field go from north to south in a curved manner. Electric fields will do the same with opposite charges present.



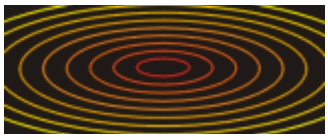
In this case, the lines of electric force naturally travel in straight lines from the center of the point from which they originate, outward, no matter what the size (see fig.1 electric lines of force).

Science tells us that if this point were instead *a sphere*, if you

had say 5 Volts dc at the center, inside the sphere, you would still have 5 Volts dc on the surface of the sphere, no matter how large the sphere is. Therefore, voltage emanating from within a sphere is immediately moved to the surface, and does not change in value. This is the Faraday principle. Once the sphere becomes so heavily charged, it will begin to allow ions to run off. If the sphere is smooth enough, it will glow as ions leave the surface. This is called corona. If there is a point, a sharp edge or a protruding side of the sphere, ions will leak off more readily at this point. This is undesirable as it can arc and continually lose power.

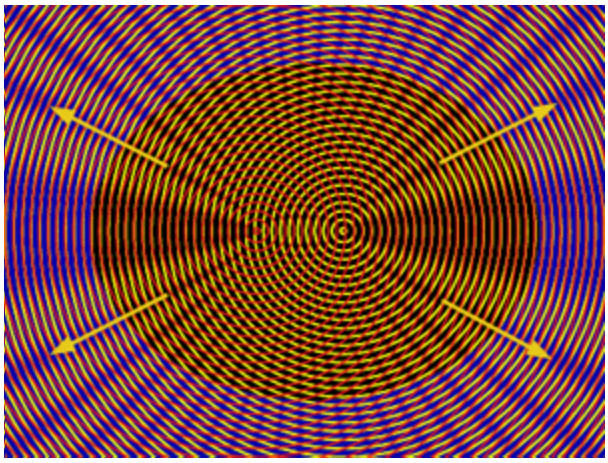


Now, when another sphere is placed near the original sphere with like charges, they repel one another (see fig.2 spherical repulsion). Conversely, if a different sphere were oppositely charged, these spheres would be attracted to one another.

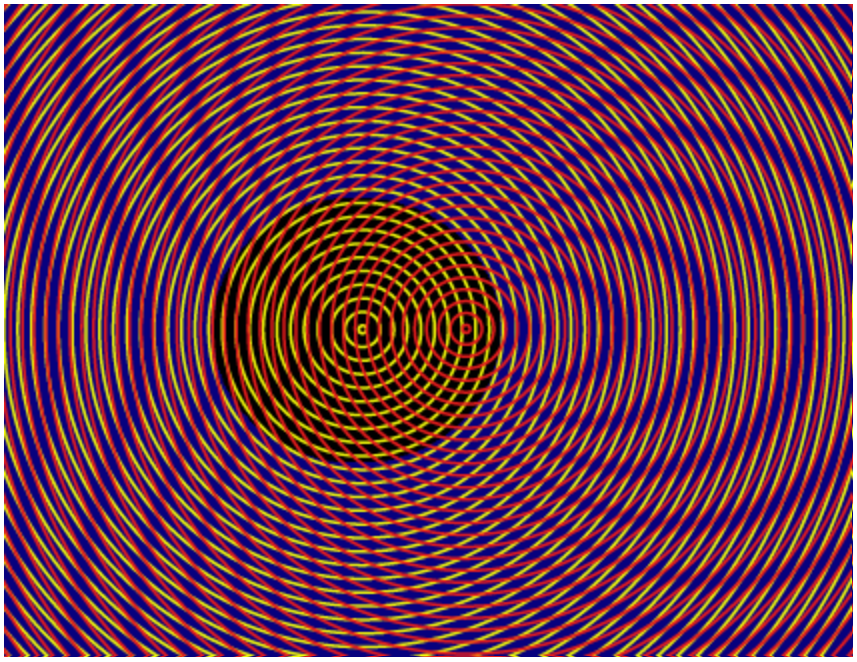


Now let's look at radio waves. They are similar to waves in water which are caused by a drip or contact with the water's surface (see fig.3 radiowave). They continue to grow.

Now ***two sources*** with the exact same frequency would look like this (fig.4 standing wave).

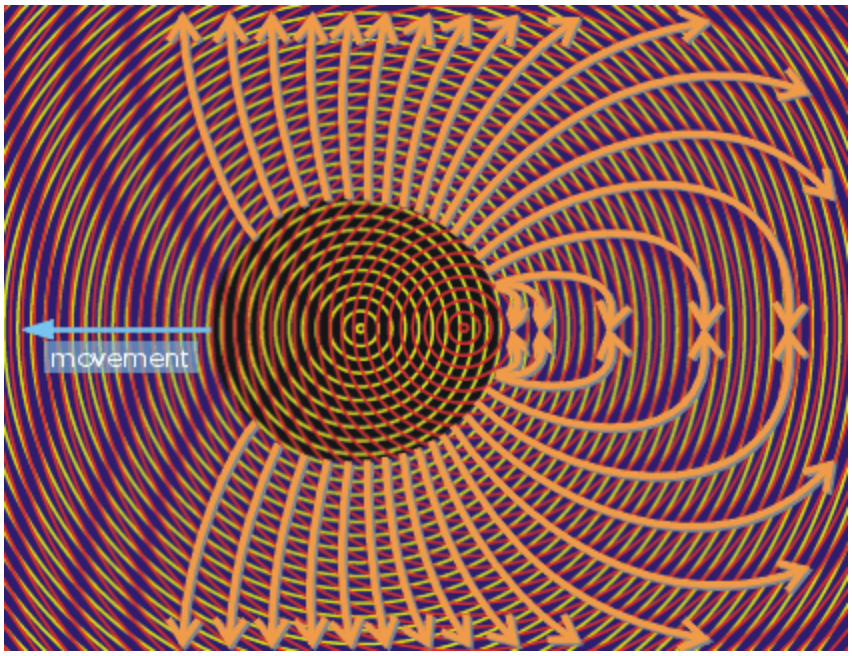


I added the slightly flattened circle so that we can begin to see what happens when an electric field is added to the surface of the sphere, when the radio waves are present. As we saw before, electric field lines naturally travel outward in all directions all the way around a sphere. By adding the radio waves that are strong enough, one can group these electric lines of force and steer them around. Remember the electric field lines represent the direction the ions from an electric field will go. There is no advantage to applying a standing wave as we see in this diagram because all sides are equal.



Consider now what happens when one of the radio frequencies varies just a little bit (see fig.5 craft with dual radio waves).

All the electric lines still emanate outward from the sphere (shown in the figure as the dark circle), but now they are bent in one direction because of the shift in frequency of that second radio wave. Now instead of all things being equal, the electric field is forced to follow the paths created by the channels of the radio wave's constructive and destructive lines (see fig.6 ionic direction).

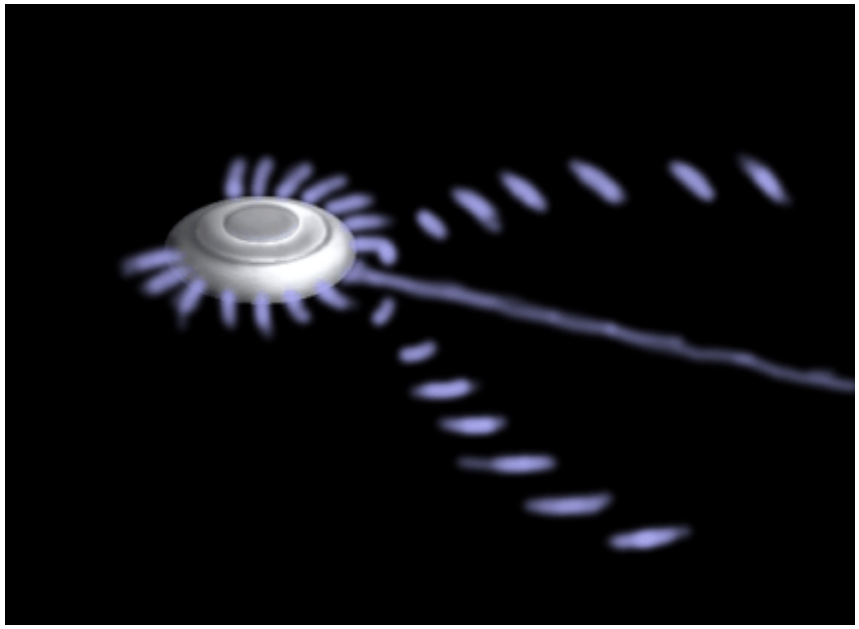


Here, we see that if the sphere is say, negatively charged, the ions which emanate from it curve back against the very source from which they came - the sphere. These ions are forced to a close proximity of the surface of the sphere against nature, much like the two spheres of like charge we saw earlier. A natural repulsion will occur.

Now in physics we know that an object which is less massive will be more easily susceptible to movement induced by a more massive object. If I hung a bowling ball from a string and a baseball next to it, from a string I could allow the bowling ball to swing and hit the baseball, and it will cause the baseball to move very easily. However, if I swing the baseball toward the bowling ball, it's not likely to move as much as the other way around. One would naturally conclude from this that the ions off the surface of the sphere are in the air and have very little mass, and so, they would be thrown off, away from the surface of the sphere. Yes, this is what would happen ***if the radio waves were suddenly not there***.

However, radio waves travel at the speed of light and that comes out to about 1000 miles every 1000th of a second! So, a pattern or grid of high tension voltage is created by the radio waves in all directions, having an overall diameter of 2000 miles every 1000th of a second. Think for a second about the old trick of breaking a ruler with a newspaper. You place a newspaper flat on a table and slide a wooden ruler under it all but a few inches. If you take your hand down in a quick karate chop fashion and strike the ruler, it breaks off the end because the newspaper has lots of surface tension or pressure against the air which inhibits its movement.

Earlier I used the word tension and voltage in the same sentence. That's what voltage is; electrical tension or pressure. They all mean the same thing. Radio waves by themselves couldn't cause any movement to occur because there is not enough pressure present in and of themselves. Think of a hose with no fitting on the end and a beachball. Water comes out and squirts onto the ball. It's not very much pressure to move the ball. But stop up the end of the hose a bit with your thumb and, yes you've slowed down the amount of flow, but you've also increased the pressure. Now the beachball easily moves with the increased pressure.



So if this field exists, and it is so huge (2000 miles per thousandth of a second), it is actually less prone to move than the sphere or craft within which one could ride. Since, in this high tension field, the number of cubic inches to 'push off' is enormous, and I would estimate up near a decatillion cubic inches, a fraction of a pound pressure per cubic inch is far more

than enough to generate an opposing resistance to push against. This huge field then, or grid, has a great amount of pressure distributed over a large area just like the newspaper analogy - and it resists movement. But the radio wave puts the electric field close enough to the sphere to cause repulsion between the sphere and the grid - causing the sphere to move. After that each fraction of a second, as soon as the craft then moves the slightest bit, a new grid is created and more movement occurs, over and above the initial movement from the preceding one. Therefore, you have an acceleration occurring. Gravity is an acceleration, and so it mimics gravity. Movement occurs as long as you provide enough electric field and radio waves with just the right amount of power and frequency deviation.

Electrokinetic UFO - by Paul E Potter

The GRANGEMOUTH electric ufo - by Paul E Potter

Rose Flying Saucer

UFO Gravity Manipulation

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Kuantum Teleportation / Kuantum Fizigi / Uçaklar(Aeroplane)

New World Order(Macro Philosophy) / Astronomy