

ELECTROGRAVITATIONAL
CRAFT PROPULSION
AND CONTROL

Chapter 7

The purpose of this chapter is to present a most likely method of construction of a interstellar craft through the implementation of formulas contained herein that will illustrate a causal electrogravitational mechanism involving two-system inductive and capacitive interactions where the normal interaction at the receptor is the result of two cotangent functions based on constant phase angles and not on frequency. The actual phase angles for the normal electrogravitational force are developed and then the required phase change in the capacitive angle is developed that would allow for the counter electrogravitational action to occur that could have enormous force potential compared to either the usual normal or counter electrogravitational force.

There is no doubt for a great many people that craft from other than this world are not only here now but have been around for quite a while. The purpose of this paper is not to affirm or deny the existence of such craft but to present a possible working explanation as to how we humans might construct such craft for the exploration of space, thus advancing the general quality of life for all of humanity.

There is the possibility that we may not be welcome as we are since the races of interstellar space may consider us unfit due to rather backwards way of dealing with each other in general. I believe however that It is in our nature to give it a try at any rate.

If anyone reading this is willing to help fund the building of such a craft then I feel that I can contribute much towards the successful completion of such a task.

Let the following constants be stated for the purpose of computations regarding the further analysis of the electrogravitational formulas previously presented by this author.

$L_Q := 2.572983215822382 \cdot 10^3 \cdot \text{henry}$	Quantum Electrogravitational Inductance.
$C_Q := 3.86159328077508 \cdot 10^{-06} \cdot \text{farad}$	Quantum Electrogravitational Capacitance.
$R_Q := 2.581280560 \cdot 10^{04} \cdot \text{ohm}$	Quantum Hall Ohm.
$l_q := 2.817940920 \cdot 10^{-15} \cdot \text{m}$	Classic electron radius.
$r_{LM} := 1.355203611 \cdot 10^{-03} \cdot \text{m}$	Quantum Electrogravitational radius.
$\epsilon_o := 8.854187817 \cdot 10^{-12} \cdot \text{farad} \cdot \text{m}^{-1}$	Electrical permittivity of free space.
$\mu_o := 1.256637061 \cdot 10^{-06} \cdot \text{henry} \cdot \text{m}^{-1}$	Magnetic permeability of free space.
$f_{LM} := 1.003224805 \cdot 10^1 \cdot \text{Hz}$	Quantum electrogravitational frequency.
$t_{LM} := f_{LM}^{-1}$	Quantum electrogravitational time.
$r_{n1} := 5.291772490 \cdot 10^{-11} \cdot \text{m}$	Bohr n1 radius
$c := 2.997924580 \cdot 10^{08} \cdot \text{m} \cdot \text{sec}^{-1}$	Velocity of light in free space.
$v_{LM} := 8.542454612 \cdot 10^{-02} \cdot \text{m} \cdot \text{sec}^{-1}$	Quantum electrogravitational velocity.
$r_x := r_{n1}$	Variable r preset to Bohr n1 orbital radius.
$q_o := 1.602177330 \cdot 10^{-19} \cdot \text{coul}$	Basic electron charge.
$i_{LM} := q_o \cdot t_{LM}^{-1}$	Quantum electrogravitational current unit.

Also; $\theta := \frac{\pi}{2}$ $\phi := \frac{\pi}{2}$ and; $\omega_{LM} := 2 \cdot \pi \cdot f_{LM}$

$A := \sin(\theta)$ $B := \sin(\phi)$ $A = 1$ $B = 1$

where then the previously established electrogravitational formula is stated again below as;

$$(232) \quad F_{eg} := \left(\frac{\mu_o \cdot q_o^2 \cdot v_{LM}^2}{4 \cdot \pi \cdot l_q \cdot r_x} \right) \cdot \mu_o \cdot \left(\frac{\mu_o \cdot q_o^2 \cdot v_{LM}^2}{4 \cdot \pi \cdot l_q \cdot r_x} \right)$$

or,
$$F_{eg} = 1.982973075196837 \cdot 10^{-50} \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}^2$$

The above formula may be stated in terms of L_Q and C_Q and the quantum current i_{LM} as is shown next. (Force polarity is not corrected yet.)

$$(233) \quad F'_{eg} := \left[\frac{L_Q \cdot (i_{LM}^2) \cdot A \cdot B}{r_x} \right] \cdot \mu_o \cdot \left[\frac{C_Q \cdot R_Q^2 \cdot (i_{LM}^2) \cdot A \cdot B}{r_x} \right]$$

or,
$$F'_{eg} = 1.982973070535905 \cdot 10^{-50} \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}^2 \quad \text{also.}$$

The above may be expressed in terms of inductive and capacitive reactances in the following;

Let;
$$X_L := \omega_{LM} \cdot L_Q \qquad X_C := \frac{1}{\omega_{LM} \cdot C_Q}$$

where;
$$X_L = 1.621866424513917 \cdot 10^5 \cdot \text{ohm}$$

and,
$$X_C = 4.108235582859004 \cdot 10^3 \cdot \text{ohm}$$

then also arranging the above expressions for C_Q and L_Q ;

$$L_Q = \frac{X_L}{\omega_{LM}} \qquad C_Q = \frac{1}{X_C \cdot \omega_{LM}}$$

Inserting the above expressions for the quantum inductive and capacitive reactances into equation (233) above with the proper phasor form of X_L and X_C we arrive at equation (234) next;

$$(234) \quad F''_{eg} := \left[\frac{X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i LM)^2}{\omega LM \cdot r_x} \cdot A \cdot B \right] \cdot \mu_o \cdot \left[\frac{R_Q \cdot [R_Q \cdot (i LM)^2]}{X_C \cdot e^{j \cdot \left(-\frac{\pi}{2}\right)} \cdot \omega LM \cdot r_x} \cdot A \cdot B \right]$$

or the quantum electrogravitational force in terms of the proper reactive signs is:

$$F''_{eg} = -1.982973070535905 \cdot 10^{-50} + 2.428361421636938 \cdot 10^{-66} i \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}^2$$

Note also that multiplying the source side of equation (234) above by X_L and dividing the receptor side by X_L , equation (235) is obtained where also the right side of equation (234) is the receptor portion of the interaction while the left side of the interaction is the source. Next we introduce equation (235) as:

(235)

$$F'''_{eg} := \left[\frac{\left[X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \right]^2 \cdot (i LM)^2}{\omega LM \cdot r_x} \cdot A \cdot B \right] \cdot \mu_o \cdot \left[\frac{R_Q \cdot [R_Q \cdot (i LM)^2]}{X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot X_C \cdot e^{j \cdot \left(-\frac{\pi}{2}\right)} \cdot \omega LM \cdot r_x} \cdot A \cdot B \right]$$

where again;

$$F'''_{eg} = -1.982973070535905 \cdot 10^{-50} + 2.428361421636938 \cdot 10^{-66} i \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}^2$$

The receptor side of equation (235) now contains two cotangent forms of R_Q/X_L and R_Q/X_C that represent two interaction angles that can be made independent of the angular frequency of the interaction. The cotangent ratios are ;

$$\frac{R_Q}{X_L} = 0.159154941552824$$

$$\frac{R_Q}{X_C} = 6.283185343046065$$

where the arctan of the inverse ratio will yield the phase angles;

$$\phi' := \operatorname{atan}\left(\frac{X_L}{R_Q}\right)$$

$$\phi' = 80.9569390069661 \cdot \text{deg}$$

$$\phi'' := \operatorname{atan}\left(\frac{X_C}{R_Q}\right)$$

$$\phi'' = 9.043061028269946 \cdot \text{deg}$$

Check;

$$\cot(\phi') = 0.159154941552824$$

$$\cot(\phi'') = 6.283185343046065$$

This has the effect of rotating the first quadrant clockwise by ϕ'' degrees which is in a negative time direction. (Counterclockwise is always in the positive and increasing time direction.) This represents a definite power loss and an increase in total system entropy. Equation (235) previous may now be put in the form of equation (236) below where the cotangent ratios may be expressed as angles.

(236)

$$F'''_{eg} := \left[\begin{array}{c} \text{Source} \\ \frac{X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i_{LM})^2 \cdot A \cdot B}{\omega_{LM} \cdot r_x} \end{array} \right] \cdot \mu_o \cdot \left[\begin{array}{c} \text{Receptor} \\ \frac{\cot(\phi') \cdot \cot(\phi'') \cdot X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i_{LM})^2 \cdot A \cdot B}{\omega_{LM} \cdot r_x} \end{array} \right]$$

Please note that the phasor form for reactance yields the real (-) force of attraction.

$$F'''_{eg} = -1.982973070535903 \cdot 10^{-50} + 2.428361421636936 \cdot 10^{-66} i \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}^2$$

It must be emphasized that now the normal sign electrogravitational force expression contains the cotangent functions that can be made independent of frequency so that any L, C, or R may be utilized so long as the reactive ratios are preserved for a given angular frequency of consideration. In other words, the electrogravitational interaction

is controlled in the receptor by the phase angles ϕ' and ϕ'' which may be altered. More specifically, ϕ'' can be most easily altered to reverse the polarity of the total interaction force sign by altering the capacitive reactance through planar varactor diode action where the planar surface is a capacitive plate layered with an insulating surface that has a series of conductive dots etched upon that insulating surface that form a transmission line type of surface capable of emulating a coil that has a variable capacitor action to its ground plane surface. These dots would be charged in rapid sequence to emulate an actual circular-moving current.

Let equation (236) be restated for the purpose of experimenting with the value of ϕ'' to see what the effect is on the normal negative vector force F_{eg} .

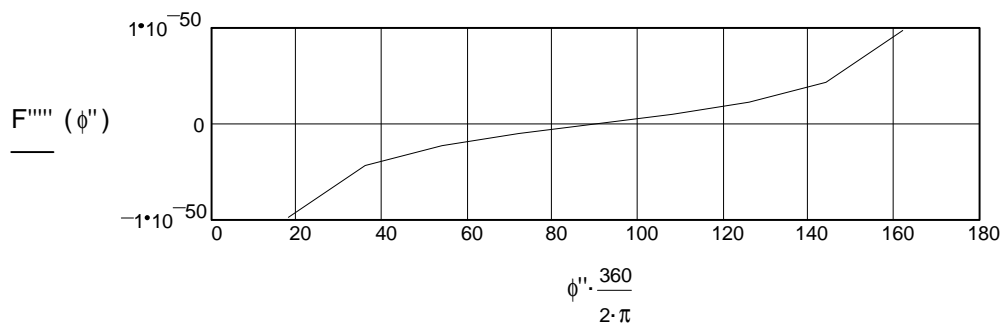
Let $\phi'' := .1 \cdot \pi, .2 \cdot \pi \dots 0.9 \cdot \pi$ Then,

(237)

<p>Source</p> $\left[\frac{X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i LM)^2 \cdot A \cdot B}{\omega LM \cdot r_x} \right]$	$\cdot \mu_o \cdot$	<p>Receptor</p> $\left[\frac{\cot(\phi') \cdot \cot(\phi'') \cdot X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i LM)^2 \cdot A \cdot B}{\omega LM \cdot r_x} \right]$
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$$F''''(\phi'') :=$$

We can graph the plot for $F''''(\phi'')$ in equation (237) above in plot. #8 below;



If we select an angle for ϕ'' a little less than π (or 180 degrees), the result may be interesting indeed. Let equation (237) be restated again in (238) next.

Let $\phi'' := 179.9999999999999857 \cdot \text{deg}$

$$(238) \quad \begin{array}{ccc} & \text{Source} & \text{Receptor} \\ F_{\delta g} := & \left[\frac{X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i_{LM})^2 \cdot A \cdot B}{\omega_{LM} \cdot r_x} \right] \cdot \mu_o \cdot & \left[\frac{\cot(\phi') \cdot \cot(\phi'') \cdot X_L \cdot e^{j \cdot \left(\frac{\pi}{2}\right)} \cdot (i_{LM})^2 \cdot A \cdot B}{\omega_{LM} \cdot r_x} \right] \end{array}$$

Or the new (+) real vector force of repulsion is:

$$F_{\delta g} = 2.57715439257088 \cdot 10^{-35} - 3.155999643923548 \cdot 10^{-51} i \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}^2$$

Any attempt to minimize the above result for the sake of being conservative is just not possible. This is a very exciting result! It is not the magnitude of the force that determines the control of anti-gravity but the finesse of phase control alone that determines the possibly huge resultant force. This is by reason of the nature of the cotangent function that just below 180 degrees approaches (+) infinity while just beyond 180 degrees the function pops through from (+) infinity to (-) infinity and then begins to rise from (-) infinity towards zero again. This demands that the control must be very stable and capable of ultra fine adjustment, else the craft may well experience an infinitely large (+) to (-) force almost instantly if the phase were to be actual pass through 180 degrees. The result could be catastrophic.

Perhaps the tremendous stellar radiators in deep space may be related to an ongoing process of releasing energy from hyperspace due to the above action. Even the explosion at Tunguska in Russia may have occurred by reason of a limited form of the above action. This may have been connected to a UFO type craft that lost phase control of its electrogravitational field generator and blew up. Or perhaps an experiment that someone was doing along those lines failed.

Note:

The normal negative force sign is arrived at naturally through the phasor expressions related to the X_L terms and when the source and receptor phasor terms in X_L are multiplied the result is a (-1) expression which also represents a reaction force of 180 degrees. This would explain why the force of gravity is normally one of attraction.

or;

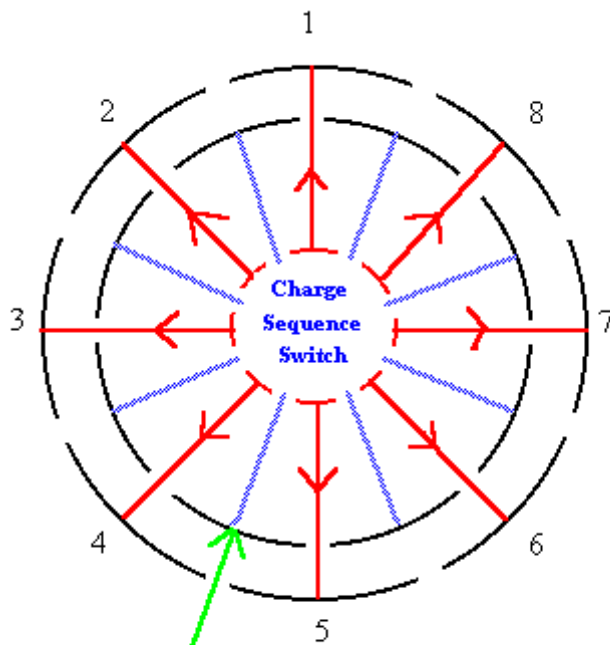
$$(239) \quad \left[e^{j \cdot \left(\frac{\pi}{2} \right)} \right]^2 = -1 + 1.224606353822377 \cdot 10^{-16} i$$

Also it should have been noted by the reader that the sign of the force in equation (238) previous changed to a repelling force as well as increasing by an order of 15 in magnitude when the phase of ϕ'' was allowed to approach 180 degrees. If poorly controlled this could easily unleash forces oscillating from (+) to (-) in infinite strength resulting not only in the destruction of the craft but of the immediate surroundings, perhaps for quite a radial distance.

The concept of a charged spherical body rotating around a central axis creating a magnetic field is well established empirically so the concept of a sequentially charged series of dots (in a circular fashion) follows naturally in its ability to form a resultant magnetic field much like rotating charged spherical body. The concept concerning the sequentially charged dots however departs from the normal in a very dramatic way. The dots can be charged sequentially at a rate greatly exceeding the equivalent velocity of light in free space. Therefore the craft surrounded by such a field would simply disappear from our normal space and slip quickly in hyperspace. In hyperspace, "everywhere" is at the same place. The concept of velocity or distance has no meaning. The design for creating that type of switching action

follows naturally if we consider the case of sending out a pulse of electrical energy to charge to the perimeter of a semicircle of dots from a point slightly offset from the center of the dots.

Figure #6 below illustrates the above field generation concept pictorially.



Inner segments are the groundplane for the outer segments.

The charge sequence switch charges each outer conductive segment in order and if the velocity at the switch is $v = c$ around the perimeter of the switch, the outer segment linear velocity will be $v > c$. This is not to scale as the actual construction will continually branch for demultiplexing and thus properly sequencing the charge. The outer conductor segments will be of the dimensions of λ_{LM} . The discharge sequence is the reverse in sequence and charge polarity.

Each of the surface-charged conductive dots would have the dimensions equal to the electrogravitational wavelength in the perimeter dimensions equal to l_{LM} . These dots and their connecting strip-lines could be grown much as the VLSIC microcircuit technology of today fabricates large scale integrated circuits. The demultiplexing would be under the control of parallel microprocessors which all would be controlled by a master control processor with redundant control processors as backup. The latest in diamond surface vapor deposited construction would allow for the surface to be very durable as well as provide the best in electrical insulation between the outer

surface and the underlying ground plane conductive surface. The control features would allow for onboard control to suit the requirements of the operator. The required inductance is formed by the virtual current rotation and the way that the field is formed by the charged surface dots. The capacitance is formed and varied by the varactor deposit between the ground plane and the surface dots. The below formula relates the inductance as a function of the generated field flux to the current that produces the flux.

$$(240) \quad L = \frac{\Delta\Phi}{\Delta i} \quad \text{where} \quad \Delta\Phi = \Delta B \cdot \text{Area}$$

The preceding has presented the basic requirements for the generation of a counter- electrogravitational field as well as a mass-field generation system. Such a system could also be used for power generation through offset mass-fields interacting directly with the gravitational field of our planet or some other planet.

The nature of the shape of the electrogravitational field is of interest also. Figure #7 below presents the Boit-Savart pictorial of the mechanics of generating a B-field vector as is most commonly understood today.

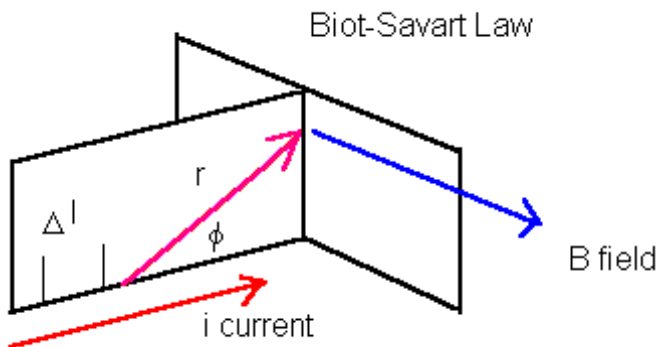


Fig. #7

The current is composed of (+) charge carriers. In the actual mechanics of B field generation, ϕ is the angle ϕ' between the current (i) and interaction radius (r). See page 123.

Now if we let the current be circular instead of in a straight line the variable distance parameter (r) must form a spiral in order to hold the phase angle ϕ a constant. This forms the natural spiral based on the natural number (e).

Also, the phase angles ϕ' and ϕ'' are independent of frequency but should be held constant in relation to the R / XL and R / XC cot relationships. Then the virtual current pattern formed by the ordered sequencing of the charging dots is that of a spiral with a fixed geometric shape based on the rate of spiral growth (a) being equal to the cotangent of the angle ϕ' . This is shown in plot #9 below.

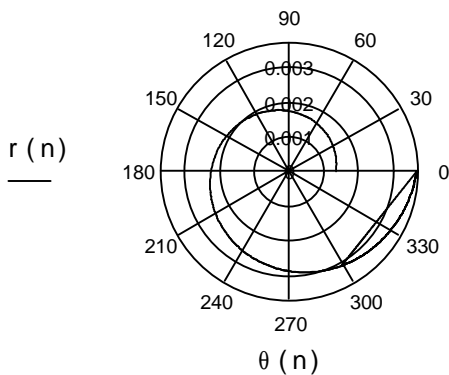
or, $a_L := \cot(\phi')$ where $a_L = 0.159154941552824$

Now let $n := 0, 1 \dots 360$ $\theta(n) := \frac{2 \cdot \pi \cdot n}{360}$

$r'_{LM} := 1.355203611 \cdot 10^{-3}$ $a_L := \cot(\phi')$

The spiral is derived as; $r(n) := e^{a_L \cdot \theta(n)} \cdot r'_{LM}$

Plot #9



The natural spiral nature of the curve at the left is readily apparent. This is the pattern of the conductive dot charging sequence on the craft surface based on the spiral growth rate of the cotangent of ϕ' . The spiral may also be repeated as offset in time either CCW or CW in rotational aspect from zero.

The B-field vector associated with the virtual current charge pattern above is out towards the viewer at the velocity of light in free space. The rate of change of flux and virtual current is dependent on the rate of charge sequencing which can be made

nonlinear if desired, or to even change polarity and discharge backwards if desired. Then any value of virtual inductance at the required frequency or repetition rate is possible.

If a three dimensional view is constructed it would look something like plot #10 next (where the drawing is not to scale) so that the general idea of how the 3-D B-field is generated around the spiral in plot #9. The spiral is at the center of the expanding shell.

Let the following parameters be stated for plot #10 next.

$$N := 20 \quad m := 0..N \quad n := 0..N \quad R := 1 \quad r_n := e^{a \cdot L \cdot \frac{n}{N} \cdot 2 \cdot \pi}$$

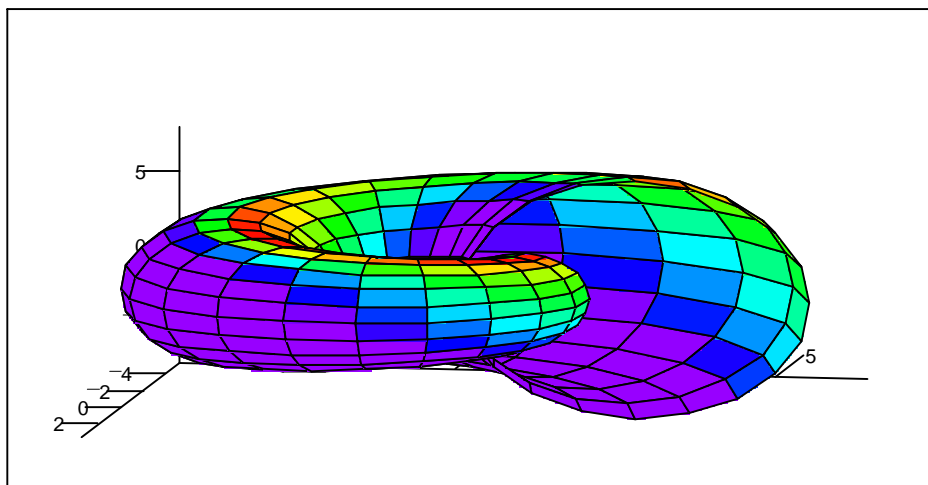
$$\phi_m := \frac{2 \cdot \pi \cdot m}{N} \quad \theta_n := \frac{2 \cdot \pi \cdot n}{N} \quad \Phi_m := \frac{2 \cdot \pi \cdot m}{N}$$

$$X_{m,n} := \left(R + r_n + r_n \cdot \cos(\phi_m) \right) \cdot \cos(\theta_n)$$

$$Y_{m,n} := \left(R + r_n + r_n \cdot \cos(\phi_m) \right) \cdot \sin(\theta_n) \quad Z_{m,n} := (3 \cdot r)_n \cdot \sin(\Phi_m)$$

Only the upper half above the ground plane is relevant to the expansion of the field.

Plot #10



X, Y, Z

The actual construction of a craft as described above could be done with present day technology and the methods of construction as to shape and size are practically unlimited. As with any new design there would undoubtedly be many changes in the original design as empirical data allowed for the improvement as the construction progressed through many stages of building and testing.

There is something very profound in the natural spiral and its meaning in creation. It speaks to our fundamental natural being as something new and yet at the same time very familiar. It is then not too much of a stretch to postulate the force of gravity to be intimately intertwined in the natural spiral form throughout space and time.

Suppose we discuss the operation by human beings of such a craft and consider whether or not they could survive the fields and hyperspace stresses a craft like the above could impose. As we are presently constructed, likely we could not either in the short or long haul endure the intense G-forces or the electric and magnetic fields. If we managed to build in shields and force fields to alleviate these stresses, we still have the problem of eating and elimination of body waste. A modified construct where the requirement of eating and eliminating body waste could be implemented by genetic engineering. Some form of energy input would take the place of eating with no waste product other than perhaps heat. Other changes such as the elimination of sex organs may be necessary since the need to replicate would be handled in other ways such as a central genetic engineering facility somewhere. In other words, the occupant would have to be engineered to fit the job since regular human beings could not handle the stress of such demanding flight requirements. Finally, the element of loyalty would have to be built in to such a degree that would guarantee that the pilot would not disobey or harm the people it was supposed to

defend. Such a craft would by the nature of its construction be capable of great destruction, what with the ability to project and pinpoint mass-fields over great distances.

Perhaps the local Earth phenomena called crop-circles are messages reminding us of that fact. They also however show a great deal of creativity and are undoubtedly a language built on symbolic communications, or communication through the use of pictorial symbols.